

SAGE MANAGEMENT CONSULTANTS, LLC
MANAGEMENT AND AFFILIATE AUDITS
OF
ELIZABETHTOWN GAS COMPANY
FOR THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES



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II. PROCUREMENT AND PURCHASING

This Chapter is presented in nine sections:

- A. Gas Control
- B. Load Forecasting
- C. Infrastructure Required to Initiate the Procurement Function
- D. Reliability
- E. Gas Procurement Strategy and Planning
- F. Financial Hedging Products
- G. Findings
- H. Recommendations

A. GAS CONTROL

BACKGROUND

Elizabethtown Gas Company (ETG) is a natural gas utility that has been in business for more than a hundred and fifty years. It currently delivers natural gas to 308,978 residential, commercial, and industrial customers. ETG's service area covers over 1,500 square miles of the state of New Jersey. ETG's service area covers the seven counties of New Jersey and includes Union and Middlesex counties in its Union division and Sussex, Warren, Morris, Hunterdon, and Mercer counties in its Northwest division. ETG owns and operates the pipes in the ground within their geographical footprint.

As a natural gas utility, ETG must act in accordance with numerous requirements from several regulatory agencies including the New Jersey Board of Public Utilities (NJBPU) which oversees the regulated utilities within the state and the Federal Energy Regulatory Commission (FERC), which regulates the interstate transmission of natural gas and the transmission and sale of natural gas for resale in interstate commerce.

All utility companies must file a tariff that is approved by their public utility commission. The terms and conditions of service are governed by the tariff. All rates and charges are also governed by the tariff.

THE GAS CONTROL GROUP

The ETG Gas Control Group (Gas Control) controls the physical flow of natural gas and the electronic measurement and monitoring of that gas as it enters ETG from interstate pipelines on the acquisition side, travels through the distribution system, and is delivered to a burner-tip user.

Gas Control monitors line pressures through its Supervisory Control and Data Acquisition System (SCADA). If a line pressure exceeds operating parameters, an alarm is activated. Gas Control initiates immediate actions to protect the natural gas system or, at least, to minimize potential damage. Gas Control is responsible for controlling the primary regulator valve which manages or restrains the receipt of gas supplies into the system. All secondary control monitors are set in the field and cannot be changed remotely but

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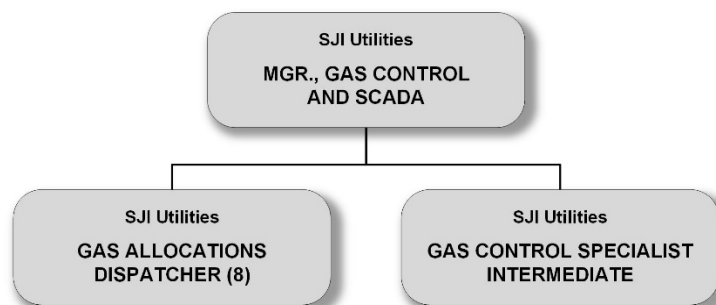
must be manually changed by field personnel. The SCADA system was recently upgraded starting in 2019 and completed in 2020.

This system was designed to ensure that ETG's distribution system cannot be accidentally over-pressurized by ten percent or more due to an unforeseen event (e.g., a cybersecurity incident, operator mistake). This design also guarantees that if there is a failure of one valve, the secondary backup run will take over to protect against under-pressurization. Gas control staff also have the ability to close remote shutoff valves if, due to an emergency, a segment of pipe needs to be isolated. In these situations, field presence is required to re-open the valves.

Additionally, Gas Control monitors alarms for South Jersey Gas Company (SJG), and the two liquified natural gas (LNG) plants when they are unmanned. Gas Control is not responsible for, nor does it have the ability, to control any field equipment at either of the LNG plants. Their sole responsibility is to call the Duty Supervisor if there is an alarm after hours.

ETG has two separate geographical locations; one in McKee City and the second located in the Millville Divisional Facility in Millville, NJ. The primary facility was McKee City with all Gas Control staff members reporting directly to McKee City. Millville was a backup control center used in emergency situations (e.g., pandemic, fire, flooding, disaster recovery testing). ETG Gas Control organization is shown in the following exhibit.

ETG Gas Control Organization Structure



Because of the critical nature of this responsibility, Gas Control operates 24 hours a day, every day of the year. The complete staff consists of eight trained gas controllers, one member in training, and one manager. ETG utilizes one Gas Controller per night shift. Seven of the gas controllers are union employees (i.e., members of the ETG and SJG Bargaining Unit). Gas Controllers undergo a 120-day training period; their performance is evaluated at the 30-, 60-, and 120-day points by Gas Control Management before final approval. ETG has no minimum educational or training requirement to become a gas controller.

In response to the COVID-19 pandemic, ETG separated the staff members into two groups: one group working from the McKee City facility and the other group working from the back-up Gas Control site in Millville. The SCADA systems used in McKee City and Millville are identical. Gas Controllers at both facilities had the ability to see the same signals and data at the same time. The two Gas Control facilities combined have the responsibility to monitor ETG and SJG utilities. In 2022, two employees opted to keep the

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“backup” facility (Millville) as their primary reporting location. On 1/1/2023, all controllers were instructed to report to McKee City. As of 4/3/2023, the Company has allowed the pandemic location to remain so long as McKee City is staffed 24/7, with only one Controller utilizing the Millville location as primary.

The SCADA system houses historic weather data together with wind factors and current forecasts on an hourly/average estimate basis. A utility curve file is maintained where, as part of a large set of data, the historic set of utility factors per degree day is evaluated for a similar weather scenario and included in the work-in-progress calculation sheet. The near-term gas procurement function depends on advice and guidance for the near-term gas planning associated with volumes required to meet upcoming demand. Knowing the weather conditions that are expected and the historic consumption experienced in the past under such degree-day scenarios is the foundation for a reliable procurement plan.

Current SCADA security plans prevent entry of unauthorized personnel to either Gas Control facility. Both locations have badge-only access. Staff have their own SCADA credentials which are monitored and audited internally by the Information Technology (IT) Department. Operator qualifications are required to make any changes to the SCADA system. All field equipment is kept in a locked combination box, and critical sites are monitored internally using security cameras.

If the primary and backup SCADA systems both become inoperable, Pipeline Field Measurement Technicians will deploy to ETG transfer custody transfer stations and any other locations deemed critical. All field technicians are equipped with company cell phones and truck radios. Gas control is equipped with an emergency cell phone, backup dispatch radio center, and a satellite phone to be utilized during an emergency. The Gas Control department has all the necessary media devices to communicate with field personnel in the event the SCADA systems become inoperable.

The SCADA system was last upgraded in 2019. Upgrade enhancements are as follows:

- Built-in CRM components such as Point-to-Point Verification
- More robust historical storage capabilities
- Individual alarm-inhibit options
- Improved redundancy between primary and secondary data centers
- Enhanced network monitoring

The SCADA system has redundancy built into every facet of the system. Real-time production servers and/or data centers are the primary backup to the SCADA system. In the event of a SCADA outage that is expected to last for an extended period of time, Field Measurement management for both ETG and SJG together with Gas Control’s management may elect to enter into emergency manual mode according to the Gas Emergency Operational Plan (GEOP) requiring physical Field Measurement Personnel presence at any or all of the affected locations.

Actual control by controllers is limited to flow control via primary worker regulator setpoint changes and emergency valve operation on Pipeline Field SCADA. For everything else, including pipelines, LNG, and compressor station, it is monitor only.

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When SCADA receives an alarm, it announces on the 'new alarm' and 'alarm summary' displays and remains flashing with its severity-based color until a controller acknowledges. Icons and colors remain on the alarmed point for every display in which they exist. Alarm indications do not clear until the alarm itself is cleared or if Gas Control Management performs an inhibit.

SCADA security plans are addressed under the Cyber Security Policies. The following is an explanation of how an employee gains entry to the Control Center:

- Access to the Gas Control Center is limited to authorized personnel and is ultimately enabled by Corporate Security.
- Employees requiring access must submit an Access Request ticket, which is routed to the Vice President of Gas Supply and Gas Production for review.
- If the request is approved by the Vice President of Gas Supply and Gas Production, it is routed to Corporate Security for final review and processing.
- Once the request is approved and processed by Corporate Security, the access is added to the employee's access credentials/permissions.

Since SJI's acquisition of ETG in 2018, there have been no SCADA security incidents that impacted ETG. To manage the cybersecurity issue long term, SJI created a new function called IT Protect to continue focusing on and maturing the cybersecurity function. The team continues to grow. Many steps have been taken to identify, protect, detect, and respond to these types of incidents. Listed below are some of the steps taken:

- Implemented a security information and event management solution. The solution is managed and supported by a third-party Managed Security Operations Center operating 24 hours a day, seven days a week.
- Implemented a cybersecurity training and awareness program that includes simulated phishing exercises and tests. Additionally, role-based training is provided to staff members with access to SCADA.
- Implemented a strategy to segment the SCADA network from the corporate network and the internet.
- Partnered with SCADA software vendor to provide patching services.
- Engaged a third party to perform a yearly cybersecurity risk assessment on SJI from 2016–2018 and 2020.
- Implemented a best-in-class Secure Email Gateway.
- Implemented a NextGen Intrusion Prevention System (IPS).
- Developed a cyber incident policy and plan.
- Engaged in information sharing practices with federal and state agencies, as well as trade associations and peers.

SECURITY MEASURES

ETG has extensive natural gas infrastructure including city gates, transmission and distribution pipes and regulator stations, an LNG plant, and customer service lines and meters. It also has multiple facilities including South Jersey Industries, Inc. (SJI) and SJI Utilities, Inc. (SJIU) and ETG headquarters, division work centers, payment centers, and

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a pipeline work center. All are vulnerable to security incidents such as terrorist attacks, property damage, and theft. The SCADA System provides video surveillance of 16 transmission and distribution stations with a few cameras on each station. Should intruders be detected, Gas Control notifies the affected division and/or the standby supervisor.

The Corporate Security function serves SJI and both its regulated and unregulated subsidiaries. ETG and SJG each have a management resource within Corporate Security dedicated primarily to their division. Like most support functions, security is largely performed by contractors. The head of security, the Security Specialist Lead, reports to the SJI Vice President, Shared Services. The Security Specialist Lead has two direct reports, a half-time Project Assistant, and a Senior Security Specialist.

In 2018, 2019, 2020, and 2021 there were a total of seventy-nine reported instances of armed guard dispatches of which thirty instances were reported to law enforcement. Annual referrals to the local police are as follows:

- 2018: 3
- 2019: 9
- 2020: 5
- 2021: 13

A contractor provides uniformed, unarmed guards at the Erie Street location and Union Headquarters. No other sites are staffed with guards, including division work centers, payment centers, and satellite offices. The contractor also provides for the dispatch of armed security for ad hoc reasons, such as a hostile employee, site surveillance, or suspicious circumstances. Emergency situations are referred to the local police.

SJI Corporate Security's documentation of armed guard dispatches began in 2018 following the acquisition of ETG. SJI has no armed guard dispatch records prior to the ETG acquisition date.

Armed guard details were scheduled on five occasions:

- Employee termination at Union Headquarters in November 2019.
- Employee termination at East Brunswick, NJ in July 2020 to retrieve company equipment.
- Employee termination at Union Headquarters in December 2020.
- Site protection (residential explosion) at Rahway, NJ effective September 1, 2021, through September 9, 2021.
- Employee termination at New Village, NJ in December 2021.

Centurion Shield Protection Services (CSPS) is contracted to perform security services at the Union site on weekdays from 7:00am to 4:00pm and provides security services at the Erie Street site 24/7/365. Security officers at both sites report to the same security supervisor, and the security supervisor reports to the SJI Security Manager. Additional security details may arise and depending on the detail, security officers may be in plainclothes or in uniform, and may be armed or unarmed.

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Security officers at both sites are in uniform and unarmed.

Security officers are required to have the following experience:

- Valid New Jersey Security Officer Registration Act (SORA) license
- High school diploma
- Clear background check
- Neatly groomed professional appearance
- Reliable form of transportation
- Security experience preferred but not required

Security officer job functions include:

- Conducting foot patrols
- Assisting with access control
- Access control monitoring
- Camera monitoring
- Managing visitors
- Detecting and reporting suspicious activity
- Notifying police, fire, and/or EMS when required

A contractor provides alarm, access control, and video installation and maintenance. The contractor also provides alarm monitoring for SJI and SJG, but not ETG, at eight facility sites. The contractor refers calls to the Utility Services dispatchers who refer them to the call out list from ETG operations.

SJI's Utility Shared Services Department provides training through their Technical Training group and the Emergency Preparedness group develops and implements security exercises. For example, a simulated intruder exercise that provides a security exercise at a transmission pipeline regulator station.

SJI uses the environmental, health, and safety (EHS) management ProSapien module security incident tracking system. The system is shared with the Environmental and Safety departments. It allows employees to enter a security incident which is automatically routed to Security for review and investigation.

ETG presently has a Physical Security Committee; however, it was not in existence during the audit period. The ETG Physical Security Committee was formed in accordance with the ETG Physical Security Plan which was not finalized until December 2022. Committee meeting agendas are sent with email invitations. Formal presentations are prepared, and minutes are kept.

SJI has a formal, current, confidential Physical Security Plan. It follows the Transportation Security Administration (TSA) Guidelines for natural gas pipeline security plans. The plan calls for a wide variety of security measures including fences, locked gates, locked valves, security lighting, video surveillance, 24-hour monitoring, door alarms, warning signs, and back-up power supplies. Important facilities and critical above-ground stations are identified for enhanced security. The plan also specifies responsibilities, responses to

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security incidents, directions related to police involvement, and the approach or steps to be taken if terrorist activity is suspected.

SJI also has formal, current, confidential security policies and procedures covering anti-violence, contractor background, vehicle transmitter gate access, and identification badges/key cards.

Disaster months and testing are performed at least once each calendar year, not to exceed fifteen months, and are documented. Weekly alarm summaries are reviewed by Gas Control and documented. Daily alarm reports are emailed to Gas Control Management. Communication downtime is monitored both by Gas Control and IT via the SCADA system directly and by an in-house Network Monitoring Software. Alerts are generated and acted on immediately. Health checks for servers and other hardware are also monitored via software by IT.

OTHER GAS CONTROL RESPONSIBILITIES

ETG holds firm transportation capacity on the interstate pipelines Transcontinental Pipeline (Transco), Columbia Gas Transmission (TCO), Tennessee Pipeline (Tenn) and Texas Eastern Pipeline (TETCO). All referenced pipelines own gas measurement meters that measure the gas they deliver to ETG. ETG has its own gas measurement meters controlled by Gas Control. A comparison of ETG's measurement to the measurement data provided by the interstate pipelines is performed. Comparison reports are completed daily for the purpose of checking the accuracy of meters. If the results exceed +/-2%, a measurement staff member investigates and takes the appropriate action to resolve the faulty measurement. Point-to-point verifications are performed any time a system point is added or changed. Upon review of annual measurement data, the difference between both sets of measurement is generally less than one half of one percent.

ETG's Gas Control is responsible for not only receiving the volumes from each pipeline on a daily basis, but also, for receiving the correct volumes. Generally, Operational Balancing Agreements (OBA) are in place with each upstream pipeline delivering to ETG. This is a common practice between pipelines because of the inability of control equipment to flow rates that are a perfect match to expected volumes. In an ideal operating world, running balances are resolved between the pipes and not passed through to any other party (i.e., supplier or end-use customer). This practice allows both pipelines, upstream and downstream alike, to rely on the scheduled volumes that are confirmed daily by the Gas Procurement Group.

B. LOAD FORECASTING

BACKGROUND

Third-Party Suppliers Impact the Gas Load

End-use customers within ETG's territory can choose a third-party supplier (TPS). ETG must calculate its own system supply load and must also consider the migration of customers to TPSs and the ever-changing customer base.

The process for a natural gas TPS who wants to serve residential, commercial, and industrial customers in ETG's service territory begins with their agreement to operate in

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compliance with the NJBPU's TPS Standards and Rules. When the NJBPU licensing process is complete, the TPS must begin the ETG utility eligibility process. The ETG Customer Experience Department coordinates the application and initiation process for a new TPS to serve customers on ETG's system. This process includes the application, submission, and execution of forms and agreements. ETG's Legal, Risk, and Executive teams review the completed documents prior to final approval as a new marketer.

Once the TPS is approved, the TPS can enter into agreements with individuals or groups of ETG customers and enroll them with the ETG utility system. For residential and commercial customers, enrollment is done via electronic data interchange (EDI). The TPS policies and procedures are not the same for all customer rate classes because ETG offers a special type of administrative assistance to TPSs serving commercial and residential rate class customers; therefore, these applications have additional paperwork.

Through December 2022, 24 TPSs were active in ETG's territory. The TPSs offered a variety of services from serving just residential, commercial, or industrial to acting as agents or serving all categories.

Types of End-Use Customers:

There is a mix of customers within every local distribution company's (LDC) footprint and various types of services are available to fit the needs of all customers, which are billed at various rates. ETG's customers are separated into various groups based on the type of service provided by ETG and other factors, as discussed below.

ETG has 101 industrial customers. All 101 are large consumers that purchase from independent TPSs.

As of 12/31/22 ETG has approximately 3,602 commercial and Industrial transportation customers vs a total of approximately 20,148 commercial and Industrial sales customers.

Residential and very small commercial customers are on the low end of consumption. As of February 28, 2023, ETG has 17,473 small commercial customers, and 1,394 of these have elected to acquire supply from a Third-Party Supplier (TPS).

Essential customers, such as hospitals, prisons, and industry types necessary to the community, are considered more important than some other industries. Although they may have chosen to use a TPS, ETG is considered the supplier of last resort and must be able to serve them if the TPS fails to deliver. Residential and small commercial customers as well as customers designated as Essential Gas Users have the highest priority under supply curtailment. Essential Gas Users are defined as individual residential dwellings, multi-family residential dwellings, schools, hospitals, day care centers, nursing homes, dormitories, correctional facilities, twenty-four-hour emergency facilities such as municipal police, fire or emergency medical departments and similar facilities which do not have installed alternate fuel equipment and an alternate fuel supply.

Additionally, TPS delivered supply is allocated to these customers first and any residual supply is allocated to that TPS's remaining non-essential gas users and industrial accounts after the essential gas users are served.

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Fuel switchable customers are in a separate classification because they are not 100% dependent on natural gas. These types generally stay with Interruptible Transportation Service (ITS) on ETG. The nature of ITS is such that third-party suppliers provide the natural gas supplies to be available for said service. Service may be interrupted or curtailed at the sole reasonable discretion of ETG. ITS customers are not required to maintain alternate fuel capability. However, all ITS customers must file a Certification with ETG indicating either the customer's alternate fuel or the customer's agreement to discontinue operations during an interruption of Rate Schedule ITS service. An ITS consumer who burns gas when ETG instructs them not to burn gas is subject to strict penalties. Interruptible transportation customers who are required to switch to their alternate fuel due to an interruption can return to natural gas only at the determination of ETG and only after the imposed interruption order has been lifted. If an Interruptible Transportation Service customer opts to switch to their alternate fuel outside of an imposed interruption order, they would need to notify ETG the date and time they would like to resume transportation service prior to re-starting use of natural gas. Load projections would be done by the customer or customer's TPS of their estimated usage and verified by the Company's monthly true up.

ETG has a range of customers with ITS including manufacturing, process loads, asphalt, and pharmaceuticals. If the TPS fails to deliver the gas or ETG interrupts or curtails delivery, ETG is not obligated to step in as the last resort supplier. Currently there are 44 customers that are served under ITS classification and in 2022 burned a range of ZERO to 159,508 MMBTUs a month.

Customers who choose a TPS are obligated to negotiate the terms and conditions of their supply arrangement. ETG does not release or assign any of its firm transportation capacity to a TPS for delivery to its city gate on behalf of ETG's end-user customers. It is the obligation of each TPS to find its own transportation and to nominate the gas to ETG's city gate. After the TPS delivers the commodity to ETG's city gate, ETG will accept the gas and deliver it to the end-use customers.

Larger consumers are generally industrial loads, and the smaller loads are mostly small commercial and residential types that qualify for a CHOICE Program. A TPS, although not obligated, can create a pool that aggregates all other customers that the TPS serves, excluding those customers that qualify for a CHOICE program. For the purpose of supply and nominations, pooling reduces the administrative tasks. However, single/individual nominations are not permitted for those customers who choose to manage their own accounts. Only a TPS can deliver supply to ETG on behalf of a customer(s). Hypothetically, any customer can apply to the State to be certified as a TPS and "oversee (their) own destiny." ETG does not have any such customer.

A TPS is required to deliver supply for all its customers in total and can have several customer types (i.e., residential and small commercial types have their meters read by drive-by meter readers who use an Encoder Receiver Transmitter (ERT) style meter. while large commercial, industrial firm, and industrial interruptible have an automatic meter reader (AMR).

Electronic measurement capability allows the TPS to see the consumption of the commercial/industrial customer the morning after the gas day; this allows the TPS to

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provide accurate supply so that imbalances can be eliminated promptly. A TPS is the entity who determines the quantities of gas required daily for their large commercial/Industrial customers. A TPS has access to large commercial/Industrial customer daily usage through ETG's STARS marketer portal. They have the same access to the daily usage that ETG has. If an imbalance exists at the end of the month, it will be cashed out in accordance with ETG's tariff provisions. Cash-out means that ETG will purchase the over-delivered volumes or sell the under-delivered volumes to the customer.

CHOICE Programs:

NJBPU's CHOICE Program permits all natural gas utilities in New Jersey to offer residential customers and other small natural gas consumers a choice of gas suppliers. ETG's CHOICE Program allows the small energy customers within their geographical territory the option to purchase their natural gas from a TPS. ETG will accept the supply from the TPS at the ETG's city gate and deliver the gas through its distribution system to the residential customer and ETG will continue to provide the same reliable service, read the meter, perform safety checks, and respond to emergencies. TPSs are required to execute an Aggregator/Marketer Agreement (AMA) with ETG. The AMA provides a pooling concept where the TPS pools or accumulates all the small natural gas consumers that the TPS has contracted with. Special AMA features are discussed below.

As of February 28, 2023, 1,394 CHOICE size customers have elected to acquire supply from a TPS.

Unlike services offered to larger customers, ETG offers a valuable billing service that incorporates the invoice for the TPS as part of the ETG invoice. Customers can receive a single bill from ETG that includes both charges from ETG and from their TPS. This is known as utility consolidated billing. The consolidated billing costs approximately 75 cents per invoice in addition to all other costs from ETG and the TPS. TPSs are not obligated to use the consolidated billing option. Dual billing is also an option.

Consolidated billing was chosen by forty three percent of independent marketers serving the CHOICE customers. A billing service agreement is required; it's a legal document that allows ETG to be the billing agent. The agreement outlines the following items:

- Bi-monthly reimbursement for the total amount all customers were billed.
- Fees associated with the billing services and adjustments made to all customer bills.
- Presentation of the TPS's commodity charges and ETG's distribution charges on one bill.
- Electronic enrollment, changes, or discontinuance of service and customer information.
- Communication of the monthly meter reading schedule to ensure marketers know when each cycle is billed.
- Communication and resolution of customer disputes.

Unlike services offered to larger customers, ETG offers an agreement for the Purchase of Receivables (POR) associated with all customers under the CHOICE option. Features are as follows:

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- ETG provides an additional option to TPSs – a POR offer is made to the TPS at 100% of the face value of the invoice. Marketers receive payment for the dollar amount each customer is billed. ETG absorbs any shortages via the terms of the billing services fee.
- ETG assumes the risk for the receivable due from a transportation customer under the CHOICE POR option.
- Consolidated POR payments are split equally between POR Charges and ETG Delivery Charges. Any short would sit equally across POR and Delivery Charges.
- Consolidated POR payments are posted to ETG Delivery Charges first and then to Marketer POR charges.
- Imbalances applicable to the smaller energy consumers participating under the CHOICE programs are resolved the following month. Monthly, ETG provides an average daily delivery quantity (ADDQ) for smaller commercial and residential customers to the TPS. ADDQ represents an average daily delivery quantity and equals an estimated volume along with a true up of the preceding month.

System Load

This section addresses the load forecasting processes and objectives ETG uses to estimate its natural gas requirements for distribution. The gas load being served by a TPS must be known and measurable so that ETG may accurately estimate the load that remains for ETG to serve their customers.

The purpose of forecasting the volumetric requirements for any distribution company is to ensure that the correct volumes are estimated for transportation capacity and procurement intentions. Firm transportation capacity to support the firm delivery obligations must be reserved and committed to in advance, and such contracts often extend for as many as 15 or 20 years into the future. Supply purchases are more near term and while supply is often purchased one year in advance, supply is also purchased at the onset of each month and on a daily basis.

Additionally, the volumetric load must be separated into geographic segments. It is necessary for supply to enter ETG's territory at different points so that gas can be effectively distributed to the appropriate geographic locations. Pipelines are selected based on many variables, but the various routes they travel are primary and fundamental. The natural gas supplies must be purchased independently of the transportation component; therefore, accurate volumetric estimates are necessary to support the needs of the consumers.

The forecasting process used to establish the need for transportation capacity, storage services and peaking assets is based on the volumetric requirements for a "design peak day." The simplest definition of a design peak day is the highest consumption day anticipated by ETG assuming extreme weather, current customer temperature sensitivity and adjusted for changes in load growth or decline. As with any distribution company, ETG is expected to perform regardless of weather conditions. As such, an appropriate amount of assets must be contracted to meet that obligation. Pipeline transportation, storage, local and long-haul supply, and peaking services are based on the design peak day model.

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ETG projects its Design Peak Day requirement based on total projected supply obligation for firm sales customers under design temperature conditions that is defined as an average daily temperature of 0°F or 65 heating degree days (HDD). ETG uses a linear regression methodology to generate design peak day coefficients which are applied to design peak day criteria to derive the Design Peak Day forecast. The regression uses daily demand data representing ETG's firm sales supply obligation. This dataset is created by collecting daily throughput data. The regression uses three to five years of historical, city-gate delivered, daily throughput send-out less large sales customer and TPS customer usage from daily throughput data. Daily weather in the form of HDDs, variables for weekends/holidays, variables to mitigate impacts of anomalous or one-time events (if applicable), and variables to capture the change in weather sensitivity at colder temperatures.

To date, the expected load loss related to energy efficiency initiatives has been offset by residential and commercial incremental growth such that system load, adjusted for weather, has grown slightly year on year. The trend variable, when statistically valid, captures the net effect of customer growth, load loss due to energy efficiency initiatives, replacement equipment efficiency gains, change in usage characteristics due to changing customer demographics (age of customers, residents per household, structure size, and number of burner tips, etc.), and the impact of a changing mix of new customers.

The inputs for this modeling process include ETG's own system load with actual consumption data broken by class, 24-hour weather, and wind data from the closest locations to ETG's Newark and Philadelphia stations, and a set of thirty Moody's macroeconomic and demographic variables. A multiple regression-based statistical analysis supported by the Forecast Pro modeling system is used.

Natural gas utilities are expected to provide natural gas to customers on an extreme cold weather day called the design peak day. Therefore, ETG must be able to transport gas supplies from the well head to the city gate on a guaranteed basis with the highest priority. Interstate pipelines offer Firm Transportation Services (FTS) and warrant that they will make FTS available on every day of the contract unless prevented by an act of force majeure. ETG will experience many winter days that are not categorized as a design peak day and may vary from 2 to 20 degrees leaving ETG with unused transportation assets. Daily usage projections for lesser temperature days are developed based on studies of historic usage on such days. The following exhibit reflects the 30 highest gas consumption days over the past 13 years. The exhibit reflects gross consumption of all gas burned within ETG's footprint. The gross daily volume is further broken into the volumes of gas burned by customers who migrated away from ETG and are now served by third parties and the remainder of the gross daily volumes burned by customers who remain with ETG.

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ETG Thirty Highest Winter Gas Consumption Days 2009–2021 For Third Parties and Customers Purchasing Directly From ETG

Date	Temperature (°F)	Gross Consumption	Third Party Volumes	ETG Supply
1/6/2018	8.8	459,309	90,019	369,290
1/21/2019	12.5	454,271	97,652	356,619
1/5/2018	12.0	450,135	92,428	357,707
1/31/2019	12.8	447,133	95,943	351,190
1/7/2014	8.7	440,148	88,313	351,835
1/23/2014	14.2	437,203	133,045	304,158
1/30/2019	12.9	435,859	93,177	342,682
2/19/2015	11.0	433,007	86,529	346,478
2/15/2015	8.8	432,228	77,295	354,933
2/20/2015	13.3	426,097	83,960	342,137
3/23/2011	34.7	424,697	67,411	357,286
12/31/2017	11.3	423,505	75,157	348,348
2/13/2016	10.4	421,832	75,753	346,079
2/23/2015	13.1	414,124	97,655	316,469
1/1/2018	15.5	413,725	83,960	329,765
2/1/2019	17.7	413,427	84,498	328,929
1/7/2015	13.2	411,163	74,653	336,510
1/22/2014	10.5	409,681	107,113	302,568
12/28/2017	15.2	406,933	75,207	331,726
1/7/2018	16.8	406,016	89,656	316,360
1/4/2018	18.5	404,127	87,140	316,987
2/14/2016	14.0	400,357	75,393	324,964
1/16/2009	11.0	394,477	88,185	306,292
2/16/2015	16.9	392,877	84,765	308,112
1/8/2015	18.4	386,827	78,135	308,692
1/29/2021	20.1	385,834	75,669	310,165
1/9/2017	19.8	385,417	67,294	318,123
12/29/2017	19.0	379,995	71,751	308,244
3/3/2014	18.2	377,071	75,834	301,237
12/27/2017	19.2	375,050	71,669	303,381
3/6/2019	21.7	371,579	69,222	302,357

There has been a 62% growth in meter sets from 2009 through the end of 2021. Annual volumetric growth comparing annual consumption in 2009 to annual consumption in 2021 was 2.4% or 1,186,999 MMBtu. Normalizing the 2021 to the 2009 weather data results in year-to-year annual consumption growth of 11% or 5,612,487 MMBtu.

Near term and daily forecasts are necessary to flow the appropriate volume of gas on a daily basis and to estimate future days' gas load. The six-day forecast consists of the current day revised forecast and five forward looking days. Under AGL/Southern

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Company, the Confirmations group generated the Daily and Near-Day forecast using regression analysis and projected temperatures. A neural network program was tested next to create the six-day forecast but proved to be maintenance intensive without having a significant improvement to accuracy. The process was later changed to a simplified approach of comparing forecast temperatures to similar recent, actual temperatures that occurred on the same day of the week and using the actual volumes to derive an estimated demand for the six-day period. Currently the Daily/Near-day forecast is generated by the SJIU Confirmations group using a similar approach as the AGL/Southern Company Confirmation group; forecast weather data is compared to recent, actual temperature data for the same day of the week and the corresponding actual volumes are used to derive an estimated demand for the six-day period.

Activities that Impact Volumetric Load:

ETG system's gas load changes over time due to the loss of industrial loads and energy conservation initiatives. These initiatives include customers installing energy efficient appliances and the work completed in ETG's Conservation Incentive Program. Many of ETG's pipelines were replaced, and replacements are anticipated to continue into the future. ETG evaluates each proposed project, predicated on long-term load forecasts, to anticipate what the surrounding area might look like in the foreseeable future.

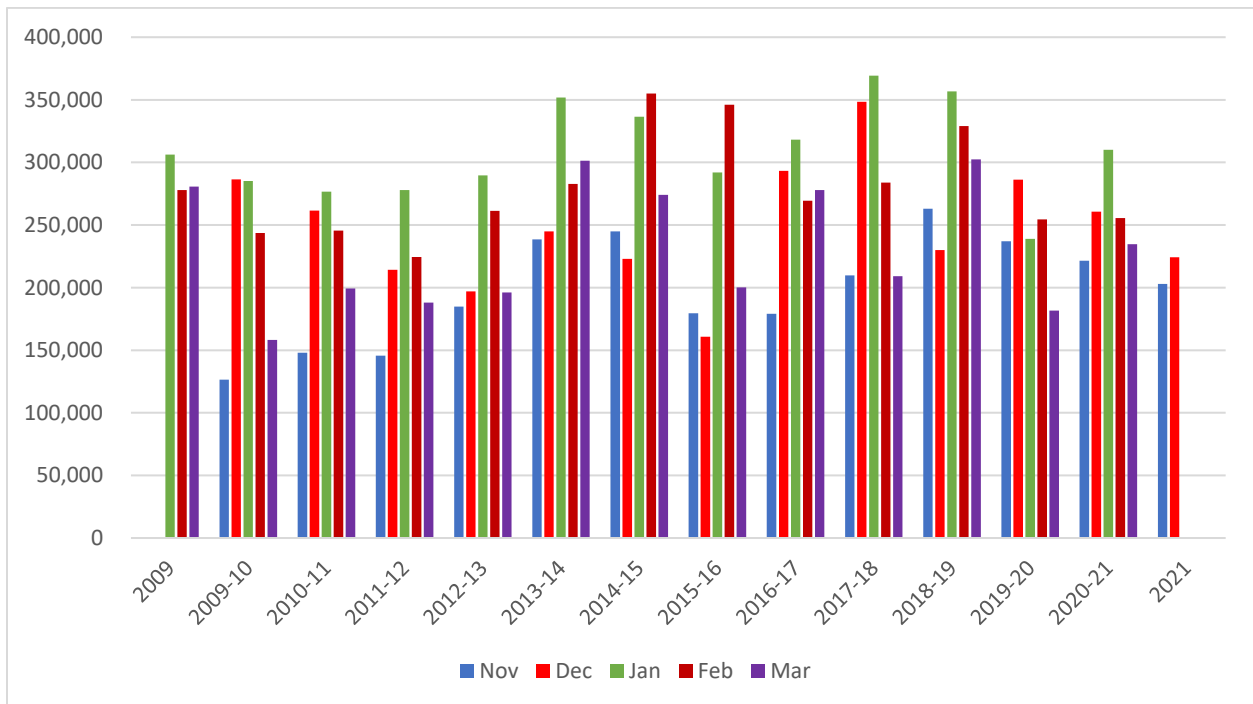
While ETG prepares for a design day, such conditions will not be experienced regularly. Therefore, more average and colder-than-average conditions are anticipated. A comparison of transportation assets to actual consumption by customers purchasing directly from ETG is reflected in the following exhibit:

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ETG Single Highest Day Burner Tip Send out Volumes (Gross Dths) For Customers Purchasing From ETG Directly November–March for 2009–2021

Month	2009	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
November		126,393	147,912	145,635	61,277	247,610	244,868
December		286,497	261,599	214,178	196,979	244,922	222,943
January	306,292	285,213	276,702	276,702	289,699	351,835	336,510
February	277,931	243,563	245,596	224,544	261,305	282,878	354,933
March	280,674	158,133	199,363	188,081	196,084	301,237	274,082
Month	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021
November	179,496	179,180	209,735	263,164	237,078	221,169	203,009
December	160,816	293,242	348,348	230,078	286,277	260,634	224,312
January	291,962	318,123	369,290	356,619	238,912	310,165	
February	346,079	269,390	283,899	328,929	254,386	251,506	
March	200,233	277,940	209,108	302,357	181,590	234,706	



FIRM TRANSPORTATION SERVICES

Interstate pipeline transportation service defined as space in the pipeline or pipeline capacity is the vehicle that moves the gas from the receipt point in the supply areas to ETG's city gate. The method of transportation must be the most dependable and secure available in the marketplace. The nature of FTS is that ETG pays a reservation charge to the interstate pipeline to reserve space on that pipeline every month so that ETG can then

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call on that space, as necessary. The FTS contract specifies a specific volume of gas at a particular geographic receipt point to be delivered to ETG's city gate for a specified period of time. At the onset of each month or each day, ETG must place a shipping order with the pipeline that instructs it as to who the supplier is and other particulars so that the pipeline can effectively accept the supply and deliver the gas to ETG. FTS contracts are constructed to ensure that ETG has gas deliveries to its city gate on a guaranteed basis every day. ETG contracts that fit the FT grouping are shown in the following exhibit.

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ETG Interstate Pipeline Firm Transportation Contracts

Pipeline	Rate Schedule	Contract Begin Date	Contract End Date	Daily ETG Volume	Daily Upstream
TCO	FTS	11/1/2020	10/31/2025	12,736	12,736
TCO	FTS	11/1/2021	10/31/2041	33,000	33,000
TCO	NTS	11/1/2020	10/31/2025	10,000	10,000
TCO	SST	4/1/2020	3/31/2023	3,644	13,000
Tenn	FT-A	Jul-18	Apr-22	1,000	1,000
Tenn	FT-AQ	Dec-19	Oct-26	3,000	3,000
Tenn	FT-AQ	Dec-19	Oct-26	6,000	3,000
Tenn	FT-G	Jul-18	Evergreen	3,048	3,048
Tenn	FT-G	Sep-93	Evergreen	1,014	1,014
TETCO	CDS	Jul-18	10/31/2023	20,220	20,220
TETCO	FT-1	7/1/2018	3/31/2021	5,000	5,000
TETCO	FT-1	7/1/2018	10/31/2023	1,348	1,348
TETCO	FT-1	7/1/2018	3/31/2020	5,394	5,394
TETCO	FT-1	7/1/2018	3/31/2021	5,000	5,000
TETCO	FT-1	7/1/2018	10/31/2020	20,000	20,000
TETCO	FT-1	7/1/2018	6/30/2033	30,000	30,000
TETCO	FTS	7/1/2018	10/31/2020	1,520	1,520
TETCO	FTS-5	7/1/2018	10/31/2020	16,666	16,666
TETCO	FTS-7	7/1/2018	4/15/2021	14,298	14,298
TETCO	FTS-8	7/1/2018	3/31/2021	8,469	8,469
TRANSCO	FT	11/1/2008	10/31/2028	5,000	5,000
TRANSCO	FT	11/1/2009	10/31/2029	5,000	5,000
TRANSCO	FT	4/1/1995	Evergreen	1,442	1,442
TRANSCO	FT	8/1/1991	Evergreen	1,811	1,811
TRANSCO	FT	8/1/1991	Evergreen	1,967	1,967
TRANSCO	FT	11/1/2021	10/31/2041	33,000	33,000
TRANSCO	FT	1/1/2003	Evergreen	6,973	6,973
TRANSCO	FT	7/1/2018	7/1/2021	77,755	77,755
TRANSCO	FT	11/1/1995	Evergreen	5,000	5,000
TRANSCO	FT	7/1/2018	Evergreen	15,000	15,000
TRANSCO	FT	11/1/1995	Evergreen	17,000	17,000
TRANSCO	FT	11/1/1995	Evergreen	15,615	15,615
TRANSCO	FT	11/1/1984	Evergreen	500	500
TRANSCO	FT	11/1/1984	Evergreen	11,090	11,090
Totals				398,510	398,510

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Firm Transportation Associated with Storage

ETG has additional firm transportation that is linked directly to volumes of gas in storage. This is considered a bundled service and the associated transportation can only be used to move gas from specific storage points to ETG's city gate. Most storage withdrawals are limited to between ninety and one hundred days over any given winter period; other withdrawals from storage are limited to five days over any winter period. Natural gas storage is mainly used to meet load variations, maintaining a balance between demand and supply of gas, eliminating the daily peak demand, or even hours, thus mitigating fluctuations in volumes consumed.

The following exhibit reflects 69,707 Dths that has a transportation component attached to move the storage natural gas to ETG's city gate. Additionally, ETG has 116,492 Dths of isolated storage per day where a portion of the long-haul transportation 398,510 Dths will be used to move the storage gas to ETG's city gate. Only storage that is tied to transportation is addressed in this section. Further discussion of storage is outlined in the section on Reliability below.

ETG Storage with Bundled Firm Transportation Contracts

Pipeline	Rate Schedule	Contract Begin Date	Contract End Date	Daily ETG Volume	Annual Max
TETCO	SS-1	Jul-18	Apr-24	3,646	379,911
TRANSCO	GSS	7/1/1996	7/1/2001	27,604	1,759,955
TRANSCO	LSS	4/1/1984	3/31/2023	8,000	600,000
TRANSCO	S-2	11/1/1954	Evergreen	7,267	653,186
EAST GAS	GSS-TE	07/01/2018	03/31/2021	23,190	2,387,206
Totals				69,707	5,780,258

LIQUIFIED NATURAL GAS PEAKING SERVICE

ETG owns and operates an LNG plant which is used as a peaking facility to provide supply during extreme cold weather or when interstate pipeline supply is curtailed. The LNG plant can provide up to an approximate maximum of 25,000 Mcf converted by a BTU factor of 1.061 to 26,525 Dths over a 24-hour period, stores just over five days of continuous supply, and can be called on at any time with a two-hour start-up. When not in use, the stored liquid will boil off, on average, approximately 130 Dths per day which are delivered into the ETG distribution system. The storage tank is typically re-filled over the summer period with the goal of filling the tank by December 1. The re-fill process is performed by ETG Gas Supply and the SJIU LNG team. This service is available when called on for a certain number of days and has a monthly reservation charge. LNG is intended to service the coldest days during the winter season.

Currently the liquefaction process takes place at the end of the summer period so that winter can be approached with a full tank. However, liquefaction can take place during the winter season, if necessary. During abnormal cold winter periods, the LNG tank can be refilled to provide additional service; however, this a matter of economics.

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There are no physical facility challenges associated with filling the LNG tank several times throughout the winter. The facility does not have to be near empty to refill or be topped up mid-Winter. No additions to LNG staffing are required in order to have several refills as opposed to one. Expenses can be expected for each additional refill. The additional cost would be approximately \$3,520 per day, a tremendous savings from existing demand charges.

There is no cross-subsidization in staffing levels between ETG and SJG. The manager, one engineer and two other employees report to SJIU. ETG has one supervisor and five LNG Operators that report to ETG. SJG has one Supervisor and six LNG Operators. The individual groups operate the LNG tank with liquefaction and vaporization.

There were no reportable incidents from 2009–2021 related to ETG's LNG Facility at Erie St. Incident or accident report forms are required by Federal Hazardous Materials Regulations or Pipeline Safety Regulations that must be submitted for incidents involving a hazardous material or an incident or accident involving a natural gas or hazardous liquid pipeline.

ETG had a LG-A (LNG) Service in place that was consolidated into their LNG service. The LG-A service was first contracted for in December 1971 and under FERC Order 284 was converted to a Transco Pipeline LNG peaking service during winter periods effective October 1999. Maximum cumulative quantities stored by Transco are 154,951 MMBTU and can be withdrawn on any day during the five winter months but not greater than 38,950 MMBTU in any one day.

Combining all Firm Transportation Capacity yields 398,510 MMBTU of individual transportation plus Storage with Firm Transportation Capacity attached is a total of 57,766 MMBTU and 69,707 MMBTU respectively and results in total daily FTS city gate delivery of 525,983 MMBTU. There are additional LNG services over the winter period of gross volumes 125,000 Dths and 154,951 Dths as additional support.

The exhibit above titled "ETG Single Highest Day Burner Tip Send out Volumes (Gross Dths) For Customers Purchasing Gas Directly From ETG" reflects the highest day of consumption for ETG system supply customers as 459,309 Dths. Clearly, 525,983 Dths plus LNG capabilities is sufficient capacity to serve ETG's system load with room for flexibilities.

LOAD THAT INCLUDES TPS VOLUMES

ETG, as an LDC under NJBPU regulation, has the obligation to be the supplier of last resort. This obligation means that if a TPS fails to deliver, ETG will act as a safety net providing uninterrupted service. The customer is assured that whether or not they choose a TPS, they will continue to receive the same reliable service that they have always received from ETG. There may be some industrial or commercial customers who do not enjoy this protection from ETG (i.e., interruptible rate schedules). For the most part ETG functions as a "supplier of last resort."

In a competitive market, TPS failure is a possibility that cannot be ruled out. The principle of the supplier of last resort ensures that when a supplier failure occurs, affected domestic customers are guaranteed continuity of gas supply. An LDC is best suited to be the

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supplier of last resort because it owns the original assets put in place to serve one hundred percent of customers on its system. Purchasing energy supplies from a company other than the gas utility is purely an economic decision; it has no impact on the reliability or safety of service. It's recognized that an individual TPS may exit the marketplace leaving stranded customers to be served by ETG.

ADDITIONAL PEAKING SERVICES

Peaking services are well established as a means of providing an incremental source of supply to meet natural gas consumption on extremely cold days. The feature that is unique to natural gas peaking services is that the buyer can call on the daily volume for a limited number of days during the winter season. ETG entered into agreements with various suppliers to provide a certain daily volume of gas delivered to ETG's city gate which can be called on for any 15 days between November and March of each winter season. Peaking services have increased tremendously over the recent winter periods; more concerning is that those peaking services are very difficult to locate.

The following exhibit demonstrates the Peaking volumes available to ETG effective November of each year and continuing through the following March. Depending on the year, there are as many as twelve different vendors supplying the peaking services. In general, daily volumes can be called on for a maximum of fifteen days during the Winter for a volume between one Dth and the maximum daily volume of each contract. On a per vendor basis, the contract maximum volume was multiplied by the number of days that the Peaking volume could be called on to arrive at the Maximum Winter Quantity. This Exhibit does include peaking services already addressed in this paragraph and buy-back surplus daily Winter volumes from end-users with a Summer peak season.

Peaking Volumes for November through March 2009-2021 (Dths)

Winter Period	Daily Maximum TPS Winter	Daily Maximum Peaking Quantity	Maximum Winter Quantity
2008-2009	93,307	122,245	1,288,600
2009-2010	90,643	119,145	1,242,100
2010-2011	93,911	128,045	1,375,600
2011-2012	80,347	131,045	1,420,600
2012-2013	90,921	129,045	1,390,600
2013-2014	158,649	119,045	1,240,600
2015-2016	97,655	130,045	1,405,600
2016-2017	87,002	162,045	1,885,600
2017-2018	84,478	131,045	1,420,600
2018-2019	92,428	140,045	1,555,600
2019-2020	103,750	115,045	1,180,600
2020-2021	119,917	157,045	1,810,600
2021-2022	84,855	95,045	880,600

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The following exhibit shows some of ETG's contracted 15-Day peaking services from November–March 2017, through November–March 2021. The purpose of this exhibit is to establish and provide evidence of the cost associated with Peaking volumes in recent years. Gross demand is a fixed charge to reserve a certain amount of pipeline capacity in order to have available that pipeline capacity when the buyer asks for delivery of their gas. In addition to the fixed demand charge, ETG must pay the daily market rate for the actual delivery of the gas.

ETG 15-Day Peaking Service Agreements

[Redacted]

NATURAL GAS CAPACITY TRANSPORTATION AND RELATED ISSUES:

Environmental regulators in New Jersey and New York have rejected applications for permits needed to construct new interstate pipeline capacity. As a result, two of the largest gas distribution companies in downstate New York—The Brooklyn Union Gas Company d/b/a National Grid NY and KeySpan Gas East Corporation d/b/a National Grid (collectively "National Grid")—have declared moratoria on processing new customer applications in parts of their service territories. Notwithstanding these utilities' determination that they lacked sufficient supplies to service new load, the New York State Public Service Commission recently directed National Grid to show cause why it could not connect over 1,100 new customers. As a result, National Grid agreed to begin connecting these customers. The need to secure supplies to serve these additional customers potentially will create further demand for the available peaking supplies in the Northeast. This additional demand could make it more difficult for ETG to purchase peaking supplies in future winters.

Investigation by NJBPU

The NJBPU directed its Staff to investigate, among other things, whether there is sufficient upstream pipeline capacity secured to meet New Jersey customer needs over the next five years. (See Chapter IV, Market Conditions, for a detailed discussion of the NJBPU investigation.)

C. INFRASTRUCTURE REQUIRED TO INITIATE THE PROCUREMENT FUNCTION

As in any business, infrastructure must be in place in order to conduct the business of the company; in this case, the natural gas business of ETG. However, in the case of ETG there was an Asset Manager involved in managing natural gas activities for ETG for the period of this audit, 2009–2021.

ASSET MANAGEMENT AGREEMENTS (AMA):

In 2008, the FERC, under Order 712, authorized the use of AMAs. FERC expanded the features of Order 712 AMAs in its October 15, 2015, order. AMAs are contractual relationships in which an "Asset Manager" agrees to manage another party's gas supply and delivery arrangements, including its pipeline capacity. In a delivery AMA, a large gas purchaser, such as an LDC like ETG, assigns to an Asset Manager its pipeline capacity; its gas purchase contracts, if any exist; and authority to purchase gas supplies to satisfy

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the requirements of ETG. The AMA requires the Asset Manager to then deliver gas to the purchaser when called on to do so under the terms of the AMA. To the extent that there is excess pipeline capacity or surplus purchased gas, the Asset Manager is expected to maximize the value of those assets by making bundled sales or releasing the pipeline capacity to third parties, with revenues to be shared as provided for under the AMA. The various AMAs associated with ETG were always contracted with ETG affiliates and are listed below:

- The AMA and accompanying Gas Supply Purchase and Sale agreement was approved by the NJBPU and covers the period April 1, 2008, through March 31, 2011, between Pivotal Utility Holdings Inc. dba Elizabethtown Gas (Pivotal) and Sequent Energy Management.
- The AMA and accompanying Gas Supply Purchase and Sale agreement was approved by the NJBPU and covers the period April 1, 2011, through March 31, 2014, between Pivotal (ETG) and Sequent Energy Management.
- The AMA and accompanying Gas Supply Purchase and Sale agreement was approved by the NJBPU and covers the period April 1, 2014, through June 30, 2018, between Pivotal (ETG) and Sequent Energy Management.
- With the sale and purchase of ETG to South Jersey Industries (SJIU), consent to assign Sequent Energy Management AMA rights and responsibilities to South Jersey Resources Group (SJRG) for the remainder of the term, July 1, 2018, through March 31, 2019, was granted.
- The AMA and accompanying Gas Supply Purchase and Sale agreement was approved by the NJBPU and covers the period April 1, 2019, through March 31, 2022, between ETG and SJRG. An additional confidential NJBPU Board Order was attached.

GENERAL DIVISION OF LABOR BETWEEN THE ASSET MANAGER AND ETG:

The language in the various AMA agreements is that the Asset Manager is responsible for all tasks upstream of ETG's city gate.

Asset Manager Responsibilities

The Asset Manager's responsibilities include:

- Supplying firm gas consistent with ETG instructions.
- Scheduling volumes on pipeline systems.
- Finding markets for idle capacity resources. ETG considers the Asset Manager's plan, but ultimately the Asset Manager determines the optimum daily deployment of such excess resources.
- Complying with all NJBPU orders.
- Managing ETG's storage accounts and trades such inventory, as necessary. The storage capacity is to be filled as directed by ETG. The Asset Manager is solely responsible for replacing any stored gas that it borrowed so that ETG has available to it volumes of gas equal to ETG's storage withdrawals levels at all times.

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- Releasing excess capacity to third parties; capacity that would otherwise be unused. All capacity releases must be subject to recall provisions and releases greater than 31 days must be approved by ETG.
- Establishing a system of accounts in which all transactions, both physical and financial, may be tracked and audited by ETG and the NJBPU.
- Maintaining contracts with counterparties and assuming and ensuring counterparty credit risk under such contracts.
- Booking and accounting for off-system transactions.
- Monitoring and balancing supplies delivered to the city gate (i.e., while interstate pipelines are expected to deliver certain volumes, actual measurement may reflect minor differences).
- Paying for all pipeline demand/reservation charges.
- Paying for supply acquired on behalf of ETG.
- Invoicing ETG for all costs (i.e., demand charges and ETG's requested supplies are billed by the Asset Manager to ETG).

ETG Responsibilities

ETG's responsibilities include:

- Forecasting demand both long- and short-term loads.
- Determining logical use of assets.
- Retaining a small amount of storage and contracting, processing, and paying for seldomly needed, intra-day supply and for the bundled peaking supplies.
- Determining base load purchase levels and instructing the Asset Manager, prior to the first of every month, on base load volumes to be purchased at IF first-of-the-month prices. The instruction further directs the Asset Manager on the receipt points to be used in accordance with the firm transportation assets. In this way ETG determines the logical use of transportation assets.
- Instructing and approving alternate delivery options.
- On a day-to-day basis, instructing the Asset Manager the additional next day volumes required priced at gas daily indexes.
- Approving alternate delivery options.
- Determining use of peaking resources.
- Determining if balancing provisions of ETG tariff are to be put into effect.
- Verifying contract compliance and Asset Manager invoices.
- Managing all end-user imbalances to include the large consumers and the smaller CHOICE programs.
- Paying and reconciling both the demand charges against pipeline invoices and supply charges against the requested supply and appropriate index pricing. Also, reimbursing the Asset Manager for their costs.
- Monitoring margin sharing.

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- Purchasing and managing all financial products (i.e., futures and price swaps). Typically, 100 contracts per month are purchased on a weekly basis with the intent to mitigate volatility as the price rises.

In addition to having an Asset Manager under agreement for the entire period of this audit, ETG had the Front Office, Middle Office, and Back Office functions in place with descriptions as follows:

- The Front Office function is the responsibility of the VP, Gas Supply Operations who ensures ETG's representatives comply with the SJIU Hedging Programs Risk Management Policy (RMP) and the procedures that support their enforcement if a non-compliance event occurs. The Front Office must address tools, resources, and preparations required prior to buying the physical gas commodity and the related financial products. Typically, the front office is the face of the company and the first introduction to clients. Additional duties include appointments, calendars, meetings, sorting of daily deliveries and deals with mail couriers, assist the Human Resources team in exit and joining formalities, and maintain administrative and operation records.
- The Middle Office function is performed by the Risk Management Department and is tasked with monitoring the risk associated with physical natural gas trading and with financial hedging activities. The middle office is the department that operates between the front and back office. It typically manages risk and calculates profits and losses. It is generally in charge of IT for gas purchasing, as well.
- The Back Office functions are the responsibility of the VP of Accounting, SJIU. The reconciliation analyst function reports under the direction of the VP of Accounting. The back office is the portion of a company made up of administration and support personnel who are not client-facing. Back-office functions include settlements, clearances, record maintenance, regulatory compliance, accounting, and IT services.

OFFICE COMPONENTS

The components of the three office functions (front, middle, and back) include pricing tools, credit, contracts, and the RFP process and are described below.

Pricing Tools

ETG contributes to and has download capabilities to all available pricing tools. S&P Global Platts is a provider of energy and commodities information and a source of benchmark price assessments in the physical commodity markets. ETG subscribes to the "Platts Gas Daily" (GD) electronic bulletin and the Inside FERC (IF) electronic bulletin. Both are Platts publications and contain market fundamental data including index close information, NYMEX strip, bid week information, preliminary price report, and different market intelligence data on a daily and monthly basis. The S&P Global Platts provides ETG with the published index prices. The index may be a daily index, such as Platt's Gas Daily (GD), or a monthly index, such as Inside FERC (IF). Both indexes allow for the selection of the specific physical location for the transfer of title (e.g., at Henry Hub, [the NYMEX equivalent locational point]), a pooling point, or a gated point (e.g., ETG's city gate). A download of pricing data linked to ETG's energy trading and software computer

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system (ENDUR) provides a complete picture and automated processing of physical and financial gas transactions.

Intercontinental Exchange (ICE) operates regulated global futures exchanges and over the counter (OTC) markets through a globally distributed electronic platform and offers trading in thousands of OTC contracts covering a broad range of energy related products and contract types. ICE OTC market participants include many of the world's largest energy companies, leading financial institutions, and proprietary trading firms, as well as natural gas distribution companies and utilities. ETG has access to ICE's Market-Q application that provides real-time NYMEX data. Lastly, ETG extracts NYMEX Futures settlement data from the Chicago Mercantile Exchange (CME) Groups website.

ETG uses Platts S&P Global independent prices for all settled gas prices and ICE for all future prices. For accuracy, these published prices are interfaced with ENDUR and reconciled with Platts and ICE.

Credit

Dependable natural gas suppliers that own sufficient natural gas assets are fundamental for the procurement of natural gas. It is the policy of SJL and its subsidiaries to develop credit guidelines in order to extend credit to customers and counterparties involved in the purchase and sale of natural gas at the retail and wholesale level. Credit is evaluated for all suppliers/vendors of physical gas. The credit evaluation does not discriminate between those suppliers who may be selling to ETG as opposed to entities that ETG may sell to.

ETG retained a small amount of storage and ETG contracts, processes, and pays for seldomly needed, intra-day supply and for the bundled peaking supplies. While the affiliate SJRG is currently the acting Asset Manager and bears the majority of gas purchases, ETG in its own right has some exposure and therefore must comply with credit standards. An investigation into the financial health/wealth of each supplier includes the following items to review and steps to take:

- Complete legal name, mailing address, and phone number of the counterparty.
- Copy of the latest annual audited financial statements of the counterparty for the past three years or of its parent company, if applicable. This information presented to ETG by the supplier and is utilized to perform financial analysis to determine the financial stability of the company with balance sheets, cash flow statements, inventory turnover rates, debt structure, management performance, market conditions, and similar data is.
- All financial instruments and evaluation tools available in the marketplace are used. Dunn & Bradstreet, S&P Global, and Fitch Tools provide forward-looking insights as well as in-depth information. These tools and products allow risks to be identified, credit trends understood, and data leveraged for success in today's complex markets.
- An individual electronic file is prepared and maintained in the Risk Management Department (RMD) for every counterparty.
- An upper credit limit is established for all ETG entities' purchasing requirements, and the credit limit is entered into ENDUR.

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- A contract will not be routed for approvals and executed until credit is approved. Once there is a fully executed North American Energy Standards Board (NAESB) contract, the Risk Group enters the contract into ENDUR.
- When ETG prepares a request for proposal (RFP) to solicit bids from suppliers for a volumetric period of months or multi-months, the first step is to forward to Risk Management the list of suppliers to recheck their credit.
- Once the responses to the RFP are reviewed and winner(s) are established, the Risk Department may ask for additional credit assurance, but the benefit of the pre-approval process means that credit requirements are immediately known.
- The Risk Department uses Mark-to-Market accounting to value the multi-month strip of gas. The basic principle here is that the NYMEX is an ever-moving vehicle of pricing; on-going credit evaluations continue.
- All suppliers are reviewed on a daily basis to evaluate the effect of additional purchases.
- If a situation occurs where a supplier has reached his upper limits and more than one South Jersey entity has commitments in place, the upper limit credit is pro-rated between the parties based on volumetric load.
- A monthly review of all receivables examines existing counterparties to ensure that SJI is compliant with the credit standards established by the Risk Committee.
- RMD has the responsibility of entering all the credit limits in ENDUR and only RMD is authorized to make changes in ENDUR related to credit.
- An individual electronic file is prepared and maintained by RMD for every counterparty.

Contracts

The NAESB is an industry-led effort to develop business practice standards—including standard contracts such as the NAESB Contract, communications, and e-commerce protocols for the natural gas industry. NAESB includes the wholesale and retail gas and electric sectors of the energy industry. The Base Contract is one of the most commonly used contracts for the purchase and sale of natural gas in North America.

All ETG contracts, including NAESB contracts, must be entered into the secure and independent central electronic system, Application Xtender/APEX, which routes the contract through Legal, Risk Management, Tax, Insurance, Treasury, Accounting, and IT. Legal may add amendments to the master contract to address areas of concern. All contracts must be credit approved and must be executed by an officer of ETG. The APEX system was replaced with an identical system called SCOUT/Workday Strategic Sourcing. The individual companies under the SJI umbrellas each have their own NAESB agreements.

The ENDUR computer system generates daily or first-of-the-month deal sheets for emailing or faxing directly to counterparties or brokers. The gas traders must monitor the deal sheets with the counterparty; deal sheets amend the master agreement. Once the master NAESB agreement has been entered into ENDUR, ENDUR will permit gas to be scheduled without a fully executed deal sheet being present in the deal capture system.

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Traders depend on email traffic as confirmations of the recent trades until an executed deal sheet is returned. A summary version of the contract approval process is as follows:

- Pre-approved contract templates (i.e., NAESB with amendments) are available for ETG staff in the Scout/Workday system.
- The staff member who submits the contract must respond to questions required by the Scout/Workday flowchart. Based on the answers to the questions, a numeric classification is assigned to each contract for the purpose of routing the contract to the appropriate departments for approval.
- Contracts with a numeric classification of zero or one require only the Legal Department review; contracts classifications between two and five require a review by Legal, Risk Management, and Insurance Departments; contracts classification of six or above require review by Legal, Risk Management, Insurance, Tax, Accounting, and Treasury Departments. ETG does enter into hedging contracts and those types will require Risk Management review.

Email notification includes the contract status (approved, approved with revisions, or rejected) and the comments that were made from each of the required approvers according to the classification that was indicated during the flowchart questions in Scout/Workday. Contracts being worked outside of Scout/Workday follow all approval steps but are routed through email due to the confidentiality and/or complexity these contracts involve. These types of contracts typically require extensive negotiations and involve the services of outside counsel and/or multiple parties. The contract and relevant support data are loaded into Scout/Workday when the agreement is executed.

The RFP Process

ETG enters into Peaking Services and buys small amount of gas on an intra-day basis to fill the small amount of storage that ETG did not assign under the AMA structure. RFPs seek natural gas suppliers to respond and offer supply based on the conditions listed in the proposal. The proposal includes the price, terms, and conditions under which ETG is willing to purchase natural gas supplies at the specified receipt point(s). Typically, any buyer the size of ETG would issue an RFP to all potential suppliers with whom there is a NASEB agreement in place and are credit approved. RFPs seek supplies for future months and are not intended for current day/week/month purchases. Based on ETG's gas purchases, the RFP process would be used for Peaking Services.

INFORMATION TECHNOLOGY

The complete Openlink ENDUR Platform has ten components. SJI initially purchased the Risk Management component in 2014 and implemented it in 2015 to manage financial hedges in their portfolios. This purchase was ENDUR version 10.2.1. During 2016–2017, other components were added including the physical gas component. It took one year to implement the physical gas component and successfully operate it independently. The ENDUR Platform is shared by SJRG, SJG, and ETG with SJRG owning the majority share. There was an upfront investment of \$11,166,316 and an annual licensing fee of \$282,007.68. SJI updated to and is currently operating with ENDUR version 16 at an annual cost of \$1.62 million. The application is scheduled for upgrade in 2023 or 2024 with a projected budget of around \$831,500. The level of effort to create the

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enhancements requested will determine the implementation date. A reduction in the upgrade cost is due to improved knowledge and capability of ETG's staff with the implementation process making them much less reliant on external contractors as with the 2016 upgrade.

For tracking purchases prior to the purchase and sale to SJI in the year 2018, ETG utilized an in-house developed database application. That application, known as Energy Management System (EMS) was generally similar in concept to ENDUR.

ENDUR's Physical Gas Supply Capabilities

ENDUR's capabilities to manage physical gas supply are as follows:

- Provide contract support and contract management. For example, master contracts with transactional deals entered as purchases or sales are made as amendments to the master agreement.
- Generate daily deal sheets or statements for emailing or faxing directly to counterparties or brokers. The gas traders must monitor the agreement with the counterparty in the case of a daily deal sheet. ENDUR will permit gas to be scheduled without a fully executed deal sheet entered if the master NAESB agreement is in the ENDUR system.
- Track the amount of firm transportation capacity released to marketers and others. ENDUR does not manually adjust the original ETG firm transportation capacity contract downward to reflect revised contract quantities. The reduction must be entered manually. ENDUR does not currently flag the aggregate of nominations when firm transportation capacity contract quantities are exceeded. Reports are generated and must be reviewed by gas supply staff. ETG expects that this feature will be provided by the new upgrade.
- Capture physical deals. ETG gas trader instructs the Asset Manager the quantity of gas to be purchased at first of the month prices and instructs daily the volumes of gas to be purchased on a daily basis. The trader enters into ENDUR volumes and associated prices per instructions given. ENDUR includes internal transactions for inter-book and inter-company deals as well as physical exchange deals.
- Capture outstanding imbalances and path the route from supply to delivery.
- Finalize deals. The final stage of transactions is cash disbursements and collaboration with vendors through receipt of invoices and generation of invoices as appropriate. ENDUR is an end-to-end system; it will identify, quantify, and manage a transaction from beginning to end.

The AMAs in effect throughout the audit review period dictated the process by which ETG requested supply. Based on ETG's requests, the Asset Manager purchased the supply and was responsible for nominating that supply on the interstate pipeline electronic bulletin board systems as well as the utilities nomination system. Prior to 7/1/2018, the previous owner was responsible for those tasks using its own computer systems. The Company does not have a policy for nominating gas.

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The afternoon confirmation of supply requires manually checking pipeline Bulletin Boards to determine if the supply that supports the nominations are confirmed. The confirmation is followed by the manual entry of the reduced volume, if appropriate, into ENDUR to reduce the acting deal sheet with the counter party. Again, a transfer mechanism from the Bulletin Board to ENDUR does not exist.

The process to query the ENDUR system requires an expert from IT to assist. ENDUR can generate multiple reports, whether standard or customized, and reports are structured by the IT group and generated at planned intervals. The key report generated by most systems like ENDUR is the Daily Activity Report which is sorted in various ways and circulated to various departments.

ENDUR's Ability to Track Financial Hedges

ENDUR's capabilities to track financial hedges include the following:

- ENDUR is used to track physical gas and financial hedges.
- Financial products associated with financial hedges and physical gas are housed in the ENDUR system. The Gas Supply Department and Midstream Partners, acting as a consultant to ETG, are responsible for entering the hedges into ENDUR. The RMD reconciles the transactions in ENDUR to J.P Morgan statements on daily/monthly basis.
- Delivers web services with connectivity to external data sources, including pricing sources, (i.e., Platts and commodity exchanges like New York Mercantile Exchange [NYMEX] and Intercontinental Exchange [ICE]). ETG uses Platts S&P Global independent prices for all settled gas prices and ICE for all future prices. For accuracy, these published prices are interfaced with ENDUR and reconciled with Platts, ICE, and J.P Morgan statements/files.
- In accordance with SJIU Risk Policy, ETG uses Energy Futures and Energy Swaps based on NYMEX and ICE for financial hedging.
- The RMD reviews and monitors the financial transactions. Mark-to-market is a method of measuring the fair value of accounts in the present market. The cost of gas fluctuates between the time a futures contract was purchased and the current day. If prices have risen, the broker will require more money (i.e., a Margin Call). Margin calls are disbursed and approved by the RMD.
- GD pricing for the most recent day's gas trades is loaded into ENDUR both late at night and early morning. That data is available to traders when the morning gas day begins.
- Pricing data from electronic exchanges are automatically transferred into the ENDUR environment.
- ENDUR does not provide NYMEX or ICE data in real time.
- ENDUR provides a report at the end of each day that reflects credit limits on a vendor basis and does not have a signal generated during deal capture or execution. The additional features that would prevent gas from being scheduled when credit limits are exceeded are not there. Monitoring and comparing newly scheduled volumes to established credit limits is a function performed manually by

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the gas schedulers and the RMD. SJG buys the majority of its gas supplies on a daily basis; therefore, the credit risk is limited to one daily purchase from one supplier.

- ENDUR generates and analyzes accruals and monitors receipt and payment to vendor invoices.
- ENDUR finalizes deals. The final stage of transactions is cash disbursements and collaboration with vendors through receipt of invoices and generation of invoices, as appropriate. ENDUR is an end-to-end system; it will identify, quantify, and manage a transaction from beginning to end.
- ENDUR's Accounting Module captures trades, credit, and settlements, and offers support of mark-to-market and accruals.

OTHER DATABASES WITHIN GAS SUPPLY:

The Asset Manager was responsible for nominating supply on the interstate pipeline electronic bulletin board systems as well as the utilities nomination system. Prior to 7/1/2018 the previous owner's EMS electronic system was used; the Supplier Portal was used after that date.

SJIU confirms the supply with the pipes and can do so because the Asset Manager entered all deals into the ENDUR computer system. SJIU provides a Confirmation Service as a shared service to ETG, SJG, and SJRG. The confirmation of supply is performed every day. The focus is on tracking and confirming the gas supplies being delivered to ETG's city gates. They access the pipeline Bulletin Boards to see if the pipeline made cuts because of a failure on the part of gas suppliers to put the correct volume of gas into the pipe at the receipt points. Where there appears to be a deficiency in the volume of gas put into the individual pipelines, the group contacts gas suppliers to see if the situation can be corrected. If the issue cannot be corrected, the confirmation group has the ability to cut the pipeline nomination down to the level of the associated supply. This group uses a system designed in-house referenced as the STARS portal. Traders use the Supplier Portal for system supply and Third-Party Suppliers / independent marketers who participate in open access transportation and CHOICE programs use the Marketer portal.

D. RELIABILITY

The historic reliability of natural gas is due to its operational characteristics which include the physical operations of natural gas production, transmission, and distribution which ensure the system is inherently dependable and resilient. Disruptions to natural gas service are rare. When they do happen, a disruption of the system does not necessarily result in an interruption to scheduled deliveries of natural gas supply because the natural gas system has many ways of offsetting the impact of disruptions.

For the entire 13-year period of this audit, ETG engaged their various marketing affiliates as managers of their gas supply and gas storage functions. In FERC Order No. 712, the FERC found that Asset Management Agreements (AMAs) maximize the utilization and value of pipeline transportation capacity and gas storage capacity by creating a mechanism for capacity holders to use third-party experts to manage their capacity assets. In general, an AMA is a contractual relationship where a party agrees to manage

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gas supply and delivery arrangements, including transportation and storage capacity, for another party.

FIRM CONTRACTUAL ARRANGEMENTS ENSURE RELIABILITY OF SERVICE.

The physical operations of pipelines provide an elevated level of reliability in terms of their physical operations and ability to physically deliver gas to their customers. Yet, to benefit from this reliability, large-volume customers (e.g., industrial users, electric generators, commercial customers) and Local Distribution Companies (LDC) must do their part to ensure continuity of service by contracting for both firm transportation services (FTS) and firm storage services (FSS) to meet their own and their customers' obligations. Absent customers purchasing pipeline capacity on a firm basis, pipelines may not have spare transportation capacity available on their systems, or a higher priority firm transportation customer may bump the non-firm customers' service for reasons unrelated to physical gas or transportation disruptions. On the coldest days (known as "peak days"), when weather-sensitive firm transportation customers are using their full contractual entitlements, there may be no interruptible transportation capacity left over for interruptible customers.

To use its FTS and FSS, the LDC must have volumes of gas committed under supply contracts with suppliers. Transportation vehicles and storage resources are not beneficial if there is not a product to transport or store. Historically, the major risk from not having fixed volume contracts was limited to the winter period, and then only the exceptionally cold days. In more recent years, weather patterns have changed; hurricanes do not follow previous patterns. Suppliers of natural gas are only obligated to sell gas to a particular entity if they are obligated to do so by contract. When critical weather scenarios occur, not only will prices soar but there can be freeze offs where suppliers may prefer to protect their gas wells rather than flow gas to make money. ETG has an abundance of FTS and FSS committed for years into the future. Under ETG's purchasing strategy for the period of this audit, ETG had an AMA in place with its affiliate(s). The AMA assigned the FTS and FSS to its affiliated manager(s). Those assets are used as tools by the manager to manage and optimize the assets. The AMA obligates the manager to deliver the daily requirement to ETG's city gate as called upon.

STORAGE WITHDRAWALS

The one option to bridge the enormous gap between supply and demand during winter is gas storage. Storage is critical to the way the market functions and to price formation. Approximately 20% of all-natural gas consumed during the winter is supplied by underground storage.

Functionally, physical storage provides reliable and safe access to affordable natural gas supplies that serve all firm customers, including industrials. The nature of LDC-owned or leased storage is that injections occur during the summer period, typically in April and continuing through October of each year. The stored gas is then available for withdrawal during the winter period starting in November and continuing on a monthly basis through the following March. During periods of low consumption, such as the seven months from April through October, excess supply can be injected into storage. During periods of elevated consumption, such as the five months from November through March, gas is

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withdrawn from storage to meet demand. Thus, storage is a time arbitrage – buy today to sell a certain number of months from now. Purchases during the summer period are generally not subject to the level of price spikes typically experienced during the winter period.

Specifics of Storage

Storage facilities are owned and operated by interstate and intrastate pipeline companies, LDCs, and independent storage operators. The gas held in storage may also be owned by the operator, but most of it is held in the storage facility under lease with shippers, LDCs, or end users. Certain interstate pipelines that operate storage facilities require storage withdrawals to be on a timetable and daily volumes per winter month are specified. In addition, certain levels of withdrawals must be reached by a certain date. This ensures that storage has the space to accept the injections expected to begin in April.

Gas must be received in the supply areas and moved into the storage facilities owned by the interstate pipeline; firm transportation is required to inject and the delivery point is limited to the specific storage facility. Firm transportation is required to withdraw from storage and move the gas to the LDC's city gate. The firm transportation withdrawal contract is specific to storage as a receipt point and the LDC's city gate as a delivery point. Interstate pipelines will calculate both legs of the firm transportation to match the permitted storage injection and withdrawal volumes.

Not all pipeline natural gas tariffs specify summer injections and winter withdrawals. For example, Transco pipeline provides at least three rate schedules that permit injections into storage of a maximum quantity on any day and withdrawal from storage on any given day the quantity of gas in storage. This storage is available for injection or withdrawal on any day (e.g., seasonal limitations do not apply).

ETG has leased storage capacity on various pipelines where transportation is a component of or bundled with that service. This storage capacity is distributed across five independent storage rate schedules, each with their own terms and conditions. These storage rate schedules are identified as Transco's General Storage Service (GSS), Texas Eastern's Storage Service (SS-1), Transco's Leidy Storage Service (LSS), Storage Service (S-2), and Transco's Liquefied Natural Gas Storage Service (LNG). The following exhibit shows the maximum capacities available to ETG for these five schedules from 2009 through the end of 2021.

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ETG Storage with Transportation Attached

Pipeline	Rate Schedule	Begin Date	End Date	Daily Volume (MMBTU)	Winter (Max MMBTU)
EAST. GAS	GSS-TE	Oct-93	Mar-21	23,190	2,387,206
TETCO	SS-1	Jul-18	Apr-24	3,646	379,911
TRANSCO	GSS	7/1/1996	7/1/2001	27,604	1,759,955
TRANSCO	LSS	4/1/1984	3/31/2023	8,000	600,000
TRANSCO	S-2	11/1/1954	Evergreen	7,267	653,186
Totals				69,707	5,780,258

ETG has gas stored with and without specific firm transportation associated with the storage account. ETG is contracted for a significant volume of FT that generally picks up flowing gas from various suppliers to move to their city gates. The stranded supply in storage is relevant when daily purchase prices are elevated. Displacing gas being produced in real time with the referenced storage gas on such days can create significant gas cost savings because the stored gas was injected during less expensive summer months. The following exhibit illustrates storage volumes that rely on either associated storage firm transportation or requires ETG's firm transportation to move the gas from the storage receipt point to the ETG city gate.

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ETG Storage Used as Supply with Independent Transportation Required

Pipeline	Rate Schedule	Begin Date	End Date	Daily Volume (MMBTU)	Winter (Max MMBTU)
With Associated Firm Transportation Capacity					
TCO	FSS	Apr-2020	Mar-2023	3,644	230,168
EAST. GAS	GSS-TE	Oct-1993	Mar-2021	23,190	2,387,206
TRANSCO	GSS	Apr-1984	Jul-2001	27,604	1,759,955
TRANSCO	LSS	Apr 1984	Mar-2023	8,000	600,000
TRANSCO	S-2	Nov. 1954	Evergreen	7,267	653,186
Subtotal				69,705	5,630,515
Without Associated Firm Transportation Capacity					
TRANSCO	ESS	Nov-1993	Evergreen	14,397	250,075
TRANSCO	WSS	Feb-2002	Evergreen	40,149	3,412,638
GULF SOUTH	FSS-P	Apr-2013	Evergreen	10,000	100,000
EAST. GAS	GSS	Jan-1993	Mar-2023	10,826	645,244
STAGECOACH	FSS	Sep-2003	Mar-2019	3,040	304,000
TENN.	FS-MA	Nov-1994	Evergreen	1,014	100,485
ARLINGTON	FSS-A	Apr-2013	Evergreen	5,556	500,000
EAST. GAS	GSS	Feb-1999	Evergreen	16,667	1,666,666
Subtotal				101,649	6,979,108
Totals				171,354	12,609,623

The following exhibit reflects daily volumes burned in January 2018. This month was selected because it was one of the coldest months during the 13 years reviewed in this audit. The volumes represent the load served by ETG and do not include volumes supplied by independent suppliers for customers who choose a supplier other than ETG. For comparison purposes, firm transportation is reflected as well as leased storage capacity where transportation is attached. Additionally, ETG has LNG available for a limited number of days, some of which is owned and operated by ETG with a second source purchased through Transco. This load is further supplemented by a Peaking Service of flowing gas that provides for any 15 individual days of withdrawals between November through March. The exhibit reflects excess or unused transportation that equals 9,743,253 MMBTU. Granted, during summer months with a non-heating load the consumption would be one half of the winter load but since storage withdrawals, LNG, and Peaking Services would not be in place, the excess gas would still be significant, even if not equal to the winter excess.

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Comparison of ETG Winter System Supply to Firm Transportation (MMBTU)

Gas Day	ETG System Supply	Firm Transport Flowing Gas	Firm Transport Storage	Firm LNG	Firm Peaking	Gross Firm Transport	Excess Assets
1/1/2018	329,680	398,510	2,248			400,758	71,078
1/2/2018	315,852	398,510	2,248			400,758	84,906
1/3/2018	262,180	398,510	2,248			400,758	138,578
1/4/2018	316,817	398,510	2,248			400,758	83,941
1/5/2018	357,657	398,510	2,248			400,758	43,101
1/6/2018	369,278	398,510	2,248			400,758	31,480
1/7/2018	316,293	398,510	2,248			400,758	84,465
1/8/2018	250,377	398,510	2,248			400,758	150,381
1/9/2018	206,988	398,510	2,248			400,758	193,770
1/10/2018	170,045	398,510	2,248			400,758	230,713
1/11/2018	95,341	398,510	2,248			400,758	305,417
1/12/2018	37,426	398,510	2,248			400,758	363,332
1/13/2018	249,208	398,510	2,249			400,759	151,551
1/14/2018	296,184	398,510	2,249			400,759	104,575
1/15/2018	255,522	398,510	2,249			400,759	145,237
1/16/2018	199,164	398,510	2,249			400,759	201,595
1/17/2018	272,236	398,510	2,249		60,000	460,759	188,523
1/18/2018	267,882	398,510	2,249		60,000	460,759	192,877
1/19/2018	209,690	398,510	2,249		60,000	460,759	251,069
1/20/2018	140,014	398,510	2,249		60,000	460,759	320,745
1/21/2018	106,146	398,510	2,249		60,000	460,759	354,613
1/22/2018	116,452	398,510	2,249		60,000	460,759	344,307
1/23/2018	107,963	398,510	2,249		60,000	460,759	352,796
1/24/2018	211,645	398,510	2,249		60,000	460,759	249,114
1/25/2018	240,732	398,510	2,249		60,000	460,759	220,027
1/26/2018	202,857	398,510	2,249		60,000	460,759	257,902
1/27/2018	89,894	398,510	2,249	63,950	60,000	524,709	434,815
1/28/2018	118,177	398,510	2,249	63,950	60,000	524,709	406,532
1/29/2018	164,625	398,510	2,249	63,950	60,000	524,709	360,084
1/30/2018	248,495	398,510	2,249	63,950	60,000	524,709	276,214
1/31/2018	223,610	398,510	2,249	63,950	60,000	524,709	301,099
Totals	6,748,430	12,353,810	69,707	319,750	900,000	13,643,267	6,894,837

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Asset Management Agreements (AMA)

The fundamental element of an AMA is FTS and/or FSS and the various flexibilities afforded by the FERC for these services. (See Chapter IV, Market Conditions, for more details)

FERC issued Order No. 712, 712 (a) and 712 (b) that revised regulations governing interstate natural gas pipelines to reflect changes in the market for short-term transportation services on pipelines and to improve the efficiency of FERC's capacity release program. The order permitted market-based pricing for short term capacity releases and facilitated AMAs by relaxing FERC's prohibition on its bidding requirements for certain capacity releases. FERC further waived its prohibition on tying and its bidding requirements for capacity releases made as part of state-approved open access programs. The prohibition on tying prevented the release of capacity from being tied to any extraneous conditions such as requiring the replacement shipper to take assignment of the releasing shipper's gas purchase obligations.

FERC determined that there must be a significant delivery or purchase obligation on the replacement shipper to deliver gas to, or purchase gas from, the releasing shipper to distinguish AMAs from standard capacity releases. Accordingly, FERC required that the release contain a condition that the "releasing shipper may call upon the replacement shipper to deliver to, or purchase from, the releasing shipper a volume of gas up to 100% of the daily contract demand of the released transportation or storage capacity." This obligation must apply for the term of the release.

The AMAs in place between ETG and its affiliated managers provided for the proceeds/profits realized by the managers as a result of the optimization of ETG's assets to be shared between the parties. The objective here is to compensate the manager for their management efforts and to return a portion of profits to ETG for its rate base.

TRADITIONAL ADMINISTRATION OF EXCESS FIRM ASSETS

The traditional methods for owners of FTS and/or FSS that hold excess assets are capacity release and off-system sales, which are discussed below.

CAPACITY RELEASE

Unlike the gas commodity, firm capacity transportation, on a standalone basis, is subject to FERC rules and regulations. An interstate pipeline that offers storage and/or transport services on a firm basis must include in its tariff a mechanism for owners of FTS and FSS to release firm capacity by posting such FTS or FSS on the pipeline's Bulletin Boards for bidding purposes. Firm shippers must be permitted to release their capacity, in whole or in part, on a permanent or short-term basis, without restriction on the terms or conditions of the release. FERC requires that firm capacity be released/sold on an open access, non-discriminatory basis using processes and pricing guidelines approved by the FERC and implemented by the pipelines. The owner does not have the ability to give firm capacity to whomever they want to. All external entities must have a chance to bid up to the maximum FERC tariff rates that the original owner paid for such capacity. During winter months, delivery point sales provide greater returns on the transportation portion of the product than releasing the firm capacity through the pipeline capacity release

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mechanism because capacity release regulations limit the owner to maximum natural gas transportation tariff rates, for terms of 1 year or longer.

OFF-SYSTEM SALES

Off-System Sales (OSS) is a term associated with energy distribution/utility companies that means the sale of energy to wholesale or retail customers located outside the distribution companies' service territory. Utility companies frequently find that they have excess product available for sale that is not otherwise required to serve the core utility load. When considering excess product eligible for resale, a utility must consider the following:

- All sales made to wholesale or retail customers within its service territory are part of the utility's' core utility load and must be made subject to the utility's natural gas tariff. To have excess product, the utility will have provided the full load requirements to its wholesale and retail customers.
- The utility can sell excess product to a TPS that serves wholesale or retail customers within the utility's service territory. TPSs are not regulated entities and act independent of the utility.
- The utility can sell excess product to TPSs that serve wholesale or retail customers outside the utility's service territory, and the utility can sell directly to wholesale or retail customers outside the utility's service territory.

The product is the gas commodity attached to firm transportation and sold as a bundled product at a delivery point. This typically means that the owner of the FTS must purchase the gas commodity in order to create a bundled product of FTS and the gas commodity to move the bundled product to the destination delivery point. If the owner has both FTS and FSS, the owner can bundle both products for resale at the delivery point. This allows the seller to capture market prices for its firm transportation. During winter months, delivery point bundled sales provide greater returns on the transportation portion than selling the isolated transportation component by itself. With stored gas that was injected into storage during months that were less expensive than peak cold days during the winter; profits can be realized using this mechanism.

E. GAS PROCUREMENT STRATEGY AND PLANNING

This section addresses the purchase and sale of the physical gas supply, moving the gas to ETG's city gates (referred to as "nominating"), the confirmation process that verifies that the purchased commodity is ready to flow into the pipelines, and the associated financial products commonly referred to as hedging.

BACKGROUND AND PERSPECTIVE

The Gas Procurement Administration (GPA) function manages and controls activities in the procurement and delivery of natural gas to customers. Currently, since the purchase of gas supplies is one day in advance, ETG may find itself in a position to sell small quantities of gas from time to time. The GPA has responsibility for RFPs, contracting, transportation and release of excess transportation, pricing tools, computer systems, and other infrastructure items required to operate a Gas Procurement Department. GPA must also coordinate supplies delivered by third party suppliers (TPS).

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A critical GPA function is developing the best estimate of gas supplies required for the next year, next month, next week, and next day; this estimate is provided by the Load Forecast with additional input for near-term projections based on weather from Gas Control. GPA works and coordinates with both departments.

ASSET MANAGEMENT

As part of the Merger Agreement, the NJBPU approved the recommendation that ETG's subsidiary Sequent Energy Management (SEM) operate and administer ETG's gas-supply asset-management agreement (AMA) function, effective April 1, 2005. ETG had been using an external Asset Manager since early 2004. The arrangements included an AMA and a gas-supply agreement providing for monthly supplies, daily supplies, intra-day supplies, and storage-fill supplies.

The various AMAs together with Gas Supply Agreements for the purchase and sale of natural gas and the identification of the Asset Managers are as follows:

- In 2004, ETG was acquired by AGL Resources. The AMA agreement covers the period April 1, 2008, through March 31, 2011, between Pivotal Utility Holdings Inc. dba Elizabethtown Gas (Pivotal) and their affiliate, SEM.
- An AMA covers the period April 1, 2011, through March 31, 2014, between Pivotal and their affiliate SEM.
- An AMA covers the period April 1, 2014, through June 30, 2018, between Pivotal and SEM. SJI purchased ETG effective July 2018, and the purchase resulted in a Consent to Assignment agreement between SEM and their new affiliate South Jersey Resources Group (SJRG) that transfers or assigns the AMA from SEM to SJRG for the remainder of the term, July 1, 2018, through March 31, 2019, and changes the parties to ETG Acquisition Corporation and SJRG.
- An AMA covers the period April 1, 2019, through March 31, 2022, between ETG and SJRG. This AMA extended through March 2024.

THE ASSET-MANAGEMENT RELATIONSHIP

Asset management is the service of managing ETG's assets. At its core, this means identifying ETG's goals and working to accomplish those goals via portfolio management—buying natural gas on ETG's behalf and managing their transportation capacity, storage capacity, and optimizing excess assets.

Shadow dispatch essentially represents what ETG would do if its assets were not under third-party management. ETG's Gas Supply orders monthly and daily supplies under the asset-management arrangements with its Asset Manager in the same manner (and on essentially the same terms) as would apply in the absence of an asset-management agreement.

The prices that ETG pays to purchase gas pursuant to the logical-dispatch provisions of these AMA agreements follow the relevant index for the points where the purchase occurs. Monthly indexes govern monthly purchases; daily indexes govern daily purchases. The AMA and Agency Agreement provided for capacity release of ETG's transportation and storage contracts. ETG provides the Asset Manager with the relevant details of each contract (i.e., primary receipt point and primary delivery points). The

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receipt and delivery points on each interstate pipeline contract will be married to the indexes for the purpose of purchase and sale of gas supplies. Because the Asset Manager purchased the gas, the Asset Manager is the logical entity best suited to nominate the gas supply on the pipelines and move it to ETG's city gate.

FERC AUTHORIZATION

The FERC regulates all interstate pipelines; therefore, the transportation capacity and storage capacity contracts between ETG and upstream pipelines are subject to FERC regulations. The fundamental element of an AMA is FT and/or FSS and the various flexibilities afforded by the FERC for these services.

FERC issued Order No. 712, 712 (a) and 712 (b) that revised regulations governing interstate natural gas pipelines to reflect changes in the market for short-term transportation services on pipelines and to improve the efficiency of FERC's capacity release program. The order permitted market-based pricing for short term capacity releases and facilitated AMAs by relaxing FERC's prohibition on its bidding requirements for certain capacity releases. The original FERC Order 712 required that all shippers have title to both the supply and the transportation (i.e., tying supply and transportation capacity together). FERC waived its prohibition on tying and its bidding requirements for AMA capacity releases so long as the AMA provides for a commodity purchase/delivery obligation from the replacement shipper during the five winter months.

FERC determined that there must be a significant delivery or purchase obligation on the replacement shipper to deliver gas to, or purchase gas from, the releasing shipper to distinguish AMAs from standard capacity releases. Accordingly, FERC required that the release contain a condition that the "releasing shipper may call on the replacement shipper to deliver to, or purchase from, the releasing shipper a volume of gas up to 100% of the daily contract demand of the released transportation or storage capacity." That obligation must apply for the greater of five months or five/twelfths of the term of the release.

The AMA vehicle can be used in two ways (1) FERC Order 712 (a) and 712 (b) allows a capacity holder to enter into AMAs for portions or all of its excess assets and (2) the order allows for asset management (i.e., a contractual relationship in which an Asset Manager agrees to manage the LDC's gas supply and delivery arrangements, including its pipeline capacity). The Asset Manager manages and monitors a company's assets. The LDC assigns its capacity to a third party for the purpose of the third-party providing management and other services as provided for in the AMA terms and conditions. The Asset Manager can release capacity or use the capacity to make sales to third parties, effectively allowing the Asset Manager to optimize pipeline capacity and thereby make more efficient use of natural gas transportation assets on behalf of the client.

THE TRANSFER OF ASSETS TO THE ASSET MANAGER

An interstate pipeline that offers transportation and storage service on a firm basis must include in its tariff a mechanism for owners of FTS and FSS to post or advertise its firm capacity on the pipelines bulletin boards for the purpose of subcontracting to an alternate entity. Owners of FTS and FSS are permitted to release their capacity, in whole or in part, on a permanent or short-term basis, without restriction on the terms or conditions of the

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release. Owners of FTS and FSS may arrange privately for a replacement shipper to assign its capacity to and is then obligated to post the completed arrangement on the interstate pipeline's bulletin boards. A replacement shipper is any shipper that obtains released capacity. Under normal conditions the release of capacity would require the replacement shipper to assume some or all of the reservation charges associated with firm capacity. Under FERC regulations associated with AMAs, the assignment to the Asset Manager can be at zero expense to the new capacity owner. ETG transferred all of its FTS and the majority of its FSS at zero cost to its Asset Manager.

ETG is served by TCO, Tennessee Gas Pipeline Company (TGP), Texas Eastern Transmission Corporation (TETCO) and Transcontinental Gas Pipe Line Corporation (Transco). The Union service territory has access to TETCO and Transco. The Northwest service territory can be divided into three segments in terms of access to the different pipelines:

- The northern part is only served by TGP.
- The central part has access to TCO and Transco.
- The southern part has access to TETCO and Transco.

The same Transco segment serves both the southern part of the Northwest service territory and the Union service territory.

FTS Transferred

The purpose of the following exhibit is to show gross capacity transportation contracted for by ETG and to show how much of that capacity transportation is unused or excess.

The annual firm transportation capacity for each year for the entire thirteen years of this audit is reflected. Annual firm transportation is the vehicle that moves the gas commodity from the receipt of the gas commodity into the interstate pipeline and delivered to ETG on a guaranteed basis. Annual throughput is the amount of gas commodity consumed or burned by all customers within ETG's footprint including those customers served by alternate suppliers. Annual ETG system supply represents gas commodity burned by customers served directly by ETG and does not include annual volumes burned by customers who migrated away from ETG and chose an alternate supplier. Excess firm transportation is the difference between gross annual firm transportation contracted for by ETG and the gross volumes burned by ETG's system supply customers.

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ETG Annual Excess Firm Assets 2009–2021 (Dths)

Year	Annual Firm Transportation (A)	Annual ETG System Supply (B)	Annual Excess Firm Transportation (A-B)
2009	66,822,380	29,911,874	36,910,506
2010	67,588,880	29,008,697	38,580,183
2011	68,641,803	28,856,929	39,784,874
2012	68,641,803	26,065,225	42,576,578
2013	68,641,803	30,385,939	38,255,864
2014	68,641,803	32,401,015	36,240,788
2015	68,641,803	30,678,661	37,963,142
2016	68,641,803	29,941,002	38,700,801
2017	69,715,098	30,838,372	38,876,726
2018	75,063,978	33,079,149	41,984,829
2019	75,093,978	32,887,948	42,206,030
2020	86,013,978	29,460,298	56,553,680
2021	86,013,978	31,212,913	54,801,065
Totals	938,163,088	394,728,022	543,435,066

The total firm transportation capacity or deliverability for the 13 years of the audit is 938,163,088 Dths. The total of all thirteen years for volumes burned by customers acquiring supply from ETG is 394,728,022 Dths. The difference between the two columns is excess firm transportation and totals 543,435,066 Dths.

Storage Bundled with FTS

ETG has storage volumes with FTS attached that moves the storage volumes to ETG's city gate. The following exhibit reflects the daily storage available during the winter season. This volume is in addition to the volumes stated under Annual Firm Transportation in the previous chart.

ETG Storage with Firm Transportation Attached Contracts

Pipeline	Rate Schedule	Contract Begin Date	Contract End Date	Daily ETG Volume	Annual Max
East Gas	GSS-TE	Oct-1993	Mar-21	23,190	2,387,206
TETCO	SS-1	Jul-2018	Apr-24	3,646	379,911
TRANSCO	GSS	Jul-1996	Evergreen	27,604	1,759,955
TRANSCO	LSS	April-1984	3/31/2023	8,000	600,000
TRANSCO	S-2	Nov-1994	Evergreen	7,267	653,186
Totals				69,707	5,780,258

Assets Not Transferred

ETG retained a small portion of storage for the purpose of balancing.

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ETG owns and operates a LNG plant which is used as a peaking facility to provide supply during extreme cold weather or when interstate pipeline supply is curtailed. The LNG plant can provide up to an approximate maximum of 26,525 Dths over a 24-hour period, stores just over five days of continuous supply, and can be called on at any time with a two-hour start-up.

In addition to ETG's system owned LNG capabilities, ETG contracted with Transco Pipeline to deliver to ETG LNG as a peaking service during winter periods effective October 1999. Maximum cumulative quantities stored by Transco are 154,951 MMBTU and can be withdrawn on any day during the five winter months but not greater than 38,950 MMBTU in any one day.

The following exhibit demonstrates the total Peaking volumes available to ETG, including the annually contracted third-party bundled peaking supply acquired through the RFP process and were effective November of each year and continuing through the following March. In general, daily volumes can be called on for a maximum of fifteen days for the third-party bundled peaking supply and up to 5 days for the Transco and ETG LNG supply during the Winter.

Peaking Volumes for November through March 2009–2021 (Dths)

Winter Period	Daily Maximum Peaking Quantity	Maximum Winter Quantity
2008–2009	122,245	1,288,600
2009–2010	119,145	1,242,100
2010–2011	128,045	1,375,600
2011–2012	131,045	1,420,600
2012–2013	129,045	1,390,600
2013–2014	119,045	1,240,600
2015–2016	130,045	1,405,600
2016–2017	162,045	1,885,600
2017–2018	131,045	1,420,600
2018–2019	140,045	1,555,600
2019–2020	115,045	1,180,600
2020–2021	157,045	1,810,600
2021–2022	95,045	880,600

GENERAL DIVISION OF LABOR BETWEEN THE ASSET MANAGER AND ETG

The language in the various AMA agreements is that the Asset Manager is responsible for all tasks upstream of ETG's city gate.

ASSET Manager Responsibilities

The Asset Manager's responsibilities include:

- Supply firm gas consistent with ETG instructions and nominate/schedule volumes on pipeline systems to be delivered to ETG's city gate.

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- Find markets for idle capacity resources. ETG considers the Asset Manager's plan but ultimately the Asset Manager shall determine the optimum daily deployment of such excess resources.
- Manage ETG's storage accounts and trades such inventory, as necessary.
- Monitor and balance supplies delivered to the city gate (i.e., while interstate pipelines are expected to deliver certain volumes, actual measurement may reflect minor differences).
- Invoice ETG for all costs (i.e., demand charges and ETG's requested supplies are billed by the Asset Manager to ETG).
- Comply with all NJBPU orders.
- Manage ETG's storage accounts and trade such inventory, as necessary. The storage capacity shall be filled as directed by ETG. The Asset Manager is solely responsible for replacing any stored gas that it borrowed so that ETG has available to it volumes of gas equal to ETG's storage withdrawal levels at all times.
- May release excess capacity to third parties – capacity that would otherwise be unused. All capacity releases must be subject to recall provisions and releases greater than 31 days must be approved by ETG.
- Must establish a system of accounts in which all transactions, both physical and financial, may be tracked and audited by ETG and the NJBPU.
- Will maintain contracts with counterparties and assume and ensure counterparty credit risk under such contracts.
- Book and account for off-system transactions.
- Monitor and balance supplies delivered to the city gate (i.e., while interstate pipelines are expected to deliver certain volumes, actual measurement may reflect minor differences).
- Pay for all pipeline demand/reservation charges.
- Pay for supply acquired on behalf of ETG.
- Invoice ETG for all costs (i.e., demand charges and ETG's requested supplies are billed by the Asset Manager to ETG).

ETG Responsibilities

ETG's responsibilities include:

- Forecast demand for both long- and short-term loads.
- Determine logical use of assets.
- ETG retained a small amount of storage and ETG contracts, processes, and pays for seldomly needed, intra-day supply and for the bundled peaking supplies.
- Determine base load purchase levels and instruct the Asset Manager, prior to the first of every month, on base load volumes to be purchased at Inside FERC (IF) first-of-the-month prices. The instruction further directs the Asset Manager on the receipt points to be used in accordance with the firm transportation assets. In this way ETG determines the logical use of transportation assets.
- Instruct and approve alternate delivery options.

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- On a day-to-day basis, instruct the Asset Manager about the additional next day volumes required to be priced at gas daily (GD) indexes.
- Determine the use of peaking resources.
- Determine if balancing provisions of a tariff are to be put into effect.
- Verify contract compliance and Asset Manager invoices.
- ETG has the responsibility of confirming the supply with the pipes; ETG is able to do so because the Asset Manager entered all deals into the ENDUR computer system. SJIU provides a Confirmation Service as a shared service to ETG, SJG, and SJRG.
- ETG makes decisions regarding all financial hedges, places orders with the appropriate broker for financial hedges, and balances the financial hedging account.

Optimization Sharable Value Between ETG and Their Asset Manager

The Asset Management and Agency Agreement contains the terms and conditions under which the Asset Manager provides ETG's seasonal, monthly, and daily requirements for gas supplies. The Asset Manager also acts as ETG's agent, operating ETG's gas pipeline and storage capacity upstream of its city gates. In conducting these activities, the Asset Manager seeks to generate sharable value through:

- Optimization of gas sales to ETG
- Gas sales to third-party (off-system) customers
- Storage arbitrage.

The Asset Manager paid a minimum fixed annual fee that was \$5,000,000 in the earlier years and was negotiated to a lowered amount of \$4,250,000 in 2014 due to changing market conditions. The minimum fixed fee is payable to ETG regardless of performance by the Asset Manager. Incremental proceeds from the optimization apply to ETG after the fixed fee has been met.

The next exhibit displays the expense associated with the gross capacity transportation of 938,163,088 Dths and the portion of that gross expense that is attributed to the excess capacity transportation of 543,435,066 Dths.

From January 2009 through 2021, ETG had a gross volume of 938,163,088 Dths at a cost of \$697,862,542.91. The gross cost was provided through pipeline invoices and was manually calculated. The excess volumes were calculated in the "ETG Annual Excess Firm Assets" exhibit shown on previous pages. The percentage ratio was calculated from the gross volumes and the excess volumes. The percentage was applied to the gross \$697,862,542.91 and resulted in \$404,734,126.23 attributed to excess ETG volume.

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ETG Costs Associated with Transportation and Storage Volumes and with Excess Assets (2009–2021)

Year	Annual Transportation Delivered Volume (Dths) (A)	Pipeline Refunds Aligned to Cost	Adjusted Gross Annual Firm Assets Cost (B)	Annual Excess Volume (Dths) (C)	Excess Percentage of Firm Assets (D: C/A)	Annual Cost Associated with Excess Volumes (D x B)
2009	66,822,380		\$46,918,557.87	36,910,506	55.24%	\$25,916,283.13
2010	67,588,880	(\$1,233,138.42)	\$51,822,179.80	38,580,183	57.08%	\$29,580,445.48
2011	68,641,803		\$51,699,378.00	39,784,874	57.96%	\$29,965,023.29
2012	68,641,803		\$50,984,619.73	42,576,578	62.03%	\$31,624,324.30
2013	68,641,803	(\$2,840,242.00)	\$52,080,162.14	38,255,864	55.73%	\$29,025,630.34
2014	68,641,803		\$52,409,247.98	36,240,788	52.80%	\$27,670,491.77
2015	68,641,803		\$50,513,861.17	37,963,142	55.31%	\$27,937,274.38
2016	68,641,803		\$50,615,237.75	38,700,801	56.38%	\$28,537,278.70
2017	69,715,098		\$47,822,570.62	38,876,726	55.77%	\$26,668,326.20
2018	75,063,978		\$46,471,250.62	41,984,829	55.93%	\$25,992,327.65
2019	75,093,978	(\$11,671,474.00)	\$61,860,746.00	42,206,030	56.20%	\$34,768,387.17
2020	86,013,978		\$61,395,560.66	56,553,680	65.75%	\$40,367,216.72
2021	86,013,978	(\$1,191,178.00)	\$73,269,170.57	54,801,065	63.71%	\$46,681,117.10
Totals	938,163,088	(\$16,936,032.42)	\$697,862,542.91	543,435,066	57.93%	\$404,734,126.23

The following exhibit shows excess volumes of 543,435,066 Dths and an associated cost of \$404,734,126.23. Optimization of the excess assets shared resulted in [redacted] for ETG and [redacted] for the various Asset Managers during the 2009 – 2021 audit period. Through profit sharing with its Asset Manager, ETG recovered [redacted] associated with excess firm transportation.

Optimization of Excess Assets Through Profit Sharing (2009–2021)

Year	Excess Assets Volume (Dths)	Excess Assets Cost	Profit Sharing to ETG	Profit Sharing to Asset Manager
2009	36,910,506	\$25,916,283.13	[Redacted]	[Redacted]
2010	38,580,183	\$29,580,445.48	[Redacted]	[Redacted]
2011	39,784,874	\$29,965,023.29	[Redacted]	[Redacted]
2012	42,576,578	\$31,624,324.30	[Redacted]	[Redacted]
2013	38,255,864	\$29,025,630.34	[Redacted]	[Redacted]
2014	36,240,788	\$27,670,491.77	[Redacted]	[Redacted]
2015	37,963,142	\$27,937,274.38	[Redacted]	[Redacted]
2016	38,700,801	\$28,537,278.70	[Redacted]	[Redacted]
2017	38,876,726	\$26,668,326.20	[Redacted]	[Redacted]
2018	41,984,829	\$25,992,327.65	[Redacted]	[Redacted]
2019	42,206,030	\$34,768,387.17	[Redacted]	[Redacted]
2020	56,553,680	\$40,367,216.72	[Redacted]	[Redacted]
2021	54,801,065	\$46,681,117.10	[Redacted]	[Redacted]
Totals:	543,435,066	\$404,734,126.23	[Redacted]	[Redacted]

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RISK MANAGEMENT POLICY AND PROCEDURE

The Financial and Physical Natural Gas Transactions Risk Management Policy and Procedure (RMP) was developed by the various parent companies of ETG during its existence. SAGE was provided with six RMPs based on the various companies and amendments.

Hedge Strategy Effective 2009

The permitted financial hedge instruments include only natural gas futures contracts, basis swaps, and swaps and options. In addition, ETG may accomplish physical price hedging strategies by entering into fixed price physical purchase transactions. These hedging strategies will be applied to between 33% and 67% of the projected annual gas purchases for ETG. To minimize gas price volatility in purchasing gas for injection into storage, ETG will lock in prices for a minimum of 33% of the storage injection quantity – Non-Discretionary Storage. ETG may price protect an additional 34% of planned storage injections through a price lock-in based on its read of market conditions and various market barometers throughout the injection cycle time period – Discretionary Storage.

In determining the quantity to which financial hedging will be applied, ETG will conduct a review of the market barometers and the market prices in relation to the selected industry analyst gas price forecast that is available at the time the market barometers are established to determine the quantity of the Discretionary Level to be financially hedged. The time period for this discretionary level will start a minimum of three months forward from the most current gas flow month.

Hedge Strategy Effective 2011 Through 2021

The hedging strategy policy was revised in 2011 to provide for 50% of planned storage injection to be purchased at monthly index prices over the injection period. Price discovery stemming from market barometers provides better direction on timing and application of physical hedging tools. Commencing at least 13 months prior to the start of an April through October storage injection period, ETG will lock in the price of gas for each month of the injection months.

Financial hedging using NYMEX futures will be applied to 50% of ETG's projected annual gas purchases to serve firm sales customers subject to the BGSS-P.

Physical quantities of flowing gas shall equal 50% of the projected monthly (gas flow months) gas purchases to be made, excluding gas for injection into storage, to serve the gas demand of firm sales customers who are subject to the BGSS-P. Commencing 13 months prior to each gas flow, for a 12-month physical gas purchase, ETG will lock in a price for a quantity that is approximately one twelfth of the averaged flowing gas quantity for that month.

The quantities of gas purchases necessary to serve ETG's customers that are not hedged in accordance with the above criteria are purchased at the time needed at market prices. For the most part, these quantities are purchased at monthly indexed prices. However, some gas purchases may be made on the daily spot market. These will generally be limited to quantities needed to handle short-term increases in gas demand that may not be readily

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handled with adjustments to storage injections or withdrawals. Winter peaking service may be priced based on daily spot market pricing.

Changes in Load for Next Month and Next Day

Prior to the beginning of any month, the GPA determines if the load for the near month needs to be adjusted. Current weather patterns impact historic load projections, and the need to purchase additional gas is determined based on this analysis. If additional purchases are deemed necessary, during bid week (the period consisting of the last five days of trading on the NYMEX for the next month), a variety of suppliers are investigated for supply availability and price. During bid week, the natural gas buyer purchases all base load natural gas requirements not yet under contract with a supplier for the near month. Additionally all financial positions are closed out.

At the beginning of each gas day, a determination is made as to whether any adjustment in supplies is required for the next day and current gas day. Changes are made on an intra-day basis. The process continues to evaluate the next day. Additional gas can be procured or sold at this time based on projected weather, storage levels, or other mitigating factors. These purchases are also made with the best value methodology in mind.

Nominations

ETG contacts its Asset Manager and provides instructions concerning the additional volume requirement or the sale of excess volumes. The Asset Manager places the nominations with the interstate pipelines and enters the additional transactions into ETG's ENDUR computer system.

Confirmations. ETG must have substantiation that the supply is delivered. ETG is not only concerned with their own system gas, but ETG must also know how much gas will be delivered by any TPS.

The confirmation process is automated with the pipelines so that entities shipping gas and attempting to verify that supplies are in place can access the pipeline bulletin boards and follow certain links. There are drill down features allowing additional support data to be accessed. Proof of identity to gain access is required, and there are three main links:

- Main Reporting Locations and Links
- Daily Confirmation Report
- Mid-Day Confirmation Report

Pipeline reports reflect the volumes of gas nominated and the volume of gas confirmed. Any variance or difference will be apparent. There is various drill down reports that capture the entire package with all levels of detail. If there is a mismatch in contract numbers or similar transactional items, it will be reflected in this detail. The discrepancy can possibly be corrected, but if not, the variance must be accepted. If it relates to ETG's own purchases as opposed to a TPS, ETG corrects the volume using ENDUR. Suppliers must be paid based on the gas they successfully flowed.

If there appears to be a deficiency in the volume of gas put into the individual pipelines by a TPS for redelivery to end-use consumers, the confirmation group contacts the TPS

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to see if they can correct the situation. A failure on the part of a TPS to correct the volume can cause penalties for ETG. Therefore, immediate attention to variances in confirmations is critical. If imbalances are caused by customer-owned gas deliveries (TPS), it is the responsibility of the confirmation group to initiate, correct, and manage any imbalance in a manner that minimizes the risk for penalties to ETG. If an imbalance still exists at the end of the month for customers other than CHOICE customers, it will be cashed out in accordance with ETG's tariff provisions. Cash-out means that if a TPS under delivered, the TPS must purchase from ETG the volume that was under delivered. If a TPS over delivered, the TPS must sell to ETG the volume that was over delivered. CHOICE customers are balanced on a monthly basis with any imbalance rolled into the calculation of the next months delivery requirement.

Reports Generated. The Electronic Bulletin Board (EBB) is a communication system that allows parties to view pipeline information through personal computers and mobile phones. Because the nomination and confirmation groups are active with the interstate pipeline's Bulletin Boards, Operational Flow Order (OFO) information is available to them. Bottlenecks on the pipelines, critical day for storage injections/withdrawals, and inferior transportation cuts are evident when monitoring the bulletin boards. This information is critical to Gas Control as well as other volumetric data including:

- Pipelines critical day, OFO, and capacity restraints.
- Volumetric reports at the end of each cycle that have gone through the confirmation process.
- A revised report is provided if changes that affect the gate supply are made which include supply additions or reductions.
- A report to include the most current updates on customer owned gas coming to the city gate from TPSs.

PENALTIES

ETG has storage capabilities on the interstate pipelines that transport and deliver gas to it. Associated with storage are maximum contract limits; violations of contract limits will cause ETG to be penalized. For example, withdrawals in excess of contract limits on TCO will require ETG to buy the excess volumes from the pipeline at \$50.00 per Dth. ETG paid penalties to Tetco and Columbia as shown in the following exhibit.

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ETG's Interstate Pipeline Penalties (2015–2021)

Year	Tetco Penalty	Columbia Penalty
2015	\$1,910,007.54	
2016	\$70,929.92	
2017		\$17,903.56
2018	\$1,316,147.21	\$5,690.00
2019	\$298,288.28	
2020	\$201,100.65	\$850.00
2021	\$13,965.45	
Totals:	\$3,810,439.05	\$24,443.56

Pre-determined Allocation (PDA)

There is an additional scheduling process related to PDAs. A PDA provides an operator's expectation, submitted in advance of gas flow, which tells the transporter how much gas is allocated, in what order to allocate, and to whom the allocation is applied.

Depending on the season (injection/withdrawal) these PDAs are critical to managing demand swing volumes in high and/or low burn scenarios and are a critical component for managing storage activity and overall system balancing. ETG continuously watches for critical notices to make sure the PDA imbalance nomination complies with the allowed storage limits. The balancing of gas received versus gas consumed is required every day.

Tools that Assist in Triggering Gas Purchases

The ENDUR system delivers web services with connectivity to external data sources, including pricing sources such as Platts and commodity exchanges like the New York Mercantile Exchange (NYMEX) and the Intercontinental Exchange (ICE). ENDUR has the capability to develop pricing scenarios. The principle used to purchase a “futures” contract is the same principle used to buy physical gas.

F. FINANCIAL HEDGING PRODUCTS

SJI's Risk Management Committee (RMC) developed and implemented a Risk Management Policy (RMP) that addresses authorized financial hedging products. ETG is expected to operate its hedging program within the guidelines set forth in the RMP.

BACKGROUND AND PERSPECTIVE

The purpose of a financial hedge is to avoid or limit the risk of adverse market moves resulting in major losses. Natural gas hedging generally involves establishing a position in a financial instrument that is very similar, if not identical, to the company's exposure in the physical natural gas market. Hedging can limit costs and protect buyers against the risk of unexpected price surges and can lock in prices for future purchases to help meet or exceed financial goals.

Energy hedging can pay off handsomely for companies—or not. This should not be a surprise; energy prices are inherently volatile, fluctuating with supply and demand,

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political tension, storms, and even ruptured pipelines. A rise in U.S. shale gas production and the growth of the global liquefied natural gas (LNG) trade has created a glut of supplies, causing prices to bottom out in 2016. This deflated gas pricing volatility and hedging activity.

Energy Trade and Risk Management (ETRM) and Commodity Trading and Risk Management (CTRM) are names used for a range of software solutions which support the trading and risk management of commodities. As the gas and energy market becomes more complex, ETRM systems are becoming the flight deck from which firms launch their entire business activity.

AUTHORIZED FINANCIAL INSTRUMENTS

ETG's RMP focuses on the management of price risk in the purchase of gas, understanding that price risk can be managed through financial instruments such as NYMEX futures, swaps, options, and basis trading. All financial derivatives purchased by ETG support the necessary purchases of physical gas. While the RMP allows for many financial products, ETG only engages in futures and price swaps. Both financial products are contracts for 10,000 MMBtus per contract and are purchased for future months. In the case of ETG, contracts are purchased to cover eighteen months into the future and are limited to coverage of fifty percent of ETG's base gas load.

FINANCIAL TOOLS

Futures

There is an exchange clearinghouse for the electronic purchase and sale of natural gas traded for future delivery. A futures contract design is for packages of 10,000 MMBtus and is purchased off the New York Mercantile Exchange (NYMEX). The NYMEX provides financial backing in the unlikely event that a clearing-house defaults on a transaction. Consumer-type mathematics applies - if prices increase, the owner of the future contract gains money, and if prices decrease, the owner loses money.

Futures can be bought and sold throughout the life of the futures contract. The RMP states that on some occasions, when it appears there is a reasonable possibility that the price will drop below the current price of hedged supplies, management may use financial instruments to attempt to reduce the cost of supplies previously hedged. The factual basis and objectives of all such transactions should be documented at the time of each transaction and approved by the RMC prior to deal execution.

This allows the buyer to eliminate upside price risk in a rising market by making a commitment to a fixed price. Futures can be bought and sold throughout the life of the contract; an owner does not have an obligation to hold the contract through its entire life span. Strategies that provide for the purchase of futures approximately two years in advance provide the opportunity to sell the future contract and take profits at any time. As the market moves in a favorable direction, a buyer can buy back into the futures market and wait for more profits. The owner of the future contract can take physical delivery of the gas commodity at the supply point known as the Henry Hub in Louisiana.

However, the buyer is locked into the purchase price and will not benefit from falling prices.

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Price Swaps

The most common type of natural gas swap is when one party agrees to pay a fixed price for natural gas on specific dates to a counterparty, who, in turn, agrees to pay a floating price for natural gas that references a published price, such as the NYMEX. When ETG enters into commodity price swaps, it purchases the swap at the current market price for a particular month. Because ETG is a consumer on the opposite side of the swap from the owner of the commodity (a natural gas producer), ETG makes money when market prices increase above their purchase price. If prices decrease below their purchase price, ETG loses money.

The way ETG uses price swaps has an identical result to using NYMEX Futures; if prices increase, the owner of the future contract gains money, and if prices decrease, the owner loses money.

The benefit of a swap is that it helps to hedge risk.

The main disadvantage of commodity trading is that commodities are highly volatile since they are dependent on demand and supply factors. A slight change in supply due to geopolitical tensions or conflicts can adversely affect the prices of commodities. Hence caution is advised in commodity trading.

Since swaps are highly customized and not easily standardized, the swap market is considered an over the counter (OTC) market, meaning that swap contracts cannot typically be traded easily on an exchange. The flexibility to sell and buy in-and-out of swaps is more limited in comparison to the flexibility associated with futures. Therefore, if prices drop, ETG will be out-of-pocket. Understanding that swaps are purchased many months in advance—in the case of ETG, eighteen months in advance—and if the price continues to drop below the strike price for many months in a declining market, ETG would be at risk.

Options

An option contract gives the holder the right to buy a specified commodity from the writer of the option for a specified volume at a specified price (strike price) on or before a specific date. A “Call Option” contract gives the holder the right to buy a specified commodity, from the writer of the option for a specified volume at a specified price (strike price) at or before a specific date. A “Put Option” contract gives the holder the right to *sell* a specified commodity, security, or asset to the writer of the option for a specified volume at a specified price (strike price) at or before a specific date.

Collars place a band around the price (i.e., generally ten percent more or less than the strike price). The simultaneous selling (or buying) of a Put (floor) and buying (or selling) of a Call (ceiling) lock in a range of values and lowers the cost of insurance. The premium from selling the put reduces the cost of purchasing the call.

An option requires a lower upfront financial commitment than purchasing the commodity. The premium price of buying an option plus the trading commission is less than the amount an investor would have to pay to purchase a futures contract or the physical commodity. If the trade goes their way, they’ll benefit just as much percentagewise as the investor who invested in the commodity purchase.

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There is limited downside for option buyers. When buying a put or call option, a buyer is not obligated to follow through on the trade. If assumptions about the time frame and direction of the commodity's trajectory are incorrect, losses are limited to whatever was paid for the contract and trading fees.

Options offer built-in flexibility for traders. Before an option contract expires, investors have several strategic moves they can deploy, including:

- Exercise the option and buy the commodity.
- Sell the "in the money" options contract to another investor.
- Potentially make back some of the money spent on an "out of the money" option by selling the contract to another investor before it expires.

An options holder risks the entire amount of the premium paid. There is limited time for the investing thesis to bear out. The very nature of options is short term. Options investors are looking to capitalize on a near-term price movement, which must take place within days, weeks, or months for the trade/contract to pay off. That requires making two correct assumptions: (1) picking the right time to buy the option contract and (2) deciding exactly when to exercise, sell, or walk away before the option expires.

Basis Trading

A basis swap is a swap on the price differential between a liquid trading location such as the Henry Hub and a selected liquid trading location at a different location (i.e., Transco Zone 6, non-NY).

With natural gas, the basis is the contractual cost of delivering natural gas to an ETG transportation contract or the Company's city gate from one liquid trading location such as the NYMEX natural gas trading point at Henry Hub to another liquid trading location. ETG has firm transportation contracts to deliver its gas requirements from the production area to its city gate. Therefore, ETG's risk is mostly limited to the production area basis (e.g., Transco Station 65 is not the same as the Henry Hub where the NYMEX settles). The basis price movement in the gulf supply area has historically been minimal. In previous years, ETG required some gas in the Appalachian supply area for city gate delivery and did not have one hundred percent firm transportation to move the supply to its city gate.

This allows the buyer to eliminate upside basis risk in a rising market. Capacity transportation is FERC regulated, and, therefore, the original entity who contracted for the firm capacity transportation, ETG, is not at risk for fluctuation in prices.

However, the buyer is locked into a basis price and will not benefit from falling basis prices.

THE RMP IMPLEMENTATION FOR ETG'S GAS PURCHASES AND FINANCIAL INSTRUMENTS

The VP, Gas Procurement Strategy and Plan, is responsible for the management of the RMP. An operating team consisting of representatives with skills in gas supply analysis, risk assessment, gas market analysis, gas procurement, and financial hedging implements the plan. The VP, Gas Supply, reports to the RMC on progress in

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implementing the RMP throughout the year and seeks approval from the RMC for any changes to the RMP.

ETG's Gas Supply Department prepares and distributes, on a quarterly basis, a detailed report on hedging positions for the current and prospective basic gas supply service (BGSS) years. The reports are presented to, and reviewed by, the RMC and are provided to the NJBPU as required. The reports contain the details of the hedging strategy and a summary of the hedging strategy, including the percentage of BGSS send out currently hedged.

The intent of the hedging program and strategies is to provide commodity price stabilization at the lowest reasonable cost. ETG's hedging program consists of the following hedging:

- Financial Non-Discretionary Strategy, as in futures, options and basis, price swaps
- Physical Non-Discretionary Strategy, as in future/forward physical purchases.

DISCRETIONARY AND NON-DISCRETIONARY HEDGES

ETG does not engage in discretionary hedges. A discretionary account is one in which a broker makes trades, buying or selling financial instruments. A discretionary account is one in which a broker makes trades, buying or selling financial instruments for ETG's account with consent and instruction from ETG at the beginning of the relationship. Discretionary portfolio management does not involve ETG's active participation; the broker manager makes all the decisions on ETG's behalf. Under discretionary portfolios, the trader can buy and sell the financial instrument directly without ETG's consent for each trade. The consent is given at the beginning in the form of written instruction or a Power of Attorney.

ETG engages in non-discretionary for all financial hedging transactions. A non-discretionary account involves ETG at every step of the gas portfolio management. Under non-discretionary portfolio management, the broker or the investment manager only acts as a broker following ETG's instructions for the execution of trades. The broker can also be an advisor, but the final decision comes from ETG.

External Brokers, Agents, and Banks

For the purpose of advising on a particular hedge strategy and for the purpose of placing hedges, the following resources are in place:

- Midstream Energy was contracted in 2006 and acts as a broker and consultant for SJIU utilities.
- JP Morgan Asset Management is the financial institution that accepts and places the hedges for ETG and SJG.
- Effective January 2009 through June 2018, ETG has many financial institutions that accepted and placed the hedges.

RMP Hedging Policy

The RMC's financial hedging policy states that fifty percent of ETG's projected annual gas purchases to serve firm sales customers subject to the BGSS-P will be hedged with

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a financial instrument. ETG sets monthly targets for the volume of financial hedge instruments, which should reflect the estimated monthly purchase requirement. Each month is on a stand-alone basis and the financial hedge is expected to be fifty percent of each month's purchase requirement.

A summary of the RMP hedging policy includes:

- Non-Discretionary Hedges: ETG purchases approximately one hundred financial contracts per month to address an eighteen-month period beginning with the seventh month and continuing through the twenty-fourth month of the current NYMEX strip.
- Physical injections into storage are treated in the same manner as all other types of ETG's gas load. The RMP requires the hedges for storage to be completed 13 months prior to end of the injection season or simply stated, by the end of September for the following injection season.
- Discretionary Hedges: ETG may exercise managerial discretion to utilize futures, options, and/or other financial instruments when deemed appropriate. Documentation of all discretionary hedges is required to provide the basis for entering into the hedge. The ability to participate in discretionary hedges is provided for in ETG's Hedge Policy but has not been exercised.

G. FINDINGS

II-1 ETG Security has quickly implemented or improved its security practices.

Enhanced security practices include:

- Physical Security Committee and Security Plan
- Security policies and procedures
- Security training for employees
- Enhanced physical security measures
- Security drills and exercises
- Facility and station inspections

II-2 SJI and ETG have a formal, current, and appropriate Physical Security Plan.

The SJI/ETG Physical Security Plan follows the TSA Guidelines for natural gas pipeline security. Important facilities and critical above ground stations are identified for enhanced security. Responsibilities and responses to security incidents are specified. A Physical Security Committee (PSC) was formed in December 2022, outside of the timeframe examined by this audit. Formal presentations are prepared, and minutes are kept with results forwarded to Security. The function of the ETG PSC is to collectively discuss security updates; security incidents; results of security vulnerability assessments; internal security exercises; results of communications and joint exercises with federal, state, and local law enforcement agencies; and proposed revisions/enhancements to the ETG Physical Security Plan. The PSC serves as the internal audit division that monitors ETG's physical security plan for substance and implementation.

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II-3 Security is not involved in the response to ETG alarms.

Currently, the ETG alarm response has a three-step approach beginning with (1) the ETG alarm monitoring contractor receives an alarm, (2) the contractor calls the Utility Services Dispatch unit, and (3) the dispatchers forward the alarm to the designated call out personnel in the relevant division. Security is only notified in serious situations and if the incidents appear in the Security tracking system. Formal presentations are prepared by the PSC with minutes forwarded to Security.

II-4 There is no Security Operations Center.

The three-tier approach of having a contractor monitor alarms and alert Utility Services Dispatch who then relays the information to the stand-by supervisor is highly economical and seems to be effective. However, it adds an extra link in the chain from alarm to response.

II-5 Gas Controllers are not required to have any specific background.

Gas controllers are not required to have any specific background or training as a prerequisite to perform their job. Gas Controllers undergo a 120-day training period; their performance is evaluated on a 30, 60, and 120-day basis by Gas Control Management for final approval. Gas Controllers are members of the SJG Bargaining Unit.

II-6 At certain times from mid-July 2018 through 2021 the Gas Control Center was not manned by more than one Gas Controller.

The Gas Control Center was staffed with less than two gas controllers on every shift. Gas Controllers work on a 12-hour shift basis. The night shift begins at 6:00 p.m. and ends at 6:00 a.m. and was staffed by one gas controller. For the 730 gas control shifts in 2021, 449 shifts were staffed by two controllers, leaving 281 shifts staffed by only one controller. Every shift that was staffed by a single controller was a night shift (6pm-6am). One additional controller was added to Gas control's staff effective in the last quarter of 2021.

II-7 ETG's Gas Control is understaffed.

It is feasible that the Gas Control Center will not be manned at certain times by more than one controller in the future. The current staff levels cannot cover vacation schedules and sick leave. All employees have a minimum of two weeks' vacation and based on the number of employment years with ETG, some controllers have more than two weeks' vacation. Most employees will have minor illnesses that cause absenteeism not to mention absenteeism associated with more serious illness. Based on the current staff level it is feasible that, in the future, the Gas Control Center will not be manned at certain times by more than one controller. There is major risk associated with only one gas control member present during a night shift. Should that one Gas Controller suffer a cardiovascular or other sudden, serious illness or accident, not only would the controller not have assistance, but Gas Control could be without any coverage for up to twelve hours.

II-8 Labor cost for Gas Control may be excessive and could be better managed.

ETG's Gas Control operates with twelve-hour shifts and, since the gas controllers are union employees, the additional four hours worked past a normal eight-hour shift are paid

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at elevated rates. There are currently eight gas controllers that work the following twelve-hour schedule.

Gas Controller 12-hour Work Schedule

Shift	Week 1							Week 2						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
6 am – 6 pm	A	A	C	C	A	A	A	C	C	A	A	C	C	C
6 pm – 6 am	B	B	D	D	B	B	B	D	D	B	B	D	D	D

II-9 Succession Planning for Gas Controllers is not evident.

As employees begin retiring, the overall experience level in almost every organization declines. Companies face the very real possibility that critical skills and knowledge could walk out the door along with the retiring employees. There is a time investment to train gas controllers; most LDCs' require that a trainee has experienced two full winter periods prior to working on a stand-alone basis. The chart below reflects two gas controllers eligible to retire in the very near term with a third eligible to retire in January 2025.

Gas Controller Retirement Dates

Gas Controller	Date of Birth	Date of Hire	Eligible to Retire Date
Controller #1	Jan-59	Jan-91	Jan-24
Controller #2	Mar-68	Feb-91	Mar-33
Controller #3	Jan-60	Feb-86	Jan-25
Controller #4	Nov-59	Oct-80	Nov-24
Controller #5	Dec-68	Mar-95	Dec-33
Controller #6	Sep-67	Nov-91	Sep-32
Controller #7	Feb-65	Sep-88	Feb-30
Controller #8	Nov-75	May-05	Nov-40

II-10 On-system ETG's LNG's capabilities should be increased to accommodate an increased level of withdrawals.

There are no physical facility challenges associated with filling the LNG tank several times throughout the winter. The facility does not have to be near empty in order to be refilled or be topped up mid-winter. Adding a few refills during the winter to accommodate additional withdrawals would reduce dependency on third-party peaking services.

The challenge with filling the LNG tank several times within a winter period is that the liquefaction system is not designed with extensive redundancy and is susceptible to single points of failure. The theory that liquefaction allows for additional winter vaporization opportunities is sound because the tank's total storage capacity is greater than previous winter operations that were subject to LNG truck availability and the logistics of offloading.

The only improvement/change to the Erie St. LNG facility that can reduce the reliance on bundled peaking services would be to increase the vaporization capabilities of the plant.

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A capital investment is being made to double the vaporization rate of the facility to 50,000 Mcf per day with a BTU conversion to approximately 53,050 Dths.

II-11 The New York Keyspan situation has the potential to create further demand for the available peaking supplies in the Northeast.

ETG has ample FTS interstate supplies to serve its Basic Gas Supply Service (BGSS) customers. Looking logically at the highest ETG system supply consumption volumes over the past 13 years, there is an excess of approximately 100,000 Dths of FTS interstate capacity to handle more drastic weather conditions. ETG purchases additional peaking services at levels that would serve the gross demand throughput including ETG's obligation to be the supplier of last resort. A lesser level of peaking service would compromise ETG's ability to be the supplier of last resort.

II-12 ETG has several firm transportation interstate pipeline contracts with evergreen provisions.

As a general concept, an evergreen clause provides that the term of an agreement will automatically renew for some period of time unless one party provides the other party with notice, before the end of the current term, that it does not wish to renew the agreement. Pipelines are in the business of selling their pipeline capacity. However, if a pipeline experiences major pipeline difficulties and is required to take a portion of its pipeline out of service for repair, the pipeline can delay renewal of evergreen contracts. It is not anticipated that a pipeline would permit that situation to extend over winter periods. Presented here is the worst possible situation that is not expected to occur; however, the capacity failures in southern New York give rise to concern.

II-13 The NJBPU Investigated the level of upstream capacity available to meet the demand in their state for the next five years.

The NJBPU directed its Staff to investigate whether there is sufficient upstream pipeline capacity secured to meet New Jersey customer needs over the next five years. This action validates the concern in regard to FTS capacity available for the future.

II-14 Risk Management performs meticulous and comprehensive credit reviews on suppliers.

Because the NYMEX is an ever-moving vehicle of pricing, credit exposure changes without a change in volume occurring. Mark-to-Market accounting is used to capture the moving prices. Credit reviews are on-going and regular. Once the credit evaluation is performed and a third-party supplier (TPS) is approved for credit worthiness, the TPS can then serve any category of customer as well as selling directly to ETG for their Peaking, storage injections and daily balancing system supply.

II-15 ETG has the necessary pricing tools in place to facilitate gas procurement and monitoring of its Asset Managers.

The pricing tools discussed above for gas commodities information and a source of benchmark price assessments in the physical commodity markets are common tools used in the gas industry. There are other sources available with the same information; however,

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ETG's pricing tools allow it to use the most reliable benchmark prices for commodity markets recognized around the world.

II-16 The contracting process is comprehensive, accurate, and state-of-the-art.

The rating system applied to contract requests clearly defines the risk exposure to ETG. The routing process brings every department into the loop and mandates their participation. The process is thorough and integrated. Only credit-worthy entities are offered a final contract, and the contract must be approved and executed by ETG's upper management.

II-17 The ENDUR system captures trades, credit, and settlements to update the ledger, providing a full solution for limits, monitoring, market, and credit risk management.

The ENDUR Computer system has always been a leader in the financial side of physical gas procurement and financial hedging products. Monitoring of exposures against credit limits through standard and user-defined credit calculations are reported in real time. Financial hedging activities such as futures, swaps, and options are captured, and ENDUR will prompt when future months reported by NYMEX are ideally priced to buy. Sub-ledger functionality and invoice processing and payment information can be tracked for real-time monitoring. Mark-to-market and accruals are both supported. The financial component of ENDUR is an end-to-end system; it will identify, quantify, and manage a transaction from beginning to end.

II-18 ETG has dependable transportation and storage bundled with transportation that enables the movement of gas supply to its city gates on the coldest days.

The mix of transportation is impressive because it allows for a mix of supplies from different supply areas plus Storage, LNG, and Peaking services as follows:

- ETG has 202,285 MMBTU per day of long-haul FTS applicable 365 days of the year and contracted for years into the future.
- ETG has 121,383,104,283 MMBTU per day of storage associated FTS and/or FTS bundled with storage for the five winter months. These bundled arrangements are contracted for years into the future.
- ETG has its own LNG capable of 25,000 MMBTU per day for a maximum of five days per tank. The tank can be replenished repeatedly over the cold weather months.
- ETG has additional LNG sourced through Transco and has the capability of 38,950 MMBTU per day for a maximum of 5 days over the winter period.
- Additionally, ETG has Peaking Services in place with several entities to provide 15 days of deliveries over the winter period. Small volumes per package of 5,000 MMBTU per day with 12 to 15 different suppliers.

A cold month was selected, and comparisons made of available firm assets to consumption; the Exhibit above (Comparison of ETG Winter System Supply to Firm Transportation) shows an enormous monthly quantity of excess assets with Consumption

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of 6,748,430 MMBTU, assets of 10,865,498 MMBTU leaving excess assets of 4,117,068 MMBTU.

II-19 The AMA stipulates that all capacity releases must be subject to recall provisions.

ETG was prudent when implementing a provision in its AMAs to ensure that capacity would be available to honor the delivery of gas for ETG's account. If capacity was released by the Asset Manager without recall rights, ETG would be at risk of not having sufficient FTS to serve ETG during colder weather.

II-20 ETG determines the logical use of their assets.

ETG instructs the Asset Manager for monthly, daily, and intra-day gas supplies to be delivered to its city gates. The instruction provides the pipeline and the receipt points on that pipeline to be used. ETG provides the path of the gas from receipt point to the delivery point; this ensures ETG that it is paying the unit index price associated with that interstate pipeline at the specific receipt point, as opposed to allowing the Asset Manager to invoice based on delivered prices.

II-21 ETG is in compliance with FERC regulations associated with the AMA structure.

The AMA and the implementation of the AMA allowed the Asset Manager to operate under the FERC regulations as follows:

- The Asset Manager was allowed to manage ETG's assets and provide ETG with delivered gas every day in accordance with ETG's requests.
- ETG assigned its capacity to the Asset Manager allowing the Asset Manager to operate independently and fulfill the terms and conditions of the AMA.
- The Asset Manager was able to release capacity or use the capacity to make sales to third parties, effectively allowing the Asset Manager to optimize pipeline capacity and thereby make more efficient use of natural gas transportation assets on behalf of ETG.
- ETG received monetary compensation from the Asset Manager in accordance with FERC's regulations.

II-22 ETG has dependable and sufficient transportation that enables the movement of gas supply from the production areas to its city gates on the coldest days.

The mix of transportation is impressive because it allows for a mix of supplies from different supply areas plus Storage. ETG's FTS receives supply from the gulf traveling from the south, from Pennsylvania local shale gas, from Kentucky traveling from the west, and from storage based in the market area.

II-23 The contracting process is a strength and is comprehensive, accurate, and meticulous.

The rating system applied to contract requests clearly defines the risk exposure to ETG. The routing process brings every relevant department into the loop and mandates their

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participation. The process is thorough and integrated. Only credit-worthy entities are offered a final contract, and the contract must be approved and executed by ETG's upper management.

II-24 ETG has the necessary pricing tools in place to facilitate gas procurement.

The pricing tools discussed above for gas commodities information and a source of benchmark price assessments in the physical commodity markets are common tools used in the gas industry. There are other sources available with the same information; however, ETG is using the most reliable benchmark prices for commodity markets recognized around the world. ETG has the tools in place to make pricing decisions for future months.

Both the ENDUR and Planalytics electronic systems have the capability to provide pricing recommendations. Those recommendations, coupled with advice from ETG's outside consultant, are sufficient to make intelligent pricing choices.

II-25 The ENDUR system delivers web services with connectivity to external data sources, including pricing sources such as GD, IF, and NYMEX.

Traders enter trades into ENDUR and list the abbreviation GD in the pricing field. Data is loaded overnight and is available the following morning. ENDUR populates the pricing field appropriately once the data is available in ENDUR.

Many LDC customers rely on the manual entry of index pricing into spreadsheets in order to maintain historic pricing that might be required in the future. ENDUR, through its connectivity to external data sources, captures the relevant index prices and houses those prices for future use. ENDUR's capability to populate the pricing field in the physical gas procurement database based on a code entered by the traders is a good feature. Price population based on a computer program provides accuracy and consistency. Both features save a considerable amount of time as opposed to manual entry.

II-26 ENDUR, as currently configured, has weak physical gas commodity management capabilities.

ENDUR captures all contracts (i.e., both NAESB and capacity transportation, physical gas purchase, and sale deals), and it has the mathematical ability to calculate volumes and the like on a per contract basis or per supplier, but it does not provide comprehensive data in all areas.

Natural gas businesses face a constantly growing number of challenges in today's volatile and uncertain market. Coping with imbalances to avoid potential pipeline penalties, capacity limitations, and other factors add to the difficulties natural gas professionals face every day. ENDUR does not empower ETG's gas trading professionals with a comprehensive view of pipeline capacities, the available gas volumes per pipeline receipt point, or pipeline notifications posted on pipeline Bulletin Boards.

Because of its design, ENDUR cannot provide the capabilities common to other commercial off-the-shelf (COTS) gas computer systems. For example, capacity transportation contracts are captured in ENDUR while individual purchases are entered into ENDUR; however, the individual deals do not recognize the capacity transportation agreement that will move the gas. ENDUR cannot calculate if capacity transportation is

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exceeded or not. Also, nominations and confirmations of gas reside in a separate spreadsheet system. Therefore, ENDUR cannot associate the individual transactions to either supplier contract limits or capacity transportation contract limits.

II-27 ETG did not enter fixed volume contracts.

ETG only commits their gas volumes to suppliers a few days in advance of the immediate next month. Volumes of gas can be contracted for months in the future without triggering the unit price. The purchase of multiple months of gas allows the buyer to trigger the price for any or all months as the marketplace offers attractive prices. Absent a contractual obligation, a supplier is not committed to serve customers. The natural gas market moves just like any other commodity market, and suppliers move in accordance with that market. ETG has valuable firm transportation that is expensive but guarantees reliability because the capacity is reserved on the appropriate pipelines to move supplies to ETG's city gates. However, those capacity transportation contracts are receipt point specific (i.e., volumes of gas must be available at those specific receipt points for the capacity transportation contracts to be mobilized). The capacity transportation contracts must be activated in order to have value, and without supply in place activation is not possible.

Gas is always available if a customer is willing to pay elevated prices that may be ten, twenty, or one hundred times the normal price. Even at elevated prices, ETG has no guarantee that supply will be available at the receipt points essential for ETG's capacity transportation. This translates into ETG buying delivered gas—if ETG can find sufficient volumes on a zero-degree day—at extremely high cost. Simultaneously, ETG is paying 100% of the costs associated with their capacity transportation that cannot be used. There are five elements fundamental to reliability. The elements have been discussed above and in the Gas Control and Load Forecasting sections of this chapter and are summarized as follows:

- A Gas Control Group that makes safety a priority and contributes in a major way to the reliability of the commodity.
- A load forecasting effort that provides for as accurate a forecast of volumes as is possible, furthering reliability.
- A credit review and contracting process that is comprehensive and meticulous and adds to reliability.
- Transportation capacity ensures gas will be moved from supply locations/basins/pools to ETG and guarantees reliable volumes will be delivered to ETG.
- The lack of guaranteed supply commitments pledged to feed the capacity transportation vehicle makes the entire process unreliable.

ETG's instructions to its Asset Manager for physical gas purchases are for the immediate next month and for the immediate next day. ETG's physical purchasing plan did not address physical purchases for multi-month purchases during the thirteen years of this audit. The following exhibit shows gas volumes based on ETG's actual annual purchases from 2009 through 2021. Volumes purchased at first-of-the month index IF prices, volumes purchased at GD prices and volumes purchased and/or sold at Fixed prices equal the total amount of actual gas purchases delivered to ETG's city-gate.

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ETG Annual Delivered Gas Purchases 2009–2021 (Dths)

[Redacted]

II-28 ETG did not enter fixed price contracts.

The RMP provides the flexibility for ETG to enter fixed price contracts. ETG interprets the RMP provision associated with price commitment to mean price commitment applies in the financial hedging arena only. Unfortunately, ETG's financial hedging strategy was wholly unsuccessful. (See section F, Financial Hedges, of this chapter).

II-29 ETG purchased excess Peaking Services not required to serve its customers.

ETG has sufficient flexibility to serve its load based on ETG's FTS and FTS coupled with storage. ETG has LNG Peaking Services capabilities from its own system as well as additional LNG Peaking delivered through Transco. The following exhibit reflects ETG's gross transportation, system supply requirements, excess transportation based on the difference between gross transportation and system supply requirements, and the level of Peaking services per winter period.

ETG Annual Excess Firm Assets 2009–2021 (Excess Transportation Compared to Annual Peaking Services)

Year	Annual Transportation Plus Storage Volume	Annual ETG System Supply	Annual Excess Capacity	Annual Peaking Quantity
2009	66,822,380	29,911,874	36,910,506	1,288,600
2010	67,588,880	29,008,697	38,580,183	1,242,100
2011	68,641,803	28,856,929	39,784,874	1,375,600
2012	68,641,803	26,065,225	42,576,578	1,420,600
2013	68,641,803	30,385,939	38,255,864	1,390,600
2014	68,641,803	32,401,015	36,240,788	1,240,600
2015	68,641,803	30,678,661	37,963,142	1,405,600
2016	68,641,803	29,941,002	38,700,801	1,885,600
2017	69,715,098	30,838,372	38,876,726	1,420,600
2018	75,063,978	33,079,149	41,984,829	1,555,600
2019	75,093,978	32,887,948	42,206,030	1,180,600
2020	86,013,978	29,460,298	56,553,680	1,810,600
2021	86,013,978	31,212,913	54,801,065	880,600
Totals	938,163,088	394,728,022	543,435,066	18,097,300

II-30 ETG was assessed penalties by interstate pipelines during the period of this audit.

Associated with storage are maximum contract limits and violations of contract limits will cause ETG to be penalized. For example, withdrawals in excess of contract limits on TCO will cause ETG to buy the excess volumes from the pipeline at \$50.00 per Dth. ETG has been in penalty for a total of \$3,834,882.61.

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II. Procurement and Purchasing

II-31 Base load volumes were not purchased in accordance with the RMP.

The RMP states that physical quantities of flowing gas shall equal 50% of the projected monthly (gas flow months) gas purchases to be made, including gas for injection into storage, to serve the gas demand of firm sales customers who are subject to the BGSS-P. Commencing 13 months prior to each gas flow, for a 12-month strip, ETG will lock in a price, via financial hedges, for a quantity that is approximately one twelfth of the averaged flowing gas quantity for that month. The purchasing process used did not reflect this strategy.

The quantities of gas purchases necessary to serve the demands of the customers served by ETG that are not hedged in accordance with the above criteria will be purchased at the time they are needed at market prices. For the most part, these quantities will be purchased at monthly indexed prices. However, some gas purchases may be made on the daily spot market. These will generally be limited to quantities needed to handle short-term increases in gas demand that may not be readily handled with adjustments to storage injections or withdrawals. Winter peaking service may be priced based on daily spot market pricing. The judgement of volumes of gas categorized as swing gas was not accurate. In accordance with RMP written guidelines, only swing gas could be purchased in the daily gas market.

II-32 ETG ignored RMP purchasing policy and therefore spent a great deal more money than it would have if it followed the policy.

The RMP is clear throughout the various ownerships of ETG that swing gas volumes will be limited to quantities needed to handle short-term increases in gas demand that may not be readily handled with adjustments to storage injections or withdrawals. The short-term spikes in gas demand are due to unanticipated weather and are referred to as swing gas. ETG has LNG storage and peaking services to manage very cold days; 25% of base load daily consumption volumes—to be purchased daily—is a generous tolerance to handle short-term increases. ETG ignored the policy as it relates to the purchase of physical gas in the daily market. Instead ETG purchased more gas in the daily market than the RMP guidelines state.

The purpose of the following exhibit is to show the actual volume of gas purchased on an annual basis and the actual associated cost. The exhibit is further broken down to show the volume of gas purchased at first-of-the-month index prices and the volume and cost of gas purchased in the daily market. Data presented in the following exhibit shows that ETG purchased 29,487,047 Dths in 2009 at a total cost of \$133,240,870. Of this volume, 18,199,611 Dths were purchased days prior to the first of each month at first-of-the-month IF unit prices and 11,906,469 Dths were purchased daily at GD unit prices. The exhibit further shows that volumes purchased at daily prices ranged between 36% and 60% of gross volumes purchased on an annual basis. The RMP language did not authorize this level of daily purchases.

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Delivered Gas Purchases 2009–2021 (without Peaking/Fixed Priced) (MMDths, \$000, \$/Dth)

(A) Year	(B) Actual Purchased Volume	(C) Actual Cost	(D) Actual Volume IF Priced	(E) IF Volume Cost	(F) Average Unit IF Price (E/D)	(G) Actual Volume GD Priced (B-D)	(H) GD Volume Cost (C-E)	(I) Average Unit GD Price (H/G)	(J) Percent GD Volume (G/B)
2009	29,487	\$133,241	18,200	\$74,544	\$4.10	11,287	\$58,697	\$5.20	38%
2010	25,830	\$125,454	16,503	\$75,595	\$4.58	9,327	\$49,859	\$5.35	36%
2011	28,385	\$125,636	17,396	\$75,777	\$4.36	10,989	\$49,859	\$4.54	39%
2012	24,462	\$71,932	13,690	\$39,150	\$2.86	10,772	\$32,782	\$3.04	44%
2013	28,844	\$113,214	16,343	\$63,367	\$3.88	12,501	\$49,847	\$3.99	43%
2014	30,123	\$135,754	15,918	\$63,533	\$3.99	14,205	\$72,221	\$5.08	47%
2015	29,189	\$68,319	12,612	\$20,268	\$1.61	16,577	\$48,051	\$2.90	57%
2016	28,644	\$54,171	13,365	\$20,106	\$1.50	15,279	\$34,065	\$2.23	53%
2017	29,383	\$77,713	15,986	\$40,158	\$2.51	13,398	\$37,554	\$2.80	46%
2018a	17,607	\$53,315	6,997	\$17,883	\$2.56	10,610	\$35,432	\$3.34	60%
2018b	17,048	\$56,244	7,836	\$23,335	\$2.98	9,212	\$32,909	\$3.57	54%
2019	34,850	\$82,510	14,450	\$31,159	\$2.16	20,400	\$51,350	\$2.52	59%
2020	31,160	\$47,871	15,522	\$21,023	\$1.35	15,639	\$26,848	\$1.72	50%
2021	31,511	\$99,520	16,247	\$48,293	\$2.97	15,264	\$51,227	\$3.36	48%
Total	386,526	\$1,244,893	201,064	\$614,192	\$3.05	185,462	\$630,701	\$3.40	48%

The following exhibit shows an adjusted version of the distribution of cost had the RMP been followed. It shows the same gross 29,487,047 Dths purchased in 2009 at a total cost of \$133,240,870. Seventy-five percent of the gross volume is 22,115,285 Dths priced at first-of-the-month IF unit prices and 7,371,762 Dths priced at GD unit prices. Dollar values are assigned to both gas categories, and the difference between the actual cost and the adjusted cost is \$53,289,277.

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II. Procurement and Purchasing

Adjusted Gas Purchases Delivered 2009-2021 (w/o Peaking/Fixed & shifting 25% of GDA to IFERC) (MMDths, \$000, \$/Dth)

(A) Year	(B) Actual Purchased Volume	(C) Actual Cost	(D) Corrected Volume at IF Price (B x 0.75)	(E) Average Unit IF Price	(F) Corrected IF Cost (D x E)	(G) Corrected Volume GD Priced (B - D)	(H) Average Unit GD Price	(I) GD Cost (G x H)	Difference Actual vs Corrected Cost (F + I - C)
2009	29,487	\$133,241	22,115	\$4.10	\$90,581	7,372	\$5.20	\$38,336	(\$4,324)
2010	25,830	\$125,454	19,373	\$4.58	\$88,740	6,457	\$5.35	\$34,519	(\$2,196)
2011	28,385	\$125,636	21,289	\$4.36	\$92,736	7,096	\$4.54	\$32,195	(\$705)
2012	24,462	\$71,932	18,347	\$2.86	\$52,466	6,115	\$3.04	\$18,610	(\$855)
2013	28,844	\$113,214	21,633	\$3.88	\$83,878	7,211	\$3.99	\$28,754	(\$582)
2014	30,123	\$135,754	22,592	\$3.99	\$90,168	7,531	\$5.08	\$38,291	(\$7,295)
2015	29,189	\$68,319	21,892	\$1.61	\$35,182	7,297	\$2.90	\$21,152	(\$11,986)
2016	28,644	\$54,171	21,483	\$1.50	\$32,319	7,161	\$2.23	\$15,966	(\$5,886)
2017	29,383	\$77,713	22,038	\$2.51	\$55,363	7,345	\$2.80	\$20,589	(\$1,760)
2018a	17,607	\$53,315	13,206	\$2.56	\$33,752	4,401	\$3.34	\$14,698	(\$4,865)
2018b	17,048	\$56,244	12,786	\$2.98	\$38,077	4,262	\$3.57	\$15,225	(\$2,942)
2019	34,850	\$82,510	26,138	\$2.16	\$56,363	8,712	\$2.52	\$21,930	(\$4,217)
2020	31,160	\$47,871	23,370	\$1.35	\$31,654	7,790	\$1.72	\$13,374	(\$2,844)
2021	31,511	\$99,520	23,633	\$2.97	\$70,248	7,878	\$3.36	\$26,439	(\$2,833)
Total	386,526	\$1,244,893	289,895		\$851,526	96,631		\$340,078	(\$53,289)

II-33 The confirmation process is standard in the gas industry and appears efficient and effective.

Without an effective confirmation process, shortfalls in supply would not be captured, suppliers would be overpaid, and Gas Control would have false expectations regarding daily volumes from the pipelines. While penalties can be a strong indication of a weak confirmation process, there were other reasons for ETG penalties, as previously discussed. There is no evidence that the confirmation process is anything other than solid.

II-34 Reports are generated regularly and provided to Gas Control to notify them of confirmed expected volumes.

Gas Control is the authority that determines how much gas is required and is the source for advice on whether more or less gas is required. The Nomination and Confirmation groups report the volumes expected to be received from the interstate pipelines and Gas Control sees the actual volumes received from the interstate pipelines. Through the reports, Gas Control is informed of all gas nominated and supplies confirmed for delivery to ETG, including TPS gas. It is essential that reports show purchased volumes that have been confirmed with the pipelines as flowing into the interstate pipelines.

II-35 The AMA structure resulted in excess cost for ETG.

ETG could have managed its own gas purchases and upstream activities without the services of an Asset Manager. The profit sharing was extremely generous to the Asset Manager for a limited amount of work, and, certainly, market advice was either not provided or not followed.

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The RMP drafted by the parent company(s) effective in 2009 through 2021 directs policies for regulated utility companies and non-regulated affiliates. The Asset Manager was well aware of the guidelines and limitations placed on the purchase of spot gas at daily prices. SAGE recognizes that ETG had the responsibility to instruct the Asset Manager on the volumes to be purchased in advance of the month and the volumes to be purchased at daily prices. There is an obvious conflict of interest (i.e., the Asset Manager is also ETG's affiliate and is a principle spot-market supplier). It is in the interest of the Asset Manager/affiliate for the regulated utility to purchase in the spot market. The lack of arm's-length compensation for the asset management relationship has resulted in additional costs to ETG.

II-36 ETG enters into financial hedges and discretionary/non-discretionary financial requirements as authorized by RMP.

The NJBPU authorizes LDCs within their state to utilize the benefits of financial hedges; the NJBPU does not require that LDCs use financial hedges as a tool in their arsenal. ETG does enter into financial hedges for approximately fifty percent of its system supply load as required by ETG's Gas Procurement Strategy and Plan ("GPSP"). The financial hedging products that ETG uses are NYMEX Futures and Price Swaps. The way ETG uses price swaps has an identical process and result as the results produced by NYMEX Futures; if prices increase, the owner of the future contract gains money and if prices decrease, the owner loses money. Additionally, ETG honored the non-discretionary requirements set forth in the RMP.

II-37 ETG does not take advantage of the flexibility available to the owner of a futures contract.

As prices rise for any given month that ETG owns futures, ETG can sell and take profits. ETG can then wait and buy back in as prices fall. ETG allows its futures to go to the settlement month without interference. The basic concept is to buy low and sell high. As prices rise for any given month that ETG owns futures, ETG can sell its NYMEX future contracts before the settlement month and take profits.

II-38 ETG does not enter into Basis financial instruments.

"Basis Hedging" is a financial tool to hedge against the cost of transporting natural gas from a trading point at Henry Hub to the desired delivery point (i.e., ETG's city gate). ETG is under contract for firm transportation with interstate pipelines delivering to their city gate; therefore, the cost of ETG's transportation is known and measurable and not subject to change. ETG has sufficient interstate pipeline firm transportation to move their entire system load, therefore additional long-haul transportation is not required.

II-39 ETG does not enter into Options financial instruments.

A natural gas option gives the purchaser the right, but not the obligation, to purchase the underlying futures natural gas contract for a specific time period at a specific price. Generally, it makes sense that ETG is not interested in an "option" to buy. ETG will purchase significant volumes of gas, so it is not necessary to risk the entire amount of the premium required to buy an option. However, while straight up options may not be of

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interest to ETG, the combination strategies offer some risk protection at very low or zero cost.

II-40 ETG's financial hedges suffered substantial losses during the period of this audit.

Financial hedging data was available effective June 2009 through December 2021; one hundred and fifty-one months was calculated with only thirty-five months being profitable.

The exhibit below shows the cumulative gains and losses on an annual basis and the total losses amounted to \$187,526,875 for the period of this audit. There were individual months that were profitable which totaled \$29,880,549. The net effect of losses adjusted for gains yields a total of \$157,646,326 in losses.

Financial Hedges 2013–2021 NYMEX Futures Plus Price Swaps (\$) Marked-to-Market

Calendar Year	Cumulative Marked-to-Market		Net Gain / Loss \$
	Losses \$	Gains \$	
2009	(\$40,173,630)	\$0	(\$40,173,630)
2010	(\$32,646,410)	\$0	(\$32,646,410)
2011	(\$27,925,035)	\$0	(\$27,925,035)
2012	(\$28,873,575)	\$0	(\$28,873,575)
2013	(\$8,349,425)	\$0	(\$8,349,425)
2014	(\$1,046,420)	\$4,903,950	\$3,857,530
2015	(\$18,641,290)	\$0	(\$18,641,290)
2016	(\$15,674,485)	\$0	(\$15,674,485)
2017	(\$727,255)	\$2,275,695	\$1,548,440
2018	(\$1,575,500)	\$3,589,234	\$2,013,734
2019	(\$2,753,000)	\$889,030	(\$1,863,970)
2020	(\$8,604,880)	\$591,100	(\$8,013,780)
2021	(\$535,970)	\$17,631,540	\$17,095,570
2009	(\$40,173,630)	\$0	(\$40,173,630)
Totals	(\$187,526,875)	\$29,880,549	(\$157,646,326)

II-41 ETG's purchasing strategy for financial hedges is flawed and should be revised.

ETG hedges for a period of twelve months into the future beginning in the thirteenth month from the currently traded or prompt month. ETG purchases one-twelfth of the required hedge volume each trading month such that when the near month goes to settlement, an outermost month is added. This strategy is referred to as "taking what the market has to offer" because the buyer is willing to accept the then current purchase price for the outer month regardless of whether the price is high or low. Hedging techniques in the commodity market are for the purpose of buying low so that higher prices have the potential of being available when that month goes to settle in the future. However, a reliable natural gas futures strategy is necessary to trade successfully and achieve the desired goal.

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ETG's financial hedges suffered substantial losses during the thirteen years of this audit. A troubling factor is that so few months were profitable. The following exhibit demonstrates the importance of timing the market to capture the lowest unit price possible when entering into a hedge. Natural gas prices were dropping, but a lower purchase price would have reduced losses. The exhibit focused on three of the thirteen years reviewed in this audit and captures the annual volume purchased by ETG, the twelve-month purchase price of the financial hedges averaged, the twelve-month settled/sale price of the financial hedges averaged, the difference between the two prices, and the annual losses.

Sample of Hedge Purchase Price vs NYMEX Settle/Sale

Year	Annul Volume Hedged	Year Average Purchase Price	Year Average NYMEX Settle	Difference Purchase Settled	Annual Losses
2010	13,130,00	\$6.84	\$4.39	\$2.45	\$32,646,410.00
2011	12,720,000	\$6.23	\$4.04	\$2.19	\$27,925,035.00
2012	12,190,000	\$5.16	\$2.79	\$2.77	\$28,873,575.00

II-42 ETG should investigate other resources similar to Planalytics.

ETG should investigate other resources similar to Planalytics that offer recommendations on purchasing gas in the future. Futures are identical to buying physical gas in that both are successful when the buyer buys low and sells high. ETG's ENDUR system has similar capabilities to Planalytics.

H. RECOMMENDATIONS

II-1 Implement a Security Operations Center. (See Finding II-4)

ETG should start a Security Operations Center to address security issues. ETG already has a Gas Control Center and a Utility Services Dispatch Center that operate 24/7. As the two existing control centers expand and evolve, it may be advantageous to shift the security monitoring to one or the other of these employee-staffed centers. If one of these centers is selected to assist with additional security measures, that control center should also manage the ProSapien Security Incident Tracking System.

II-2 Improve background requirements for gas controllers. (See Finding II-5)

Gas controllers should have adequate backgrounds suitable for the Gas Control function and sufficient experience. Other LDCs usually require gas controllers to have an engineering degree. ETG may have employees with hands-on experience in engineering-type work that may be sufficient. SAGE understands that gas controllers are hired from the group of meter readers who perform drive-by gas meter readings. Those meter readers may have a high school diploma with no relevant experience.

II-3 Increase the number of gas controllers. (See Finding II-7)

ETG should add sufficient gas controllers to ensure that the Gas Control function is always manned by two gas controllers; it is not safe to operate with a single gas controller.

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Normal personal breaks taken during a shift would seem to require additional coverage, not even considering any emergency or extraordinary situations such as a sudden health problem. A fifteen-minute delay in reacting to an alarm could cause significant damage, impacting health and safety, and resulting in cost to ETG.

II-4 Develop different work shifts and a plan for retirement of gas controllers. (See Findings II-8 and II-9)

ETG should change its Gas Controller work shifts and also develop a plan in preparation for expected retirements. To address this problem, the organization must act in advance of the employees' retirement to facilitate the knowledge transfer. Best practices for the replacement of retiring employees should include provisions to transfer knowledge to the replacement.

Current work-shifts can be cut back to eight-hour shifts on a five-day-per-week basis. This would accommodate three shifts per 24-hour day. Currently Gas controllers are working four days with twelve-hour shifts and paid over-time pay for hours in excess of an eight-hour shift. A staff of ten with more normal work schedules would provide coverage during absenteeism. Eliminating the elevated rates for hours worked over eight hours per shift would go a long way towards paying the added expense of two additional staff members. This plan allows an opportunity to eliminate planned overtime and train new gas controllers sufficiently prior to the expected retirements and cover absenteeism.

II-5 ETG should expedite the capital investment to increase the vaporization of the LNG facility as much as possible. (See Finding II-10)

Peaking services are difficult to locate and the unitized demand cost of incremental, bundled peaking service incurred by ETG has increased by 1,550%. The increased cost of peaking supplies provides a clear and direct market signal that incremental pipeline capacity will soon be required to serve growing demand. A substantial increase in ETG's on-system LNG would greatly reduce the dependency on peaking supplies.

It is further recommended that the current on-system LNG be investigated to determine how any existing flexibilities can be utilized.

II-6 ETG and the NJBPU should support in every way possible new pipeline expansion and construction that feeds the northeast. (See Findings II-11 and II-13)

All TPS would have to fail at the same time in order for ETG to be obligated to serve one hundred percent of demand throughput on their system. A situation could be envisioned where all TPSs would fail at the same time. Force Majeure situations where all delivering interstate pipelines issues and forces all FTS transportation contracts to receive and deliver natural gas at their primary receipt and delivery points on all transportation contracts. For this to be true, it assumes that all TPSs operate with secondary receipt points or secondary delivery points. Current interstate pipelines are at capacity or nearing capacity, and, when pipelines are that full, pressures become a challenge. Pipeline capacity contracts are structured to state exact receipt and delivery points for the maximum effectiveness of the pipe. Flexibilities may not be available to grant alternate points of receipt and delivery.

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This catastrophic event happened back in the early 1980 timeframe and in 1976. During those early years, LDCs delivered all, or the majority of, the gas on their systems because open access transportation was implemented later. Should a Force Majeure situation occur where all FTS agreements are forced to receive and deliver gas to and from their primary delivery points and interstate pipelines were having pressure issues, the entire state of New Jersey could find that there are not sufficient gas deliveries.

II-7 ETG should attempt to convert its firm interstate pipeline transportation contracts with evergreen provisions to a fixed term through the year 2030. (See Finding II-12)

Firm transportation capacity is crucial and fundamental to reliability for the future. While evergreen provisions are popular and commonplace in the industry, there is some risk associated. In the current market environment, an LDC cannot afford such risk.

II-8 Implement a process for price discovery in order to make more prudent gas purchases. (See Findings II-24 and II-25)

ETG has the tools available to perform price discovery for future months. Additionally, ETG has outside brokers and advisors to assist with consultation and market intelligence. It is important to determine the lowest unit gas price when purchasing physical strips of gas or financial hedges. The market barometers and the market prices in relation to gas price forecast are available. The RMP decision matrix instructs and determines the quantity of the discretionary level to be financially hedged. The remainder of gas can be purchased in strips up to the base load for any given month. Physical gas contracts can commit to a price at the time the contract is initiated.

II-9 ENDUR should be enhanced, or a new computer system purchased to better track physical natural gas. (See Finding II-26)

ENDUR does not have the necessary bells and whistles. ENDUR was designed to address financial hedging products and is the best product in the industry for that purpose. Because of its design, ENDUR cannot provide the capabilities common to other COTS gas computer systems. For example, capacity transportation contracts are captured in ENDUR, while individual purchases are entered into ENDUR; however, the individual deals do not recognize the capacity transportation agreement that will move the gas. ENDUR cannot calculate if capacity transportation is exceeded or not. Also, nominations and confirmations of gas reside in a separate spreadsheet system. Therefore, ENDUR cannot associate the individual transactions to either supplier contract limits or capacity transportation contract limits.

II-10 It is essential that ETG contract for gas volumes to attach to FTS agreements at their receipt points. (See Finding II-27)

Notwithstanding RMP or volumes of gas subject to financial products, as a practical matter the volumes of physical gas that represent a liberal interpretation of monthly base load volumes must be committed under contracts with suppliers. Any LDC should have commitments from suppliers in advance of the Winter season for all five months of the Winter. Great expense is applied to having FTS that moves the gas from the receipt point to ETG's city gate, but the FTS component is rendered useless if the gas commodity is

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not contracted as certain as the FTS. A severe Winter weather condition that has not been experienced for many years may occur again; if that happens, suppliers will move their commodity to the highest paying delivery point (i.e., Chicago city gate). ETG will not be assured of receiving the necessary commodity and cannot rely on friendships with suppliers.

Multiple months or strips of gas committed under one agreement must have daily volume commitments but do not require that the unit price be locked in. ETG would have the flexibility of pulling the trigger on price at any time, permitting the gas to go to first of the month index or gas daily.

Because ETG may have volumes of gas committed to financial hedges does not mean that making advance commitments for physical gas is double dipping. ETG does not take gas in kind when the financial instrument expires; ETG sells the instrument or the gas that resulted for the financial product. ETG's FTS does not have the Henry Hub as a receipt point and will be buying 100% of their physical gas regardless of financial hedges.

II-11 ETG should follow the RMP and commit to a unit price for the purchase of physical gas. (See Findings II-28 and II-31)

The RMP requires that "Physical quantities of flowing gas shall equal fifty percent of the projected monthly (gas flow months) gas purchases to be made, excluding gas for injection into storage, to serve the gas demand of firm sales customers who are subject to the BGSS-P. Commencing 13 months prior to each gas flow, for a 12-month strip, ETG will lock in a price for a quantity that is approximately one twelfth of the averaged flowing gas quantity for that month." The risk associated with a fixed price physical contract is that there is no benefit from falling prices. Fixed price contracts can be covered by a put option. This is a popular strategy for covering a percentage of the load. A put option together with a costless collar should provide all the risk protection that is needed.

II-12 ETG should cut in half its purchases of Peaking Services. (See Finding II-29)

If ETG was the supplier for all gas consumption within its footprint (i.e., customers did not migrate away from ETG to TPSs) then the elevated level of Peaking would be justified. The level of Peaking services contracted by ETG assumes that 100% of TPSs will fail at the same time, and even if that situation came to pass, ETG has excess assets of FTS that would serve the majority of that load. When it comes to Peaking Services, ETG implements a very conservative view but when it comes to the lion share of gas commodity required to satisfy its own system obligation, ETG does not even lock up the commodity.

II-13 ETG should pay closer attention to balancing on its system. (See Finding II-30)

The \$24,443.56 penalties associated with TCO pipeline are due to injecting beyond the maximum daily contract quantities for those days. It is assumed that a small amount of penalty will be experienced from time to time. However, the \$3,810,439.05 TETCO penalties were due to the total burn on those days being above the Operational Flow Order (OFO) tolerance band. An OFO notice requires shippers to balance their gas supply with their customers' usage on a daily basis, within a specified tolerance band. Shippers

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may deliver additional supply or limit their supply in order to match customers' usage. The OFO is a mechanism to protect the operational integrity of the pipeline.

Responsibilities specified in the AMA assign this responsibility to ETG and is not the fault of the Asset Manager. ETG has indicated that it has taken steps to mitigate penalties to the best of its ability in the future.

II-14 ETG should strive to limit purchases in the daily market to 25% of its daily requirements. (See Finding II-32)

The goal should be to protect against rising prices. The RMP is very clear “For the most part, these quantities will be purchased at monthly indexed prices. However, some gas purchases may be made on the daily spot market. These will generally be limited to quantities needed to handle short-term increases in gas demand that may not be readily handled with adjustments to storage injections or withdrawals.” Historically, the day market prices are elevated above IF first-of-the-month index prices, resulting in higher costs. Strips of physical gas have an added feature that assists with daily swings. For multiple months aggregated in one contract, the daily volume can be flexible and can be negotiated to have an up or down daily take of up to 10% at the original price stated in the contract. This feature is an excellent solution that avoids major purchases subject to daily pricing.

II-15 Negotiate more favorable gas-supply relationships. (See Finding II-35)

Should ETG consider an asset management relationship in the future, better terms should be a fundamental requirement and the manager should be required to consult and advise in addition to maximizing the value of assets. Only an arm's-length relationship should be considered, and an RFP should be issued seeking parties who are not gas suppliers. If ETG is interested in an Asset Manager relationship, Sage assumes that the new entity to the contract would have superior expertise in the subject of gas and transportation. The goal is for ETG to gain from and partake in that expertise. The Asset Manager is expected to act in good faith with consideration of ETG's interests and consult and advise on matters that fall into ETG's responsibilities as well as the responsibilities of the Asset Manager itself.

ETG is capable of purchasing its own gas supply, managing excess capacity, and nominating its own supply. Effective in 2009 through 2021, Asset Managers made \$72,875,815.83 in profit sharing profits in addition to being the supplier for more volumes than was prudent in the daily market at excessive daily index prices.

II-16 Take advantage of the flexibility associated with futures. (See Finding II-37)

The arrangement in place with both external advisors/brokers should be revised to provide specific advice related to movement in futures. Futures can be bought and sold throughout the life of the futures contract. Professional traders recognize when the price of a gas futures contract ‘breaks’ above or below a historical level of support, meaning that a breakout trading strategy can be used in both rising and falling markets. If an opportunity presents itself to make a substantial unit price profit, ETG should take it. This recommendation is not intended to have mass exits and entrances in the future markets but to make common sense decisions when profits of approximately one dollar per unit

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can be realized. Similarly, when market intelligence from brokers and electronic systems are predicting a downward trend, review the existing futures, perform research to establish if the purchase price was high or low, and consider selling at a loss so that even more losses can be avoided.

II-17 ETG would benefit from the use of a specific option strategy called a Collar. (See Finding II-39)

A simple definition of a collar is like placing a band or choker around a unit price. The unit purchase price has the flexibility of limited price protection above the agreed price and limited protection below the agreed unit price. A collar is when a call option is sold against a price using the NYMEX for a future month, and then the proceeds are used to simultaneously buy a put option. The profit from the first transaction is applied to the expense of purchasing the second transaction, and the net effect is zero, hence the name costless collar. It is an inexpensive way to protect the downside in exchange for capping upside potential. Sellers of a strip of natural gas (i.e., multi-months of physical natural gas in one purchase) frequently use this strategy to offer a ten percent up or down on daily physical volumes to buyers. This means that the buyer can take ten percent less on daily volumes and pay for the ninety percent that he does accept or take ten percent more and pay for one hundred and ten percent at the original contract price.

Zero cost translates into zero risk to ETG. ETG should instruct its broker(s) when purchasing NYMEX futures to look for costless collars. Monthly volumes should be provided that represent one hundred percent of ETG's load so that collars can be provided for all the load.

The following exhibit is intended to demonstrate the value of a costless collar where the band around the purchase price of the NYMEX future contracts was five cents up or down and three cents up or down on the NYMEX futures price. The annual volumes purchased by ETG are used, and a five cent band computes to \$1,580,707.65 in 2009 as money paid to ETG. The arithmetic of three cents applied to annual purchased volumes for 2009 yields \$948,424.59 paid to ETG. The five and three cent costless collars used in the following exhibit are conservative. Producers can offer ten percent up or down on physical gas because they are using this technique effectively to hedge their production. A review of the lowest published price by Inside FERC first-of-the-month index from 2009 through 2021 was \$1.50 and ten percent of \$1.50 is 15 cents.

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Costless Collars

Year	ETG Annual Volume (Dths)	Collar 5 Cents	5 Cents Collar on Annual Volume	Collar 3 Cents	3 Cents Collar on Annual Volume
2009	31,614,153	\$0.05	\$1,580,707.65	\$0.03	\$948,424.59
2010	30,208,626	\$0.05	\$1,510,431.30	\$0.03	\$906,258.78
2011	30,442,523	\$0.05	\$1,522,126.15	\$0.03	\$913,275.69
2012	26,241,650	\$0.05	\$1,312,082.50	\$0.03	\$787,249.50
2013	31,311,858	\$0.05	\$1,565,592.90	\$0.03	\$939,355.74
2014	32,585,719	\$0.05	\$1,629,285.95	\$0.03	\$977,571.57
2015	30,651,696	\$0.05	\$1,532,584.80	\$0.03	\$919,550.88
2016	30,068,331	\$0.05	\$1,503,416.55	\$0.03	\$902,049.93
2017	28,955,061	\$0.05	\$1,447,753.05	\$0.03	\$868,651.83
2018a	18,939,093	\$0.05	\$946,954.65	\$0.03	\$568,172.79
2018b	17,297,656	\$0.05	\$864,882.80	\$0.03	\$518,929.68
2019	35,961,078	\$0.05	\$1,798,053.90	\$0.03	\$1,078,832.34
2020	32,849,341	\$0.05	\$1,642,467.05	\$0.03	\$985,480.23
2021	38,552,764	\$0.05	\$1,927,638.20	\$0.03	\$1,156,582.92
Totals	415,679,549		\$20,783,977.45		\$12,470,386.47

II-18 ETG should improve the intelligence gathering associated with financial hedges with emphasis on NYMEX futures. (See Finding II-40 and II-42)

In addition to Planalytics, the in-house ENDUR system delivers web services with connectivity to external data sources, including pricing sources (i.e., Platts and commodity exchanges like NYMEX). ENDUR has the capability and programming to develop pricing scenarios. The principles used to purchase a futures contract are the same as those used to buy physical gas.

ETG's in-house tools generate market intelligence that indicates the price and time to accept or act on a particular price. ETG contributes to, and is supported by, Planalytics. Planalytics and ENDUR require the appropriate algorithm input to their systems. Given ETG's financial hedging strategy, the focus should be on configurations to purchase futures at the lowest possible price for a given month. Suggestions are as follows:

- The key component or ingredient for a fixed price physical contract or when buying "futures" is that ETG wishes to buy at the lowest possible price. The algorithm must be designed to generate available low prices reflected on NYMEX for individual months. See Finding XVIII-6 above and its associated recommendation to further involve external assistance and advisors.
- An additional tool that assists a buyer to analyze the reasonableness of price recommendations generated by the electronic systems is a database created in-house for historic pricing. ETG has first-of-the-month index pricing for many historic years plus NYMEX settle for many historic years. The database for NYMEX historical prices needs to be organized so that ETG can easily review a given month for the previous ten years. For example, if Planalytics prompts a buy for December

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2023 at a given price, in order to determine if the prompt to buy is acceptable, a comparison to historic Decembers can assist. Common sense must be applied in this evaluation (i.e., related to historic prices, how have gas prices trended in the past and are current prices trending in the same direction).

II-19 The RMC should convene for the purpose of addressing the RMP policies and procedures. (See Finding II-40)

NJBPU permits financial hedges, but it is not required that LDCs engage in financial hedges. The policies and procedures may need to be revised; certainly, clarification is required, as is education on how to perform price discovery, tools available for price discovery, and an expanded use of financial experts.

There appears to be some hesitation on the part of ETG's Gas Procurement Department regarding financial hedges related to speculation and the need to not speculate. The RMP speaks to speculation and forbids it. Speculation refers to the act of conducting a financial transaction that has substantial risk of losing value but also holds the expectation of a significant gain. Without the prospect of substantial gains, there would be little motivation to engage in financial hedges. A futures contract allows the buyer to speculate on the direction of a commodity, either long or short. The risk can be greatly reduced by engaging in a well-developed strategy or process to research the bottom of the marketplace and only making a commitment when the intelligence forecasts the time to buy.

While NYMEX futures and physical gas purchases have similarities, there are unique differences between the flexibilities available in each category as follows:

- NYMEX futures provides that gas in kind can be accepted by the buyer when the NYMEX futures contract expires.
- Since the receipt point is Henry Hub, demand is high; there is great flexibility offered for the resale of the gas at the Henry Hub.
- The purchase price must be paid at the time of purchase.
- There is an opportunity to lose money if the price drops below the purchase price when the contract expires, and there is an opportunity to take profits if the price increases above the purchase price when the contract expires.
- Great flexibility to trade in-and-out of the contract and take profits.
- The volume must be in increments of 10,000 Dth per contract.
- The volume is fixed and firm without flexibility.
- Physical gas contracts are structured so that gas in kind can be delivered to the buyer when the flow month arrives.
- Since the receipt point is an interstate pipeline point on ETG's FTS contract, there is flexibility for the resale of the gas, but it's not as great as the Henry Hub.
- The purchase price is paid thirty days after the flow month and not at the time of purchase.
- A physical gas commitment for strips of gas can be entered into, leaving the monthly unit price open. The buyer can engage in price discovery and trigger the

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unit price for individual months when the price presents itself. Alternatively, ETG has the option of allowing the gas contract to go to settlement.

- The price paid for the physical commodity is stated in the contract or triggered in individual months. The buyer does not enjoy profits if market prices increase above the contract price.
- There is not as much demand to trade in-and-out -of the physical gas contract and take profits.
- The physical contract does not mandate a specific volume and can be any amount.
- For multiple months aggregated in one contract, the volume is flexible and can be negotiated to have an up or down daily take of up to ten percent at the price stated in the contract.

If the RMC determines that the practice of “buy and hold until expiration” is a policy it wants to keep, the RMC should at least implement a process where price discovery is a required practice with input from ETG’s brokers and input from in-house price discovery tools. Additionally, NYMEX futures should be entered into when an attractive low-price signals ETG to do so and not take what the current month’s market has to offer for the purpose of fulfilling the eighteen-month requirement.

The alternate recommendation is to not participate in NYMEX futures or price swaps and buy physical strips of gas. ETG is invoiced for physical gas thirty days after the flow month as opposed to paying for NYMEX futures at the time the contract is executed eighteen months in advance. Physical gas contracts allow ETG the ability to take more or less daily volume than the contract specifies at the same unit price stated in the contract.

II-20 The RMP should be revised to allow more flexibility, from a time perspective, to purchase financial instruments. (See Finding II-41)

ETG purchases financial futures and swaps per month for the eighteen-month period beginning with the seventh month and continuing through the twenty-fourth month of the current NYMEX strip. As the near month goes to settle, the outermost month is instantly purchased regardless of price. It is true that the RMP provides for not more than eighteen months of financial hedges into the future and that no more than fifty percent of ETG’s base load be hedged with financial products. The RMP is implemented by ETG staff to mean that eighteen months must be always covered with financial hedges 365 days per year. The implementation provides for taking the then available unit market purchase price, limiting ETG’s ability to take advantage of the financial hedging market to its fullest potential. It is highly doubtful that automatic financial purchases could result in success. A buyer must shop the market, biding time until the lowest possible price can be had for a particular future month.

The RMP allows for the physical gas purchases to be completed as follows:

- Base load gas or a portion thereof include fixed price multi-month strips.
- The RMP guidelines require base load physical gas be purchased at index first-of-the-month prices.

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- Swing gas to be purchased in the daily market. These will generally be limited to quantities needed to handle short-term increases in gas demand that may not be readily managed with adjustments to storage injections or withdrawals.

ETG did not enter into multi-months of physical gas purchases; however, the RMP did permit the purchase of several months of physical gas under one purchase contract. It does not make sense that the RMP policy would dictate different pricing strategies for NYMEX futures than is provided for physical gas. The result is that NYMEX futures become physical gas when the price is settled. ETG chooses not to take gas in kind but to sell its NYMEX futures at settlement because their firm transportation contracts do not pick up at the Henry Hub where the settlement occurs.

The electronic applications may not have a strong recommendation for a NYMEX future contract during a given month that is currently of interest. Allowing more time to make the financial purchases may result in better performing financial instruments. The need to limit the purchase of financial hedge products is understood, and the need to spread those purchases equally into the various months is understood. However, market intelligence should be a constant exercise using all the available tools so that the lowest prices possible are achieved. Rushing the purchasing process for the sole purpose of compliance with the RMP policy prevents ETG from using the flexibility of the marketplace.

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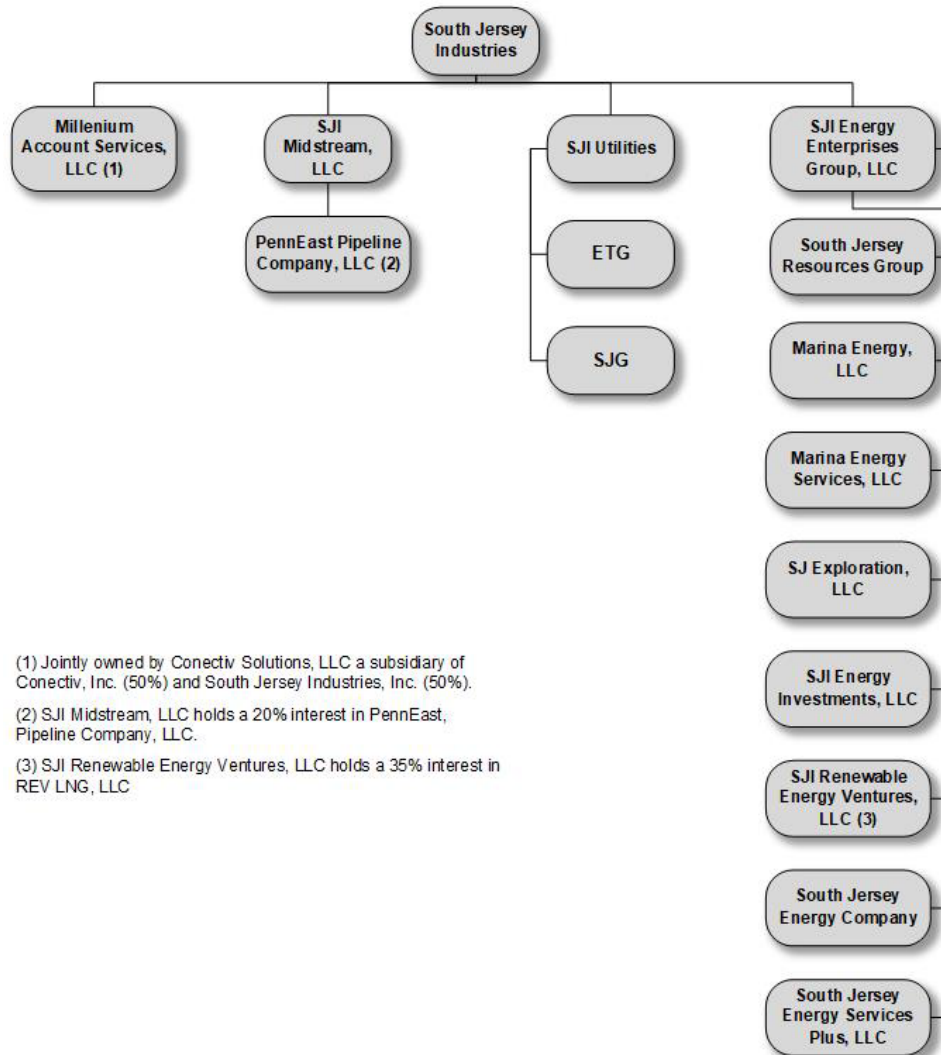
III. Affiliate Relationships

III. AFFILIATE RELATIONSHIPS

A. BACKGROUND

Elizabethtown Gas (ETG) was acquired by South Jersey Industries, Inc. (SJI) in 2018 and thereafter became a wholly owned subsidiary of SJI Utilities (SJIU), which itself is a wholly owned subsidiary of SJI. The exhibit below provides an organizational chart of SJI.

SJI Organizational Chart



AFFILIATE CONTRACTS AND AGREEMENTS

Subsequent to ETG's acquisition by SJI in 2018, ETG entered into the following contracts and agreements with affiliates during the audit period:

- Master Service Agreement with SJI
- Shared Service Agreement with SJIU
- Asset Management Agreement with South Jersey Resources Group, LLC (SJRG)

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- Liquid Natural Gas (LNG) Supply and Delivery with Rev LNG Holding, LLC
- Solar Power Purchase Agreement with SJI

The agreements are described below.

Master Services Agreement between SJI and ETG

SJI and ETG entered into a Master Services Agreement (MSA) on April 15, 2019, that was retroactive to September 1, 2018. The MSA established the framework through which SJI would provide the following services to ETG:

- Administrative
- Corporate communications
- Government relations
- Human resources
- Information systems
- Insurance service.

Per the agreement, SJI charges ETG for the direct costs plus the overhead costs incurred in providing the services. Direct costs include salaries and wages, incentives, paid absences, payroll taxes, health care, retirement benefits, direct non-labor costs and similar expenses, and reimbursement for out-of-pocket third-party costs and expenses. Overhead costs consist of the internal and external indirect costs incurred in providing the services, such as general overhead and facility charges (for example, office rent, depreciation, maintenance, utilities, and supplies).

SJI employee time to be charged to ETG is determined by either one of two methods. Some employees enter time into SJI's time recording system, by which time is charged to the appropriate subsidiary. Certain employees do not complete timesheets. Costs related to their time are determined in accordance with the SJI Cost Allocation Manual. The Cost Allocation Manual is discussed later in this chapter.

Shared Service Agreement between SJIU and ETG

Also on April 15, 2019, and retroactive to September 1, 2018, SJIU and ETG entered into a Shared Services Agreement (SSA). Per the agreement, SJIU provides the following services to ETG:

- Sales and marketing – SJIU provides strategic oversight for the utility operational sales department as well as marketing support. Marketing support includes content development, such as written brochures and related information and the provision of analysis, implementation, and maintenance of line extension policies.
- Rates and regulatory – SJIU provides strategic oversight for the operational regulatory departments. Services include the formulation of rate policies and regulatory initiatives and representation of the utility in proceedings before regulatory bodies involving the rates and operations of the utility. Services also include assistance with regulatory compliance issues.

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- Safety – Safety services include the development of safety program policies and procedures, safety compliance reporting, support of safety incident investigations and reporting, and safety training.
- Utility shared services – This includes Geographic Information Services (GIS) and records management, including GIS support, mapping of distribution and transmission systems, and quality assurance/quality control of service records and as-builts. It also includes technical training such as the development and support of operational qualifications (OQ) plans, technical training support for operational employees, content development for OQ and non-OQ technical training, and vendor management for outsourced training. Lastly, this category also includes compliance and standards assistance consisting of the development and support of written Operating Procedure Manuals (OPM), updating of standards in conjunction with state and federal regulations, support and delivery of compliance reporting, and serving as a liaison with regulatory agencies for operations.
- Organizational effectiveness – Services include strategic and analytical support for improvement initiatives, development and monitoring of key performance indicators for overall effectiveness and productivity, support for benchmarking and American Gas Association best practices, and spearheading innovation and business process changes.
- Customer experience – Strategic and analytical support for customer service experience metrics.
- Gas supply, allocations, and LNG operations – This includes the oversight of the portfolio of assets, management of pipeline relationships, gas allocations and SCADA monitoring and management, strategic oversight of LNG facility operations, and support of gas accounting functions.

A January 2023 MSA between SJI and SJIU superseded the 2019 MSA and SSA.

Prior to the 2018 acquisition of ETG by SJI, ETG was owned by AGL Resources (AGLR). In 2016, AGL Resources was acquired by Southern Company and renamed Southern Gas Company. From February 2011 until its acquisition by SJI, ETG purchased administrative, management, and other professional services from its then-affiliate AGL Services. These services included:

- Rates and regulatory
- Internal auditing
- Strategic planning
- External relations
- Gas supply and capacity management
- Legal services and risk management
- Marketing
- Financial services
- Information systems and technology
- Executive

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- Customer services
- Employee services
- Engineering
- Business support
- Corporate communications
- Corporate compliance and corporate secretary

Asset Management Agreement between SJRG and ETG

This agreement was first entered into in July 2018 upon closing of the ETG acquisition. SJRG assumed an existing Asset Management Agreement (AMA) between ETG and then-affiliate Sequent Energy Management, which were both owned by the Southern Company prior to SJI's acquisition of ETG.

The New Jersey Board of Public Utilities (NJBPU) allowed a five-year extension of the asset agreement upon SJRG taking over the AMA in exchange for a guaranteed minimum \$26.25 million credit to customers over the five-year period. The stipulation specified that ETG would credit back to ETG customers the entire fee received from SJRG. The Basic Gas Supply Service – Periodic (BGSS-P) clause would be used to return the fee to the customers. The fee consists of a minimum fixed annual payment and margin sharing. The NJBPU stipulation required annual internal audits to be conducted to verify compliance. The results of these audits will be discussed later in this chapter.

Rev LNG Holding, LLC (REV) – ETG Contract for LNG Supply and Delivery:

ETG and REV entered into an agreement in August 2018, prior to there being an affiliate relationship between the two entities. In December 2020, ETG-affiliate SJI Renewable Energy Ventures, LLC purchased a 35% interest in REV thereby making REV and ETG affiliated companies.

SJI – ETG Power Purchase Agreement

ETG has entered into several power purchase agreements (PPAs) with affiliate/parent SJI. The PPAs allow SJI to place photovoltaic energy generating systems (solar panels) on the premises of ETG's headquarters and divisional offices and then sell the produced energy to ETG. SJI incurred the initial cost of construction and of the solar panels. ETG pays a kilowatt hour price that includes the construction and solar panel costs.

NON-CONTRACT AFFILIATE RELATIONSHIP

Gas Controllers

South Jersey Gas Company (SJG) employees serve as gas controllers for ETG. The controllers are represented as members of Local Lodge S-76 of the International Association of Machinists and Aerospace Workers (Local 76). The gas controllers are compensated under a bargaining agreement between Local 76 and SJG. As such, all compensation related to the gas controllers is allocated to SJG.

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AFFILIATE TRANSACTIONS

The exhibit below provides annual totals for transactions with affiliated companies, as reported in ETG's Annual Reports.

ETG Affiliate Transactions 2018–2021 (\$million)

From	For	2018	2019	2020	2021
SJRG	Gas Supply	\$51	\$46	\$97	\$149
SJI	Management Service Charges and Invoices ¹	\$15	\$73	\$41	\$52
SJG	Management Service Charges and Invoices ¹	\$2	\$7	\$5	\$6

¹ This includes pass-through costs for items such as services provided by a third party that are centrally billed to the affiliates.

Details regarding affiliate transactions are discussed in Chapter II, Procurement and Purchasing and Chapter VI, Affiliate Cost Allocation Methodologies.

ASSET TRANSFERS BETWEEN ETG AND AFFILIATES

Since the 2018 acquisition of ETG by SJI, asset transfers between ETG and its affiliates have been limited to the transfer of four passenger vehicles from SJG to ETG. The asset transfers were the result of employees being transferred between the two companies. Kelly Blue Book and Edmunds were used as sources to determine the fair market value of the vehicles. The established fair market value was used as the transfer price. The exhibit below provides the details of the transferred assets.

Assets Transferred from Affiliates to ETG

Description	Date	Transfer From	Transfer To	Book Value	Fair Market Value	Transfer Amount
2016 Nissan Sentra	10/1/19	SJG	ETG	\$14,850	\$9,012	\$9,012
2017 Nissan Altima	10/1/19	SJG	ETG	\$23,072	\$11,834	\$11,834
2017 Ford Edge	10/1/19	SJG	ETG	\$29,233	\$15,638	\$15,638
2018 Ford Edge	10/1/19	SJG	ETG	\$33,168	\$20,876	\$20,876

No non-utility to utility asset transfers have occurred since SJI's acquisition of ETG.

AFFILIATE RELATIONSHIP CONTROLS

In September 2000, the NJBPU adopted the Affiliate Relations, Fair Competition and Accounting Standards and Related Reporting Requirements (the Standards). The Standards include regulations concerning conduct in three areas. The Standards include:

- **Regulations Applicable to Transactions between ETG and Related Competitive Business Segment (RCBS):** These standards of conduct are applicable to transactions between ETG, including a related competitive business segment of ETG, and a related competitive business segment of SJI that provides or offers competitive services to retail customers in New Jersey, or SJI itself

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providing or offering competitive services to retail customers in New Jersey. These regulations can be found at N.J.A.C. 14:4-3.3 through 14:4-3.5.

- **Regulations Applicable to Competitive Products and Services:** Standards of conduct applicable to ETG and its related competitive business segments, as well as the transactions, interactions and relations between ETG and its related competitive business segments. These regulations can be found at N.J.A.C. 14:4-3.6.
- **Regulations Applicable to Regulatory Oversight and Related Processes:** Standards of conduct that address regulatory oversight; dispute resolution and violations; and penalties applicable to electric and/or gas public utilities regarding affiliate relations, fair competition, accounting standards, and related reporting requirements. These regulations can be found at N.J.A.C. 14:4-3.7 through 3.9.

Several documents guide employees and are intended to ensure compliance with the Standards. These documents and related affiliate transaction controls are discussed below.

COST ALLOCATION MANUAL

The Cost Allocation Manual (CAM) is designed to lessen the possibility of subsidization. It prescribes the manner in which costs provided through the MSAs and SSAs will be charged. The CAM was most recently updated in September 2018. SJ1 reports that a new update is in progress.

The Controller has overall responsibility for maintaining the cost allocation procedures and ensuring compliance with these procedures as well as approving specific cost allocation factors. Responsibility for establishing and updating specific cost items included in the CAM is assigned to the department responsible for the cost and most familiar with specific cost causation factors.

To ensure consistent application of the procedure by departments, a standardized form is used to describe and document the product or service cost to be allocated and the cost allocation methodology to be used. The completed form is submitted to the Controller for review and approval.

Four cost categories are used for the purpose of allocating the costs of products and services to ETG and its affiliates. Costs are categorized as being one of the following four types:

- **Directly Assignable** – Expenses incurred for activities and services exclusively for the benefit of ETG, and its affiliates.
- **Directly Attributable** – Expenses incurred for activities and services that benefit more than one affiliate and which can be allocated based on direct measure of cost causation.
- **Indirectly Attributable** - Expenses incurred for activities and services that benefit more than one affiliate and which can be allocated based on general measures of cost causation.
- **Un-attributable** – Expenses incurred for activities or services that have been determined as not appropriate for apportionment. These costs relate primarily to

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activities such as corporate diversification and political or philanthropic endeavors, and as such are charged directly to SJI.

The costs incurred by SJIU in providing services to SJG and ETG consist primarily of labor and benefits. These costs are allocated based on time reports.

The exhibit below presents the cost allocation methodologies used in conjunction with services provided by SJI to ETG and its affiliates.

Cost Allocation Methodology for Services Provided by SJI

Service(s) Provided	Cost Allocation Methodology
Risk management, internal auditing, environmental affairs, insurance payment and processing, corporate communications, stakeholder relations, accounts payable, human resources	Primarily labor and benefits – allocation based on time reports.
Human resources services – employees and benefits	Primarily labor and benefits – allocation based on time reports. Benefits are typically allocated based on the percentage of users.
Information technology	Primarily labor and benefits – allocation based on time reports. Certain allocations are done using specified head counts.
Strategic and financial planning	Primarily labor and benefits – allocation based on time reports. Remainder allocates as part of the Management Services Fee.
Accounting	Primarily labor and benefits – allocation based on time reports. Tax expense is allocated based on actual tax liabilities.
Insurance policy placement and claims administration	Primarily labor and benefits – allocation based on time reports. The cost of insurance coverage is allocated based on directly attributable attributes.
Treasury (cash management)	Primarily labor and benefits – allocation based on time reports. Bank fees are assigned based on actual costs incurred by bank accounts.

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Service(s) Provided	Cost Allocation Methodology
Administrative services	Primarily labor and benefits – allocation based on time reports. The cost of materials or supplies issued from stores is directly assigned. Non-labor fleet costs are directly assignable or attributable.
Facilities and building services	Allocated as part of the facilities charge which is based on occupied space.
Corporate counsel and secretary	Services are directly assigned to the entity responsible for the service provided. Primarily labor and benefits – allocation based on time reports. Services assigned to SJI are allocated as part of the Management Services Fee using the three-factor general allocator.
Investor relations, shareholder records	Indirectly attributable to the various entities through the Management Service Fee allocation factor using the three-factor general allocator.

The three-factor general allocator mentioned above is a method by which costs are allocated based on current corporate and fiscal allocation percentages of each subsidiary, excluding holding and service companies. The method uses the assets, payroll, and the margin (defined as total revenues less total cost of sales) of the subsidiaries. Each subsidiary's percentage of the total assets, payroll, and margin of all the subsidiaries is determined. The average of the three components is taken for each subsidiary, and the total of the three averages for each subsidiary is applied to the Management Service Fee.

Elizabethtown Gas Company Affiliate Relations, Fair Competition and Accounting Standards, and Related Reporting Compliance Plan (Compliance Plan)

The Compliance Plan provides employees with guidance related to the NJBPU Affiliate Standards Regulations and reminds employees of their responsibilities when they interact with ETG's affiliates. The Compliance Plan was most recently updated and filed with the NJBPU on June 21, 2022.

The Compliance Plan defines the words and terms used in the Affiliate Standards Regulations and discusses standards of conduct applicable to transactions with a related competitive business segment, regulations applicable to competitive products and services, and regulations applicable to regulatory oversight and related processes. The Compliance Plan then summarizes the Affiliate Standards Regulations and related ETG policies governing the following topics:

- Non-discrimination of competitors
- Disclosure of information
- Separation of affiliates

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- Competitive products and services
- Regulatory oversight
- Dispute regulations
- Violations and penalties

Elizabethtown Gas Company Affiliate Standards Communication Plan (Communication Plan)

The Communication Plan identifies which information pertaining to the Affiliate Standards Regulations needs to be communicated, who should receive the information, and how the information will be disseminated.

The Communication Plan focuses on certain topics, as displayed in the exhibit below.

Topics Included in Communication Plan

Topic	N.J.A.C Section
Business Development and Customer Relations	14:4-3.3(o) & (p)
Customer Information	14:4-3.4(a)
Non-Public Supplier Information	14:4-3.4(d) & (e)
Product and/or Service Provider Information	14:4-3.4(f) & (g)
Transactions	14:4-3.3(d) (1) & (2) 14:4.3-5(g) (i) & (j)
Supplier Lists	14:4-3.4(c)
Joint Advertising or Marketing	14:4-3.5(o)

For each topic displayed above, the Communication Plan provides the message to be communicated to employees, the target audience, and methods of communication.

The Communication Plan establishes that the following will occur to ensure employee understanding of Affiliate Standards Regulations:

- The Human Resources Department will provide the Compliance Plan and related handouts/memos to all new employees at the commencement of employment and inform new employees that a copy of the Compliance Plan can be viewed on the SJI intranet.
- New employees are required to sign an acknowledgement of their responsibility to read and understand the Compliance Plan and the related handouts/memos.
- Every two years, Affiliate Standards training will be provided to ETG employees and SJI employees in relevant departments (Administrative Services, Corporate Communications/Public Relations, Human Resources, Office of the General Counsel and Secretary, Information Technology, and Risk Management). In the years where training is not provided, the employees will receive copies of relevant handouts/memos from the ETG employee responsible for Affiliate Standards compliance.

The handouts/memos referenced above provide information about, and examples of, permitted and prohibited actions.

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SJI Code of Ethics and Business Conduct (Code)

The Code includes a section titled Compliance with Laws Regarding Affiliate Relationships, which states the following:

We follow our affiliate guidelines, and we neither advantage nor disadvantage any market participant who may be affiliated with SJI. If we have any questions concerning affiliate relationships or competition, we consult the Rates and Regulatory Affairs department for guidance.

The NJBPU has adopted standards in evaluating affiliate relationships that provide for both fair competition as well as a “no harm to ratepayers” standard. Additionally, federal antitrust laws prohibit practices that restrict fair market competition. Accordingly, our affiliate relationships are structured to ensure that: (1) our transactions are in compliance with applicable laws, rules and regulations; (2) our ratepayers are not subsidizing non-regulated operations; and (3) procurement practices and procedures are open, unbiased and at arm’s length.

Employee Training

SJI employees are trained on SJI’s Code of Conduct and Ethics annually. As noted earlier, the Compliance Plan requires that compliance training occur every other year. Prior to 2022, employees were required to complete a form affirming completion of training and ETG’s Legal Department was responsible for tracking the list. Currently, training completion is tracked via the Workday system and tracking is managed by the Human Resources Department.

Ring-Fencing Initiatives

ETG’s financial activities are kept separate from those of SJI and its affiliates. ETG’s credit facility is kept segregated from the credit facilities that support SJI and SJG and ETG does not participate in a cash pool with SJI or any affiliates. Financial statements are prepared for ETG and those statements receive their own audit and audit opinion from the external auditor, Deloitte.

Internal Audits

Annual internal audits were conducted in 2020, 2021, and 2022 of the AMA for gas procurement and asset management services between ETG and SJRG, as required by the NJBPU per its stipulation approving the acquisition and related transfer of the AMA to SJRG. The NJBPU required that the audits be conducted to determine whether margins were properly credited to ETG’s BGSS-P clause and that SJRG was treating ETG in a non-discriminatory manner in relation to other SJRG asset management arrangements.

The audits did not identify any deficiencies to indicate the margin sharing was not determined in accordance with the AMA and/or not properly credited to ETG’s BGSS-P clause. The audits also concluded there was no indication that SJRG treated ETG in a non-discriminatory manner in relation to other SJRG AMA’s. Additionally, internal controls were found to be acceptable, which the Internal Audit Department defines as meaning that the internal controls were formalized; documented; clearly communicated and understood throughout the audit area; and that there was strong evidence that policies

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and procedures were strictly adhered to, records were correct and in good order, and there were no violations of law or regulation.

Reviews of affiliated transactions were limited to the AMA audits discussed above. No internal audits were conducted of the CAM nor were any audits specific to affiliate relationships conducted.

GAS PROCUREMENT PRACTICES

An evaluation of ETG's practices of releasing pipeline and storage assets to affiliates and practices concerning scheduling and trading are covered in Chapter II, Procurement and Purchasing.

B. FINDINGS

III-1. Contracts and agreements concerning affiliate transactions meet federal and state requirements.

ETG has a master services agreement with SJI, a shared service agreement with SJIU, and an asset management agreement with SJRG. ETG also has a solar power purchase agreement with SJI and an LNG supply and delivery contract with a company partially owned by an affiliate. The contracts and agreements are signed by responsible officers of the companies involved and meet federal and state requirements.

III-2 Contracts and agreements to purchase goods and services from affiliates were not procured through competitive processes.

As discussed in Finding III-1 above, ETG entered into several agreements with affiliates. These agreements were not the result of a competitive procurement process. An analysis of the independence of purchasing is provided in Chapter II, Procurement and Purchasing, and in Chapter XIX, Purchasing and Procurement of Goods, Services, and Bidding Processes.

III-3 ETG's internal control structure can be strengthened to better ensure compliance with affiliate relationship requirements.

SJI has developed several comprehensive documents and procedures to guide employees in compliance with affiliate transaction standards. However, independent oversight of the allocation of costs appears limited. Internal Audit performs annual audits of ETG's Asset Management Agreement, but Internal Audit does not test adherence with cost allocation methodologies. Moreover, the responsibility for establishing and updating specific cost items is vested with the department responsible for the cost. Also, the Cost Allocation Manual has not been updated since 2018, though ETG reports it's currently in the process of being updated.

III-4 There is no evidence that correspondence between directors and officers violated affiliate relationships and fair competition standards.

There is frequent contact between directors and officers. This contact occurs at quarterly board meetings and informally between meetings. Furthermore, senior officers see both regulated and non-regulated businesses. However, there is no evidence that any

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correspondence violated affiliate relationships and fair competition standards. See Chapter X, Organizational Structure, for more information on this topic.

III-5 ETG provided incorrect information concerning affiliate transactions to the NJBPU when filing its 2018–2021 annual reports.

Transactions between ETG and its affiliates are reported on page 358 of the NJBPU Annual Financial Report for ETG that is prescribed by the Federal Energy Regulatory Commission (FERC). This report is signed by SJI's Chief Financial Officer as being materially correct. ETG's submission for the 2018 through 2021 reports incorrectly presented extraneous transaction amounts which represent ETG's direct charged portion of pass-through costs of goods and services purchased from third parties which were paid by SJI or SJIU on behalf of multiple affiliated companies.

SJI and SJIU act in the capacity of centralized procurement and payment offices and then allocate costs to each affiliate. For example, SJI Human Resources may receive one health insurance bill for all employees on the plan and then allocate the appropriate amount to each subsidiary. The amount ETG paid for its employees' health insurance was being included as a payment for service to SJI, though ETG was not technically purchasing the health insurance from SJI.

The exhibits below compare information contained in the Annual Reports to the corrected information provided by SJI.

2018 and 2019 Payments to Affiliates for Services Provided to ETG (\$)

Affiliate	2018 (6 Months)			2019		
	Annual Report	Corrected Information	Variance	Annual Report	Corrected Information	Variance
SJG	2,278,753	133,827	2,144,926	7,143,726	125,168	7,018,558
SJI	14,934,648	6,958,353	7,976,295	72,739,679	12,673,571	60,066,108
SJIU	0	0	0	0	2,521,714	(2,521,714)
SJRG	51,220,433	51,220,433	0	46,359,060	135,899,713	(89,540,653)
Total	68,433,834	58,312,613	10,121,221	126,242,465	151,220,166	(24,977,701)

2020 and 2021 Payments to Affiliates for Services Provided to ETG

Affiliate	2020			2021		
	Annual Report	Corrected Information	Variance	Annual Report	Corrected Information	Variance
SJG	5,433,473	0	5,433,473	6,128,319	0	6,128,319
SJI	41,159,225	19,224,166	21,935,059	51,910,946	22,851,650	29,059,296
SJIU	0	4,433,655	(4,433,655)	0	6,266,085	(6,266,085)
SJRG	97,018,256	98,230,478	(1,212,222)	148,953,487	152,950,889	(3,997,402)
Total	143,610,954	121,888,299	21,722,655	206,992,752	182,068,624	24,924,128

In 2019 ETG's Annual Report understated the dollar total of purchases from affiliates by about \$25 million. Purchases from SJRG were underreported by almost \$90 million, which exceeded the overreporting of ETG's purchases from the other affiliates.

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In the three other years, purchases were overstated in amounts that ranged from \$10 million in 2018 to \$25 million in 2021. As explained above, purchases from vendors and suppliers were erroneously included.

The exhibit below breaks out the corrected amount by the amounts paid by ETG for management services and the amounts paid for payroll allocations and gas purchases.

2018–2021 Payments to Affiliates Corrected Information Detail

Affiliate/Service	2018	2019	2020	2021
SJI				
Management Service Fee	\$6,579,108	\$10,569,673	\$15,478,351	\$18,974,806
Intercompany Payroll Allocation (Direct Charges)	\$379,245	\$2,103,898	\$3,745,815	\$3,876,844
Total	\$6,958,353	\$12,673,571	\$19,224,166	\$22,851,650
SJI Direct Charge Percent	5.45%	16.60%	19.48%	16.97%
SJRG				
Gas Purchases, net of asset management fees (Direct Charges)	\$51,220,433	\$135,899,713	\$98,230,478	\$152,950,889
SJIU				
Management Service Fee		\$2,348,778	\$4,034,592	\$5,791,555
Intercompany Payroll Allocations (Direct Charges)		\$172,936	\$399,063	\$474,530
Total		\$2,521,714	\$4,433,655	\$6,266,085
SJIU Direct Charge Percent		6.86%	9.00%	7.57%
SJG				
Intercompany Payroll Allocation (Direct Charges)	\$133,827	\$125,168		
Total Costs for Services Provided to Elizabethtown	\$58,312,613	\$151,220,166	\$121,888,299	\$182,068,623

C. RECOMMENDATIONS

III-1 SJI's Internal Audit Plan should include audits related to affiliate relations and transactions. (See Finding III-3)

The Internal Audit Department does not specifically address affiliate relations and transactions. The CAM has not been audited during the four years of this audit period subsequent to SJI's acquisition of ETG. Given the importance of compliance with state and federal affiliate regulations, the Internal Audit Plan should include audits designed to provide management with assurance of compliance with regulations concerning this area, including but not limited to the design and implementation of cost allocation methodologies. Audits of affiliate transactions should occur on a regular cycle to provide assurance that allocation methodologies result in appropriate and reasonable costs and factors and to assure adherence to the cost methodologies.

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III-2 Procedures should be developed to ensure complete and accurate reporting of affiliate transactions. (See Finding III-5)

In its annual reporting from 2019–2021, ETG did not correctly report its affiliate transactions resulting from its shared service agreement with SJIU. As a result, ETG's payments for management service fees were underreported by amounts ranging from \$2.3 million in 2019 to \$6.2 million in 2021.

IV. MARKET CONDITIONS

A. BACKGROUND

Market conditions are the characteristics and factors that influence a particular market at a particular point in time. Defining market conditions includes stating the number of competitors in a particular market, the intensity of competitiveness, the total market available, and the rate at which the market is growing.

The current regulation of transportation pipelines by the Federal Energy Regulatory Commission (FERC) has designated that interstate pipelines can serve only as transporters of natural gas. In the past, interstate pipelines functioned as both a transporter of natural gas as well as a seller of the commodity, both of which were rolled up into a bundled product and sold for one price. Similar regulation was in place at the state and Local Distribution Company (LDC) level. In the past, both interstate pipelines and LDCs had full and sole control over the supply of the natural gas commodity and the transportation in the market (i.e., a monopoly).

The unbundling process in residential markets began in the 1990s and allowed natural gas consumers/customers to choose an independent supplier or remain purchasing from their LDC. If a customer chooses to purchase their gas supplies from a different supplier, the LDC continues to deliver the same service to the customer's home or business, read the meter, perform safety checks, and respond to emergencies. The role of the LDC has been transformed into a service organization providing transportation services from their city gates to the ultimate consumer.

OPEN ACCESS

The process for a natural gas third party supplier (TPS) who wants to serve residential, commercial, and industrial customers within Elizabethtown Gas Company's (ETG) service territory begins with the TPS agreement to operate in compliance with the New Jersey Board of Public Utilities' (NJBPU) Standards. Under the Electric Discount and Energy Competition Act (EDECA), any organization that sells electric power or natural gas must be registered and approved by the NJBPU as an "energy supplier." In addition, any individual or organization that assists customers (including government agencies) in procuring energy supply must be registered with the NJBPU as an "energy agent" or "energy consultant." This means that contracting parties must ensure that individuals or organizations aiding the procurement must be a registered energy agent. Information on licensed energy agents and energy supplies is available on the NJBPU website. There are 78 natural gas TPSs registered with the state of New Jersey and approved by the NJBPU to serve the customers of any LDC in the state, including ETG.

When the licensing process with the NJBPU is complete, the TPS must begin the ETG utility eligibility process. ETG coordinates the application and initiation process of a new TPS serving customers on ETG's system. This process includes the application, submission, and execution of forms and agreements. None of these forms or agreements include fees charged to the TPS to participate.

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ETG's website indicates that 24 of the 78 TPSs registered with the NJBPU are approved and registered with ETG. For the convenience of end-use customers, ETG's website provides the legal name, address, telephone number, and email address for each of the 24 marketers. Once the TPS is approved, the TPS can enter into agreements with individual or groups of ETG customers and enroll those customers on the ETG utility system. A TPS is allowed to aggregate groups of similar type customers into a virtual pool for balancing and purchasing purposes. The end-use customer is not charged a fee to migrate from ETG or migrate from one TPS to another.

Based on the sizeable volume that industrial and commercial end-use customers burned, those end-use customers were permitted to choose an alternate supplier effective in the early 1990s. End-use customers utilizing a TPS (including brokers and marketers) either as agents or as suppliers of gas to ETG's system, must notify ETG in writing of the TPS that will be used in any particular month. The end-use customer must agree that ETG shall be entitled to rely on natural gas volumetric delivery information provided by the TPS on behalf of the end-use customer.

Lower volume end-use consumers (i.e., small commercial types) were authorized to choose an alternate supplier effective January 1, 1995, and residential customers were permitted to choose an alternate supplier effective June 1, 2001. This segment of customers are commonly referred to as CHOICE Program customers. ETG's Natural Gas Tariff refers to CHOICE Program customers as Essential Use Customers. As of December 31, 2022, 2.5% of all residential and small commercial customers eligible to participate in CHOICE were exercising their right to choose an alternative supplier. A minimum term of one year applies to CHOICE customers who migrate away from ETG. A TPS who enrolls Essential Use customers, as defined in the Company's Tariff, must demonstrate that they have firm transportation to deliver supply to ETG's city gate to serve that Essential Use customer.

Efficiency Programs and Solutions Offered by ETG

ETG offers loans to customers to fund demand-side management projects. Customers that take an Energy Efficiency loan are not obligated to stay with ETG, but they are obligated to pay their loan. Residentials and small commercials are included in the customer base that are offered the loans. In July 2021, ETG and SJG launched an On-Bill Repayment Program (OBRP). OBRP is an agreement that allows the utility to fund the majority (in some cases all) of the qualifying equipment or project costs and the customer repays the obligation over time. The fundamentals of the energy efficiency programs are as follows:

Commercial and Small Business Customers

- Engineered Solutions provides consultative services for identifying and undertaking large energy efficiency projects for municipalities, universities, schools, hospitals, and multi-family facilities.
- The Energy Management program provides an integrated approach to improving energy performance through maintenance, tune-up, retro-commissioning services, and energy management strategies.

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IV. Market Conditions

- The Prescriptive and Custom programs provide incentives for the installation of high-efficiency natural gas and/or electric equipment for existing commercial, industrial, and multi-family customers.
- The Direct Install program pays up to 80% of high-efficiency upgrade costs for small businesses.

Residential Customers

- A free in-home energy assessment with the Quick Home Energy Checkup (QHEC) Multifamily Program.
- Free home weatherization for income-qualified customers
- Appliance rebates
- HVAC and water heating rebates
- Zero percent APR financing for HVAC equipment through the On-Bill Repayment Program (OBRP)
- Whole-house energy-saving solutions through the Home Performance with ENERGY STAR Program
- Discounted energy-saving products through the online ETG Marketplace.

ETG Market Size and Competition

The Sales and Business Development marketing function develops sales leads for both natural gas conversion and energy efficiency programs in order to generate new business and have end-use customers operate more efficiently. Marketing also looks for opportunities for new construction and for on-main growth and for potential main extension opportunities for "prudent" expansion.

ETG currently delivers natural gas to more than 308,000 residential, commercial, and industrial customers. The mix of customers are made up of the following categories:

- There are 101 large industrial customers, all purchasing from TPSs.
The existing commercial and industrial customers qualify for the rate structure they are served from. As of 12/31/22, ETG had approximately 3,602 commercial and industrial customers that elected an alternate TPS versus a total of approximately 20,148 sales customers.
- Fuel switchable customers are in a separate classification because they are not 100% dependent on burning natural gas. These types generally stay with interruptible transportation service; particulars are as follows:
 - ◆ There are 44 customers that are served under an interruptible service classification.
 - ◆ The types of customers with interruptible service include manufacturing, process loads, asphalt, and pharmaceuticals.
 - ◆ Customers have the option of purchasing gas from ETG with notice before the month starts.
 - ◆ The majority of customers on a monthly basis purchase gas from their TPS.
 - ◆ ETG ships for interruptible transport customers on a best-efforts basis.

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- ◆ ETG Interruptible customers in 2022 burned within a range from zero to 159,508 million British Thermal Units (MMBTU) per month.
- ◆ The remaining 285,083 customers are residential and small commercial customers that are usually described as lower consumption customers. Pooling arrangements are available to marketers who wish to compete for this segment of business (i.e., CHOICE programs).

The following exhibit reflects the migration of customers participating in the CHOICE program by exercising the right to choose a TPS. In 2009, low volume commercial type customers had migrated to TPSs, and this gradually increased each year from 2,730 to 3,848 at the end of 2021. In 2009, 1,066 residential customers had exercised their right to choose supply from a TPS; by the end of 2021, this number had increased to 4,588 customers.

CHOICE Commercial and Residential Customer Migration to TPSs January 2009–Dec 2021

Year	Residential Customers	Commercial Customers
2009	1,066	2,730
2010	1,543	2,927
2011	2,751	3,074
2012	4,155	3,523
2013	5,518	4,181
2014	4,114	4,345
2015	3,418	4,511
2016	4,774	4,579
2017	3,988	4,577
2018	3,699	4,285
2019	4,728	4,224
2020	4,935	4,161
2021	4,588	3,848

As of December 2021, 25 states and the District of Columbia had residential natural gas customer CHOICE programs in place. Many factors affect customer participation, such as the customer's potential to save money and the terms of service. In addition to month-to-month variable rates or fixed rates for longer terms, some marketers offer introductory rates, rebates, budget plans, or capped rates. The potential to earn a profit on natural gas sales influences marketer participation.

The top five states with the highest shares of residential natural gas deliveries by LDCs for other suppliers and other suppliers' share of total natural gas deliveries by LDCs in these states in 2021 are as follows:

- **Georgia 87%:** The State of Georgia Public Service Commission (SGPSC) has Liberty Utilities, Georgia's only LDC that is fully regulated by the SGPSC. Liberty Utilities does not offer its residential customers the right to choose an alternate supplier. Atlanta Gas Light Company (AGLC) is the largest natural gas distributor

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in the Southeast. It provides delivery service to approximately 1.55 million residential customers. AGLC became a pipes-only gas company in 1998 when it elected to open its territory to competition. Ten certified natural gas marketers now serve customers on AGLC's system. The prices charged by marketers are market-based and not regulated by SGPSC, but rates for AGLC's distribution service are still regulated by the SGPSC. AGLC assigned its firm storage and transportation services to the ten certified natural gas marketers based on their load profile. The firm delivery storage and transportation assets follow the end-use customer as they move between the ten available suppliers.

SGPSC requires certification and, in order to be certified, companies were required to meet the SGPSC strict financial, managerial, technical capability, and structural guidelines.

AGLC is not a supplier of last resort. The mechanism provides that if any of the ten alternate marketing companies fails to deliver or goes out of business, SGPSC steps in to ensure that service remains uninterrupted and all customers receive their gas. The assumption is that the failed marketer has the firm assets to deliver, and those assets will be reassigned.

- **Ohio 84%:** Public Utilities Commission Ohio (PUCO) regulates the natural gas utilities in Ohio. PUCO does not regulate the rates that marketers charge, but PUCO does enforce various consumer protections and hear and resolve consumer complaints against marketers. Alternate suppliers must be certified, and certification requires suppliers to meet the PUCO's tough managerial, technical, and financial standards. Further, the PUCO may take certain actions against suppliers who violate customer protections and rules.

Ohio law requires the LDC to function as a “provider of last resort.” This means that if the alternate supplier goes out of business or is otherwise unable to meet its supply commitments, the utility will ensure electricity or natural gas service remains uninterrupted. The LDC will notify the CHOICE customer in writing that service is being provided through the LDC's standard service offer. At that time, the CHOICE customer may decide to enroll with a new supplier, if they so choose, or stay with the LDC's standard service. Firm transportation capacity returns with the customer to the LDC and may be transferred again if the customer chooses a new supplier.

- **Wyoming 31%:** Wyoming Public Utility Service Commission (WPUSC) regulates its natural gas utilities but does not regulate suppliers. Suppliers must meet certain requirements set forth in the specific LDC's Tariff and must be approved by the WPUSC. Customers are allowed a three-week selection period from April 1—21 of each year to select an alternate supplier. If a selection is not made, the customer will automatically roll over to their current supplier and price option. New construction customers will be provided with a selection packet by mail. If that customer does not select, they will default to the gas cost adjustment (GCA) rate offered by the LDC. Regardless of the selection, the LDC will ensure the safety and reliability of the gas supply needs of residential customers. The LDC is the supplier of last resort and ensures that customers are not without natural gas.

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- **New York 23%:** Natural Gas Utilities regulated by New York State Public Service Commission (NYSPSC) are listed on NYSPSC's website. Alternative suppliers are not listed as companies that are regulated. NYSPSC does not examine suppliers' managerial, technical, or financial standards. Suppliers must comply with specific requirements of the New York State General Business Law and the NYSPSC's Uniform Business Practices when marketing energy services to residential customers and/or through door-to-door sales and when enrolling customers. Alternate suppliers must provide residential customers with the Consumers Bill of Rights.

A customer may contact the NYSPSC to register a complaint about an alternate supplier. The NYSPSC has the authority to revoke a supplier's eligibility to do business if an excessive number of legitimate complaints against the TPS are received.

The NYSPSC will ensure that a safe and reliable delivery system exists through continued regulation of this portion of the industry. Furthermore, should an alternate supplier go out of business, the utility will make sure the customer continues to receive natural gas. If the customer decides to switch back to the utility or to a different supplier of choice, there will be no interruption in service.

- **Maryland 22%:** Maryland Public Service Commission (MDPSC) lists two gas regulated utilities and does not list alternate gas suppliers as regulated entities. MDPSC requires a retail natural gas supplier to have a MDPSC license number and must register with the appropriate LDC.

Baltimore Gas and Electric Company (BGE) states that in accordance with MDPSC regulations, they are the supplier of last resort. If an alternate marketer fails to deliver or goes out of business, the firm transportation asset returns to BGE and BGE ensures that the customer is not interrupted or without natural gas.

ADMINISTRATIVE ASSISTANCE PROVIDED BY ETG TO INDEPENDENT MARKETERS

Infrastructure for any entity that serves residential-sized markets must be prepared to gather a large number of transactions accurately. The correct volume must be delivered, invoices for those services must be generated, and payment must be collected. Not only must the entity have industry knowledge and experience, but it must also have the technology and electronic systems to house the data. This requires a significant cash investment. ETG provides the following services to all TPSs:

- ETG provides historic daily volumes for CHOICE customers to the appropriate TPS. Based on historic consumption, ETG instructs the TPS to deliver a particular daily volume for the upcoming month. ETG receives the gas from the TPS and redelivers to the residential customer the volumes provided by the TPS. Regardless of whether the customer burns more or less than the volume delivered by the TPS, ETG makes the customer whole. ETG estimates the future month's daily volume for CHOICE customers and provides that daily volume requirement to the TPS. Actual volumes burned in the past month are now known. The

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estimated volume for the upcoming month includes a true up of the preceding month.

- Under New Jersey's energy deregulation law, the cost of supply at the city gate portion of the natural gas bill is separate from the cost to deliver the gas to the customer. ETG provides the TPS the option of including the TPS charges on the ETG invoice, thus providing one invoice to the customer as a consolidated invoice. 43% of all TPSs use consolidated billing. ETG reimburses the TPS when the invoice is paid. The invoicing process costs \$0.75 per invoice. There is no impact on the safety or reliability of service for CHOICE customers who purchase natural gas supplies from a company other than ETG.
- ETG offers to purchase the receivables (POR) at 100% of the face value of the invoice so that the TPS is guaranteed payment and ETG assumes the risk of non-payment.

Competition Based on Price.

TPSs should be able to beat the delivered city-gate price offered by ETG for the 13 years reviewed in this audit.

When the utility remains in the merchant function, the Gas Cost Recovery (GCR) rate serves as the "price to beat" and is a critical factor influencing customer choice. However, the LDCs methodology for determining the GCR is fundamentally different from the marketer's approach to setting a competitive price. An annual GCR filing by a LDC creates the illusion that the customer is receiving a stable, fixed rate from the utility. In reality, the customer is receiving a variable rate that is subject to later (upward or downward) adjustment, sometimes long after the period when consumption occurred, to keep the utility whole for its actual costs.

By contrast, marketers offer a true fixed price that is not subject to later upward adjustment. A 12-month fixed price is a principal product offered by marketers and is a mainstay product of all marketers in the CHOICE Programs. Marketers offer other rate mechanisms (i.e., month-to-month market rates and three-month market rates). As with any company trying to compete in a new retail market, especially one comprised of residential customers, marketers have to undertake large investments up-front for mass marketing, name recognition, and the hiring of skillful personnel. However, with consolidated billing, ETG provides crucial administrative support to new entrants attempting to gain market share within ETG's footprint.

ETG has additional expenses not usually experienced by a TPS (i.e., Storage Service, No-Notice Service and Peaking Services that are added to ETG's expenses). Most TPSs manage well with Firm Transportation Service (FTS) for the winter months only, without the overhead of Firm Reservation Charges during summer months. ETG informs a TPS of the exact daily volumes required on a daily basis, and, therefore, the TPS can purchase the supply at first-of-the-month index pricing and put a financial hedge in place. See Chapter II, Procurement and Purchasing, for a discussion of ETG's strategy of purchasing a significant amount of system supplies in the day market. Market first-of-the-month commodity prices were greatly exceeded, and other more attractive purchasing strategies were not considered. A TPS should be able to easily beat ETG's delivered city-gate price.

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NATURAL GAS CAPACITY TRANSPORTATION AND RELATED ISSUES:

As a result of the fact that environmental regulators in New Jersey and New York have rejected applications for permits needed to construct new interstate pipeline capacity, two of the largest gas distribution companies in downstate New York—The Brooklyn Union Gas Company, DBA National Grid NY, and KeySpan Gas East Corporation, DBA National Grid (collectively "National Grid"), have declared moratoria on processing new customer applications in parts of their service territories. Notwithstanding these utilities' determination that they lacked sufficient supplies to service new load, the New York State Public Service Commission recently directed National Grid to show cause why it could not connect over 1,100 new customers. As a result, National Grid agreed to begin connecting these customers. The need to secure supplies to serve these additional customers potentially will create further demand for the available peaking supplies in the Northeast. This additional demand could make it more difficult for ETG to purchase peaking supplies in future winters.

A total of 4.75 billion cubic feet per day (Bcf/d) in cumulative natural gas takeaway capacity out of the Marcellus and Utica shale formations has been cancelled since 2017, much of which was intended for delivery to Northeast states.

The most recent of those project cancellations was the 1.11 Bcf/d Penn East Pipeline, which fought a barrage of legal and regulatory challenges throughout its construction that caused project costs to soar. It followed the cancellation of three other projects – Constitution, Diamond East, and Atlantic Coast – that would have added 3.65 Bcf/d of cumulative capacity.

Another 2.4 Bcf/d of cumulative capacity out of the Marcellus has been delayed or put on hold, including the Northeast Supply Enhancement (NESE), Northern Access, and Mountain Valley projects.

The latest forecast projects that downstate New York design day gas demand will increase approximately 1.3% per annum, from 2,747 million decatherms (MMDths)/day in winter 2021/2022 to 3,230 MMDths/day in the winter of 2034/2035. Growth in the baseline demand forecast is significantly less than the average growth rate experienced over the historical period, which was 2.2% per year from winter 2007/2008 to winter 2020/2021.

INVESTIGATION BY NJBPU

The NJBPU directed its Staff to investigate, among other things, whether there is sufficient upstream pipeline capacity secured to meet New Jersey customer needs over the next five years and to determine if TPSs are saving customers money for their natural gas supply. A summary of the response presented is as follows:

ETG responded and stated that ETG does have sufficient interstate pipeline firm capacity to serve the current load assuming no changes in current market conditions. The cost of peaking services multiplied over the past five years and is difficult to locate. ETG does depend on some level of peaking services on design days.

ETG responded and stated that within the next few years ETG may require incremental pipeline capacity to support growing demand on its system. Given the time it takes to

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complete pipeline projects, ETG urged the NJBPU to actively support the construction and operation of incremental upstream pipeline capacity that has been or will be contracted for by the State's Gas Distribution Companies (GDC). ETG further urged the NJBPU to preserve existing upstream capacity for the benefit of all New Jersey customers. ETG could not provide information regarding TPS's ability to save customers money.

ETG's single highest burner tip send-out daily volume, over the thirteen year period reviewed in this audit, for customers purchasing gas directly from ETG is 369,290 decatherms (Dths). ETG has firm transportation (FT) capacity of 468,217 Dths plus LNG capabilities. Clearly, ETG has sufficient capacity to serve ETG's system load with room for flexibilities.

ETG is the supplier of last resort. This obligation means that if a TPS fails to deliver, ETG will act as a safety net providing uninterrupted service. The customer is assured that whether they choose a TPS or not, they will continue to receive the same reliable service that the customer always received from ETG in the past.

In a competitive market, TPS failure is a possibility that can never be ruled out. An LDC is the entity who is best suited to be the supplier of last resort because they own the original assets put in place to serve one hundred percent of customers on their system. It is recognized that an individual TPS may exit the marketplace leaving stranded customers to be served by ETG. However, ETG must be prepared for the unlikely event that all TPSs may exit the marketplace. ETG's design peak day load forecast prepares for an extreme weather event and the possible catastrophic failure of its on-system LNG peaking plant. To this end, ETG's load forecast advised that 135,045 Dths be purchased as peaking services to meet the needs of its firm sales customers.

NJBPU continued its probe by hiring a consultant to independently examine the current and future natural gas capacity outlook for New Jersey. NJBPU requested information from New Jersey GDCs to address certain issues related to design day and non-pipeline alternatives by providing answers to certain questions set forth below:

- Should New Jersey be moving towards common design day reliability criteria? Are there reasons for allowing different GDCs to utilize different design day reliability criteria? How does the selection of higher or lower design day reliability criteria affect the issue of whether, in ETG's view, there are sufficient gas resources in New Jersey to maintain system reliability? Please discuss the costs and the benefits associated with using a 1-in-90-year design basis day versus a 1-in-30-year design basis day, with a focus on impacts to system reliability, customer affordability, and any other tradeoffs.

The ETG response stated that there are differences between each GDC in terms of their respective geographic locations and mix of customers. A one-size fits all approach that disregards these differences would translate into compromised reliability across the GDCs. Gas utilities cannot conduct rolling blackouts or brownouts if supplies are short or demand surges. If the gas system cannot meet demand, there is a risk of a flame-out, which can be dangerous and would require re-lighting every affected customer's pilot light individually by utility personnel, which could take three or more days. Uniform design days

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are not appropriate. Ensuring safe and reliable supply cannot be obtained through a simple, across-the-board cost benefit analysis.

The NJBPU continued to probe non-pipe alternatives that would reduce demand for natural gas as follows:

- How have voluntary peak management demand programs been structured in other jurisdictions or related industries?
 - ◆ ETG was not able to respond to demand programs offered by other jurisdictions.
- Consider a program in which smart thermostats controlled directly by the GDC during potential supply disruption were provided to all firm heating customers at no cost to the customer, and the capital cost to the GDC could be included in rate base. Please describe the benefits and consequences of such a program.
 - ◆ ETG recognized the many benefits of smart thermostats to facilitate lower costs for customers and enhance utility response to outages. Smart technologies across the State could provide many benefits to GDCs and their customers, including improved capacity planning and distribution management, more accurate billing, reduced lost and unaccounted for gas, increased energy efficiency and peak demand reduction, real time monitoring of potential abnormal operating conditions, improved leak detection, and enhanced customer experience.
- What would be the potential uptake and impact of a “time of use” (TOU) program? For example, if a TOU or other peak demand-management program were offered to customers based on smart thermostats, would an opt-out program have a bigger impact than an opt-in program? If so, what would be the magnitude? Would it be more effective to offer an option to customers to opt in or opt out based on a level of emergency (e.g., yellow, orange, or red) where there would be different price incentives based on the level of the emergency?
 - ◆ ETG did not have sufficient information concerning TOU programs to respond to this inquiry but is willing to explore the topic.
- What are the limits to the efficacy of peak demand reduction programs? What are the pros and cons of relying on government emergency orders to cope with a potential emergency (for example, orders shutting down businesses), rather than having peak demand programs in place?
 - ◆ ETG’s response stated that it requires customer participation and to gain participation the customer must be guided and educated on the issues. Consumer awareness through customer messaging that provides insight into the benefits and savings to the customer should drive participation. If consumers understand the issue, the more prone they are to participate in the solution.
- Are there other measures the NJBPU should consider to ensure the reliability of the natural gas system?
 - ◆ ETG’s response addressed recent weather events and cyber issues in other states that educated GDCs. It is critical to have adequate levels of redundancy,

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which, beyond capacity, include a diverse mix of supply and local production including LNG and renewable natural gas (or RNG).

The NJBPU followed with a third probe based on the London Economics International LLC Report. The LEI Report identified a total of eight non-pipeline alternatives (NPA) that New Jersey as a state could explore. These included demand-side NPAs and supply-side NPAs. NJBPU is seeking comments on these potential NPAs, including their viability and potential implementation.

ETG's response explained their support for well-designed non-pipeline solutions that are supported by smart technology. ETG cautioned that smart technology cannot and should not serve as a full substitute for pipeline capacity. Energy efficiency and demand response programs, including the addition of smart meters and Advanced Metering Infrastructure (AMI) can help offset the need for incremental pipeline capacity when the technology is fully implemented. Equally as important are supply side solutions like an expansion of current on-system peaking services through liquified natural gas (LNG) projects and the addition of RNG.

ETG expressed concern with regard to the LEI report and felt that while the report had many solid recommendations, those recommendations alone would not solve the issues at hand. ETG stressed that it is critical that new, incremental pipeline capacity projects targeting New Jersey growth are supported and encouraged to ensure that New Jersey continues to meet forecasted demand in a manner that allows New Jersey to provide safe and reliable service to all customers without interruption.

In May 2018, Governor Murphy signed into law the Clean Energy Act, L. 2018, c. 17 (CEA), which set forth ambitious goals to advance Energy Efficiency (EE) in the state. In the June 2020 Order, the NJBPU directed New Jersey's electric and gas companies to file petitions by September 25, 2020, for approval of three-year programs by the NJBPU by May 1, 2021, to be implemented beginning July 1, 2021. Each natural gas public utility must achieve annual natural gas usage reductions of 0.75%, relative to the average annual usage in its service territory, within five years of implementation of its gas energy efficiency program.

SJI has set forth benchmarks to comply with the NJBPU order. ETG will ensure that it safely, reliably, and affordably delivers low carbon energy to the families and businesses that it serves across the State. Under ETG's plan, capital expenditures will include the installation of solar panels on SJI facilities, the replacement of aging transmission pipes to reduce "fugitive" emissions, upgrading leak detection technologies, and completing the conversion of service vehicles to low carbon-density fuels such as compressed natural gas (CNG). These investments include current energy efficiency programs, demand-side management, new tools to reduce energy consumption, and investing in several clean and renewable energy technologies such as RNG and green hydrogen.

BARRIERS TO SUCCESSFUL COMPETITION

Many of NJ's gas utilities, including SJI on behalf of SJG and ETG, participated in discussions with the Retail Energy Supply Association (RESA) arranged by the NJBPU. RESA filed a petition with the NJBPU outlining a number of capacity issues and proposed changes to New Jersey's current retail gas market structure. RESA, through its petition

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and the various comments and addendums to the petition, speaks to the need for LDCs in the state of New Jersey to release firm capacity to TPSs in support of the CHOICE programs. The theory is that such firm capacity, when originally contracted for, included those small volume CHOICE program customers who have now migrated to TPSs.

The NJBPU found that RESA did not demonstrate that the proposed changes would benefit New Jersey's gas customers and closed the docket.

ETG does not assign to the TPS the firm transportation required to serve the residential load. Transportation is the vehicle that moves the gas from the receipt point in the supply areas to ETG's city gate. The method of transportation must be the most dependable and secure that is available in the marketplace (i.e., non-interruptible transportation, referred to as firm).

Prior to 1992, interstate pipelines operated as merchants and acquired all gas required by LDCs and then sold that gas to each LDC for resale to serve consumers within the LDC's footprint. The sale by interstate pipelines to the LDC required the LDC to own the transportation capacity on its own system. FERC Order 636, effective in 1992, required interstate pipelines to unbundle (i.e., separate their sales services from their transportation services). The order further required the interstate pipeline to offer its transportation assets to the customers (LDCs) who used it prior to Order 636. At this point, LDCs determined the volumes it required to serve its consumers and contracted for transportation and storage assets previously owned by pipelines in its own name. The LDC then owned 100% of transportation and storage to serve all customers within its footprint.

The unbundling process continued at the LDC level but, unlike the FERC unbundling process, the firm transportation and/or storage owned by ETG, acting as an LDC, did not follow the end-use customer. ETG was not obligated to assign the firm transportation asset to the end-use customer. Therefore, ETG chooses not to assign firm transportation or storage capacity to a TPS to serve industrial, commercial, or residential customers.

All LDCs that have been reviewed by SAGE transfer their firm transportation capacity to the CHOICE Programs and, in some instances, firm storage has also been assigned. The global attitude is that firm assets were acquired to support a certain portfolio of customers and as those portfolio customers migrate away from the LDC, the LDC is left with assets that it no longer needs. During summer periods this leaves the LDC paying demand charges that are passed along to existing customers that did not migrate to independent marketers.

ETG'S MANAGEMENT OF EXCESS TRANSPORTATION ASSETS

ETG contracts for sufficient storage and transportation assets to support the worst possible day; such conditions are not experienced regularly. Therefore, more average, and slightly colder-than-average conditions are normally experienced leaving ETG with unused firm assets the majority of days in a year.

Methods Available to Resell Excess Transportation and Storage Capacity

LDCs' utilizes three programs to resell its excess capacity to other parties on a limited term basis as follows:

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- Capacity Release
- Asset Management Agreements (AMA)
- Off-System Sales

Capacity Release

Capacity release is the act of reselling firm pipeline rights to a new entity. The market where capacity is released is sometimes called the secondary market (as opposed to the primary market of contracting directly with the pipeline company). The process begins with capacity release programs that allow a customer that holds firm transportation or storage capacity to resell its capacity to another party on either a temporary or permanent basis. FERC mandated interstate pipelines to include in their tariffs a mechanism for firm shippers to release firm capacity by seeking bidders through the pipeline's Electronic Bulletin Board (EBB) systems. Capacity can be released in whole or in part, on a permanent or short-term basis, and with or without restriction on the terms or conditions of the release. For periods greater than one year, the rate charged to the replacement shipper for a release of capacity may not exceed the applicable maximum rate paid by the releasor but can be a lesser rate if the owner is agreeable. Releases less than one year are market driven and can have a rate greater than the maximum tariff rate. The original concept was that available capacity be available through pipeline EBBs for all public parties to bid for. Once a release of capacity is completed on the pipeline's EBB, the pipeline reduces the original firm contract by the volumes released and generates a new contract. The pipeline then invoices both the original holder for a reduced volume and the new owner for the newly acquired capacity.

Asset Management Agreements (AMA)

The fundamental element of an AMA is FT services and/or firm storage (FS) service and the various flexibilities afforded by the FERC for these services.

FERC issued Order No. 712, 712 (a) and 712 (b) that revised regulations governing interstate natural gas pipelines to reflect changes in the market for short-term transportation services on pipelines and to improve the efficiency of FERC's capacity release program. The order permitted market-based pricing for short term capacity releases and facilitated AMAs by relaxing FERC's prohibition on its bidding requirements for certain capacity releases. The original FERC Order 712 required that all shippers have title to both the supply and the transportation (i.e., tying supply and transportation capacity together). FERC waived its prohibition on tying and its bidding requirements for AMA capacity releases so long as the AMA provides for a commodity purchase/delivery obligation from the replacement shipper during the five winter months.

FERC determined that there must be a significant delivery or purchase obligation on the replacement shipper to deliver gas to, or purchase gas from, the releasing shipper to distinguish AMAs from standard capacity releases. Accordingly, FERC required that the release contain a condition that the "releasing shipper may call on the replacement shipper to deliver to, or purchase, from, the releasing shipper a volume of gas up to 100% of the daily contract demand of the released transportation or storage capacity." That obligation must apply for the greater of five months or five/twelfths of the term of the release.

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The AMA vehicle can be used in two ways (1) FERC Order 712 (a) and 712 (b) allows a capacity holder to enter into AMAs for portions or all of its excess assets and (2) the order allows for asset management (i.e., a contractual relationship in which an asset manager agrees to manage the LDC's gas supply and delivery arrangements, including its pipeline capacity). The asset manager manages and monitors a company's assets. The LDC assigns its capacity to a third party for the purpose of the third-party providing management and other services as provided for in the AMA terms and conditions. The asset manager can release capacity or use the capacity to make sales to third parties, effectively allowing the asset manager to optimize pipeline capacity and thereby make more efficient use of natural gas transportation assets on behalf of the client.

OFF-System Sales

Off-System Sales means all sales of natural gas to third parties other than system load requirements for ETG's customers within its territory. To have excess product, ETG will have first provided the full load requirements to its own wholesale and retail customers. ETG can sell directly to wholesale or retail customers outside the utility's service territory and to TPSs who are serving within ETG's footprint.

ETG buys its commodity on a day-to-day basis and, therefore, did not have excess commodity; however, ETG did have excess transportation. ETG purchased additional commodity in the marketplace for the purpose of attaching the commodity to its excess transportation and selling a bundled product. Selling the bundled product at a delivery point allows the owner of the firm capacity to obtain market rates.

ETG's Strategy and Plan to Manage Excess Capacity 2009–2021

For the entire period of this 13-year audit ETG chose their affiliated wholesale marketing company experienced in trading and managing natural gas transportation and natural gas storage assets as their asset manager. ETG assigned its transportation and storage capacity to a third party for the purpose of the third-party providing management and guidance services as provided for in the AMA terms and conditions. The asset manager had the right to release capacity or use the capacity to make sales to third parties, effectively allowing the asset manager to optimize pipeline capacity and thereby make more efficient use of natural gas transportation assets on behalf of the client.

The general fundamentals of the Asset Management regulation are as follows:

- The asset manager was and is obligated to provide natural gas supply that meets ETG's demand requirements.
- The asset manager was and is obligated to optimize ETG's portfolio of natural gas transportation and storage contracts.
- Stipulated in the ETG AMAs, the asset manager paid an annual fixed fee and shared net margins generated through portfolio optimization to ETG.

The various AMAs together with Gas Supply Agreements for the purchase and sale of natural gas and the identification of the asset managers are described fully in Sections C, and E of Chapter II, Procurement and Purchasing.

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GENERAL DIVISION OF LABOR BETWEEN THE ASSET MANAGER AND ETG:

The language in the various AMA agreements is that the asset manager is responsible for all tasks upstream of ETG's city gate.

Asset Manager Responsibilities

The asset manager's responsibilities include but are not limited to the following:

- Supply firm gas consistent with ETG instructions and schedule volumes on pipeline systems to be delivered to ETG's city gate.
- Find markets for idle capacity resources. ETG considers the asset manager's plan but ultimately the asset manager shall determine the optimum daily deployment of such excess resources.
- Manage ETG's storage accounts and trades such inventory, as necessary.
- Monitor and balance supplies delivered to the city gate (i.e., while interstate pipelines are expected to deliver certain volumes, actual measurement may reflect minor differences).
- Invoice ETG for all costs (i.e., demand charges and ETG's requested supplies are billed by the asset manager to ETG).

ETG Responsibilities

ETG is responsible for all other administrative and accounting functions associated with the gas supply once it is delivered at the city gate. Important functions retained by ETG are as follows:

- Forecast demand for both long- and short-term loads.
- Determine logical use of transportation and storage assets for the use of ETG's system supply. ETG instructs the asset manager on the receipt points to be used in accordance with the firm transportation and storage assets. In this way ETG determines the logical use of ETG owned transportation assets and ensures that supply for ETG's account is purchased at receipt points. ETG is not purchasing delivered city gate volumes.
- Determine use of peaking resources.
- Purchase and manage all financial products (i.e., futures and price swaps).

B. FINDINGS

IV-1 ETG's excess transportation was approximately 58% of ETG's total annual portfolio effective January 2013 through December 2021.

Transportation and storage capacity is in higher demand during the five-month winter period than during the other seven months. ETG, like all LDCs, is obligated to have sufficient assets to serve its entire load; therefore, there will always be excess capacity for the majority of days of each year.

The purpose of the following exhibit is to show gross capacity transportation contracted for by ETG and to show how much of that capacity transportation is unused or excess.

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The annual firm transportation capacity for each year for the entire thirteen years of this audit is reflected. Annual firm transportation is the vehicle that moves the gas commodity from the receipt of the gas commodity into the interstate pipeline and delivered to ETG on a guaranteed basis. Annual throughput is the amount of gas commodity consumed or burned by all customers within ETG's footprint including those customers served by alternate suppliers. Annual ETG system supply represents gas commodity burned by customers served directly by ETG and does not include annual volumes burned by customers who migrated away from ETG and chose an alternate supplier. Excess firm transportation is the difference between gross annual firm transportation contracted for by ETG and the gross volumes burned by ETG's system supply customers.

The cumulative of all thirteen years represented in this audit for firm delivered transportation is 938,163,088 Dths. The cumulative of all thirteen years for volumes burned by customers served by ETG is 394,728,022 Dths. The difference between the two columns is excess firm transportation and totals 543,435,066 Dths.

ETG Annual Excess Firm Assets 2009–2021 (Dths)

Year	Annual Firm Transportation	Annual Throughput	Annual ETG System Supply	Annual Excess Firm Transportation
2009	66,822,380	49,570,907	29,911,874	36,910,506
2010	67,588,880	48,323,804	29,008,697	38,580,183
2011	68,641,803	48,175,398	28,856,929	39,784,874
2012	68,641,803	44,627,210	26,065,225	42,576,578
2013	68,641,803	50,279,756	30,385,939	38,255,864
2014	68,641,803	53,236,152	32,401,015	36,240,788
2015	68,641,803	50,843,231	30,678,661	37,963,142
2016	68,641,803	48,887,368	29,941,002	38,700,801
2017	69,715,098	49,454,902	30,838,372	38,876,726
2018	75,063,978	53,600,302	33,079,149	41,984,829
2019	75,093,978	52,650,914	32,887,948	42,206,030
2020	86,013,978	48,586,955	29,460,298	56,553,680
2021	86,013,978	50,757,906	31,212,913	54,801,065
Totals	938,163,088	648,994,805	394,728,022	543,435,066

The purpose of the next exhibit is to demonstrate the expense associated with gross capacity transportation of 938,163,088 Dths and demonstrate the portion of that gross expense that is attributed to the excess capacity transportation of 543,435,066 Dths.

Over the thirteen years of this audit, effective January 2009 and continuing through 2021, ETG had a gross volume of 938,163,088 Dths at a cost of \$697,862,542.91 less supplier refunds and third-party bundled peaking demand costs. The gross cost was provided through pipeline invoices and was manually calculated. The origin of excess volumes is provided in the previous Exhibit. A mathematical calculation provided the percentage ratio between the gross volumes and the excess volumes. The percentage was applied to the gross \$697,862,542.91 and resulted in \$404,734,126.23 attributed to excess ETG volume.

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ETG Costs Associated with Transportation and Storage Volumes and with Excess Assets (2009–2021)

Year	Annual Transportation Delivered Volume (Dths) (A)	Adjusted Gross Annual Firm Assets Cost (B)	Annual Excess Volume (Dths) (C)	Excess Percentage of Firm Assets (C/A)	Annual Cost Associated with Excess Volumes (D x B)
2009	66,822,380	\$46,918,557.87	36,910,506	55.24%	\$25,916,283.13
2010	67,588,880	\$51,822,179.80	38,580,183	57.08%	\$29,580,445.48
2011	68,641,803	\$51,699,378.00	39,784,874	57.96%	\$29,965,023.29
2012	68,641,803	\$50,984,619.73	42,576,578	62.03%	\$31,624,324.30
2013	68,641,803	\$52,080,162.14	38,255,864	55.73%	\$29,025,630.34
2014	68,641,803	\$52,409,247.98	36,240,788	52.80%	\$27,670,491.77
2015	68,641,803	\$50,513,861.17	37,963,142	55.31%	\$27,937,274.38
2016	68,641,803	\$50,615,237.75	38,700,801	56.38%	\$28,537,278.70
2017	69,715,098	\$47,822,570.62	38,876,726	55.77%	\$26,668,326.20
2018	75,063,978	\$46,471,250.62	41,984,829	55.93%	\$25,992,327.65
2019	75,093,978	\$61,860,746.00	42,206,030	56.20%	\$34,768,387.17
2020	86,013,978	\$61,395,560.66	56,553,680	65.75%	\$40,367,216.72
2021	86,013,978	\$73,269,170.57	54,801,065	63.71%	\$46,681,117.10
Totals	938,163,088	\$697,862,542.91	543,435,066	57.93%	\$404,734,126.23

IV-2 AMA transactions conformed to required FERC Orders.

The FERC Order 712 (a) and FERC Order (b) permitted market-based pricing for the release of capacity and facilitated AMAs as an alternative to the general capacity release mechanism by relaxing the FERC's prohibition on its bidding requirements for certain capacity releases. Transportation is transferred to an outside entity for a particular sum of money. FERC required that the replacement shipper deliver to the releasing shipper a volume of gas up to 100% of the daily contract demand of the released transportation capacity if called on. Under the AMA FERC Orders 712 (a) and FERC Order 712 (b) the entire portfolio of transportation and storage assets can be assigned to an outside entity who performs the role of an asset or fuel manager. ETG provided AMAs for a duration of several years per contract and exercised the "Call Period" for all twelve months. Because of the ability to call on supply delivered to their city gate, ETG did not fall short when severe weather occurred during the release winter periods.

Under the terms of the AMA, added value (margin) is derived from three general activities: (1) optimization of sales to ETG, (2) third party sales, and (3) storage arbitrage. Profits realized from the excess transportation and storage capacity are shared between ETG and its asset manager.

- ETG instructed the asset manager to deliver a certain volume using ETG's assets that were assigned to the asset manager and provided the path or route of delivery that the transport should take. The asset manager can use that particular path to transport the gas or use alternative methods that might yield less cost. The value created that is associated with this activity is reported as "Sales to ETG" and savings generated because of rerouting is subject to sharing.

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- To the extent that the utility did not call on all of its assets to meet the needs of its customers, the asset manager makes sales to others using the available capacity. The utilization of these available assets to make off-system sales as well as firm capacity temporarily released to other parties also creates sharable value. The value created that is associated with this activity is reported as “Third Party Sales.”
- Storage arbitrage involves the creation of margin by means of capturing the value between the current price of gas and incremental cost of storing gas compared to the future price of gas. The value created that is associated with these activities is reported as “storage arbitrage.”

The following exhibit reflects optimization of the excess assets. ETG's share is [redacted] to the asset manager for the thirteen years effective January 2009 through December 2021. Through profit sharing with its asset manager, ETG recovered [redacted] associated with excess firm transportation.

Optimization of Excess Assets Through Profit Sharing (2009–2021)

Year	Excess Assets Volume (Dths)	Excess Assets Cost	[Redacted]	Redacted
2009	36,910,506	\$25,916,283.13	[Redacted]	[Redacted]
2010	38,580,183	\$29,580,445.48	[Redacted]	[Redacted]
2011	39,784,874	\$29,965,023.29	[Redacted]	[Redacted]
2012	42,576,578	\$31,624,324.30	[Redacted]	[Redacted]
2013	38,255,864	\$29,025,630.34	[Redacted]	[Redacted]
2014	36,240,788	\$27,670,491.77	[Redacted]	[Redacted]
2015	37,963,142	\$27,937,274.38	[Redacted]	[Redacted]
2016	38,700,801	\$28,537,278.70	[Redacted]	[Redacted]
2017	38,876,726	\$26,668,326.20	[Redacted]	[Redacted]
2018	41,984,829	\$25,992,327.65	[Redacted]	[Redacted]
2019	42,206,030	\$34,768,387.17	[Redacted]	[Redacted]
2020	56,553,680	\$40,367,216.72	[Redacted]	[Redacted]
2021	54,801,065	\$46,681,117.10	[Redacted]	[Redacted]
Totals	543,435,066	\$404,734,126.23	[Redacted]	[Redacted]

IV-3 It has not been determined if the excess capacity was used to make sales within the state of New Jersey.

The asset manager stated that they would make sales to others using the available excess capacity. Commodity must be purchased for the purpose of attaching the commodity to excess transportation and selling a bundled product. Selling the bundled product at a delivery point allows the custodian of the firm capacity to obtain market rates. Delivery point sales provide greater returns because the AMA structure does not have a cap on rates. Market rates are permitted within the AMA structure. The description “off-system” used by the asset manager infers that sales were not within ETG's footprint and may or may not be within the state of New Jersey. ETG's firm transportation capacity has flexible delivery point options (i.e., can deliver to Baltimore Gas and Electric, Washington Gas Light, and others). The asset manager had the option of releasing capacity on EBBs; it is not known if any capacity was released that would benefit others in the state of New

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Jersey. It is known that storage arbitrage opportunities from the flexibilities of storage did not account for more than twenty five percent of the total profits.

IV-4 ETG has sufficient interstate pipeline firm capacity to serve the current load purchasing directly from ETG assuming no changes in current market conditions.

RESA, through its petition and the various comments and addendums to the petition, speaks to the need for LDCs in the state of New Jersey to release capacity to TPSs in support of the CHOICE programs. The thrust of the petition was that firm transportation was not available, and, therefore, it was difficult to develop the CHOICE programs in New Jersey. RESA stated that the various GDCs had under contract all available firm transportation and firm storage capacity. Based on these assertions TPSs are dependent on the secondary market which leaves little room for growth.

IV-5 ETG has several firm transportation interstate pipeline contracts with evergreen provisions.

As a general concept, an evergreen clause provides that the term of an agreement will automatically renew for some period of time unless one party provides the other party with notice, before the end of the current term, that it does not wish to renew the term of the agreement. Pipelines are in the business of selling their pipeline capacity because that is the only service they provide. However, if a pipeline experiences major pipeline difficulties and is required to take a portion of its pipeline out of service for repair, the pipeline can delay renewal of evergreen contracts. It is not anticipated that a pipeline would permit that situation to extend over winter periods. It is expected that evergreen contracts will be renewed but it is not a certainty.

IV-6 ETG, as the supplier of last resort for both current and historic firm transportation customers, depends on some level of peaking services on design days.

All LDCs depend on some level of peaking services. The cost of peaking services increased considerably over the past five years, and it is now difficult to acquire. The need to secure supplies to serve additional customers (the NYPSC ordered National Grid to begin connecting 1,100 new customers) will potentially create further demand for the available peaking supplies in the Northeast. This additional demand could make it more difficult for ETG and others within the state of New Jersey to purchase additional peaking supplies in future winters. Further growth is expected in southern New York over the next five years.

IV-7 Natural gas takeaway capacity intended for delivery to Northeast states has been cancelled.

Environmental regulators in New Jersey and New York rejected applications for permits needed to construct new interstate pipeline capacity. This resulted in two of the largest gas distribution companies in southern New York rejecting the hook up of new customers. Both LDCs in New York were ordered to hook up those customers and provide service. It is expected that demand will continue to grow in southern New

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IV. Market Conditions

York, and, since sufficient capacity was not available for the current demand, additional demand will cause additional stress.

IV-8 ETG may require additional capacity to support growth.

SJI has set forth benchmarks to achieve a 70% carbon reduction of operational emissions and consumption by the year 2030 and 100% reduction by 2040. Results achieved by Clean Energy may not be achieved in time to provide for growth potential. ETG may have capacity exposure during the seven-year period effective 2023 and may require incremental pipeline capacity to support growing demand on its system.

C. RECOMMENDATIONS

IV-1 ETG should attempt to convert its firm interstate pipeline transportation contracts with evergreen provisions to a fixed term through the year 2030. (See Findings IV-5 and IV-6)

Firm transportation capacity is crucial and fundamental to reliability for the future. While evergreen provisions are popular and commonplace in the industry, there is some risk associated. In the current market environment, an LDC cannot afford such risk. ETG should negotiate with the interstate pipelines to ensure deliverability or renewal of evergreen contracts through 2030.

IV-2 All steps that could lead to the permitting and construction of incremental interstate pipeline capacity should be implemented. (See Findings IV-6, IV-7, and IV-8)

The NJBPU has the results of their investigation and is now well informed of the positions set forth by all GDCs in their territories. Upstream capacity is contracted for in advance of construction by those who demand the incremental capacity, in this case New Jersey GDCs. Intervention with FERC to remove obstacles that would delay this process and publicly and openly showing support in obtaining permits may be necessary. Given the time it takes to complete pipeline projects, the process should begin immediately. All resources should be activated to support the development of incremental capacity that will be needed to serve further growth in demand.

IV-3 Take all measures possible to reinstate projects denied out of the Marcellus and Utica Shale formations that were cancelled. (See Findings IV-6, IV-7, and IV-8)

Major interstate pipelines begin in the Gulf and travel as far north as Boston. Those pipelines deliver to many points along the way. There is a critical need for New Jersey GDCs, and other LDCs in the path of the interstate pipelines routes like Baltimore Gas and Electric and Washington Gas Light, to have sufficient peaking services available on design days. Available Peaking Services can be delivered to all LDCs that are in the path of the interstate pipeline.

The situation is critical and cannot be described as minor. The referenced cancelled projects were anticipated to serve northern New Jersey and southern New York. Those projects would provide important capacity because easing the severity of the New York situation eases New Jersey's capacity issues.

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V. RECOMMENDATIONS AND REVIEW OF PREVIOUS AUDIT

A. VOLUME I. AFFILIATE TRANSACTIONS REVIEW

Recommendation	Continued Viability (Y/N)	Comment
I. Procurement and Purchasing		
1. Bring arm's-length bargaining to gas-supply relationships. <i>(Conclusion 1)</i> It is clear that renewal of the asset-management relationship with the affiliate brought better terms than the one that had been in place before. Even better terms may be available through an arm's-length competition, however. Liberty strongly recommends that this possibility be tested. Beyond that relationship, it appears to Liberty that other aspects of AGLR's approach to the gas supply function involve some unacceptable conflicts of interest. In this report, Liberty presents some specific recommendations for changes.	Y	The AMA specifies duties and responsibilities for both ETG and the asset manager. All gas purchases are as a result of ETG's instruction. This includes what index is to be used to make the purchase. ETG instructs on the path or routing of the gas. Unfortunately, ETG instructed that a significant percentage of its gas supply be purchased in the day market in contradiction to ETG written purchasing policy. Since the asset manager is a gas marketer by definition, the asset manager enjoyed significant profits by selling to ETG daily supplies as opposed to gas priced at first-of-the-month index prices.
2. Ensure that AGLR's organizational units providing essential inputs to regulatory filings continue to afford those filings sufficient priority. <i>(Conclusions 2 and 3)</i> ETG's record prior to this year's BGSS filings has been poor. The NJ BPU staff reports that this year's effort is much improved. Responses to data requests suggest that this improvement is largely due to the persistent efforts of the Senior Vice President for Mid-Atlantic Operations. The "enhanced staffing in the gas supply area" promised in the Stipulation extending the asset-management agreement has recently been advertised again. The position must be filled, and the incumbent tasked with maintaining the recent improvement.	N	There appears to be a great improvement in this area and SAGE did not find a need for more improvement. ETG has computer systems that house all data necessary for regulatory filings. It is a matter of generating reports specific to any particular regulatory filing. ETG has on staff skilled IT personnel that are capable of generating any file that might be required.
3. Complete process documentation. <i>(Conclusion 4)</i> Process documentation is necessary to guide various verification processes, such as internal audit, as well as regulatory oversight. The Company should document all of the processes required to produce a BGSS filing as a first step, and file the documentation along with the Company's 2010 BGSS filing. ETG should also file draft policies regarding documentation at that time. The Company	Y	Process documentation is in place for the procurement of natural gas, the transportation of natural gas, and nomination and confirmation of natural gas. Filings are made quarterly with the BPU. Processes are well established in the Systems Operation Department. Guidelines are well documented with training and hands-on experience provided.

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
and the NJ BPU can decide what additional process documentation is appropriate after the initial material has been received and reviewed.		
4. Develop documentation requirements for supply-portfolio decisions that require selections from among alternatives. (Conclusion 6) Good utility practice requires documentation of most decisions involved in the development of a utility company's gas-supply portfolio. Documentation is required to support regulatory review, but also for external audit and internal review. Liberty recommends that AGLR's Internal Audit group develop guidelines for documentation of gas-supply decisions, for use by AGSC as it makes choices for ETG's gas-supply portfolio. Liberty recommends that the Internal Audit group prepare these guidelines within 90 days, and that the Company file them for NJ BPU review with ETG's next (2010) BGSS filing.	N	ETG has a Risk Management Committee that has developed a written Risk Management Policy and Procedure (RMP) which directs how the gas supply portfolio should be purchased and managed. ETG did not obey the written RMP and purchased more gas in the daily market than was authorized. Over the 13-year period of this audit, the disregard of the written policy cost ETG in Excess of \$53 million. ETG has the ENDUR computer system that houses all natural gas transactions sufficient to invoice customers and pay supplier invoices. ETG has a very advanced contract database with priority routing to various personnel for review and approval prior to the execution of any contract. Transportation contracts with Interstate pipeline are in both the ENDUR and the contract system. ETG is able to generate and customize any report that may be required.
5. Planning and Forecasting should use a shorter time period for its use-per-customer regressions. (Conclusion 7) Liberty is concerned that P&F's use of 20-year data series for its regressions may obscure important changes in use per customer that are recent, or even ongoing. P&F's use of extensive input from Marketing may be correcting this problem, but P&F should test using shorter time periods to see whether the more-recent trends can be picked up in the data.	N	The ETG regression model uses three to five years of historical, city-gate delivered, daily throughput send-out less TPS deliveries from daily throughput data
6. Require that Gas Supply and Capacity Planning bring more analysis to its selection of key parameters for capacity-requirements forecasting. (Conclusion 7) The Company uses 65 HDD as its peak-day design criterion. (The Company uses the average of 24 hourly temperature readings at Newark International Airport as the definition of its design peak day, so the criterion equates to 24 consecutive hourly	N	ETG projects its Design Peak Day requirement based on total projected supply obligation under design temperature conditions defined as an average daily temperature of 0°F or 65 heating degree days (HDD). ETG uses a linear regression methodology to generate design peak day coefficients that are

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
temperature readings that average to zero degrees Fahrenheit.) The Company reports that this criterion represents the point at which a typical residential furnace would operate at maximum output for 24 hours; missing, however, was any analysis of the probability of its occurrence.¹⁹The Company also uses a peak-day reserve margin of five percent. The Company lists a number of potential “issues” that might cause it to need a peak-day reserve margin, but no analysis of specific contingencies, happening individually or together. It justifies the number it has picked by referring to it as an “industry standard.” For its design winter, the Company took the coldest year on record (1976/77) and replaced the coldest days in that weather pattern by a severe, seven-day cold stretch. The Company presented no analysis of whether this condition has ever happened before, nor the probability that it might happen in the future. Industry best practice in this area is to represent weather as probability distributions, in order to use them in Monte Carlo simulations of capacity requirements.²⁰ Reserve margins, if used at all, are usually the result of evaluations of specific contingencies, with assessments of their respective probabilities of occurrence. Often, design peak-day criteria, reserve margins, and curtailment policies are established jointly as part of the same analysis, in order that the most cost-effective trade-offs among those criteria might be made. Liberty recommends that ETG not be allowed to add gas-supply capacity resources until a proper analysis of these parameters has been prepared and accepted by its stakeholders in a BGSS proceeding.		applied to design peak day criteria to derive the Design Peak Day forecast. The regression uses daily demand data representing ETG’s supply obligation. Daily weather in the form of heating degree days (HDD), variables for weekends/holidays, variables to mitigate impacts of anomalous or one-time events (if applicable) and variables to capture the change in weather sensitivity at colder temperatures. ETG does not have excess capacity to manage design days that may last for several days in a row. ETG has some dependency on Peaking Services to serve extreme consecutive days of cold weather.
7. Restrict the addition of gas-supply capacity until ETG has worked off its current excess. (Conclusion 8) ETG has ample capacity, even if its requirements were not over-estimated (which Liberty believes they are). ETG should stop adding capacity until: (a) it improves estimating its requirements, and (b) works off the excess. Prior to this year, ETG was showing growth in its numbers of customers, although its (weather-corrected) throughput growth was below the national average. New Jersey’s Clean Energy programs may provide a boost to gas consumption, which could take up some of the excess capacity. ETG should have improved its requirements forecasting methods, and show a new need for capacity, before it considers adding any more capacity.	No, with regard to long-term capacity. Yes, with regard to Peaking Services.	ETG has not added additional capacity to cover 365 days per year. ETG does have Peaking Services which would have been in excess under historical patterns. The recent few years demonstrated that pipelines are operating at maximum capacity and are posting notices of challenges with pressures in their pipes. Southern New York is having difficulty serving new customers because of the lack of capacity. This places a strain on Peaking Services. Peaking services have been hard to find in the past three years and this is getting worse. The marketplace has changed. ETG is fortunate to

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
		have sufficient capacity to serve its BGSS load for the next five years assuming that upstream capacity remains the same.
8. Work with pipeline suppliers to further diversify ETG's sources of supply. (Conclusion 9) In its discussion of its two new capacity additions, ETG focuses on upstream supply security in an era of damaging hurricanes. Supply security is certainly one reason for further diversification of supply sources, but gas price is another. As new sources of supply are added in different parts of the country, basis differentials adjust. Thus, supply source that yield the best prices at ETG's city gates are likely to shift over time. ETG can take advantage of these changes by trying to obtain access to as many of them as possible. The Gulf South and Transco Sentinel participations add up to 30,000 Dth/day. With a peak day near 400,000 Dth/day, ETG can use more supply-source diversity.	N	ETG has available to it the shale supply coming from PA. Their supply is diversified. ETG has supply coming from the Gulf, coming west to east via TCO pipeline and coming from PA. The origin of supply is largely controlled by the receipt points on ETG's FTS contracts and the physical location of ETG's storage. Interstate pipelines do not have an abundance of available capacity, therefore ETG is not in a position to restructure their FTS or storage agreements.
9. Determine the causes of the increase in ETG's LAUF rate. (Conclusion 10) The Company reported on several efforts to reduce LAUF rates, some Company-wide. It also reported some success at ETG, but more should be done. The Company should present a report with its next BGSS filings on its efforts to date, and what it plans to do to follow up its findings to that point.	N	Sage recognizes that back in 2010, due to old cast iron pipe, there were leaks. There have been major pipe replacements on the ETG system that have greatly improved the performance of the delivery pipe system. More enhancement will be completed by the year 2026. This is evidenced by reduced leaks in the system. Every measure has been taken to reduce the lost and unaccounted for gas (LAUF). Major efforts to eliminate leaks and reduce day-to-day leak situations are taken.
II. Affiliate Relationships		
1. Put ETG's asset-management arrangements out for bid when the current arrangements expire. (Conclusions 2, 10) Liberty recommends that, when the current asset-management arrangements expire, the NJ BPU require that the subsequent arrangements be put out for bid. The competition for the new arrangements must be managed carefully. Different asset managers generate sharable margins in different ways. Putting exactly the same asset-management-and-gas-supply structure out for bid by other	N	The Asset Management contracts have expired and the duties and functions performed by the Asset Manager are now the sole responsibility of ETG. Sage agrees that further Asset Management arrangements could be put out for bid. There are other very capable entities who could perform management services and perhaps would have better terms. There are Fuel Manager type

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
potential asset managers will not be a fair test of the best arrangements for ETG's customers. The Company should work out the details of the offering closer to the time that the competition would be held. Liberty recommends that the process focus on net benefits to ETG's customers, rather than on the largest guaranteed payment. Arrangements that increase ETG's gas costs inordinately in order to generate larger sharable margins may not be the best outcome for ETG's customers.		organizations available that are not gas marketers and therefore would not have a conflict of interest.
2. Keep records of ETG's costs before and after the delivery-point shifts requested by SEM. (Conclusion 3) Shifting volumes among delivery points in response to SEM's requests may lead to increased costs. ETG must track those costs, in order that they might be compared with ETG's share of the margin generated by the transaction. Records of the changes in costs must also be auditable.	N	The use of ETG's assets should be subject to tracking and auditing by ETG. Shifting volumes from one delivery to another does not incur additional costs. ETG paid only for transportation and storage expenses that were known and measurable and delivered solely for ETG's benefit.
3. Ensure that upcoming examination of the operation of SEM's agreements with ETG examines how optimization transactions get assigned to ETG, and how the transactions get valued. (Conclusion 4) As discussed in Conclusion 4, key questions in determining Net Margin generated by SEM using ETG's assets include the following: • How does SEM decide which optimization transactions become ETG's? • How are those decisions captured and protected against after-the-fact reassignment? • How does SEM exercise its discretion in valuing the transactions for ETG's account? Upcoming examinations must answer these questions to the NJ BPU's satisfaction.	N	Optimization applies to all transactions where ETG's assets were used. If ETG's assets were used then optimization applies and ETG shares in the profit. After the fact assignment does not alter the profitability. The value and profit are clear and the profit-sharing mechanism is applied.
4. Prohibit SEM from participating in competitions to provide peaking supplies to ETG. (Conclusion 6) Liberty's experience, including the prior audit of ETG's affiliate relationships,³¹ shows that the presence of an affiliate in a competition to buy or sell gas supplies impairs that competition. Liberty has not examined in any depth the unaffiliated competitors' reasons for withdrawing from competitions that include an affiliate; putting ourselves in their place, we would be concerned about: (a) contract awards not being made on a completely objective basis, and (b) bid information being shared with the affiliate.	N	The affiliate is now South Jersey Resources Gas (SJRG) and they are active. They have not been barred in any way. There was no indication that prior affiliates were restricted in any way. Since the affiliates are the Asset Managers and have been over the past 18 years, it's difficult to understand how the affiliate could be restricted. All of ETG's assets were assigned to the Asset Manager.

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
Trying to avoid impaired competition by not disclosing the presence of the affiliate does not comprise an effective long-term approach. Someone will almost surely find out somehow; when everyone else finds out, they will feel that ETG has not been honest about the competition, and will, at least, withhold their best bid, or not participate at all. An effective solution requires barring the affiliate to participate in these competitions unless there is a clear, compelling demonstration that the relevant market will become non-competitive as a result. Judging from the one comparison available to Liberty, not allowing SEM to participate will affect ultimate costs very little. Allowing SEM to participate could affect costs by a great deal more.		The prior audits conclusion is appropriate if ETG managed its own portfolio. An asset manager was in the mix for the entire period of this audit.
5. Develop an improved process for seeking spot-market gas supplies (<i>Conclusion 7</i>) Other companies have quick-response systems for obtaining spot-market gas supplies (e.g., emails to a pre-qualified list of potential suppliers, for example). ETG should develop such a system and present it to the NJ BPU for approval as soon as possible. SEM's right to match the lowest offer must also be terminated. Liberty would allow SEM to bid for this requirement as ETG's own pipeline capacity, which SEM operates as ETG's agent, has primary-delivery-point rights to ETG's city gates, and those rights may be essential to ensure deliveries in the circumstances that call for spot-market purchases. Other potential bidders would be told of SEM's participation, however, and provided an opportunity to participate in the development of procedures that would ensure them of an arm's-length competition.	N	ETG instructed its Asset Manager (affiliate) the volumes of gas to be purchased at first-of-the-month prices and then instructs it on a daily basis how much additional gas is required for the next day and even intra-day. The instructions provided for the ETG FTS contracts to be used and the path or route that the gas should take. ETG is not concerned with the well-head supplier as long as ETG receives its gas at the index price that was stated.
6. Make reducing ETG's gas costs an explicit objective for AGLR's Gas Supply and Capacity Planning department. (<i>Conclusion 8</i>) Not just ETG, but the holding company as well, should commit to and express the goal of providing the highest-quality service at the lowest possible price. The Company should make addressing ETG's gas costs an explicit objective for every person involved in determining those costs, and should track and assess each person's performance in pursuit of that objective.	Y	This function is not performed well. A major percentage of the gas load is purchased in the day market as opposed to first of the month prices or a strip of gas purchased in advance resulting in higher gas cost. The financial hedging process has caused major losses without ETG stopping the bleeding throughout any of the 13 years of this audit. ETG management, as well as the internal audit process, are very deficient.
7. Ensure independent examination of any SEM violations of the FERC's capacity-release rules involving ETG's assets. (<i>Conclusion 9</i>)	N	Sage has not found any recent FERC violations. A process was put in place by SJIU together with an

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
Pipeline capacity under contract to ETG was involved in these violations. Thus, it is possible that ETG's customers' interests were adversely affected. This matter requires independent evaluation.		annual education seminar to keep employees informed.
III. Market Conditions		
1. Develop procedures for estimating supplier volumes, creditworthiness review and periodic review of existing suppliers. (Conclusion 5) While the activity in this area is relatively low, ETG should have basic, standardized procedures for these evaluations. This has become more important in recent years as a result in staff turnover and relocation of some of the functions to AGLR.	N	When a credit review is required, the following information is obtained: - Complete legal name - Mailing address, phone number of the counterparty - Copy of latest annual audited financial statements of the counterparty for the past three years or of its parent company, if applicable. This information is utilized to perform financial analysis to determine the financial stability of the company. Dunn and Bradstreet (D&B) reports, if available. Where applicable, investment ratings from bond rating agencies (Moody's, Fitch, or S&P) An individual electronic file is prepared and maintained in the RMD for every counterparty.
2. Post the active supplier list to the ETG web site, with a clearly visible tab on the home page. (Conclusion 1) Accessing the list of active suppliers is burdensome to customers, and requires that a customer be willing to navigate through a number of links and screens which are often confusing. Adding a Supplier page to the ETG web site with a link to the ETG home page would make it user friendly and enable timely updating.	N	ETG's website has this feature.
3. ETG should consider initiating a dialogue with the BPU regarding its vision, goals and objectives for competition in the retail residential market. (Conclusion 7) With the EDECA statue and the various BPU order and actions, New Jersey set the stage for Energy Choice. And, it has gone further than many, perhaps most jurisdictions in removing structural barriers with the EDI and Customer Account protocols.	Y	The ETG retail residential CHOICE functions at very low levels. ETG does not assign FTS capacity to support the CHOICE customer who migrates. Delivery capacity, independent of ETG, is difficult to find and third-party suppliers have stated that this is a major issue that prevents growth in the CHOICE market.

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
Nonetheless, it has become clear that competition in the retail residential market as currently structured is barely functional. While the BGSS rate structure may contribute to that situation, the fragmented structure of the state, regional and national markets is the predominant factor, there are other significant contributing factors. And, it is not at all clear that a “better” gas cost recovery mechanism can be designed to mitigate the dampening effects that the BGSS methodology has on competition, or even if that were feasible, that it would change anything. Under EDECA, residential competition must remain available. However, absent any significant actions by the BPU or ETG, it will likely continue at very low levels. Allowing it to continue as currently configured may be the best course of action, but it may be time to revisit the underlying policies and programs.		
IV. Recommendations and Review of Previous Audit		
Liberty has no recommendations specific to the status of the 2003 EDECA Audit recommendations. However, other chapters of this report contain new recommendations related to some of the issues raised during the 2003 audit as they apply to the new corporate structure under AGLR ownership.	N	See replies to recommendations in the other chapters.
V. Cost Allocation Methodologies		
1. Develop a new CAM that rectifies the deficiencies of the current documents. (Conclusion 2) The Company should develop a CAM that incorporates and describes the Company’s costing system, the rules that govern service pricing and charging to affiliates, time reporting, and the billing process used to generate invoices. A CAM should be a self-contained document to be used as a reference manual that incorporates the Company’s policies and processes to guide employees to accurately report time, expenses, revenues and capital expenditures for transactions affecting affiliate companies. Specifically, there should be a complete description of the types of all costs shared with an affiliate. There should be a comprehensive methodology and procedure used to charge, assign and allocate costs from the service provider affiliate. The CAM needs to include employee guidelines for time reporting in order to provide guidance and training for accurate time reporting among affiliate companies. The CAM should incorporate procedures for calculating hourly billings and appropriate	N	The final report on the prior audit of ETG conducted by Liberty Consulting was dated April 1, 2010. This recommendation was included on the basis that the company did not have a formal Cost Accounting Manual (CAM) but rather considered that its Accounting Process Manual (APM) and Policy and Procedure Manual along with the company’s time reporting system comprise (de facto) a Cost Accounting Manual. Liberty disagreed and recommended that SJI develop a new CAM that would rectify certain deficiencies noted. The CAM should include an outline of various cost-allocation methods, describe time reporting responsibilities and procedures and address certain other issues. Liberty argued that there should be a stand-alone, consolidated CAM to serve as a source for the matters included in

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
approvals. The CAM should address other miscellaneous affiliate transactions such as leases, cost of capital, and pass through costs (such as employee benefits), not otherwise covered by service agreements. Ideally, within the CAM document, there should be an organization chart of the Company, showing all of its regulated and unregulated affiliates and the officers of the parent or holding company, the utility, and the service company as applicable. The CAM should clearly indicate that the Company's methods comply with relevant regulatory requirements, if appropriate. The Company should also update the CAM regularly with changes and modifications affecting the Company and notify employees of significant regulatory and accounting reporting changes to be incorporated with the CAM.		the APM and policy manual and time reporting system. In September 2018, SJI issued a formal Cost Accounting Manual addressing the issues identified in Liberty Consulting's recommendation. Sage reviewed this CAM and found that it adequately addresses the concerns expressed in the prior audit. Additionally, in a letter dated June 13, 2014, the NJBPU's Director, Division of Audits acknowledged that, with one exception (regarding the Consolidated Money Pool), the "Division staff has monitored and reviewed the documentation of your progress in implementing Liberty's 34 recommendations. My staff has reported to me that you have complied with the spirit and intent of all the recommendations, with the exception of those related to the Company's participation in the AGL Resources consolidated Utility Money Pool." Considering the totality of this evidence, Sage concludes that SJI has implemented this recommendation. Nonetheless, Liberty's recommendation adds that SJI should audit the CAM from time-to-time, and Sage agrees.
2. Make a formal filing seeking NJ BPU review and approval of Services Agreement. <i>(Conclusion 3)</i> This filing should take the form used by other state utilities that have made a formal request. It should include the CAM as a principal source of pricing guidance.	N	Complied with.
3. Develop a written policy identifying the types of costs the Company should retain at the corporate level. <i>(Conclusion 6)</i> The Company should include as part of the written policies and procedures in the CAM a description of conditions under which it retains costs at the corporate level and does not charge back the cost to ETG and other affiliates. The policy should address	N	Completed

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
costs incurred at both the AGLR Corporate level and at the affiliate utility level.		
4. Develop a written time reporting procedure and include it in the CAM. (Conclusion 7) The Company should include in the CAM written policies and procedures that describe the circumstances in which costs (e.g., payroll time reporting) would be charged to a utility or nonutility. The Company contends that it has time reporting procedures, but it should include the time reporting procedures, specifically addressing protections against cross-subsidization, in the CAM as a reference and guide for employees. Liberty suggests that Company develop a time reporting procedure that lists and identifies the utility and non-utility companies for time reporting purposes. It should include employee guidelines for charging time when working on a project affecting both a utility and a non-utility, and the ramifications for not reporting time properly. These procedures and guidelines will enhance employee time reporting and help guard against cross-subsidization. The Company should develop these procedures in the context of a training document.	N	Completed
5. Review all services and charges allocated to ETG based on the AGSC/ETG Services Agreement and eliminate any duplicate charging for those provided under the Asset Management Agreement. (Conclusion 8) The Company should perform an internal review of gas supply and transportation costs allocated according to the Services Agreement to ETG and affiliates. It should compare these allocated costs to the gas supply and transportation costs charged to ETG based on the current Asset Management Agreement. The Company must ensure that the costs allocated or otherwise recognized for services provided through the AGSC/ETG Services Agreement do not duplicate those results from the Asset Management Agreement between SEM and ETG or any other internal agreements.	N	No longer relevant.
6. Perform a complete review and audit of the Allocation Process Manual. (Conclusion 10) AGSC should review the Allocation Process Manual to ensure it includes up-to-date practices, procedures, and cost allocation methods; and that it contains active and valid general ledger accounts, department IDs, and business unit numbers. The Company should perform an internal audit of the	Y	See the prior audit Volume II, Chapter VI, Accounting and Property Records Recommendation 1 response below.

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
Allocation Process Manual procedures, processes and documentation. Liberty understands that the Company's Internal Audit organization has in place SOX control documents, but Liberty suggests a more comprehensive and timely audit and compliance testing of the process.		
7. Update the engineering time study and capitalized engineering rate to more accurately represent engineering costs to be capitalized over large and general construction work. (Conclusion 11) The Company should update the capitalized engineering study to determine if engineering expense and capital costs have changed from 2006 to present. Significant changes to engineering time reporting between expense and capital activities since 2006 may materially affect the capital costs allocated to existing CWIP projects. The engineering capitalization ratio needs to be current to ensure costs are allocated properly based on current expense and capital time reporting activity. Once the Company determines the updated rate, it should perform a comparison to the old rate and determine the materiality of the change. The Company should perform time studies and the rate calculation at least annually. The Company should monitor the mix between engineering capital and expense charges on a quarterly basis for changes in time reporting trends.	N	No longer relevant
8. Consider the use of the number of timesheets instead of full-time equivalent employees as the cost driver for allocating payroll costs. (Conclusion 12) The number of timesheets processed appears to provide a more appropriate measure of the costs of the payroll systems than FTE. The number of timesheets per employee varies from employee to employee, based, for example, on whether the employees are exempt or non-exempt.	N	No longer relevant.
9. Review and update procedures for asset transfer, transfer pricing and internal controls. (Conclusion 13) The Company should modify existing plant accounting procedures related to asset transfers, transfer pricing and internal controls. The Company is in the process of reviewing the PeopleSoft system problems that generated incorrect transfer pricing for asset transfers, but did not provide a timeframe when the problem is to be corrected.	N	No longer relevant in view of the creation of a new CAM.

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Recommendation	Continued Viability (Y/N)	Comment
10. Review and monitor benefits true-up calculation more frequently. (Conclusion 14) The Company should monitor the actual-to-budget activity on a monthly basis. The Company needs to be more observant of the timing of the true-up based on the budget versus actual for FTEs and remaining expense balances to be distributed at month- or quarter-end. More frequent reviews of actual-to-budget variances will minimize the need for a material benefits rate true-up at the end of the year.	N	Actual vs. budget reviews are conducted monthly; this recommendation is no longer relevant.
11. Develop a mechanized regulatory reporting system. (Conclusion 16) The Company has plans to develop a mechanized regulatory reporting system within the PeopleSoft general ledger month-end closing and reporting process. The Company plans to complete this task in 2009.	N	No longer relevant due to the new information systems implemented in the years since this recommendation was issued.
VI. Remediation Activities and Costs		
1. Review the controls environment for ETG's MGP program. (Conclusion #1) The Company should review the process for review and approval of program expenditures. When a MGP remediation capital expenditure is to be authorized and approved by the Senior Environmental Specialist at ETG, Liberty suggests including a procedure to reference and cross check the approved MGP capital expenditure budget to ensure the project is part of the approved budget. If the project is not included in the original capital expenditure budget, additional review and approvals should be required based on the Company's Approval Matrix schedule. The Approval Matrix identifies the expenditure type and level of approval required in addition to the Senior Environmental Specialist's approval level. By performing this check and control, the Company ensures the approval and authorization for a MGP capital expenditure has already been provided for during the budget process. Also, if actual costs are to be more than the budgeted costs for a particular project, there are required approval levels for over budget expenditures within the Approval Matrix schedule. This process should be reviewed with AGLR's Internal Audit group, and it should be done soon, as expenditures are scheduled to increase rapidly, beginning this year. A report regarding findings and recommendations from the review should be submitted with ETG's next RAC filing.	Y	Remediation Projects addressed in the scope of Liberty's audit were virtually complete or well underway during the timeframe of the current review. As such, "the moment had passed" for consideration of issues raised in Recommendation 1. However, substantial additional remediation work is necessary to complete program requirements. A rigorous process for review and approval of program expenditures would be appropriate on a going-forward basis.

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Recommendation	Continued Viability (Y/N)	Comment
2. Develop a program for evaluating contractor performance in ETG's MGP program. (Conclusion #3) AGLR's approach to MGP program management involves extensive use of consultants to supplement a minimal internal staff. Many of the consultants for ETG's sites have been in place for some time, and provide important continuity in developing and conducting remedial investigations, and in designing remedial actions as that phase begins. AGLR corporate resources provide important assistance in identifying and hiring execution contractors, but someone must evaluate contractor performance if the program is to be managed effectively. Liberty could not identify who has that responsibility; therefore, we recommend that the function be formalized and assigned to someone.	Y	Much of the work entailed with Remediation is highly specialized. ETG and its predecessors have relied on consultants that are experts in Remediation -- who have received substantial payments. Some of these consultants have been involved throughout Program duration. It is unclear if ETG's value has been optimized. At a minimum, "casting a wider net" or obtaining an opinion from a disinterested third party as to consultant performance would be appropriate. The fact that ETG is reimbursed for these costs is a cause for concern, per se, in that ETG does not necessarily strive for a "best, low cost, solution," as distinct from a "satisfactory solution."
3. Develop a more active approach to MGP program management. (Conclusion #4) Liberty recommends that the Company develop a more active approach to MGP program management. The revised approach should be presented to the BPU and the Company's stakeholders as part of its next RAC filing. The new approach will require at least more active involvement of Company personnel in the development of each year's remediation program, and a much more intense program of budgeting and cost analysis. Liberty recommends that the Company look to experience in New Jersey, rather than its experience in Georgia and Florida, in designing its approach. The other two gas-only distributors in New Jersey, New Jersey Natural and South Jersey Gas Company, have effective programs, and should provide experience that the Company can draw on. ETG's budget for MGP expenditures in 2008 was \$3.8 million. Actual expenditures were closer to \$4.3 million, for an increase of about 13 percent. As shown in a table in the Findings section of this chapter, estimated budgets for 2008 through 2013 total \$60.9 million; internal documents suggest total remaining expenditures of \$86.6 million. If a more intensive approach to program management can prevent cost increases of 13 percent, it will be well worth any extra cost.	Y	Sage echoes Liberty's concerns. Sage's Findings note that payments to select contractors have been highly concentrated. In particular, payments to Creamer Consulting were approximately \$56 million, which constitutes 44% of total remediation costs. Moreover, payments to Creamer Consultants together with GEI Consultants account for well over half, or 56% of total Remediation costs. These substantial payments were incurred over a sustained period prior to the acquisition of ETG, which may warrant a holistic review of charges from a "prudence" perspective. As ETG is approximately 60% of the way through its remediation program, significant benefit could still be derived through a more hands-on approach.

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Recommendation	Continued Viability (Y/N)	Comment
4. Adjust the accounting process to charge payroll costs associated with the MGP remediation program directly to balance sheet accounts. (Conclusion #6) The Company has the ability to capture remediation labor, material and other relevant remediation costs through the project costing module within the PeopleSoft application. Using the project costing module to capture remediation costs would eliminate the need to reclassify MGP remediation costs on a quarterly basis and simplify the accounting process.	N	Remediation costs are predominantly incurred by contractors, which invoice ETG in accordance with prescribed contractual arrangements. This issue was not addressed, nor was it considered material to the remediation process.
5. Reconcile internal MGP remediation expenditure reports supporting the annual RAC filings to the actual reports filed with the BPU. (Conclusion #7) The Company should include as part of its internal controls, a process to reconcile all internal supporting schedules and worksheets to the final RAC report before it is filed with the BPU.	N	ETG is reimbursed by ratepayers for environmental costs incurred to remediate former MGP sites owned by predecessor companies. ETG conducted an audit of the RAC to provide reasonable assurance that ETG was and continued to be in compliance with BPU requirements. In that regard, an internal audit affirmed the accuracy of ETG's RAC rate calculation, the interest calculation on RAC balances, remediation costs, and the adequacy of supporting documentation and that ETG was in compliance with operating procedures. It was determined that invoices were clerically accurate, allocated to the appropriate accounts, properly approved; and adequately supported. The conclusion in performing the audit was that all activities attributed to the environmental remediation processes have acceptable internal controls.
VII. NJ Electric Discount and Energy Competition Act (EDECA)		
Liberty has no recommendations specific to compliance with the EDECA Standards. However, other chapters of this report contain recommendations related to other aspects of the relationships with ETG's current affiliates.	N	Not applicable

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B. VOLUME II: MANAGEMENT AND OPERATIONS REVIEW

Recommendation	Continued Viability (Y/N)	Comment
I. Governance		
1. Create an LDC-operations-focused board committee and routinely distribute more detailed, focused, and LDC-specific data sets that provide quantitative measures of performance against clear, comprehensive metrics. (Conclusion #3) AGLR has a committee structure that uses a division of board members derived in significant part for administrative convenience. The board's annual schedule also calls for fewer meetings than is customary. Combining these features with the lack of a regular set of objective measurements leaves the AGLR board with less than optimal information about ETG-specific infrastructure and operations information. Creation of a board committee that focuses predominantly on LDC infrastructure and operations will provide the board with improved oversight capability. Concerns about infrastructure have produced a significantly greater national priority on this subject. Other boards have come to place more attention and emphasis on matters such as specific operations metrics and comparative data among LDCs. These areas of increased attention have come as part of board efforts to make a firmer connection between the financial and budget plans and performance that have characterized their focus for many decades with the results produced, the gaps remaining, and the likely closure requirements, in terms of service quality, reliability, and public safety. This change will also place manufactured gas plant remediation under a committee with significantly stronger operations focus. AGLR should accompany this change with the development of a comprehensive set of performance metrics (what some call a "corporate dashboard") for reporting to the board each month, along with goals, quarterly and annual trends, and spotlights on areas of substandard performance and even standard-satisfying performance that is trending downward. Liberty recommends the New Jersey Natural Gas set of measures as a starting point. Liberty has found them to be quite comprehensive, yet presented in a way that facilitates ready comprehension and identification of potential areas of concern or questions for board members. It is essential that the measurements show LDC-specific information. To the extent that there are differences in expenditures or performance from LDC to LDC, disaggregated data will help the board to	N	This recommendation was made for the prior ownership of ETG. AGL Resources owned ETG at the time of the prior audit. There is no SJI LDC operations board committee but all of the SJI Board of Directors committees are well-focused on ETG and they receive appropriate KPI metrics on a timely basis.

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Recommendation	Continued Viability (Y/N)	Comment
understand whether what drives those differences is understandable and appropriate.		
2. Periodically solicit competitive proposals for providing outside audit services. (Conclusion #8) The available options have become more limited in number in recent years, as has the ability to move outside the range of major service providers, given the greater level of visibility and risk associated with accounting and auditing requirements and guidelines. Working within the limitations it faces, AGLR's Audit Committee does pay attention to controlling the costs it incurs from the independent accountants. The charter appropriately requires consideration of changes in those accountants at least every three years. Periodic solicitation of competitive proposals would emphasize to potential providers the need to offer "best costs" to secure AGLR's business.	Y	There is no indication that SJI has implemented the practice of periodically soliciting competitive proposals for providing outside audit services. Deloitte & Touche, LLP have served as SJI's independent accountant since at least 2009. The Audit Committee Charter requires the Committee to approve the fees and other compensation to be paid to the independent accountants. The Charter also requires the Committee to consider independence and effectiveness prior to recommending to the Board of Directors the selection of the independent accountant. Audit Committee minutes evidence that the Committee does consider the proposed annual audit fee prior to awarding an annual contract to Deloitte. However, the Audit Committee Charter does not require periodic solicitation of proposals for the provision of outside audit services and Committee minutes give no indication that proposals have been solicited from other audit firms.
3. Emphasize the use of board and committee evaluations as improvement tools. (Conclusion #13) The board and committee annual reviews occur regularly and directors perform them with diligence. However, their structure does not lend itself to optimization, in that it rates performance aspects as satisfactory or unsatisfactory. More gradations in available responses would highlight areas where improvements may be made even where performance meets a standard of "satisfactory," which is not a high threshold. The availability of a comments field begins to address the need for more robust response, but is not alone sufficient.	N	The SJI Board retains a third-party annually to conduct Board member self-evaluations and evaluations of every Board committee.

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
II. Organization		
1. Provide for the eventual separation of the roles of General Counsel and Chief Ethics Officer. (Conclusion #6) Liberty did not observe (nor did this audit's scope include a detailed review of ethics complaints, inquiries, or other activities) any specific case that would reflect improper advice or counsel as a result of the combined roles. Liberty also found the incumbent to be sensitive to the needs that each role requires. Moreover, Liberty found, as noted in the immediately preceding <i>Governance</i> chapter of this report, that AGLR's approach to and programs, policies, and procedures related to ethics matters are effective. Liberty believes that as a general matter, separation of the two roles is better designed, in the long run, to promote confidence in robust ethics policies and practices and to produce the least conflicted means for addressing issues and problems as they arise. Liberty approached the questions raised by this combination of roles, with the same standard it applies to other cases of potential or apparent conflicts; <i>i.e.</i>, confidence in the current incumbent's abilities, objectivity, and integrity is not a reason for an anomalous structure, because incumbents change over time. Thus, without intending to raise any concerns about AGLR's current incumbent, Liberty believes that the positions should be separated. As single-purpose adjustments in executive responsibility are not always easy to accomplish (given that executives all currently have reasonably full, if not overly full, portfolios), Liberty would expect that this transition may best take place in the context of other transitions in incumbents or responsibility assignments, provided that the change is not tabled indefinitely.	Y	The SJI General Counsel is the Chief Compliance Officer. The compliance program is well developed and well documented. There is no Chief Ethics Officer. This report in Chapter XXI. Support Services – Legal, recommends the assignment of the Senior Vice President of Human Resources as the Chief Ethics Officer and the implementation of an ethics program that mirrors the compliance program. This would separate the roles of General Counsel and Chief Ethics Officer. The ethics program would build on the existing SJI Code of Ethics and Business Conduct (Code) which is approved by the Board and applies to the Board of Directors as well as all officers and employees. The Code includes: - Ethics and Compliance: Our Shared Responsibility - Our Work Environment: Treatment of Others - Conducting SJI's Business - Protecting SJI's Information and Assets - Waivers and Amendments - Frequently Asked Questions and Ethics and Compliance Training The Code requires at least annual training on the Code and related topics.
III. Human Resources		
1. Promptly adopt a comprehensive new budget structure and a series of cost performance metrics at the sub-group level. (Conclusion #2) Work on this matter was underway during Liberty's audit field work. The recent reorganization and HR's recent cost history indicate significant attention to HR's effectiveness and efficiency. Completing the development of a budget structure that can be supported by performance metrics at the functional	N	ETG currently has a budget structure that is supported by performance metrics at the functional level

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Recommendation	Continued Viability (Y/N)	Comment
level within HR will help to assure that cost performance is optimized.		
2. Develop a more structures approach to addressing ETG's aging workforce. (Conclusion #4) AGLR is not alone in its lack of a comprehensive approach to addressing the coming transitions associated with workforce aging. With some estimates indicating that as much as half of the utility workers (professional and others) in the U.S. may retire in five to ten years, it seems surprising that there remains no recognized standard or set of measures to which utility HR groups can turn. However, the lack of a developed approach to the problem does not obviate the need for active measures. Developing more comprehensive data that can be used to forecast the skills that will be most in need is certainly a key starting point that AGLR can address now. Modeling of needs should be supported through the development of such data and supporting modeling to identify timing and size of expected gaps. This information can then be used to concentrate efforts to identify unique and valuable expertise and to identify formal and informal means for its transfer from more senior employees to more junior ones. Work with local education and training institutions may be also called for, based on what data and analysis shows. More precise future needs identification can also help to identify strategic relationships with outside providers that may prove more useful as time passes. With a comprehensive re-examination of training now underway, AGLR has perhaps a unique opportunity to tailor its training and development efforts to assure that the wealth of operational and institutional knowledge its workers have and that it takes to optimize performance remains strong and vibrant. A more robust needs forecasting process can also be of substantial use in evaluating the potentially adverse effects of separation programs that many companies from time to time consider. Liberty anticipates that a time commitment of between one-half and one full time equivalent person is likely, and that there may also be moderate expenditures in assessing and piloting data management and forecasting services provided from outside. If such outside support is required, Liberty would anticipate total expenses in the range of \$250,000 across a period of 18 to 24 months before data systems are in place and operating at nominal continuing cost and this effort produces results that will allow its full integration	N	SJI has identified positions and types of work that are critical to the success of the Company and forecast future needs and potential candidates for critical positions.

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Recommendation	Continued Viability (Y/N)	Comment
into AGLR's overall training and development plans and programs.		
3. Make the satisfaction of EEO/AA placement goals in New Jersey a priority at both the local and headquarters level. (Conclusion #6) AGLR has shown that it knows and “lives” diversity as a material corporate value. In states other than New Jersey, its employee population has minority representation that exceeds minority representation in the generally available workforce. There are goals for New Jersey; the problem is not with them, but with the inability to meet them. The size of the gap in the Garden State merits a set of measures specific to ETG. Moreover, the board needs to do more in questioning disaggregated statistics and in holding both Atlanta and state/regional management specifically accountable. There was no 2008 review of diversity with the board or the committee with the lead role in this area. There was one in 2009, but it did not take the disaggregated view that Liberty feels is appropriate. Moreover, across the past several years, the board has addressed supplier diversity quarterly; employee diversity is no less important, and deserves no less frequent attention at the board level. The board specifically should get quarterly reports on progress in New Jersey, and should meet at least annually with New Jersey and MAOP senior management for so long as New Jersey performance lags the remainder of AGLR.	N	SJI has focused on employee diversity with organizations and personnel. They have been successful in increasing minority employment, and they report their progress and efforts to the State of New Jersey.
4. Establish the goal of moving management responsibility for labor relations to the Mid- Atlantic region. (Conclusion #7) The current location of the function is understandable, given the fairly recent changes in where represented employees work in the AGLR system. Liberty also understands that work location changes for seasoned managers are not always easy to make without undue disruption. In the long run, however, it makes sense to promote closer, regular contact between the person filling that function and local management and supervision, on the one hand, and bargaining unit representatives and employees, on the other hand. Therefore, AGLR should set the goal of moving the function at its first practicable opportunity, and assuming that there are no further changes in the affected work locations. Liberty understands the need for the person directly responsible for managing labor relations to have regular opportunity to interact with the remainder of HR to collaborate on the other policy aspects (e.g., wages	N	Management of ETG and the parent companies, SJIU and SJI, reside in New Jersey.

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Recommendation	Continued Viability (Y/N)	Comment
and benefits, pensions, work practices) that affect bargaining unit employees and the agreement under which they work. However, the AGLR structure entails a reporting structure that already supports that interaction.		
5. Provide for a formal contribution by local and regional management in the setting and measuring of performance against the individual goals of AGSC personnel assigned to New Jersey operations. (Conclusion #12) It is appropriate that those who manage AGSC personnel assigned to New Jersey or Mid-Atlantic operations work directly with their AGSC supervisors to set individual performance goals and to measure performance against them. However, local or regional management should have a means for contributing formally to these processes. There is already significant communication between these AGSC employees and local and regional management. Thus, they work together in assuring in goal setting and in results measurement. AGLR should provide for New Jersey or Mid-Atlantic (depending on whether the AGSC employee primarily supports state or regional operations) input to the AGSC managers. This input should come in the form of allowing local or regional managers to input the same information into the goal setting and evaluation system, for review by the AGSC manager prior to finalization of the manager's entries. Local or regional management should also receive a copy of the final entries, although responsibility for the content of those entries should remain with the AGSC supervisor, following consideration of input provided by local or regional management.	N	Individual goals have been established for all levels of management of ETG

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
6. Continue regular surveying of New Jersey employee attitudes and require definitive analyses and action plans subsequent to each. (Conclusion #14) AGLR has made important progress in promoting positive employee attitudes, which are necessary to assuring that service delivery remains strong and effective in New Jersey. However, AGLR operates across a wide geographic footprint. Moreover, its growth objectives have the strong potential for expanding that footprint, should those objectives be met in significant part. These features of its operations make the always important task of maintaining employee confidence, empowerment, challenge, motivation, trust, and commitment even more critical and challenging. The use of effective surveys of employee attitude give AGLR a strong baseline for accomplishing this task. However, the lack of detailed results analysis and action planning in response to the data gained can substantially diminish progress and can also threaten the improved baseline that AGLR appears to have gained since its early stewardship of New Jersey LDC operations. AGLR should require detailed, objective, quantified analysis of survey results, and an identification of the nature, size, and root causes of all “gaps” that exist. This work should be steered by experts from HR operating in close coordination with local and regional management and with AGSC managers of their personnel assigned directly to New Jersey operations. For each gap identified at each survey, the group identified above should establish objective “closure” goals (quantified wherever possible), specific actions, assigned responsibilities (including local, regional, and Atlanta operations, supervision, and management, rather than just HR personnel), similarly objective and quantified success measures, and regular results reporting. Comprehensive surveying should not extend beyond intervals of, at most, two years.	Y	Employee attitudes are surveyed biannually using the Employee Engagement Survey. The Culture Dashboard reports on employee engagement, diversity and inclusion, and employee attrition, including for women and minorities. The Performance Management Process allows for self-evaluation, as well as management evaluation.
7. Make the development of a new-hire training program a priority, and set a firm plan and schedule for implementing it. (Conclusion #16) Recommendation #2 above addresses more generally the problems imposed by work force aging. A sound new-hire training program should form an integral part of efforts to address that issue. After three years with no new hires in field operations, ETG had four in 2008. ETG's region has already witnessed important advances in the area, with major gas LDCs (including ConEdison and National Grid) as active participants.	N	A new-hire training program (On-Boarding Training) is in place and required for all new hires.

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Recommendation	Continued Viability (Y/N)	Comment
Cooperation with local educational institutions presents a particularly exciting opportunity, providing not only a training solution, but recruitment assistance as well. The metropolitan New York region already has at least one community college offering courses. The Director, Training has a full and difficult agenda to address as she brings a new focus on and approach to training at AGLR. New-hire training needs to be an important and current part of that agenda.		
8. Establish a robust training budget structure, cost reporting system, performance reporting and metrics, and benchmarking program to assure that training is producing appropriate results cost effectively. (Conclusion #18) It would be understandable if the training budget structure undergoes moderate change this year. Until the group works through the approaches that each of its principal managers will follow, radical change will be premature. In time for 2011 budgeting, however, the training group should seek to identify its cost drivers at the detailed level, adopt a cost reporting structure that corresponds to its goals, objectives, resource alignment and specific groups of offerings. That structure needs to be designed to support effective analysis of both results quality and costs. The development of that structure will then permit the adoption of a budget structure that “rolls-up” from the details of the group’s services. It will also support efforts to value properly the offerings being made and to assess more robustly the costs and benefits of internal versus external design and delivery. The way that the organization has been restructured will support effective measurement, just as it can support more effective operation. Another important element in assuring quality and cost effectiveness will be to engage in benchmarking with other similar enterprises, as AGLR develops the data (and the metrics that rely upon that data) needed to make comparisons with others meaningful. The significance of the changes taking place in training make it especially important to examine what others are doing and how they are doing it.	N	Effective training programs are budgeted and in place at ETG and SJI.
IV. Strategic Planning and Budgeting		
1. Make the scoring of ERM risks more consistent on a companywide basis. (Conclusion #9) The ERM processes and the use of company-wide risk information were recently developed at AGLR and have not yet reached a mature stage. The scoring of risks has not yet become fully consistent, particularly	N	SJI has a detailed enterprise risk management (ERM) policy. The policy establishes a companywide method to be used in assigning risk scores.

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Recommendation	Continued Viability (Y/N)	Comment
between the MAOPS and SOPS distribution utility business units. The scoring of risks should be upgraded to provide more useful enterprise risk information to executive management and the Board of Directors. The consistency of risk scoring between the distribution operations and centralized functions, such as corporate finance, should also be improved.		Business Area Leads (BALs) are responsible for scoring the risks relevant to their areas. The policy provides guidance that promotes consistency in scoring. The guidance establishes scales and criteria to be used in assigning scores to each risk. BALs assign Likelihood and Criticality scores using a scale of one to five. Criteria establishes the number of points to be given. For example, an event believed to have a less than 35% chance of occurring is scored “two” but if the likelihood is believed to be less than five percent it is scored “one.” Criticality scores are based on financial impact. Impacts of less than \$99,000 are scored “one” and impacts of \$100,000 to \$999,000 are scored “two.” Likelihood and criticality scores are then combined into a final rating of low, moderate, high, or very high. The final scores are based on a numerical scale. A centralized ERM department reviews risk scores, considers the existence of mitigating controls, and makes the final determination as to which risks are key.

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
V. Finance and Cash Management		
1. Establish separate bank concentration accounts for the utility money pool and all other cash management activities. (Conclusion 4) The first step in segregating utility funds, cash management and intercompany lending from that of unregulated diversified activities is to set up separate bank concentration accounts for each. Setting up separate accounts would allow for the segregation of the funds so that they are not comingled in the cash management system and so that intercompany loans would not be a byproduct of the current account consolidation in a central concentration account. These segregated accounts should be held separate and not merged for joint funding purposes. The remainder of any solution to segregating the funds of the utilities from other activities is to arrange for separate funding sources, including separate credit facilities and commercial paper programs. This step is discussed in Recommendation 5.	N	SJI has fully segregated ETG's cash management activities from those of SJI and its affiliates. Separate bank accounts are established for ETG and there is no intermingling of cash. Borrowing is also kept separate. ETG, SJI, and SJG are all signatories to a shared credit facility agreement, but the agreement established separate borrowing sub-limits for each entity and each entity's credit rating established the interest rates to be used in conjunction with that entity's borrowing.
2. Draft and execute a new Utility Money Pool Agreement that requires cash management segregation of bank accounts and funding sources. (Conclusion 5) There currently exists no utility money pool agreement that includes ETG as a party, that follows the NJBPU merger financing Order, or that provides for separate bank concentration accounts and separate funding sources for the utility money pool. The Company should draft and execute a new Utility Money Pool Agreement that complies with the merger financing order and includes the cash management segregation and separate funding sources recommendations of this chapter. The new Utility Money Pool Agreement, as well as a parallel non-utility money pool agreement, should also include borrowing sub-limits, as described in Recommendation 5.	N	ETG is not part of a money pool agreement. Since its acquisition by SJI in 2018, ETG's finances have been kept separate from that of SJI and its affiliates. ETG operates with its own set of bank accounts. ETG's credit facility activities are kept separate from that of SJI and its affiliates.
3. Re-calculate ETG's money pool interest for 2005 - 2008 and to date in 2009. The ETG financial statements for 2008 and prior years should be re-examined by financial auditors to determine if restatements are required. (Conclusion 6) Liberty found problems with the calculation of ETG money pool interest for the calendar years 2005-2008. AGLR has presented daily money pool balance and daily interest rate information, and recalculated the ETG money pool interest for 2005-2008. The Company's recalculation of money pool interest	N	Records pertaining to 2005–2009 were not available as this time period was prior to SJI's acquisition of ETG. The NJBPU's letter to ETG dated June 13, 2014, is unclear as to whether the recommended interest re-calculation occurred. The letter indicates ETG complied with the spirit and intent of all the report recommendations, with the

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Recommendation	Continued Viability (Y/N)	Comment
indicates that ETG was over-charged by \$539,948 in 2008, by \$2,730,370 in 2006 and by \$954,639 in 2005. The calculations also indicate that ETG was under-charged by \$3,226,417 in 2007, if ETG is charged for interest related to large goodwill accounting entries per GAAP accounting. The Company's recalculations indicate a net overcharge of \$998,540 from 2005-2008. This amount could be substantially greater for regulatory accounting purposes. The money pool interest calculations should be re-verified independently to determine the correct ETG interest for each year. ETG should also report to the NJBPU on all related developments, especially if they affect ETG regulatory accounting, or in any event at least monthly until this issue is resolved. AGLR should establish a proper ongoing format for calculating and assigning money pool interest in the future that uses daily money pool balances and daily borrowing rates to calculate money pool interest.		exception of those related to ETG's participation in the AGLR consolidated Utility Money Pool. However, the remainder of the letter discussed the issue of continued participation in the money pool. As a result, it is unclear whether the interest recalculation recommendation is meant to be included when the letter references recommendations 'related to participation in the money pool.'
4. Replace the AGLCC commercial paper program and revolving credit facility with utility-only programs and separate non-utility business facilities after the termination of the current credit facility. (Conclusions 7 and 8) AGLCC commercial paper funds the money pool, which provides operating funding for ETG. The commercial paper program's A-2 rating has produced a low cost source of funding for ETG and the other AGLR LDCs. AGLCC's commercial paper rates dropped to below one percent in early 2009. The AGLR LDCs, with the exception of AGLC, have borrowing needs too small to support stand-alone commercial paper programs. ETG and all other AGLR units would have to use significantly more expensive bank borrowing in the absence of a centralized commercial paper program. However, the LDCs together (<i>i.e.</i>, excluding the non-utility affiliates) would have the ability to participate effectively in a centralized program. In addition, AGLCC's \$1 billion line of credit that backs the commercial paper program was negotiated when the pricing of such facilities was at historically low levels. The good fortune produced by that timing also continues to bring advantage to ETG, along with all of AGLR's other borrowing units. The extreme changes in capital markets since the time of those negotiations have brought reduced availability and much higher estimated pricing of 3 to 4 percent in increased net borrowing costs. Liberty recommends that the AGLCC	N	Since its acquisition by SJI in 2018, ETG's finances have been kept separate from that of SJI and its affiliates. ETG is not part of a commercial paper program. Short term borrowing occurs through the use of a credit facility. ETG, SJI, and SJG are all signatories to the shared credit facility agreement, but the agreement established separate borrowing sub-limits for each entity and each entity's credit rating established the interest rates to be used in conjunction with that entity's borrowing.

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Recommendation	Continued Viability (Y/N)	Comment
short-term funding vehicles, including the commercial paper program and credit facility, should be kept in place until the scheduled termination date of the line of credit in August 2011. Liberty also recommends that separate utility and unregulated/holding company commercial paper programs and backing lines of credit be solicited and arranged for September 2011 and thereafter. It is clear that the inclusion of the non-utility entities would impose significant additional costs when it does come time to negotiate new credit facilities. Moreover, it is equally clear that the combined facility has provided benefit to AGLR's non-utility borrowers. That benefit has grown to extraordinary levels in the aftermath of the turmoil in the financial markets. We recommend that a utility-only line of credit and commercial paper program be established that would minimize borrowing costs for ETG and the other utilities in the future.		
5. Add specific borrowing limits to the Utility Money Pool Agreement and to any nonutility money pool agreement that ensure constant access to borrowing capacity and liquidity for ETG and other AGLR utility subsidiaries. (Conclusion 9) Liberty expressed the concern in Conclusion 9 that the SEM trading operations have the capability to use all of the available liquidity sources within the AGLR holding company under market or credit stress events. Such events could leave ETG and other utility subsidiaries without adequate liquidity to fund operational requirements, which is unacceptable for a utility with service obligations. Liberty believes that ETG should not be subjected to such liquidity risks by the AGLR unregulated businesses. Liberty has also recommended in Recommendation 4 that the existing AGLCC commercial paper program and revolving line of credit remain in place until September 2011 to take advantage of the favorable pricing of these facilities, which may not be replicated in today's less favorable financial markets. The current AGLCC commercial paper facility and revolving credit facility do not employ borrower sub-limits, which would serve the purpose of limiting the borrowing of individual companies to specified levels. Consequently, there exist no legal or contractual limits to protect ETG's access to liquidity. In distressed market conditions, ETG could find itself without economic access to necessary liquidity support due to high liquidity demands from other AGLR units. Since Liberty recommends that the existing, favorably-priced commercial paper and revolving line of credit	N	ETG is not part of money pool agreement.

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Recommendation	Continued Viability (Y/N)	Comment
facilities remain in place, sub-limits should be placed in the money pool agreements, which are to be re-drafted. We recommend that the holding company and the nonregulated entities be limited to no more than \$400 million of the borrowing capacity of the commercial paper program and the revolving line of credit until separate LDC and non-utility credit facilities are established in September 2011. This sub-limit will protect the utilities' access to liquidity during this interim period, until the utility liquidity facilities can be separated from that of SEM and other unregulated operations.		
6. Recalculate interest charges on the AGLCC promissory notes and request verification from financial auditors; draft and execute between AGLCC and ETG a new promissory note that conforms to the NJBPU financing order. (Conclusion 10) Liberty requested that the Company recalculate the promissory note interest for the years 2005 through 2008, excluding the AGL medium-term notes and NJEDA revenue bonds as specified by the merger financing order. The Company provided recalculations of the promissory note interest for 2008 and 2007. These calculations indicate that the interest rate would drop from 6.25% to 6.12% in 2008, or a reduction in promissory note interest of \$171,422. For 2007, the ETG interest would decrease by \$84,994. We recommend that the Company recalculate all of the interest charges on the promissory notes since the ETG merger to be in compliance with the BPU financing order that governs this transaction. We also recommend that the Company inform its financial auditors of these mistakes and request that the auditors re-verify interest expenses for ETG, consistent with Recommendation #1 above. The actual promissory note provided by the Company in response to LCD-589.1 should be redrafted to conform to the financing order, as well as to memorialize the actual procedures of the Company that have been found to be most effective in practice, such as recapitalizations that occur every six months.	N	This matter was resolved per the NJBPU's letter dated June 13, 2014. The letter states that ETG complied with the spirit and intent of all the recommendations, with the exception of those related to the ETG's participation in the AGLR consolidated money pool.
7. Set up a financing entity that raises long-term capital for only AGLR utility subsidiaries. (Conclusion 11) Long-term financing provided to ETG through AGLCC as currently structured is less beneficial than an all-LDC solution. The economics of scale gained by consolidating the long-term financing requirements of	N	The raising of long-term capital for ETG occurs separately from activities to raise capital for SJI or its affiliates. ETG's long-term capital is raised through the issuance of First Mortgage Bonds.

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Recommendation	Continued Viability (Y/N)	Comment
all AGLR entities are diminished by the lower credit standing of AGLCC. Liberty recommends that a utility financing entity be established by AGLR to maximize the financing benefits to the utility subsidiaries, while greatly reducing the negative credit effects and indirect cross-subsidization of unregulated businesses through AGLCC. Liberty estimates, based on the Company's analysis, that financing through a utility-only entity would offer the AGLR utilities interest rates that are 0.67 percent lower than AGLCC, based on historical information. This advantage would be much greater, at 1.50 percent to 2.40 percent, in more restricted financial markets such as those measured in April 2009.		
VI. Accounting and Property Records		
1. Conduct a complete review and internal audit of the Allocation Process Manual. (Conclusion #3) Liberty understands that Internal Audit has SOA control documents within the APM, but Liberty suggests a formal, comprehensive and timely internal audit and compliance testing of the accounting allocation process and documentation. The Company should meet with the internal audit group and set a time frame to perform an internal audit of the APM procedures, processes and documentation. Liberty believes periodic internal audits, performed by the Internal Audit group in conjunction with the accounting personnel, will further guard against potential erroneous transactions and safeguard against cross subsidization. See also Section D - Conclusions and Recommendations in Chapter V (<i>Cost Allocation Methods</i>) of the Phase I Report.	Y	It is unknown if Southern Company performed this type of audit; however, since acquiring ETG, SJI did not. A recommendation for Internal Audit to audit the SJI Cost Allocation Manual (CAM) is also being made in the current audit of ETG. This same recommendation from the previous audit was also made in Chapter V. Cost Allocation Methodologies.
2. Determine the transfer price of the CIS assets and review the allocation method used to allocate assets to the utilities. (Conclusion #4) The Company should review and determine if the assets transferred from non-utility to utility affiliates are priced at either the lower of cost or market transfer price. This review is important to safeguard against cross-subsidization practices. The Company should review the method it used to allocate and record asset transfer costs based on the more current end user counts provided by the Customer Services group instead of the Information Services and Technology group. Based on the Company's APM, the Customer Services/Billing group is the group that provides the accounting personnel the end user counts.	N	The typical useful life of software is five years and sometimes less. Thus, this software would have been fully depreciated several times since the recommendation was made in the prior audit dated April 1, 2010. Any such costs would have been included in tariff applications and reviewed and approved by the NJBPU. Thus, this recommendation is no longer relevant.

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Recommendation	Continued Viability (Y/N)	Comment
An alternative method of allocating billing costs is to count the number of bills per customer generated by the billing system. The Company should compare the end-user-customer and the bills-per-customer factors and then decide which method allocates billing costs more equitably to each utility.		
VII. Customer Service		
1. Fully Staff NJ-based Customer Care Center. <i>(Conclusions #1 and 2)</i> ETG has made the decision to in-source its telephone-based customer care, pulling the ETG call handling away from the India Business Processing Outsourcing (BPO) provider. ETG also plans to continue to staff the Lead Escalation team in Atlanta to support the newly formed ETG call center, and provide the same assistance that it currently provides to the outsourcing provider. This approach represents an effective strategy for making a quick transition; however, ETG's customer call center should assume responsibility for escalated calls as soon as possible. ETG should develop the expertise in the Green Lane call center so that its employees are prepared to handle any ETG customer service inquiry. Escalated customer inquiries should be handled by ETG supervisors and managers. AGSC should develop ETG call center representatives and supervisors with a goal of handling all ETG calls on-site in the NJ call center by the end of 2010. The AGSC call center teams in Riverdale should be available as contingency resources in the case of a disaster or temporary shut-down of the NJ center.	N	ETG has a Customer Care Center fully staffed with New Jersey employees.
2. Route the customer service lobby phones to the Lead Escalation Team until the New Jersey call center is operational. <i>(Conclusions #1 and 2)</i> ETG's business offices are geared to handle customer payments, not all customer service transactions. Walk-in-customers are generally referred to the lobby customer service phones for anything other than a payment, especially during busy times. The lobby phones are routed to the India call centers, just like all general customer service inquiries. Many customers visit the business offices in person in order to work out some kind of payment arrangement for their overdue bills. However, representatives in India are not allowed to handle payment arrangements or extensions; so, most of these calls are transferred to the Lead Escalation Team in Georgia, once the customers indicate the reason for their calls. This creates an unnecessary delay in serving a customer; the customers must explain the nature of their	N	Customer Service lobby phones are connected to the Customer Care Center in New Jersey.

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Recommendation	Continued Viability (Y/N)	Comment
transactions and then wait to be transferred to someone who can actually complete the transaction. Realistically, the customers have already visited the payment window, only to find out that they have to speak on the lobby phone. When they do this, they are then told they have to be transferred to another group of agents. This process not only inflicts delay and frustration inflicted upon customers, but it is also inefficient. Ultimately, representatives in ETG's New Jersey call center in the Green Lane building in Union should answer the lobby phones. This will eliminate unnecessary transfers and delays for customers. However, until the New Jersey center is operational later this year, these calls should be immediately routed to the Lead Escalation Team in Georgia.		
3. Discontinue charging a convenience fee for in-person payment of utility bills by credit card. (Conclusion #5) ETG's business offices are charging convenience fees to customers paying their utility bills by credit card. This is a violation of VISA's merchant requirements. ETG should immediately discontinue this practice.	N	This is not a policy at ETG.

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Recommendation	Continued Viability (Y/N)	Comment
4. Develop promotional campaign to encourage customers to sign up for energy assistance early in the winter. (Conclusion #6) Many customers approach ETG near the end of the moratorium for help in paying their bill, well knowing that their gas service has been targeted for termination due to non-payment. Under NJ law, customers are required to sign up for energy assistance and negotiate and keep payment arrangements. However, ETG is not holding customers to these guidelines; as a result, many do not learn about energy assistance options until they contact the call center after they receive their disconnection notice in late March. While ETG has a Customer Advocacy group that is responsible for community outreach and educating customers on energy assistance, too many customers are waiting until the last moment to apply for funding, and the funding is limited. ETG should do as much as possible to identify customers with delinquencies in early fall and require customers to apply for assistance early. Additionally, ETG should set up payment plans for these customers so they can continue to pay something towards their delinquency during the winter months and avoid the large debt.	N	There are three New Jersey low-income assistance programs in which ETG's customers can and do participate. These include the Low-Income Home Energy Assistance Program (LIHEAP), the United Service Fund (USF), and New Jersey Shares (NJ Shares). The first is funded by the federal government, the second is funded by rate payers, and the third is funded by donations. ETG encourages and advertises the availability of these programs for its ratepayers.
5. Work delinquent accounts more actively during the winter. (Conclusions #6) For the past several years, ETG has not been effectively treating its overdue accounts during the Winter Moratorium. Under NJ law, residential customers can be protected from service disconnection for non-payment if they have signed up for energy assistance, have negotiated a payment arrangement, and making payments in accordance with the arrangement, or can otherwise provide proof that they are having difficulties paying their bill due to unemployment or medical issues. However, since 2005 ETG has minimized field collection activities during the winter months, effectively granting WTP to all customers. Accordingly, bad debt has been growing significantly over the past few years. ETG should do everything possible to encourage customers to apply for energy assistance and set up workable payment arrangements for the remaining balance. ETG should track customer payments to make sure that the arrangements are being kept. Any customers that have broken arrangements should be subject to field collection, and possible termination, depending upon the situation and weather conditions.	N	ETG actively monitors its overdue accounts and collects from customers during all months of the year. Low-income assistance programs are advertised and offered to all low-income ratepayers and all ratepayers that are in arrearage. Arrearages are reported to the NJBPU on a monthly basis.

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Recommendation	Continued Viability (Y/N)	Comment
ETG's lack of action during the winter has created a culture in which many customers stop paying their gas bills in November and then scramble to make arrangements in March, prior to the spring when ETG begins disconnecting for non-payment. This practice does not help customers or the company; it generally leads to large delinquencies that are much more difficult to repay, many of which ultimately, become uncollectible debt.		
6. Pursue a more aggressive revenue protection program. (Conclusions #7) Nationally, energy theft accounts for approximately \$6 billion annually. Not only is energy theft a crime, it is a public safety issue. Most U.S. energy companies have some form of theft-of service program in place, typically relying on leads from employees, customers, and law enforcement. More aggressive utilities are employing customer analytics, technology applications, and awareness systems to predict, identify, and confirm tampering and theft. ETG should pursue a more proactive and aggressive revenue protection program. This program should be focused within the Customer Service organization, with clear responsibilities defined. ETG should assign ownership of the program. ETG should strive to create an even greater awareness of the company's program throughout the Company and community. ETG should build public awareness about the safety, ethical, and criminal aspects of energy theft through such activities as speaking to civic and church groups, placement of educational articles or copy in local newspapers and media, addition of theft-of-service information to the corporate web site, and performing high-visibility sweeps of neighborhoods. ETG should increase the scope and frequency of its communications with employees and customers as well as relaying the seriousness of its efforts to eliminate tampering and diversion. ETG should become active in revenue protection associations to promote the sharing of experience and tactics. While ETG does use exception reporting from the billing system to identify suspicious or unusual patterns in usage, ETG should investigate the use of customer analytics and modeling to identify suspected tampering or theft. Customer demographics, payment histories, and behavioral analysis combined with usage data from the AMR system, can help predict potential situations or pinpoint actual cases of theft.	N	ETG Customer Service has an analytics team and a customer variance team that analyze meter and billing data and actively analyze consumption, looking for discrepancies and evidence of unauthorized usage.

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Recommendation	Continued Viability (Y/N)	Comment
ETG should also develop specific approaches to detect and investigate theft and tampering within commercial and industrial markets. Industry experiences indicate a growth in tampering for these segments. Additionally, the risk is much greater with these customer segments and usually much harder to detect.		
VIII. External Affairs		
Liberty has no recommendations in this area.		
IX. Support Services		
1. Bring more formality to current legal-service quality and cost control methods by conducting periodic solicitations and by requiring formal outside counsel performance reviews. (Conclusion #3) AGLR's legal department concerns itself with cost and performance quality and there is no reason to conclude that substantial excess outside legal costs are having a negative impact on ETG. Nevertheless, a somewhat more structured approach in two areas will enhance existing efforts to manage outside counsel. There should be periodic solicitations of formal proposals in subject areas that create large and recurring needs. It is not recommended that all retentions on given matters be preceded by formal "bids." That approach is not conducive to relationship development (an important value in handling repeat matters) or in acting with dispatch (as the timing of particular needs can be unpredictable even in areas of high need over time). However, using it selectively can be helpful both in a number of ways: (a) identifying new sources of assistance, (b) encouraging existing sources to be as competitive as possible, and (c) providing a source of information for negotiating with existing sources. As the latter two cases demonstrate, a change in service providers need neither be contemplated nor necessary to produce benefits. Structured performance reviews encourage a more reflective and generally better communicated review process and therefore are more likely to serve as an effective tool for identifying areas where dialogue with a provider is useful in meeting service expectations.	N	As covered by this report in Chapter XXI, Support Services – Legal, the SJI General Counsel has implemented good management practices for outside counsel and the outside counsel charges to ETG have been decreasing.
2. Provide a review process for assuring that inside lawyers charge the maximum amount of time properly allocable to individual AGLR entities. (Conclusion #4) AGLR has adopted a structure that promotes proper separation of utility and non-utility legal costs. It has	N	The SJI inside lawyers utilize the SJI timekeeping system and charge their time either to a subsidiary, like ETG, to overhead, or to a project. Attorney time spent on capital projects is capitalized through this process. The time allocation for

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Recommendation	Continued Viability (Y/N)	Comment
not, however, sufficiently emphasized the need for time charges to keep to a minimum the use of charge numbers that result in the assignment of costs to ETG through a general allocator. The VP/AGC should use the regular goal setting and performance review process with each Atlanta-based attorney (the process need not include Houston attorneys for so long as they continue not to make charges to ETG or to AGSC in a manner that results in assignment or allocation to ETG) to establish individual targets for time assignment, and generally track performance against those targets. Supervising attorneys should conduct quarterly or more frequent reviews of time assignments by those they supervise.		each attorney is done by day and is submitted weekly.
3. Bring more strategic focus to facilities planning and management. (Conclusion #5) The Company lacks rigor and strategic focus in facilities planning and management. Although the evidence indicates that the Company makes reasonable facility decisions when prompted to do so by circumstances, as when new office space was necessary upon vacating the Plaza Builder or when there was need for a new call center in New Jersey, the Company does not otherwise actively engage in the strategic planning of its facilities portfolio. For example, the Company has not actively considered whether the current mix of owned as opposed to leased facilities is optimal, or whether it is using the available space in the most cost effective manner. The lack of strong strategic focus in facilities planning and management may result from the current open leadership positions in the centralized facilities group and the recent migration of this group among various AGSC organizations. The Company should find leadership for and determine the appropriate staffing and the best organizational location for this group as soon as possible. In addition to considering the most efficient and cost effective approach, the Company should consider how best to improve the strategic focus for facilities planning and management in making these decisions.	Y	The Facilities Management System is currently “out of sync” with other aspects of ETGs operations, in terms of records management and information flows. Work Management programs to streamline and track work orders, inspections, and preventative maintenance programs should be accelerated to the extent practical. The dramatic shift in workspace requirements in the wake of Covid has created uncertainties as well as opportunities with respect to reconsidering “office space solutions.” New “ground rules” and policies should be established, with the support of executive management, to proceed with confidence in uncertain times.
4. Use additional methods to track supply chain management performance. (Conclusion #8) Although the Company is doing a good job of materials management, Supply Chain could use additional formal approaches to the tracking supply chain management performance to improve results further. As examples, Liberty suggests more formalized use of performance targets, comparison of performance results to industry	Y	MRC Global “is easy to do business with” and fulfills ETG’s materials requirements. However, this may not provide an optimal, low-cost solution. ETG should explore opportunities to reduce dependency on a single supplier, with the goals

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Recommendation	Continued Viability (Y/N)	Comment
benchmarks, and use of internal satisfaction surveys for fleet, materials, and other aspects of supply chain management. The recent reorganization that has brought increased focus and additional analytical resources to supply chain management provides a good opportunity to review and enhance supply chain performance tracking.		of cost reduction and increasing supplier diversity. Establish evaluative criteria for materials supply and explore opportunities well in advance of the "contract renewal timeframe" to qualify vendors that can provide material supply alternatives, in whole or in part. Assess price comparisons and support services, and "value added" differentials.
5. Use additional methods to track information technology performance. (Conclusion #14) Information Services provides good value to AGLR and ETG. It effectively tracks its performance using SLA measures. Use of internal user satisfaction surveys can provide additional information to the department in judging how well it is meeting user needs. Industry benchmarking can provide another means for Information Services to judge its performance and consider ways to enhance it.	N	SJI uses Business Relationships Managers to gauge how well IT is meeting users' needs. These positions attend the users' meetings, identify needs and solutions, help put together business cases, chart strategy with the users, and help perform analysis supporting needs
X. Contractor Performance		
1. Review programs for customer and public awareness of the hazards of natural gas. (Conclusion #1) Outreach and education can be in the form of bill stuffers, advertisements in local papers and other media and other methods that ETG may find appropriate. Because of the large non- English-speaking population in ETG's operating region, particularly in the Union territory, such education programs may in the use of several languages. This outreach may increase the number of odor complaints (leaks) reported by customers, and may speed up the process of repairing such leaks.	N	Issues associated with hazards of natural gas are inherent in its use. As technology has evolved, with the ubiquitous presence of the Internet, opportunities for outreach have increased. Programs for raising customer awareness are ongoing and records of hazardous incidents maintained to assess potential problems.
2. Increase the number of construction inspectors. (Conclusion #2) Since 2004, the number of construction inspectors has been cut in half while the value of the construction by contractors has increased by almost 80 percent. Additionally, since most inspectors work out of the Union territory, the time spent driving to job sites in the NW territory is excessive. The number of jobs that an inspector can visit every day during the construction season is limited, and with three or more contractors working on several jobs each, not every job site is currently visited every day. When there is a problem on a job, there can be a further reduction in job-site visits	N	New Jersey law requires that all construction work be inspected daily. The number of inspectors is currently sufficient to fulfill these requirements. Moreover, technology has advanced to enhance record keeping, and rigorous monitoring of construction activity is performed as a matter of course.

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Recommendation	Continued Viability (Y/N)	Comment
since one of the four inspectors (and potentially also the manager) is tied up exclusively on one job. ETG must hire additional construction inspectors, to reduce each inspector's work load and to allow for each construction site to have a daily visit.		
3. Provide additional documentation for no-bid contracts that have a significant dollar value. (Conclusion #3) Several of the no-bid contracts awarded in 2008 have high dollar values. In order for ETG to show that it has awarded these contracts prudently, it should always have significant justification for each such action. Such awards may not only be prudent but also cost-effective and provide more value to the ETG customers than bid contracts. Without adequate documentation, however, neither the Company nor the regulators can be sure. ETG should, as part of its contracting procedures, have such documentation prepared for all no-bid contracts over a certain dollar value (such as \$10,000 or \$20,000).	Y	ETG relies on one company for materials management and inventory control. ETG is satisfied that this arrangement results in the most cost-effective solution and fulfills its requirements efficiently and effectively. However, benchmarking analysis should be performed to certify that "best case scenarios" are, in fact, being realized.
4. Establish a Quality Assurance (QA) and Quality Control (QC) program. (Conclusion #4) ETG must develop a multifaceted or tiered approach to QA/QC: ETG must have a QA program, and its contractors must have QC programs that dovetail together. The first level is self inspection; the second level is a dedicated QA/QC Department that performs inspections and audits year round; and the third level is an Internal Audit Department (which could be a corporate function in Atlanta) that performs specialized and in-depth inspections in problem areas (such as no-bid contracts).	N	ETG has established processes for QA/QC that fulfill Construction program requirements. Advances in systems technology have enhanced network development, implementation, and verification.
5. Continue to emphasize the importance of the New Jersey One Call notification system with contractors and customers. (Conclusion #6) Every third-party damage incident is a potentially serious public safety issue. As such, the underground locating process should be under continual scrutiny to ensure that all mark out requests are properly and timely marked, whether by company personnel or contractor. In addition, ETG should continue to emphasize the importance of the NJ1C notification system with contractors and customers, in an ongoing basis, in an attempt to eliminate third-party damage incidents in which no call was made to NJ1C to request a mark out. ETG's excavator oversight plans will also promote proper mark out practices and encourage safe excavation procedures.	N	The importance of the New Jersey Once Call is being appropriately emphasized. Advances in record keeping technology and on-site monitoring have increased effectiveness and efficiency in expediting one-call mark outs.

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Recommendation	Continued Viability (Y/N)	Comment
XI. System Operations and Maintenance		
1. Perform for all AMR devices a periodic ‘true up’ to confirm and validate that the readings are accurate. (Conclusion #2) The vast majority of the customer meters at ETG have AMR devices attached to provide a fast and efficient method of taking meter readings. Such systems are wide spread and in use all over the world. ETG, however, does not have a formal program to periodically verify that the mechanical dial and the AMR are reading the same. Such verification occurs in many situations only when a meter has been removed from service (for a high bill complaint, a poor performing meter type, or for statistical sampling). Thus a customer may be receiving incorrect bills (all billing is off of the AMR device) for a long period of time if their meter has not changed. Most utilities have instituted a procedure to visit each of the AMR devices on a periodic basis and to check the AMR reading vs. the mechanical dials. Several states mandate the period of this ‘true up’ but to date the NJ BPU has not required such a program be instituted. By not verifying the AMR device, ETG may be under-charging customers (or over-charging, but most customers in that situation would file a high bill complaint) and thus may be losing revenue. Until the accuracy and longevity of the AMR device can be fully documented, ETG should institute as soon as possible a process to visit and verify every AMR equipped meter in both service territories.	N	ETG has implemented NJBPU meter testing and meter accuracy regulations. The meter testing is done by ETG employees at the Union Division.
2. Start a robust and comprehensive Quality Assurance and Quality Control (QA/QC) program for all O&M activities and tasks. (Conclusion #3) This is a similar recommendation to #4 in Chapter X which relates to contractors. This recommendation is for an identical QA/QC program for ETG personnel performing O&M tasks. The overall quality assurance program can originate in AGLR but it must be tailored to the specific needs of ETG. The QA plan should mandate a three-tier QC process that includes self checking/ supervisor checking (tier 1); a robust QC department that routinely checks the quality of the work with unannounced field visits and audits (tier 2); and an internal audit group in Atlanta that periodically checks departments or areas for compliance with corporate guidelines and the O&M manual (tier 3). This group would also be called in if an area was having problems relating to special issues that an outside evaluation would be helpful. Such a request could be initiated by the area itself.	N	Sage was impressed with the QA/QC program. The core purpose of QA is to prevent mistakes in the delivery of natural gas to ETG's customers. Ensuring that quality is process-oriented means it focuses on the processes related to quality. Quality Control (QC) is related because it is product oriented, which means it focuses on the inspection of the product. Adding QA and QC together in the natural gas industry ensures gas will be delivered to customers safely, and it will be a safe product to burn in the homes of ETG's customers. QA develops, implements, and completes audits to determine company-wide levels of compliance with relevant state and federal laws

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Recommendation	Continued Viability (Y/N)	Comment
		as well as company procedures. They identify operational safety and quality concerns and develop recommendations to improve internal controls to maximize effectiveness and efficiency.
3. Add specialized workers to address increasing workload and the age of its existing employees in several key O&M groups. (Conclusion #4) Many of the specialized groups in the operating department were drastically downsized after/during the AGLR acquisition. As examples, the pressure control group, supervisors, instrument technicians, and regulator mechanics were cut by 50 percent as of 2008.25 AGLR did improve the technology so everyone could become more efficient. Such an improvement in efficiency did compensate for some of the reduction but in many areas this was not sufficient and overtime rates have become very high. In other areas the workload has also increased and thus the workload per remaining employee has also increased to greater degree than can be compensated by technology innovations. Another area of concern is the aging of the work forces, especially in some of specialty areas such as pressure control, corrosion control, and leak repair. Taken together, these two dynamics will or have impacted how well ETG can meet its mandated programs in the future and needs to be addressed now. It can take several years to qualify and train a new instrument technician or regulator mechanic. ETG needs to be addressing its current and future manpower needs now before it becomes an issue with missed inspections and deadlines on mandated work.	Y	There were times when only one controller staffed the Gas Control function. The function is understaffed and three employees will retire at the end of 2024. Gas controllers are hired without specialized backgrounds and the training provided is approximately 90 days. Gas Controllers must be trained and it takes time to do this. The existing staff works 12-hour shifts with four of those hours at overtime rates. The fleet mechanics are all considered senior in age. New employees should be added so that training can be completed. Additionally, the actual fleet is aged and plans for replacement are not in place. ETG is at risk of not being able to supply the large equipment required in their construction area.
4. Increase leak repair rates to keep the open-leak count down, improve public and customer safety, and minimize future O&M costs. (Conclusion #5) The number of leaks that remain open on the ETG system at the end of each year has increased as has the difference between leaks found and leaks repaired. Both public and customer safety could be affected if the number of leaks becomes excessive and the amount of gas escaping is large. Also, many of these leaks are a future liability, and it is cheaper and most cost effective to repair the leaks sooner rather than later, since open repairable leaks must also be periodically releak surveyed and evaluated. The only true cost-effective method of reducing leaking mains is to replace them with a better material before a substantial amount of money has been invested in leak repairs and re-surveys. ETG in its O&M manual provides a guideline	N	In recent years, ETG has experienced more incidents of grade 1 leaks in both of ETG's divisions. Damage prevention was virtually non-existent in 2010. Regulation has caused greater surveillance each year for determining leaks. Leak equipment is more advanced and improved. The outcome is that the number of leaks determined today may not have increased because all leaks in earlier years were not detected. Additionally, there are more outside elements, such as third-party damage, because of increased

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Recommendation	Continued Viability (Y/N)	Comment
on main replacements but this should be reevaluated based on current conditions, especially with leaking CI/DI joints.		construction in the areas which causes leaks. ETG experienced an overall reduction of both Grade 2 and Grade 3 below ground and above ground leak balances. With the high percentage of pipeline being replaced, ETG experienced an overall reduction of both Grade 2 and Grade 3 leak below ground balances. There has been a major reduction in the number of year-end active aboveground leaks ETG experienced an overall reduction of both Grade 2 and Grade 3 above ground leak balances filed with NJBPU Docket GA 22030141.
5. Provide for all stakeholders additional outreach for ETG's TPD and outside-force program. (Conclusion #6) Although the number damages per 1,000 locates has not increased in the last few years, the total number of mis-marks has increased. Because many of the contractors that ETG uses double or triple check the mark outs, the number damages per mis-mark has been reduced but a more than equal corresponding increase in mis-marks without damage has occurred. The rate of damages on the ETG system is higher than the average utility but several factors work against ETG: working in an area that is multi-lingual, working in an area that is very congested, and working in an area that is old and requires constant repairs to the infrastructure (rather than wholesale replacement). ETG needs to make sure that it reaching all of the stakeholders and that a multilingual approach may be necessary given the population of the territory and excavator population. Another area that ETG needs to explore is the quality of its locate contractors and whether they are doing everything needed to reduce the number of damages (the Union territory uses an outside contractor for locates while the Northwest territory using ETG personnel).	Y	The number and percentage of failed locate audits from 2012–2021 increased from 6.53% to 16.51%. This was due to the tickets being mismarked. The majority of bad tickets are attributed to the Union area which is an old system and very congested. Sage raised the issue of the outside contractor that performs locates in the Union area.

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
6. Involve outside responders in the annual transmission drill. (Conclusion #7) The annual transmission drill currently simulates the use of outside responders. Many of these resources have been trained by either ETG or an industry/pipeline group that ETG is a member of (the Paradigm Group). By involving these outside resources ETG will learn how well they have understood their training, if there are any communication problems (such as the ones ETG has uncovered via previous drills from lessons learned) and any other shortcomings that are not apparent in the plan or have not been previously recognized. ETG, by doing these drills with some input from outside responders, will move the validation of their training to the next level and will fully comply with both NJ BPU and US DOT regulations.	N	There are ETG Operational Qualification (OQ) auditors in the field every day and the auditors have an eye on compliance factors. Managers of independent contractors are notified of any infractions. The OP auditors include members from an independent contractor. Additionally, Emergency Preparedness includes training drills where police and or fire fighters are included.
7. Make instituting a GIS mapping system across the entire service territory a priority. (Conclusion #8) The GIS mapping system is currently only available in the Northwest territory, which is the territory that needs it the least. The GIS mapping system is an integral part of many other O&M programs and will assist ETG in meeting or exceeding its internal goals, the goals that the NJ BPU has established and the requirements under the US DOT regulations. A fully active and updated GIS will assist the locate contractors with better and more up-to-date maps, will assist in plotting leaking mains that need replacement, will assist the corrosion control group in identifying active corrosion areas, and will assist developing a comprehensive main replacement program that may be required under the soon-to-be-released distribution integrity regulations.	Y	The GIS System is very enhanced. ETG's, IT developed and expanded the GIS system to provide innovative features. Development of GIS was completed by the end of 2019. Upcoming GIS application and enhancements include the Tracking and Traceability program, Outage Management, Emergency Preparedness, and ad hoc applications requested or required by the business. There are many new features to come. ETG's efforts are ongoing.
8. Change the methods and approaches for gaining access to inside meter sets to perform inspections and to conduct accuracy checks ("true up"). (Conclusion #9) ETG currently has a large number of inside meter sets that have not been inspected or leak surveyed in a number of years. Both ETG and the NJ BPU recognize this problem and say it may be the most important issue facing the utility since it covers both safety and billing issues. Many of these meters may also be in the last group of meters that have yet to be moved into the AMR program and thus these customers are either getting self-read or estimated bills. To perform the inspections, ETG uses first responders or other trained individuals to go to the customer during normal business hours. If this fails, they try post cards	N	The Business Operations area gives direction to the meter reading group for meter inspections. Letters are sent by ETG to customers requesting that they make an appointment for ETG staff to enter a dwelling and test the meter. The meter reading group will be sent to the dwelling. Most meters are placed outside so access to enter a household is not required. Efforts are underway to move all inside meters to outside of buildings. Customers with meters inside their facility may want to know when the

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V. Recommendations and Review of Previous Audit

Recommendation	Continued Viability (Y/N)	Comment
and then escalate to additional methods to contact the customer to set up an appointment either through phone contact or letters. What have not been tried are service interruptions or other major steps to obtain access. This problem is not unique to ETG and many urban gas utilities have addressed this in different methods from moving all meters outside regardless if it causes other problems to having a dedicated group of individuals who are charged with obtaining access and performing the necessary tasks such as an inside leak survey, any safety checks, a meter change, a 'true up' between the AMR device and the mechanical dial. Some utilities where there is considerable safety implication, such as a service-affecting corrosion control problem, have terminated the service and cut off the service line, but this is an extreme example. ETG should contact other local urban utilities to determine what their respective methods are and what seems to work the best. They should try these other methods and determine if they are yielding sufficient results to make them permanent.		meter reader is coming so that access to the house can be granted. This is time consuming, thus the effort to move all meters outside.
XII. Compensation and Benefits		
1. Task the board's compensation consultants with providing a focused analysis on new directions in executive and management compensation and on new developments by individual companies that may be at the leading edge of change. (Conclusion #2) The board has done well in choosing and using compensation consultants. The C&MD Committee seeks out extensive data, and welcomes discussion of trends with the experts it uses to canvas the industry. Those consultants have already begun to provide notice that compensation thinking overall and compensation elements in particular may be changing. The board should use its relationships with professionals who are at the leading edge of the business to bring added "color" to the sharp, precise identification of breakpoints for compensation elements among quartiles that have characterized the data and analysis the board sees. This added perspective should come in the form of extended discussion of how more aggressive, thought-leading companies are responding to the much more visible subject of executive compensation and to the opportunities that the current marketplace may present.	N	SJI uses data based on a review of external salary survey market data from two national compensation consulting firms, Willis Towers Watson and Mercer, as well as from the American Gas Association (AGA). Executive compensation and benefits are compared to a peer group of companies that was comprised of similarly sized gas and other utility companies with comparable revenue and market capitalization.

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Recommendation	Continued Viability (Y/N)	Comment
2. Restructure the AIP to increase the weight that local and regional operations have on compensation and assure that extension of the SEM asset management agreement is not a contributor to compensation anywhere outside SEM itself. (Conclusion #3) There is a large amount of direct and indirect overlap among the three measurement components of the AIP and the EPS component of the LTI. Their net effect is to underemphasize ETG operational performance in the awards to the executive leadership at the local and regional levels. AGLR needs to increase the weight given to ETG operational performance in the AIP for those at the New Jersey and Mid-Atlantic levels. Incentives can match base pay for the SrVPMAOP and can contribute over two-thirds of base pay for the ETG VP/GM. It is a strength that AGLR hinges so much of the total compensation of local and regional personnel directly on performance. Moreover, Liberty found the selection of operational measures to be comprehensive and appropriate. That strength, however, is diminished by an over-emphasis that ends up getting placed on financial performance. Placing 20 to 25 percent of the ETG VP/GM's base salary at risk directly on the basis of primarily quantifiable ETG operational performance would represent an improved distribution. A factor in the range of 15 percent for the SrVPMAOP would correspond to this new measure, provided that a discrete portion thereof requires success not just in the region, but in New Jersey as well. The lack of numerical dimensions on detailed items in an individual's unique portion of the AIP also may weaken linkages between individual contributions and rewards. Scoring the five or so overall categories and then allowing superiors to assign scores at the categorical level without constraints on weight to be given to the individual items is not sufficient. There should be at least overall dimensions placed on the individual items. The failure to do so is particularly of concern at the regional level, where it would appear that a major failure to attain targets in New Jersey would not necessarily produce a "lost opportunity" to an individual, if performance elsewhere proved to be stronger. Nobody at the New Jersey or Mid-Atlantic level does or should be responsible for promoting the business of SEM. To the extent that they have interest in the management of ETG assets, it should be obvious that such interest lies exclusively in assuring asset optimization from ETG's perspective. In fact, outside	N	This is not applicable to ETG and its current parent company, SJI.

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Recommendation	Continued Viability (Y/N)	Comment
SEM directly, it appears that no service-company or AGLR executive leadership has SEM's interests at the forefront. Therefore, outside SEM directly, no AGLR employee or officer should be rewarded, per se, for securing any SEM business with ETG. To do otherwise is, at best, to ignore the obvious possibility that what is best for ETG may be different from what is best for SEM. At worst, establishing such a reward basis suggests that it does not matter whether doing business with SEM disadvantages ETG. AGLR has paid appropriate attention generally to "hierarchy" issues in designing and implementing compensation. It adjusts the portions of annual base compensation that can be earned as incentives according to the employee level and it adjusts the makeup of the AIP as well. It will be important for the changes adopted to implement this recommendation "cascade" similarly down through the levels of employees dedicated to New Jersey and to Mid-Atlantic operations that serve New Jersey.		

VI. AFFILIATE COST ALLOCATION METHODOLOGIES

A. BACKGROUND

INTRODUCTION

The origins of cost accounting reside in manufacturing. This form of accounting entails assigning all manner of costs to a cost object. Originally, the cost object was a finished product. This became known as a ‘widget,’ a term of art widely used in business as a proxy for any physical “thing” that is produced and sold at fair market value. Fair market value is the price agreed to between a willing buyer and a willing seller with full knowledge of the facts, in an open market, without coercion and with sufficient time to consummate the transaction.

Costing systems are divided into job-order costing to account for widgets produced according to a job order and process costing for activities that did not result in the creation of discrete, individual units but involve the mass production of like units in contrast to ‘tailor-made’ or unique units (widgets). As cost accounting evolved, the concepts expanded to include other ideas and uses including standard costing, cost-volume-profit analyses, decision analysis, and management accounting.

The public utility sector requires the use of many versions of accounting, but this chapter focuses on cost allocation, which is a unique aspect of cost accounting with wide application in the utility sector. It is important to recognize that the concepts underlying the regulatory rules of the road are not unique to public utilities. Rather, they employ the concepts that have been refined through the academic and practical study of costs, cost behavior patterns, and the basic principles that have been refined in the academy, industry, and the accounting profession. Thus, the principles that underly cost allocations in the public utility sector are rooted in the same principles that are reflected in other industries and in the accounting profession.

The allocation of costs to a cost object is complicated by the fact that there are a variety of natural cost behavior patterns. Certain costs are variable, which means they vary in proportion to the volume of production. Direct materials and direct labor are two examples of variable costs. Other costs are fixed—like rent (at least, up to a point when additional space is required) and depreciation. These can be tricky to handle in producing reasonable results.

Direct costs can, and must, be linked directly to a cost object. South Jersey Industries (SJI) accounting requires that when an employee works on a specific task for one of the utility companies, that time must be charged in the time reporting system to a unique code that will collect those costs for that task and company.

However, some costs are fixed, which is to say the total amount does not change in proportion to the volume of widgets produced (within limits). These costs must be apportioned—or, allocated—to a cost object according to an algorithm that produces a reasonable (or, at least, a “not unreasonable”) result.

Those activities referred to as cost allocations in a utility setting are essentially transfer prices. This too has extensive practical grounding in commercial accounting. For

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example, transfer pricing for equipment made in the USA and shipped to a subsidiary in another country must follow strict rules like those SJI's operating units must follow when transferring goods or services between operating units when the intercompany sale involves a transfer from a non-regulated business unit to a regulated business unit.

The goal of the accounting rules governing cost allocations is to prevent the shifting of costs and profits from one entity or line of business to another. For commercial businesses, that often means preventing the shifting of profits from a high-tax country into a low-tax country. If tax authorities suspect that profits and, thus, tax revenues are shifted out of their authority they can initiate an investigation to claw back the taxes that would have been levied and collected if the "correct" transfer price had been employed. Of course, this often involves the use of judgement and can be the source of contention (and business) involving many experts including lawyers, accountants, and consultants.

For public utilities, the goal is to prevent the shifting of profits from a non-regulated entity (i.e., where the dynamics of a competitive market can be relied on to produce efficient results) to a regulated entity where customers of a monopoly must absorb all costs approved for inclusion in rates. Thus, verifiable market prices are always preferable to a calculated value in setting transfer prices.

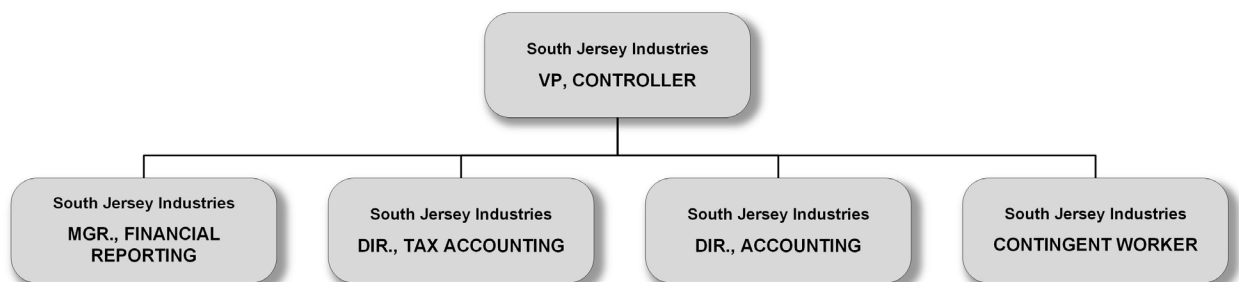
Nonetheless, calculated values are often unavoidable and, therefore, the way they are determined is critical. As a result of extensive study and experience in the academic world as well as business and regulation—including by the Department of Defense in developing rules for defense contractors to ensure consistent cost allocation practices and the Cost Accounting Standards Board, among other entities—a body of knowledge has grown up that provides a sound framework for handling these costs.

Thus, this chapter details the way SJI handles costs, including allocated costs, in accordance with well-established and widely accepted policies and procedures.

ORGANIZATION

The responsibility for cost allocations to or from Elizabethtown Gas Company (ETG) and its affiliates is the responsibility of the SJI Accounting Department, under the direction of the Vice President, Controller. The organization chart for the Accounting Department is shown in the following exhibit.

SJI Accounting Organization Structure



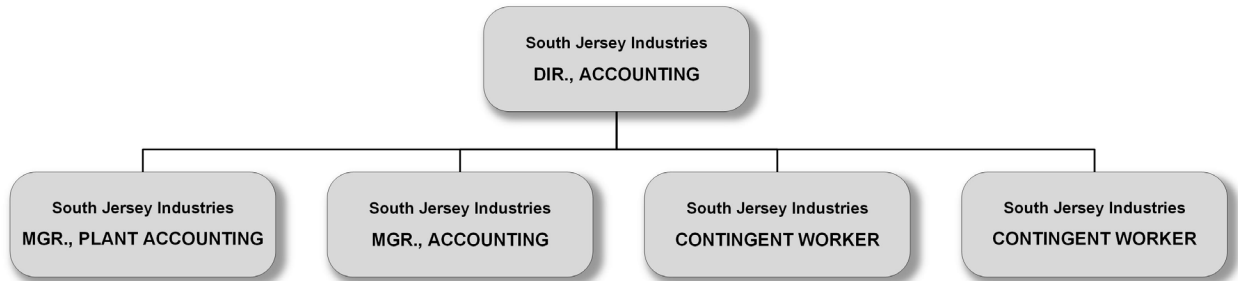
Within the Accounting Department, the actual day-to-day responsibility for implementing and managing the cost allocation methodologies rests with the Director, Accounting, who

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reports to the VP, Controller. The organization chart for these positions is shown in the following exhibit.

SJI Utility Accounting Organization Structure



AFFILIATE TRANSACTION REQUIREMENTS

New Jersey's Electric Discount and Energy Competition Act (EDECA) and its implementing regulations (the Affiliate Standards Regulations) require that:

Transfers of services not produced, purchased, or developed for sale on the open market by the electric and/or gas public utility from the electric and/or gas public utility to related competitive business segments of its public utility holding company shall be priced at fully allocated cost.

Transfers of services not produced, purchased, or developed for sale on the open market by a related competitive business segment of the public utility holding company from that related competitive business segment of the public utility holding company to the electric and/or gas public utility shall be priced at the lower of fully allocated cost or fair market value.

ALLOCATION PRINCIPLES

In order to comply with the regulations stated above, SJI and SJI Utilities, Inc. (SJIU). have set forth the following allocation principles to be used whenever products or services are transferred between ETG and its affiliates.

- a. *If only one affiliate, entity, division, or service causes a cost to be incurred or benefits from a cost, that cost shall be directly assigned to that affiliate, entity, division, service or jurisdiction. Direct assignment should be performed whenever practicable and is preferred over allocation.*
- b. *The general method for charging indirect costs should be on a fully allocated cost basis. Under appropriate circumstances, the NJBPU or PSC may consider incremental cost, prevailing market pricing or other methods for allocating costs and pricing transactions among affiliates.*
- c. *To the extent possible, all direct and allocated costs between regulated and non-regulated services and products should be traceable to the books of the applicable regulated utility to the applicable Uniform System of Accounts. Documentation should be made available to the appropriate regulatory authority upon request regarding transaction among affiliates.*

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VI. Affiliate Cost Allocation Methodologies

- d. The allocation methods should apply to Elizabethtown Gas', South Jersey Gas', and Elkton Gas' affiliates in order to prevent subsidization from and ensure equitable cost sharing among the regulated entity and its affiliates, and vice versa.*
- e. All costs should be classified to services or products which, by their very nature, are either regulated, non-regulated, or common to both.*
- f. The primary cost driver of common costs, or a relevant proxy in the absence of a primary cost driver, should be identified and used to allocate the cost between regulated and non-regulated services or products.*
- g. The indirect costs of each business unit, including the allocated costs of shared services, should be spread to the services or products to which they relate using relevant cost allocators.*

TRANSACTIONS AMONG AFFILIATES

Recording

Separate accounts to record intercompany transactions are maintained by ETG and each of its affiliates. All transactions are processed through the intercompany receivable and payable accounts unless doing so would violate Generally Accepted Accounting Principles (GAAP) or other governing rules and regulations. Summaries of all intercompany transactions are maintained by ETG and its affiliates, updated on a quarterly basis with a three-month lag.

Invoicing

The Manager, Accounts Payable, is responsible for the invoicing and payment of intercompany transactions, generally at the end of each month. The Manager, Accounts Payable reports directly to the Vice President, Finance and Assistant Treasurer. Per the Cost Accounting Manual (CAM), ETG cannot pay an affiliate for goods and services. Instead, SJI and SJIU, acting as an agent for ETG, pay for the goods or services. ETG then reimburses either SJI or SJIU within 24 hours, with some reasonable exceptions for weekend and holiday scheduling. ETG is not allowed to extend payment terms to affiliates longer than those extended to third-party providers of similar services.

COST APPORTIONMENT METHODOLOGY

To allocate the costs of products and services to ETG and its affiliates, the costs are first classified into four categories. These four cost categories are:

- **Directly Assignable** – Expenses incurred for activities and services exclusively for the benefit of ETG and its affiliates. As the following three exhibits demonstrate, most costs charged or allocated to ETG or its affiliates are classed as this category, most often based on personnel time reporting.
- **Directly Attributable** – Expenses incurred for activities and services that benefit more than one affiliate and which can be allocated based on direct measure of cost causation. This category utilizes the relative counts of personnel, transactions, space, items, etc. to allocate costs among ETG and its affiliates.
- **Indirectly Attributable** – Expenses incurred for activities and services that benefit more than one affiliate and which can be allocated based on general measures of

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cost causation. This category includes the SJI and SJIU Management Fees, using a three-factor allocation formula to distribute costs to ETG and affiliates.

- **Unattributable** – Expenses incurred for activities or services that have been determined as not appropriate for apportionment. These costs relate primarily to activities such as corporate diversification and political or philanthropic endeavors. As such, they are charged directly to SJI.

Services Provided by SJI

Service Provided	Cost Allocation Methodology
Corporate Counsel and Secretary	Services are directly assigned to the entity responsible for the service provided. Primarily labor and benefits – allocation based on time reports. Services assigned to SJI are allocated as part of the Management Service Fee using the three-factor general
Investor Relations	Indirectly attributable to the various entities through the Management Service Fee allocation factor using the three-factor general allocator.
Strategic and Financial Planning	Primarily labor and benefits – allocation based on time reports. Remainder is allocated as part of the Management Service Fee.
Accounting	Primarily labor and benefits – allocation based on time reports. Tax expense is allocated based on actual tax liabilities.
Risk Management	Primarily labor and benefits – allocation based on time reports.
Internal Auditing	Primarily labor and benefits – allocation based on time reports.
Environmental Affairs	Primarily labor and benefits – allocation based on time reports.
Insurance Payment and Processing	Primarily labor and benefits – allocation based on time reports.
Insurance Policy Placement and Claims Administration	Primarily labor and benefits – allocation based on time reports. The cost of insurance coverage is allocated as described in Table 10.
Shareholder Records	Indirectly attributable to the various entities through the Management Service Fee allocation factor using the three-factor general allocator.
Treasury and Cash Management	Primarily labor and benefits – allocation based on time reports. Bank fees are assigned based on actual costs incurred by bank accounts.
Human Resources Services	Primarily labor and benefits – allocation based on time reports.
Human Resources Services – Employee and Benefits	Primarily labor and benefits – allocation based on time reports. Benefits are typically allocated based on the percentage of users.
Information Technology	Primarily labor and benefits – allocation based on time reports. Certain allocations are done using specified head counts.

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VI. Affiliate Cost Allocation Methodologies

Service Provided	Cost Allocation Methodology
Procurement	Primarily labor and benefits – allocation based on time reports. The cost of materials and supplies purchased or issued from stores is directly assigned. Labor and benefits costs are allocated based on time reports. Non-labor fleet costs are allocated as described in Table 10.
Facilities and Building Services	Allocated as part of the facilities charge which is based on occupied space.
Corporate Communications	Primarily labor and benefits – allocation based on time reports.
Stakeholder Relations	Primarily labor and benefits – allocation based on time reports.
Payroll Department	Primarily labor and benefits – allocation based on direct entry.
Accounts Payable	Primarily labor and benefits – allocation based on time reports.

Services Provided by SJIU to ETG

Service Provided	Cost Allocation Methodology
Sales and Marketing	Primarily labor and benefits – allocation based on time reports.
Rates and Regulatory	Primarily labor and benefits – allocation based on time reports.
Safety	Primarily labor and benefits – allocation based on time reports.
Utility Shared Services	Primarily labor and benefits – allocation based on time reports.
Innovation and Business Improvement	Primarily labor and benefits – allocation based on time reports.
Customer Experience	Primarily labor and benefits – allocation based on time reports.
Gas Supply, Allocations, and LNG Operations	Primarily labor and benefits – allocation based on time reports.

Non-Labor Costs – Allocation Methods

Cost Item	Allocation Method
Officers Annual Cash Bonus	Directly Attributable – Officer Hours
Officers Restricted Stock Grants	Directly Attributable – Percentage of Salary
Benefits and Payroll Tax Allocation	Directly Attributable – Hours Worked
Blue Cross/Blue Shield Medical Plan	Directly Attributable – Number of Employees
Defined Contribution Plan/401(k)	Directly Assignable

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Cost Item	Allocation Method
Defined Contribution Plan/401(k) Accounting Fees	Directly Attributable – Number of Employees
Dental Plan	Directly Attributable – Number of Employees
Group Life Insurance	Directly Assignable
Long-term Disability	Directly Attributable – Payroll Dollars
Pension Plan	Non-Union - Directly Attributable based on Salaries Union – Directly Assigned to SJG and SJESP
Prescription Plan	Directly Attributable – Number of Participants
Short-term Disability and Family Leave	Directly Attributable – Number of Participants
Employee Assistance Program	Directly Attributable – Number of Participants
Health Savings Account	Directly Assignable
Additional Retainer Fees Paid to Committee Chairs and Lead Independent Director	Directly Attributable – Board Memberships
Retainer Fees	Directly Attributable – Board Memberships
Travel Reimbursement – BOD	Directly Attributable – Board Memberships
SJI Management Service Fee	Indirectly Attributable – Assets, Payroll, Margin
Restricted Stock Program	Indirectly Attributable – Assets, Payroll, Margin
Directors Pension	Indirectly Attributable – Assets, Payroll, Margin
Gasoline Credit Cards	ETG - Directly Assignable
Vehicle Lease Charges	Directly Assignable
Motor Vehicle Charges	Directly Attributable – Hours
Outsourced Vehicle Maintenance	Directly Attributable – Based on actual vehicle per affiliate
Garage Square Foot Cost Allocation	Indirectly Attributable – RE tax, depreciation, utilities
Bonding	Directly Assignable
General Liability and Umbrella Excess Insurance	Directly Attributable – Based on insurance industry standards
Crime Policy	Directly Attributable – Number of Participants
Directors and Officers Insurance	Directly Attributable – Number of Directors and Officers by Subsidiary
Employment Practices Insurance	Directly Attributable – Number of Employees
Fiduciary Insurance	Directly Attributable – Number of Employees
Property Insurance	Directly Attributable – Insured Property Values at Replacement Cost
Self-Insured (Uninsured Risk) Liability	None
Workers Compensation	Premiums - Directly Attributable – Payroll Adjustments – Directly Assignable
Underground Tank Insurance	Directly Attributable – Based on insurance industry standards

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VI. Affiliate Cost Allocation Methodologies

Cost Item	Allocation Method
Mobile Services	Directly Assignable
Network Services	Directly Attributable – Number of PC's
IT – Telephone Services	Directly Attributable – Number of Participants
PC User Support	Directly Attributable – Timecard system
Shared Software Systems	Directly Attributable – Number of users
Call Management System and Services	Directly Attributable – Number of Calls
Lawson Maintenance and Licensing Fees	Directly Attributable – Lawson user count and Time Sheets
Shared Software Systems	Directly Attributable – Number of users
Bank Service Fees	Other than Wells Fargo – Directly Assignable Wells Fargo – Directly Attributable – Service Utilization/Excess Balances
Catered Services	Indirectly Attributable – Management Service Fee
Employee Expenses	Directly Assignable – Based on Employee Expense Reports
Office Space and Services	Directly assignable – Based on square Footage
Outside Professional Services	Directly Assignable
Purchase and Payment of Goods and Services	SJI, South Jersey Energy Company (SJE) – Directly Assignable ASB and certain affiliates – Directly Assigned (parts and Supplies), Directly Attributable (time reporting) and Indirectly Attributable (management cost allocation)
Stationery and Office Supplies	Directly Assignable
Electric Billing Services	Directly Assignable – \$0.075 per Bill (based on Special Study) x Actual Number of Bills
Electronic Data Distribution with Marketers	Tariff-based Pricing – \$100 per month
Residential Marketer Billing and Receivable Purchase Services	Directly Assignable – \$0.075 per Bill and' \$0.90 per Purchase fee x Actual Number of Bills/Fees
Commercial Marketer Billing Services	Directly Assignable – \$0.075 per Bill (based on Special Study) x Actual Number of Bills
Customer Care Center Payroll Allocation for Marketer-Related Work	Directly Attributable – Based on Time Sheets submitted to Payroll
Mailroom and Courier Services	Directly Assignable
Website Charges – External and Internal	Directly Attributable – Outside source: Based on invoices and MSF Internal: Time Sheets
Federal Income Tax Allocation	Directly Attributable – Based on estimated tax liability trued-up at year-end when return is filed
State Income Tax Allocation	Directly Attributable – Based on estimated tax liability trued-up at year-end when return is filed

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MANAGEMENT SERVICE FEE

The SJI Management Service Fee is used to allocate residual corporate support service expenses from SJI to its subsidiaries. The SJIU Management Service Fee is used to allocate residual corporate support service expenses from SJIU to its regulated operating subsidiaries ETG and SJG. The affected affiliates and/or competitive services are SJI, ETG, SJG, SJIEE, South Jersey Exploration (SJE), South Jersey Energy Investments (SJEI), South Jersey Resources Group (SJRG), SJI Renewable Energy Ventures, SJI RNG Devco and Marina Energy (ME).

These residual expenses are comprised of costs allocated to SJI from its subsidiaries (such as benefit costs, labor costs, and rent); SJI direct costs retained at SJI as a result of other allocation processes (for example, director's fees, outside professional services, insurance expense); and other SJI corporate overhead costs (for example, salaries of SJI officers and employees, accounting costs, etc.). All costs from all SJI cost centers are included in the Management Service Fee except for:

- Interest and debt-related costs in the debt cost center (3091), which are costs that remain at the SJI corporate level.
- Costs related to acquisitions or divestitures, including the ETG acquisition prior to July 1, 2018 (acquisition closing date); these costs are included in cost center 3090 and stay at SJI, and thus did not impact the Management Service Fee.

Costs are allocated based on current corporate and fiscal allocation percentages. The corporate and fiscal percentages are calculated using a three-tiered allocation method based on the assets, payroll, and margin of the subsidiaries. An average of these three components is taken for each subsidiary, excluding holding and service companies, and this average percentage is applied to the Management Service Fee. The calculation is done using June balances from the prior year (for example, the 2023 percentages are calculated based on June 30, 2022, statistics).

Assets

Assets are calculated by starting with total assets of all SJI subsidiaries as of June 30 of the prior calendar year. Several adjustments are then made to eliminate such items as intercompany accounts receivable; dividends; notes receivable and holding company investments in subsidiaries; deferred and prepaid taxes; derivative assets; cash credit balances; unamortized debt issuance costs; accrued utility assets for ETG and SJG that have corresponding accrued liabilities (i.e., environmental, asset retirement obligations and regulatory assets); and balances related to discontinued operations. These are eliminated as they could skew the percentage allocation.

Payroll

Payroll is calculated by starting with the gross payroll for each SJI subsidiary for the 12 months ending June 30 of the prior calendar year. Adjustments are then made in order to eliminate intercompany payroll allocations, which are done to determine the final payroll distributions for each subsidiary. Holding companies are excluded, with the SJIEE payroll being allocated to the SJIEE subsidiaries only, and not to the utility companies.

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VI. Affiliate Cost Allocation Methodologies

Margin

Margin is calculated by taking total margin for each SJI subsidiary for the 12 months ending June 30 of the prior calendar year. The term “margin” represents total revenues less total cost of sales. SJI uses Economic Earnings (EE) revenue and cost of sales when determining margin for purposes of this calculation, which consists of eliminating the following:

- Change in unrealized gains/losses on all commodity derivative transactions
- Adjustments for legal accruals/settlements on transactions that related primarily to prior periods

This is done to eliminate the impact from mark-to-market accounting under GAAP, along with eliminating the impact of legal items that relate to prior periods and keep revenues and cost of sales consistent with the non-GAAP measure EE used by Management. This is done for all entities impacted by the Management Service Fee to the extent they have commodity derivative transactions or legal accruals/settlements related primarily to prior periods that impact total margin.

The Capital and Expenses allocated to ETG per the CAM for 2019–2021 are shown in the exhibit below:

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VI. Affiliate Cost Allocation Methodologies

Cost Allocation Manual Charges for ETG 2019–2021

Month	Expense %	Expense \$	Capital %	Capital \$	Total Charges
Aug 2019	30.41%	\$700,592	30.41%	\$53,316	\$753,908
Sep 2019	30.41%	\$709,547	30.41%	\$61,533	\$771,081
Oct 2019	30.41%	\$644,392	30.41%	\$41,333	\$685,724
Nov 2019	30.41%	\$891,576	30.41%	\$50,196	\$941,772
Dec 2019	30.41%	\$1,414,585	30.41%	\$90,507	\$1,505,092
2019 Totals		\$4,360,692		\$296,885	\$4,657,577
Jan 2020	34.09%	\$1,035,799	30.41%	\$112,800	\$1,148,599
Feb 2020	34.09%	\$954,948	30.41%	\$119,601	\$1,074,549
Mar 2020	34.93%	\$1,207,581	30.41%	\$185,289	\$1,392,870
Apr 2020	34.93%	\$1,131,029	30.41%	\$151,841	\$1,282,870
May 2020	34.93%	\$1,109,865	30.41%	\$148,606	\$1,258,471
Jun 2020	34.93%	\$821,279	34.93%	\$70,614	\$891,893
Jul 2020	34.93%	\$1,085,218	34.93%	\$101,202	\$1,186,420
Aug 2020	35.03%	\$875,260	35.03%	\$56,038	\$931,298
Sep 2020	35.03%	\$1,292,967	35.03%	\$68,894	\$1,361,861
Oct 2020	35.03%	\$1,054,419	35.03%	\$101,972	\$1,156,391
Nov 2020	35.03%	\$983,338	35.03%	\$106,415	\$1,089,752
Dec 2020	35.03%	\$2,986,423	35.03%	\$83,001	\$3,069,425
2020 Totals		\$14,538,126		\$1,306,273	\$15,844,398
Jan 2021	39.35%	\$1,213,276	39.35%	\$188,780	\$1,402,055
Feb 2021	39.35%	\$1,117,265	39.35%	\$306,011	\$1,423,276
Mar 2021	39.35%	\$1,285,556	39.35%	\$211,936	\$1,497,493
Apr 2021	39.35%	\$1,118,672	39.35%	\$198,910	\$1,317,582
May 2021	39.35%	\$1,060,599	39.35%	\$237,953	\$1,298,552
Jun 2021	39.35%	\$1,324,121	39.35%	\$121,501	\$1,445,622
Jul 2021	39.35%	\$1,281,474	39.35%	\$251,993	\$1,533,467
Aug 2021	39.35%	\$1,297,669	39.35%	\$287,494	\$1,585,163
Sep 2021	39.35%	\$1,051,965	39.35%	\$135,488	\$1,187,453
Oct 2021	39.35%	\$1,255,050	39.35%	\$273,602	\$1,528,652
Nov 2021	39.35%	\$1,219,966	39.35%	\$268,473	\$1,488,439
Dec 2021	39.35%	\$3,217,603	39.35%	\$497,261	\$3,714,864
2021 Totals		\$16,443,216		\$2,979,402	\$19,422,619
2019–2021 Totals		\$35,342,033		\$4,582,561	\$39,924,594

The capital and expense costs allocated to ETG increased by 74% from an estimated \$11,178,185 (using data for the last five months of 2019 extrapolated to show an estimate for the full year) to \$19,422,619 in 2021. Capital costs allocated to ETG for that period

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VI. Affiliate Cost Allocation Methodologies

increased 138% from an estimated \$712,524 in 2019 (extrapolated also for the full year) to \$2,979,402 in 2021, perhaps as a result of the main replacement program approved by the New Jersey Board of Public Utilities (NJBP). Operating expenses allocated to ETG during the same period increased from an estimated \$10,465,661 in 2019 to \$16,443,216, a more modest increase of 16%.

This data should be updated with the full year's actual results for 2019 to provide an accurate presentation of the increase in allocated costs to ETG.

B. FINDINGS

VI-1 The accounting and allocation procedures for separating costs of inter-company transactions of ETG from affiliates are performed in a consistent and equitable manner.

The procedures for the allocation of common costs between ETG and its affiliates are well established and documented. Training on allocation and time reporting requirements is held on a regular basis for all personnel. Costs are transferred from one entity to another within the SJL family of companies based on three cost categories – directly assignable, directly attributable, or indirectly attributable.

Directly assignable costs include most of the cost transfers among affiliates. Directly attributable costs benefit more than one entity and are allocated to entities based on some direct measure of cost causation. Indirectly attributable costs benefit more than one entity and are allocated based on general measures of cost causation, such as the Management Service Fee.

The Management Service Fee was utilized to allocate costs from SJL to all affiliates, including ETG. Over the 2019 through 2021 period (data for 2018 and some for 2019 was not available), the charges for capital and expenses for 2019 (partial) plus 2020 and 2021 are shown in the following exhibit.

Management Service Fee by SJL Department 2018–2021 (\$000)

Acct.	Department	2018	2019	2020	2021	Total	Percent Total
3001	General and Corporate	5,369.60	(8,195.10)	(11,018.99)	(11,014.28)	(24,858.76)	-14.71%
3003	Strategic Planning	792.7	910	1,149.41	1,289.39	4,141.50	2.45%
3004	Shareholder Services	285.1	327	501.59	460.15	1,573.84	0.93%
3005	Treasury	674.9	913.1	751.18	671.09	3,010.27	1.78%
3006	Internal Audit	741.2	789.4	1,344.32	1,039.46	3,914.38	2.32%
3007	Risk Management and Accounts	791.3	651.5	574.93	601.77	2,619.50	1.55%
3008	Corporate Accounting	973.7	1,236.50	1,772.37	1,810.59	5,793.16	3.43%
3009	Officers	13,202.80	9,250.50	9,976.71	9,133.55	41,563.56	24.59%
3010	Internal Communications	655.9	716.4	510.92	339.12	2,222.34	1.31%
3011	External Affairs/Government Relations		759.9	1,207.68	1,781.32	3,748.90	2.22%
3012	Investor Relations	312.1	326.1	107.63	466.07	1,211.90	0.72%
3013	Legal	2,503.10	1,791.80	1,633.91	1,386.70	7,315.51	4.33%

SAGE Management Consultants, LLC

Final Report for the Management and Affiliate Audits of Elizabethtown Gas Company.

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VI. Affiliate Cost Allocation Methodologies

Acct.	Department	2018	2019	2020	2021	Total	Percent Total
3014	Insurance	453	667.6	1,065.27	1,053.37	3,239.24	1.92%
3016	Environmental	831.5	546.1	651.49	613.33	2,642.42	1.56%
3017	Tax	493.2	729.3	620.53	872.13	2,715.17	1.61%
3018	SJI Fleet	509.9	268.2	129.78	238.46	1,146.34	0.68%
3019	Stakeholder Relations	1,416.20	54.6			1,470.80	0.87%
3020	Corporate Facilities	192.2	349	143.98	1,427.62	2,112.80	1.25%
3021	Marketing	215.2	17.5		4.73	237.43	0.14%
3022	IT – Plan	720.2	446.4	658.29	1,000.51	2,825.40	1.67%
3023	IT – Build	1,775.70	1,670.90	2,245.90	2,094.15	7,786.65	4.61%
3024	IT – Run	2,738.40	2,173.80	3,170.33	2,929.58	11,012.11	6.51%
3025	Security	333	237.1	349.46	499.80	1,419.36	0.84%
3026	Procurement		444.9	1,052.81	1,261.26	2,758.96	1.63%
3027	Benefits	1,019.80	441.6	356.08	571.46	2,388.94	1.41%
3028	Labor Relations	856.5	296.6	426.71	323.80	1,903.61	1.13%
3029	Recruiting	646.6	448.5	614.77	830.55	2,540.42	1.50%
3030	Organizational Develop.	827.3	657.4	619.51	919.35	3,023.56	1.79%
3031	SJI Sales	42.2	14		1.67	57.87	0.03%
3032	Corporate Development and Strategic Analysis	528.8	266.8	258.80	371.26	1,425.66	0.84%
3033	IT – Report	632.7	229.3	299.48	965.65	2,127.12	1.26%
3034	IT – Protect	382.5	342.8	328.47	830.59	1,884.36	1.11%
3035	IT – CIO	713.1	930.2	1,831.28	1,762.02	5,236.61	3.10%
3036	Accounts Payable		325.8	449.74	445.19	1,220.74	0.72%
3037	Payroll		227.5	361.81	332.75	922.05	0.55%
3038	Corporate Secretary		2,641.00	3,259.72	3,139.68	9,040.40	5.35%
3039	Project Management Office			202.82	479.25		
3040	Executive Compensation and Board Support	15	938.1	842.80	549.90	2,345.81	1.39%
3041	HR Operations		299.3	364.83	501.51	1,165.63	0.69%
3042	HR Compensation		267.6	380.80	491.67	1,140.07	0.67%
3043	HR Business Partners		472.1	974.25	1,089.27	2,535.62	1.50%
3044	IT Managed Costs		1,371.80	2,308.83	2,125.28	5,805.91	3.43%
3045	Innovation and Business Improvement		227.6	656.04	722.35	1,605.98	0.95%
3046	SJI Benefits Managed. Costs		7,276.70	4,140.62	4,840.04	16,257.36	9.62%
3047	Utility Accounting			2,173.74	1,657.59	3,831.33	2.27%
3048	Plant Accounting			363.09	332.70	695.79	0.41%
3049	Pensions Managed Costs			3,423.96	3,635.81	7,059.77	4.18%
3050	Coronavirus Response			1,172.47	908.78	2,081.25	1.23%

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VI. Affiliate Cost Allocation Methodologies

Acct.	Department	2018	2019	2020	2021	Total	Percent Total
3052	Environ. Social Governance				3.25	3.25	0.00%
3053	HR Recruiting Managed Costs				304.10	304.10	0.18%
3054	External Communications				79.36	79.36	0.05%
3051	Clean Energy and Sustainability				45.91	45.91	0.03%
3090	Elizabethtown					0.00	0.00%
	Total	41,645.40	34,757.20	44,410.12	48,220.60	169,033.32	100.00%

VI-2 Allocations of joint/common costs between ETG, SJI, and their affiliates during the period of this audit are consistent and accurately reflect the documented and reported methodology.

Common costs that cannot be directly attributed to affiliates are collected in a general allocation pool for eventual allocation to the final receiving companies. This would include labor costs as well as non-labor costs from a multitude of SJI cost centers, totaling \$169 million from 2018 through 2021 as shown in Finding VI-1. SJI uses a three-factor formula to distribute the costs from this general allocation pool to the receiving companies.

The three-factor formula computes the weighted average of each company's percentage of assets, margin (total revenues less total cost of sales), and payroll. To calculate the weighted average, the percentage relationship of the assets, margin, and payroll for each affiliate are summed up and divided by three. The calculated formula percentages for 2018 through 2021 are shown in the following exhibit.

MSF Percentages for ETG and Affiliates 2018–2021

Company	2018	2019	2020	2021
ETG	27.88%	30.41%	35.03%	39.35%
ELK	0.52%	0.57%		
SJG	53.15%	57.89%	57.14%	53.77%
SJE	3.44%	1.87%	2.05%	0.63%
SJRG	4.92%	5.46%	3.75%	3.35%
ME	10.09%	3.80%	1.52%	2.36%
SJI Midstream			0.51%	0.54%
Total	100.00%	100.00%	100.00%	100.00%

For 2018 through 2022 time, ETG received an average of 33.17% of the MSF allocations from SJI based on the three-factor formula calculations.

Calculations of the three-factor formula were verified from balance sheet data through resulting allocation amounts. No errors in the calculations were identified. The allocations of joint or common costs among affiliates, including ETG, appear to be correct and consistent with the stated methodology and procedures as documented in ETG's CAM and as reported to regulatory authorities.

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VI. Affiliate Cost Allocation Methodologies

VI-3 The potential for cross-subsidization is minimized by effective time reporting policies and procedures and comprehensive training.

All employees of ETG, SJI, and their affiliates are responsible for accurately reporting time and for following their company procedures and associated accounting requirements. For all individuals, standard time sheets are used to report time. Three methods of distribution are used to apportion wages and salaries of employees: positive time reporting, exception time reporting, and time reporting based on the number of transactions completed.

SJI's CAM specifies that all employees of ETG who provide services to any affiliate of SJI, including one another, and all employees of SJI and non-regulated affiliates who provide service to ETG must complete a time report indicating the assignment of their time among affiliates. The CAM also specifies that ETG's time reporting procedures comply with Section 6-3(a) of the Affiliates Standards Regulations which state:

All electric and/or gas public utility employees who are directly involved in the provision of noncompetitive services as well as competitive services, or who are involved in the provision of more than one competitive service, must maintain complete and accurate time sheets to track and record the amount of time spent in the performance of each service. For those employees' who travel to remote or customer locations in provision of competitive service, time sheets shall account for and allocate time to the competitive service job, as well as the time spent performing related diagnostics, repair and/or installation, and allocated share of downtime.

Training, along with periodic reminders, is provided annually emphasizing both the importance of and the procedures for accurate time reporting. Time worked on behalf of an affiliate is compiled and charged to that affiliate monthly as reported on the time sheets. Actual employee wage rates are used to price out the hours of service provided, and employee benefits and related costs are added to the direct labor costs billed to the affiliate and are adjusted periodically to reflect actual costs.

The policies and procedures governing the appropriate recording of employees' time minimize opportunities for cross-subsidization among ETG and its affiliates.

VI-4 Affiliate charges and cost allocation methodologies among ETG, SJI, and their affiliates comply with applicable legal, regulatory, and contractual requirements.

ETG's transactions with its affiliates are governed by a number of requirements that are enumerated in three SJI affiliate relations and transactions documents:

- Affiliate Relations, Fair Competition, and Accounting Standards and Related Reporting Requirements Compliance Plan
- Cost Allocation Manual (CAM)
- Procedure for the Allocations, Recording, and Invoicing of Affiliated Company Transactions – Cost Allocation Manual

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VI. Affiliate Cost Allocation Methodologies

In turn, these rules and company requirements are based on New Jersey's Electric Discount and Energy Competition Act (EDECA) and its implementing regulations (the Affiliate Standards Regulations). These state regulations require that the transfers of goods and services from ETG to its affiliates be priced at fully allocated costs and that goods or services transferred from affiliates to ETG be priced at the lower of fully allocated cost or fair market value. The affiliate charge and cost allocation methodologies employed by ETG, SJI, and their affiliates comply with regulatory requirements as set forth in the SJI documents and the New Jersey regulations.

VI-5 The capital costs and expenses allocated to ETG in the three years following the acquisition of ETG increased by 74%.

As shown in the exhibit "Cost Allocation Manual Charges for Elizabethtown Gas 2019–2021", the capital costs allocated to ETG increased from \$53,316 in August 2019 to \$497,261 in December 2021, an increase of 933%. The annualized increase in capital costs for the full-year 2019 (estimated) to 2021 increased 138% from \$712,524 in 2019 to \$2,979,403 in 2021, perhaps as a result of the main replacement program approved by the NJBPU. Operating expenses allocated to ETG during the same period increased from an estimated \$10,465,661 in 2019 to \$16,443,216, a more modest increase of 16%. Of course, this assumes the base amount estimated for 2019 is correct.

C. RECOMMENDATIONS

VI-1 Explore the potential use of standard costing techniques in setting transfer prices between affiliates or, alternatively, analyze and justify the cause of the increase in costs allocated by SJI to ETG relative to changes in ETG's operating expenses since its acquisition. (See Finding VI-5)

As a general statement, transfer prices are set to recover full actual costs of the goods and/or services transferred from one entity to another. This is common in the "cost plus" operating environment of public utilities. In theory, there is a logic to this since a utility's profit is determined by its return on rate base formula and, thus, is not subject to the typical rules governing corporate profitability. A potential weakness in this approach is that it may provide a de facto disincentive to rein in costs where such costs could have been controlled and reduced.

The existence of the "cost plus" environment, while real and generally accepted in the public utility sector, does not mean that a company cannot or should not apply techniques that could provide an incentive to managers to control costs more effectively.

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VI. Affiliate Cost Allocation Methodologies

VI-2 The data for the exhibit “Cost Allocation Manual Charges for ETG 2019–2021” should be updated with the full year actual results for 2019 to provide a more accurate presentation of the increase in allocated costs to ETG. (See Finding VI-5)

As shown in the exhibit, the capital costs allocated to ETG increased from \$53,316 in August 2019 to \$497,261 in December 2021, an increase of 933%. This analysis should be updated with the missing data for 2019 to provide a more accurate increase.

VII. OTHER REPORTING

A. BACKGROUND

In addition to the traditional financial and performance reports produced for management and external reporting, South Jersey Industries (SJI) and Elizabethtown Gas Company (ETG) routinely prepare technical, financial, tax, and other reports for the Internal Revenue Service, New Jersey tax authorities, the New Jersey Board of Public Utilities (NJBPUI), and other authorities. From 2018 through 2021, SJI and ETC submitted over 3,400 different reports. Some were special purpose reports or reports prepared on an ‘as needed’ basis though most were recurring with frequencies varying from weekly to annual.

ENVIRONMENTAL, SOCIAL, AND GOVERNANCE REPORTING

The emphasis for this chapter is Environmental, Social, and Governance (ESG) reporting. This is an area that has grown in importance in recent years for all corporates. ESG criteria are a broad set of standards used by companies and investors to disclose and assess performance against non-financial measures like a company’s impact on climate change and broader society.

Environmental: Factors that consider the financial impact of environmental risk on a corporation as well as a company’s impact on the natural world. Common environmental metrics include a firm’s greenhouse gas emissions (GHG), water and electricity usage, waste management, climate change vulnerability, and product innovation.

At SJI the ‘E’ in ESG captures energy efficiencies, carbon footprints, greenhouse gas emissions, biodiversity, climate change and waste management, and water usage.

Social: Factors that consider a company’s social impact, both within and outside of its organizational chart. Social metrics include workforce diversity, employee safety, and how companies advocate for good in their communities, plus talent management, privacy and data protection, health and safety, and other human capital and social justice issues.

At SJI, the ‘S’ in ESG includes labor standards, wages and benefits, workplace and board diversity; diversity, inclusion, and equity; pay equity; human rights; talent management; community relations; privacy and data protection; health and safety; supply-chain management; and other human capital and social justice issues.

Governance: Factors that consider leadership’s commitment to positive change. This includes adherence to high ethical standards and policies and processes to ensure the company is managed well. Governance metrics include implementing policies on environmental protection, corruption, data security, and discrimination. They also include comparative measures on executive pay equality, and how leadership interacts with employees and board members.

For SJI, the ‘G’ in ESG covers governance, including corporate board composition and structure; strategic sustainability oversight and compliance;

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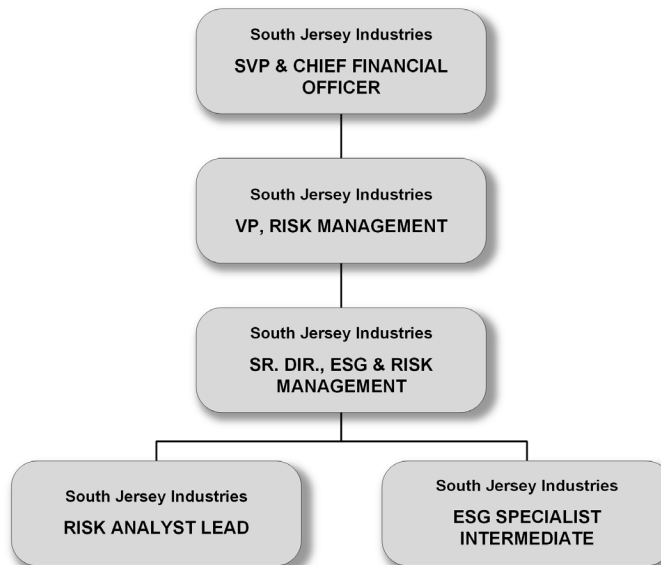
VII. Other Reporting

executive compensation; cybersecurity; political contributions and lobbying; and bribery and corruption.

Organization Structure and Staffing

Consistent with the increased attention to ESG in society and business, SJI has expanded the scope of activities associated with ESG and strengthened the leadership and staffing of the ESG function. In 2018, SJI recruited an attorney with experience in a wide range of functions. She joined as the Assistant Corporate Secretary and, in 2022, her responsibilities were expanded as Senior Director, ESG and Risk Management. She reports to the VP, Risk Management who, in turn, reports to the SVP & Chief Financial Officer (CFO). She is supported by a Risk Analyst Lead and an ESG Specialist Intermediate as shown in the following exhibit.

ESG and Risk Management Organization Chart



These ESG specialists supported by an ESG Task Force comprised a multi-disciplinary team of subject matter experts. In addition to the Sr. Director, ESG and Risk, other task force members include a Communications Specialist Senior; the VP, Safety, and Quality; the Sr. Director, Internal Audit; a Risk Analyst Lead; the Sr. Director Environmental and Procurement; the External Communications Director; an Environmental Specialist Lead; the Sr. Director, Energy Efficiency; the ESG Specialist Intermediate; the VP, Chief Diversity Officer; and an HR Specialist Lead. The Task Force members are responsible for serving as ESG ambassadors, assisting with ESG data collection and populating the Workiva system, a system that unites financial reporting, ESG, and audit and risk management in one platform.

Additionally, there is an ESG Management Committee that includes senior executives of the utilities and SJI, including:

- ETG President and COO

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VII. Other Reporting

➤ SJL:

- ◆ VP, Strategy and Business Development
- ◆ VP Safety, Quality and Environmental
- ◆ VP External Affairs
- ◆ Director and Corporate Secretary
- ◆ SVP, and General Counsel
- ◆ External Communications Director
- ◆ VP Strategy
- ◆ SVP, and Chief Information Officer
- ◆ Senior Director, ESG and Risk
- ◆ VP and Chief Diversity Officer
- ◆ VP, Risk Management.

In addition to other responsibilities, the Committee is responsible for reviewing, on an annual basis, the ESG Report prior to its publication and release to interested stakeholders including the NJBPU.

History of ESG

The concept of ESG dates to ancient times when various religions demanded investments be in alignment with their guiding principles. For example, in the 18th century, Methodists in the United States who frowned on slavery, illegal smuggling, and open debauchery began rejecting investments in entities making and selling tobacco products, liquor, or vices like gambling.

SJL utilizes the American Gas Association's (AGA) Framework for ESG reporting. This is an industry source utilized for disclosing environmental data. The reference information can be found on the AGA website (EEI and AGA collaborated in developing the ESG framework, with appropriate differences for industry) SJL also utilizes the Sustainability Accounting Standards Board (SASB) framework for industry specific ESG disclosure. SJL produced its first ESG Report in 2019 when it was one of the 'early movers' in this area. The Table of Contents for a typical report follows:

COMPANY OVERVIEW

- SJL-at-a-Glance
- Recognition and Awards
- Overview
- Sustainable Business Practices
- Energy Efficiency

THE ENVIRONMENT

- SJL Overview
- Employees
- Safety and Operations

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VII. Other Reporting

Infrastructure Modernization

Our Customers

Community Support

Corporate and Employee Giving

Economic Development

Supplier Diversity (see Chapter XIX, Purchasing and Procurement of Goods, Services, and Bidding Processes for discussion of supplier diversity)

SOCIAL

Governance, Stakeholder Engagement and Risk Management

ESG/Sustainability Strategy

Policies

GOVERNANCE

ESG Overview

Sustainability Metrics

EEI-AGA Metrics

Social Metrics

Safety and Governance Metrics

SASB Gas Utility Standards

Other Metrics

BY THE NUMBERS

Disclaimer and Forward-Looking Statement

ESG is the latest evolution in corporate governance that includes stakeholder engagement including customers, employees, suppliers, and the communities they serve, not solely shareholder management.

ESG metrics have evolved in recent years to evaluate risk as well as opportunity. In his ‘Dear CEO’ letter in 2018, the Chairman and CEO of BlackRock (Larry Fink) wrote that:

“Society is demanding that companies, both public and private, serve a social purpose. To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society. Companies must benefit all their stakeholders, including shareholders, employees, customers, suppliers and the communities in which they operate.”

In August 2019, The Business Roundtable (BRT), whose members are the individual CEOs—not corporations—released a new *Statement on the Purpose of a Corporation* (known as *The BRT Statement*) which was signed by almost 200 CEOs of leading corporations. This put the interests of other stakeholders on a par with shareholders. This was another milestone in the evolution of corporate governance. Although it attracted criticism when a few high-visibility members strayed from their pledge and when others were criticized because companies

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VII. Other Reporting

acted in a manner some considered inconsistent with the pledge. Nonetheless, *The BRT Statement* remains a major milestone.

Mission, Functions, and Work Processes

Implicit in SJI's approach to ESG is its commitment to complying with *The BRT Statement*. As the Senior Director of ESG and Risk Management stated, the commitment starts with the Board of Directors (BOD), where the composition of members is 30% ethnic and racial minorities and 30% women. The Board also has an ESG Committee.

Performance Reporting

Performance in ESG is a combination of metrics and subjective judgments. It is also exemplified by the actions of corporate leadership, especially the BOD and Executive Management. The growing number of women and minorities who have been recruited in recent years is documented in an ESG Report that is produced annually. About 25–30 people provide input to the report.

A separate report includes the results of an employee opinion survey that assesses “How are we doing?”. The most recent report presented a mostly favorable picture of employee sentiment.

Other Background Information

The ESG team utilizes a proxy peer group to assist in comparative analysis of SJI's ESG performance with other companies.

B. FINDINGS

VII-1 The process for filing NJ state and federal reports, other than standard financial reports, is detailed and well documented and provides adequate assurance that data will be collected, processed, and reported accurately.

SJI has a detailed flow-chart of the process for developing ESG data collection and review. The flow-chart is well organized and designed with separate processes for the initial report creation in Workiva and the subsequent, extensive management review.

VII-2 ETG management, along with senior executives from SJI and the operating utilities, is involved in designing and developing the ESG Report and in reviewing and approving its contents.

The ESG Management Committee provides oversight of the SJI ESG Report development, and they are part of the review process prior to disclosure. The committee receives reports on planned updates regarding the collection and reporting of the company's ESG data.

VII-3 There were no penalties for late, incomplete, or incorrect filings during 2009 through 2021.

There were no penalties imposed related to any filings for 2009 – 2021.

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VII. Other Reporting

VII-4 The SJI Environment Team works with an external firm to assist with the collection and evaluation of a portion of the ESG environmental data.

Trinity Consultants (an environmental firm) creates a request for information (RFI) file. The SJI Environment Team sends the RFI to responsible parties to gather data, then confirms the data received and evaluates it for completeness. The completed RFI files are then sent to Trinity for the Environmental Protection Agency (EPA) GHG report. The ESG information is included in data in SJI's annual carbon footprint calculation. Trinity then calculates the GHG EPA reporting data and confirms the carbon footprint data.

VII-5 The ESG group is developing a peer group to assist in comparative analysis of SJI's ESG performance with other companies.

This peer group will draw on other regional gas distribution companies. The peer group will provide comparable companies with whom ETG / SJI can conduct comparative analysis and perhaps collaborate in analyses of ESG issues.

VII-6 ESG reporting expenses are comprised of labor and external legal fees paid by SJI.

A portion of these charges—based on ETG's proportion of assets, payroll, and margin (the three-factor methodology) as compared to the total for SJI—are allocated to ETG through a managed service fee. The allocated costs are recorded in 'Allocated Corporate Costs' on ETG's income statement.

VII-7 The running rate of manpower and other costs associated with ESG reporting was about \$310,000 to \$340,000 in the most recent reporting years (2020–2021).

The cost of ESG reporting was as follows (labor costs are estimated):

ESG Reporting Costs (\$)

Cost Item	2020	2021
ESG Report Vendor	0	118,188
Legal	0	35,0000
Labor	117,000	190,500
Total	117,000	343,688

VII-8 A portion of ESG expenses is allocated to ratepayers.

The Management Service Fee percentage factors in place for ETG during the test years of the two most recent rate cases are shown below.

2019 Rate Case (Test Year: September 2018 – August 2019)

- September 2018 – December 2018: 27.88%
- January 2019 – August 2019: 30.41%

2021 Rate Case (Test Year April 2021 – March 2022)

- April 2021 – December 2021: 39.35%

REDACTED

VII. Other Reporting

- January 2022 – March 2022: 40.16%

VII-9 Allocated costs to ETG increased at a combined percentage of 19.4% whereas total O&M expenses declined by 2.0%.

ETG's O&M expenses increased by 7.6% from 2021 excluding the impact of the amortization of regulatory program expenses, whereas allocated costs increased by 19.4%. About 64% of the increase (12.5%) was related to labor and labor-related costs, as follows:

- 3.3% higher SJI salaries, benefits, and payroll taxes, principally due to merit increases
- 3.2% deferred compensation plan investment performance 2.9%
- 2.9% increased SJIU compensation costs principally due to increased headcount plus merit increases
- 2.1% higher SJI Outside Services costs, principally contingent labor costs
- 1.0% supplemental Executive Retirement Plan investment performance vs. PY
- The remainder (6.9%) was composed of miscellaneous operating expenses, space rental, depreciation and other expenses.

VII-10 [Redacted]

[Redacted]

[Redacted]

[Redacted]

VII-11 Annual Employee Surveys show generally positive results.

The annual surveys conducted by Quantum Workplace of SJI (responses by ETG employees are not broken out separately) showed a high response rate (81.6%) and mostly positive results, with 68.6% considered 'Favorable.' The highest scores in 2018 were for:

- Engagement Outcomes (I feel accepted by my immediate co-workers; I am proud to work here) and Individual Needs (My workplace is safe; It's important that our organization is involved with the community)
- Manager Effectiveness (My immediate manager recognizes the importance of my personal and family life; My manager treats everyone on my team fairly; My manager creates an environment that is trusting and open)
- Team Dynamics (The people I work with treat each other with respect; I know I can depend on the other members of my team)
- Trust in Leadership (If I saw something wrong at work, I would feel comfortable reporting it; The senior leaders of the organization demonstrate integrity).

Lower scores were reported for:

- Communication and Resources (My opinions seem to count at work; When the organization makes changes, I understand why)

REDACTED

VII. Other Reporting

- Future Outlook (I know how I fit into the organization's future plans; I understand the organization's plans for future success)

A few 'middling' scores include:

- Engagement Outcomes (It would take a lot to get me to leave the organization)
- Individual Needs (If I contribute to the organization's success, I know I will be recognized)
- Manager Effectiveness (I clearly understand how my performance is measured)

Considering gas market and business volatility along with the cultural anxieties and social and political stresses of the day, these are commendable results.

C. RECOMMENDATIONS

VII-1 Finalize the development of a proxy peer group and conduct a comparative analysis of SJI's performance to others in the group. (See Finding VII-5)

Comparative analysis or benchmarking of the company's performance with a peer group of similar gas distribution utilities can yield insights that may be applicable to ETG. Given the relative newness of ESG as a corporate performance measure, completing the development of a peer group then using it to measure ETG/SJI against the peer group. This could include collaboration with some or all the other utilities in developing a response to emerging challenges to ESG and DEI initiatives.

VII-2 SJI should analyze the increase in ESG costs allocated to ETG from September 2018 through March 2022 to ensure the increase was valid. (See Finding VII-9)

It is taken as a given that ESG is an important set of issues for corporations. The issue here, however, is how much of these costs and expenses are reasonable to allocate to the ratepayers of a regulated utility. Even if we agree that ESG is a worthy, even laudable, set of corporate activities, the question here is, "How much of the costs incurred are necessary and reasonable to enable ETG to provide reliable service at reasonable cost?"

VII-3 Explore ways to improve employee engagement, with an emphasis on areas that received lower scores on the employee survey (See Finding VII-11).

SJI received very good scores on employee engagement for team-level activities such as respect for home-work balance and trust for employees' direct managers and co-workers to do the right thing. Those results are commendable. However, the scores on receiving recognition for a job well done and understanding how an individual's performance is evaluated are lower and less clear. Those may contribute to the lower scores on the commitment to staying with the company—which is a red flag.

If SJI believes there is a strong link between employee engagement, individual performance and organizational productivity then it would make sense for SJI to take the next step and explore this linkage and implement activities to improve employee engagement. One program that is already in place at SJI is the establishment of employee resource groups (ERGs), focusing on diversity and inclusion and other corporate topics. This program is reviewed in chapter XI. Human Resources.

REDACTED

VII. Other Reporting

Additional possible activities and programs that have been found to have value in improving employee engagement at other companies include:

- Wellness programs, including yoga, meditation and/or health fairs in collaboration with local hospitals for eye or skin cancer screenings. One company created a jogging path on company property with facilities to shower and change.
- Enabling or providing child-care support. On-site child-care service is the gold standard, but any approach that might be adopted by SJI will depend on employee demographics and demand of those with child-care needs, as well as the geographic layout of SJI's facilities and, of course, cost.
- Grant employees more autonomy. Having more control over how work is done can increase satisfaction levels and productivity.

None of these by themselves will change the corporate culture. But SJI already seems to be on a path to creating a better work-life balance and a more inclusive culture. Such activities as these would fit comfortably into that trend, to the benefit of employees and the company as well as customers and investors.

REDACTED

VIII. Merger

VIII. MERGER

A. BACKGROUND

South Jersey Industries, Inc. (SJI) acquired Elizabethtown Gas Company's (ETG) assets from The Southern Company's (Southern Company) Pivotal Utility Holdings, Inc. (Pivotal) on July 1, 2018. Simultaneously, SJI acquired the assets of the Elkton Gas Company (ELK), a small natural gas local distribution company serving a territory in Maryland. As planned, SJI divested ELK in 2019. No attempt was made to integrate ELK into SJI.

The recent ETG ownership timeline includes:

- AGL Resources, Inc. acquired ETG in 2004 as part of its acquisition of NUI Corporation.
- In July 2016, The Southern Company acquired AGL Resources, Inc. and its indirect subsidiary, ETG, as part of the merger of AGL Resources, Inc. and a subsidiary of the Southern Company. Following the merger, AGL Resources, Inc. was renamed Southern Company Gas, and ETG was owned by its subsidiary, Pivotal.
- On October 15, 2017, SJI and Pivotal entered into an Asset Purchase Agreement for Pivotal to sell the ETG assets to SJI.
- SJI created SJI Utilities, Inc. (SJIU) and ETG Acquisition Corp. to facilitate the acquisition of the ETG assets.
- After receiving multiple regulatory approvals, on July 1, 2018, Pivotal sold the ETG assets to SJI's ETG Acquisition Corp., a wholly owned subsidiary of the newly created SJIU, which, in turn, was wholly owned by SJI.
- After the acquisition, ETG Acquisition Corp. was renamed Elizabethtown Gas Company, preserving the long-term identity of the utility.
- South Jersey Gas Company (SJG) stock was also contributed to SJIU so that the two SJI New Jersey natural gas local distribution utilities were both owned by SJIU.

For the 2009 through 2021 calendar period of this audit, the ownership of ETG was:

- AGL Resources, Inc. owned ETG from 2009 to 2016 when it was sold to the Southern Company.
- From 2016 to July 2018, Southern Company, through its subsidiary, Pivotal, owned ETG. ETG's assets were sold to SJI on July 1, 2018.
- From July 2018 through 2021, SJI owned ETG through its subsidiary SJIU.

The ETG asset purchase price was approximately \$1.7 billion, paid by a combination of debt and equity.

ACQUISITION PROCESS

There was a closed bidding process for ETG. SJI does not know who the other bidders were. SJI prevailed in the bidding process and began the acquisition process. Two outside counsel firms were used to represent SJI, both of whom still work for SJI or SJIU. SJI in-house attorneys managed the outside counsel firms and worked on specific

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VIII. Merger

aspects of the acquisition, such as the creation of SJIU and obtaining the consents to transfer transmission pipeline contracts from Pivotal Utility Holdings to SJI.

DUE DILIGENCE

SJI conducted a due diligence process using internal subject matter experts as advised and assisted by an external consultant. Key due diligence categories included:

- Historical financial statements
- Contracts
- Franchise validity
- Rate filings and orders
- Capital expenditure plan
- Assets
- Operations
- Customer growth potential
- Gas supply
- Pending and threatened litigation and workers compensation claims
- Insurance and claims experience
- Environmental and manufactured gas plant exposure
- Owned and leased properties
- Risk management
- Employees and labor relations
- Information technology

This work contributed to the transition planning efforts.

ACQUISITION APPROVAL BY THE BOARD OF PUBLIC UTILITIES

The ETG acquisition was approved by the New Jersey Board of Public Utilities (NJBP) on June 22, 2018, with an effective date of July 1, 2018. The approved acquisition included a number of stipulated provisions covering multiple topics:

- Regarding employment and facilities:
 - ◆ ETG will maintain a minimum of 330 employees in New Jersey for three years.
 - ◆ ETG will honor all collective bargaining agreements in effect at the time of the closing.
 - ◆ SJI will add at least 30 new employees in New Jersey within 12 months to replace the services formerly provided by the Southern Company in other states.
 - ◆ SJI will maintain an ETG core management team for five years following the completion of the acquisition. Subject to operational needs, the core management team will consist of an ETG President, Chief Operating Officer, and department heads responsible for the following areas: (a) Rates and Regulatory, (b) Union Field Operations, (c) Northwest Field Operations, (d)

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VIII. Merger

Sales, (e) Engineering, (f) Construction Operations, (g) System Integrity, (h) Call Center, and (i) Gas Supply.

- ◆ ETG and SJG will share local employees during times of emergency.
- ◆ ETG will maintain the five existing ETG field service centers (Union, Newton, Stewartsville, Flemington, and Elizabeth), Union call center, Elizabeth and Perth Amboy walk-in payment centers, and Union headquarters for a period of at least five years.
- ◆ SJI will provide ETG with the resources necessary to invest in capital and infrastructure projects to help ensure that Elizabethtown Gas Company may continue to provide safe, reliable, and adequate utility service.
- ◆ ETG will, within six months, after discussion with Board Staff and Rate Counsel, develop a plan to address the following:
 - Leak management
 - Replacement of cast iron mains
 - Replacement of bare steel mains
 - Replacement of ductile iron and copper mains
 - Elimination of master meter systems
- Regarding affiliate relationships and transactions:
 - ◆ Post-acquisition, ETG will remain a separate utility company.
 - ◆ SJI will provide administrative services to ETG under a Master Services Agreement.
 - ◆ SJI will provide ETG with utility operations services under a Shared Services Agreement.
 - ◆ Within 90 days of closing, ETG will file an updated Cost Allocation Manual.
 - ◆ Within 90 days of closing, ETG will file its Affiliate Standards Compliance Plan.
 - ◆ SJI will be in full compliance with NJBPU regulations related to ring fencing provisions (similar to the SJG practices), including ETG being a wholly owned corporate subsidiary of SJIU.
 - ◆ For a period of five years, the amount of costs assessed to ETG for services provided by an affiliate shall be no greater than they would have been had the acquisition not occurred, regardless of whether such services are provided directly or indirectly by SJI, SJIU, or any other SJI affiliate. An annual level of allocated SJI costs of \$19.7 million will serve as the baseline for this commitment for the next five years. In any rate proceeding commenced during the five-year commitment period, ETG will have the burden to demonstrate that its service company costs are no higher than they would have been in the absence of the acquisition for the services for which ETG may seek cost recovery in such future rate proceedings. The baseline level of allocated SJI costs will not be treated as a hard cap on ETG's recoverable service company costs but will be reviewed as evidence of whether ETG has met the burden

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established in the Stipulation. The parties to such future rate proceedings shall have full rights to challenge the prudence of any affiliate costs allocated to ETG.

- Regarding rates, rate cases, and reporting:
 - ◆ ETG will continue to provide service at the current ETG tariff at current rates and terms and conditions of service.
 - ◆ A one-time \$15 million rate credit will be given to ETG's Basic Gas Supply Service customers within 90 days.
 - ◆ SJI will not seek to recover in rates any potential premium paid for the ETG assets acquired or other acquisition related costs.
 - ◆ There were no immediate synergies or efficiencies identified from the acquisition. However, synergies or efficiencies may be discovered in the integration process. In future rate proceedings, to ensure that ETG's customers will only pay costs to achieve to the extent that there are offsetting synergy savings, ETG will net the total costs incurred to achieve synergy savings against the resulting total synergy savings and may recover those costs to achieve only up to the amount of the total synergy savings generated.
 - ◆ Commencing in January 2020, ETG will file biannual reports identifying the acquisition costs incurred by ETG and any acquisition savings realized by ETG as a result of the acquisition.
 - ◆ ETG will file its next base rate case no later than June 2020.
- The current Asset Management Agreement between ETG and the Southern Company's Sequent Energy Management L.P. will be assigned to South Jersey Resources Group (SJRG) and extended for an additional five-year period with a guaranteed minimum credit of \$26.25 million to customers over that period.
- ETG will continue its community contributions of \$190,000 per year for five years.

The acquisition was also approved by multiple local governments for the transfer of franchise rights, the Federal Energy Regulatory Commission, the Federal Trade Commission, and the Federal Communications Commission.

TRANSITION SERVICES AGREEMENT

SJI formed an ETG Transition Team with representatives from:

- Utility Operations
- Financial Planning
- Human Resources
- Accounting
- Customer Experience
- Information Technology
- Legal

The team was assisted by a consulting firm and developed many plans for individual transition activities but there was no master acquisition integration plan. Examples of individual plans developed were:

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- Closing checklist
- High level integration plan
- Day one information systems cutover plan

Prior to the acquisition, the Southern Company provided administrative, management, and other services to ETG through AGL Services Company (AGSC). SJIU was formed to replace those services but was not ready at the time of the acquisition to assume all responsibilities. Therefore, a Transition Services Agreement (TSA) was signed with the Southern Company to continue providing needed services to ETG until SJIU was ready to take them over.

ETG transitioned from services provided by Southern Company to services provided by SJIU from July 1, 2018, through the first quarter of 2020. The transition included Customer Experience, Resource Management, Construction Operations, and Information Systems. The functions and operations at ETG did not change materially in the transition.

SJIU was formed to provide consolidated services to ETG and SJG. SJIU was formed initially by transferring functions and employees from SJG to SJIU. The only ETG related personnel who joined SJIU was a Rates Analyst who continues to serve ETG in that position, the ETG Gas Supply Manager who continues to serve in that position, and the current Vice President of Rates and Regulatory who was an outside counsel for ETG and Southern Company at the time of the acquisition. Since the start of SJIU, additional employees have been added to accommodate the increased workload of serving ETG.

B. FINDINGS

VIII-1 There was no formal ETG merger plan, just an SJI, SJIU, and SJG reorganization and a Transition Services Agreement to allow a transition of ETG information systems and operations from Southern Company Gas Services to SJI and SJIU.

SJI did not produce a formal merger plan for the ETG acquisition. Rather, it focused on creating an organizational structure to house ETG, establishing the new SJIU utility holding company, and implementing the systems necessary to replace the centralized services ETG received from its prior owner's service company. All existing ETG employees continued to fulfill their work functions as before.

SJI formed SJIU to hold both ETG and SJG. Along with the presidents of ETG and SJG reporting to the SJIU president, SJIU created multiple shared utility functions to serve both ETG and SJG. The shared utility functions facilitated the integration of ETG and SJG information systems and operations. See Chapter X, Organizational Structure, for more information on SJI and SJIU.

SJI signed a Transition Services Agreement (TSA) with ETG's former service company, Southern Company Gas Services, to provide its information systems and related support for a period of time while SJIU developed the systems and related support to accommodate ETG on a stand-alone basis. It was determined that some of the SJI/SJG legacy systems would not accommodate ETG and, further, some ETG systems were superior to the SJG systems. Therefore, the TSA provided time for SJIU to acquire and implement new systems for ETG, or to integrate ETG into existing SJI/SJG systems.

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ETG was integrated into many existing SJI/SJG systems including:

- Office systems like telephony, network, desktop applications, and cell phones
- Capital project tracking
- Gas supply
- Customer service
- Human resources
- Work and asset management
- Sales management

However, for the existing ETG systems that were superior to SJG systems, like GIS, asset records, and mobile work management, SJI acquired stand-alone versions of those systems for ETG with the intention of future implementation at SJG beyond the period of this audit. The transition of ETG systems began after the closing in 2018 and was completed in the first quarter of 2020. The TSA was terminated in 2020.

VIII-2 SJI tracks the status of each of SJI's and ETG's acquisition commitments under the NJBPU Decision and Order Approving Stipulation and reports compliance with each one.

The NJBPU Decision and Order Approving Stipulation dated June 22, 2018, included multiple commitments from SJI. SJI continues to track the status of each commitment and reports the compliance status with each one. The tracking for each condition and commitment includes the citation to the order or stipulation, the duration of the obligation, the responsible SJI individual(s), and the current status. Some of the commitments run indefinitely while others have been completed and closed out, such as honoring the collective bargaining agreements, a master services agreement with SJI, a shared services agreement with SJIU, the filing of a rate case by June 2020, and the \$15 million bill credit. Other commitments were updated during the 2023 IIF acquisition of SJI, such as the minimum amount of donations and the customer service measures.

VIII-3 No synergies were projected from the SJI acquisition of ETG, and none were found; however, SJI asserts multiple benefits from the acquisition.

There were no immediate synergies or efficiencies identified from the acquisition of ETG by SJI. However, it was stipulated that in future rate proceedings, to ensure that ETG's customers will only pay costs to achieve to the extent that there are offsetting synergy savings, ETG will net the total costs incurred to achieve synergy savings against the resulting total synergy savings and may recover those costs to achieve only up to the amount of the total synergy savings generated.

SJI reported to the NJBPU that no savings had been identified related to the acquisition of ETG through December 31, 2021. It also reported that all acquisition costs were recorded at the SJI level and none were allocated to ETG.

SJI asserts that there have been many positive benefits to ETG, its customers, and New Jersey as a result of the acquisition, most notably as it relates to system safety and energy efficiency. Since the acquisition by SJI, ETG has expanded its investment in cast iron replacement and energy efficiency offerings.

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For example, in July 2019 ETG commenced a five-year \$300 million accelerated infrastructure replacement program (IIP) to enable ETG to replace up to 250 miles of vintage cast iron and bare steel mains and related services, as well as the installation of excess flow valves on new service lines. By targeting aging sections of ETG's system, the IIP projects enhance the safety and reliability of the utility's distribution system to the benefit of its customers, support environmental stewardship by reducing methane emissions, and facilitate economic development through job creation in New Jersey. Prior to the implementation of the ETG IIP, ETG's replacements of vintage facilities were performed at a slower pace.

In addition, in April 2021, ETG received approval to undertake its largest ever energy-efficiency program, as well as a Conservation Incentive Program, aligning clean energy investments with state environmental goals, helping customers save money, and generating jobs in New Jersey. Prior to that time, ETG had very small energy efficiency programs. The prior program totaled approximately \$3 million. The expanded program authorized ETG to spend \$83 million over a three-year period to deliver meaningful and innovative energy-efficiency solutions to help customers lower energy costs and reduce their carbon footprint.

ETG also received approval of a Conservation Incentive Program (CIP) that eliminates the link between usage and margin. The program, which consists of approximately \$76 million of energy efficiency related investments, demonstrates ETG's commitment to the clean energy and environmental priorities of the State and region, advances New Jersey's energy policy goals in a manner that will benefit customers and the environment, and will help to grow the State's green energy economy in a way that it had not before given the relatively low investments in this area. Fully subscribed, the program is designed to help customers save \$152 million in energy costs and 45 million therms over its lifetime, which equates to preventing the release of over 443,000 tons of carbon dioxide into the atmosphere – the same as removing over 87,000 cars from New Jersey roadways for a year. Moreover, the program has the potential to support the creation of almost 2,000 jobs over three years.

However, Chapter IX of this report, Executive Management and Corporate Governance, notes that ETG operations and maintenance costs, capital investment, employees, affiliate payments, and rates have all increased faster under SJI ownership than under the prior ownership. Chapter IX and other chapters of this report recommend cost containment efforts.

The SJI acquisition of ETG was not a transaction based on synergies and consequently, the NJBPU did not require synergies post-transaction. The Company has not identified any quantifiable synergies at this time.

VIII-4 The number of ETG employees has increased since the merger.

As required by the acquisition order, ETG filed annual reports of the number of employees by job title each year. The initial report dated September 28, 2018, showed 330 ETG employees. The report dated July 18, 2019, showed 349 ETG employees (and 14 ELK employees). The report dated September 14, 2020, shows 360 ETG employees. The report dated July 1, 2021, shows 399 ETG employees. From 2018 to 2021, ETG added

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VIII. Merger

69 employees, an increase of 20.9%. This more than met the commitment to maintain at least 330 ETG employees.

VIII-5 The organizational transition integration of ETG and SJG into SJIU is substantially complete; however, the operations and information systems have not been completely integrated and harmonized.

As described in Chapter X, Organizational Structure, SJI provides administrative services to ETG and SJIU provides utility services to ETG. The management of all functions providing services to ETG from SJI and SJIU has been consolidated except for field operations. The ETG President only directly supervises Engineering, Construction, Field Operations, and their support services. The ETG President is also the client representative for all of the SJI administrative and SJIU utility services. There are no current plans to consolidate the remaining ETG functions with SJG.

While the organizational integration of ETG into SJIU is substantially complete, the integration of operations and information systems is not complete. For example:

- While ETG and SJG utilize substantially the same information system applications, they have different instances of each which can have differences.
- The ETG and SJG contact centers cannot take each other's calls. (The union contracts would have to be modified to accomplish this.)
- ETG field operations are organized by division while SJG operations are organized functionally.
- While much progress has been made on harmonizing ETG and SJG standards, 12% remain to be harmonized.

At this point, the ETG integration process has been under way for five years (2018–2023). To further simplify ETG and SJG operations, the integration should be completed.

C. RECOMMENDATIONS

VIII-1 Complete the integration and harmonization of ETG and SJG operations and information systems. (See Finding VIII-5)

ETG and SJG should operate on the same instance of each information system application. The field operations organization of ETG and SJG should also be standardized and the remaining 12% of standards should be harmonized. Further, union negotiations should be started to allow ETG and SJG contact centers to take each others' calls. All administrative and utility shared services departments have a head that can make the necessary decisions on integration and standardization between ETG and SJG, in consultation with the presidents of ETG and SJG. The SJIU president can make the necessary decisions on the integration and standardization of the field operations in consultation with the ETG and SJG presidents.

SJIU should develop a detailed integration and harmonization completion plan with an overall project manager and regular status reporting on progress against the plan. The plan should have a detailed schedule with clear responsibilities for each task.

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IX. Executive Management and Corporate Governance

IX. EXECUTIVE MANAGEMENT AND CORPORATE GOVERNANCE

This chapter is presented in seven sections:

- A. Overview
- B. Executive Compensation
- C. Board of Directors Governance
- D. Independence and Regulatory Compliance
- E. Corporate Governance
- F. Findings
- G. Recommendations

A. OVERVIEW

ELIZABETHTOWN GAS COMPANY

Elizabethtown Gas Company (ETG) is a regulated natural gas utility which distributes natural gas in seven counties in northern and central New Jersey. ETG is a subsidiary of SJI Utilities, Inc. (SJIU), which, in turn, is a subsidiary of South Jersey Industries, Inc. (SJI). SJIU and SJI are covered in separate sections below. ETG has no subsidiaries.

ETG is headquartered in Union, NJ and owns approximately 319 thousand meters, 231 thousand services, 3,273 miles of distribution pipeline, and 13 miles of transmission system mains. ETG has office and service buildings at six locations in its territory. A \$34 million liquefied natural gas liquefaction, storage, and vaporization facility was undergoing a major upgrade at the end of 2021 at one of these locations. At the end of 2021, ETG had \$1.8 billion in net utility plant.

SJI, through its wholly owned subsidiary SJIU, acquired the assets of ETG and Elkton Gas Company (ELK) from Pivotal Utility Holdings, Inc., a subsidiary of Southern Company Gas in 2018. ELK was subsequently sold on July 31, 2020. See Chapter VIII, Merger, for more information on SJI's acquisition of ETG.

B. EXECUTIVE COMPENSATION

The Executive Compensation organizational function is the responsibility of the Executive Compensation Business Partner who is part of SJI's Human Resources (HR) department. For a discussion of the other HR functions see Chapter XI, Human Resources.

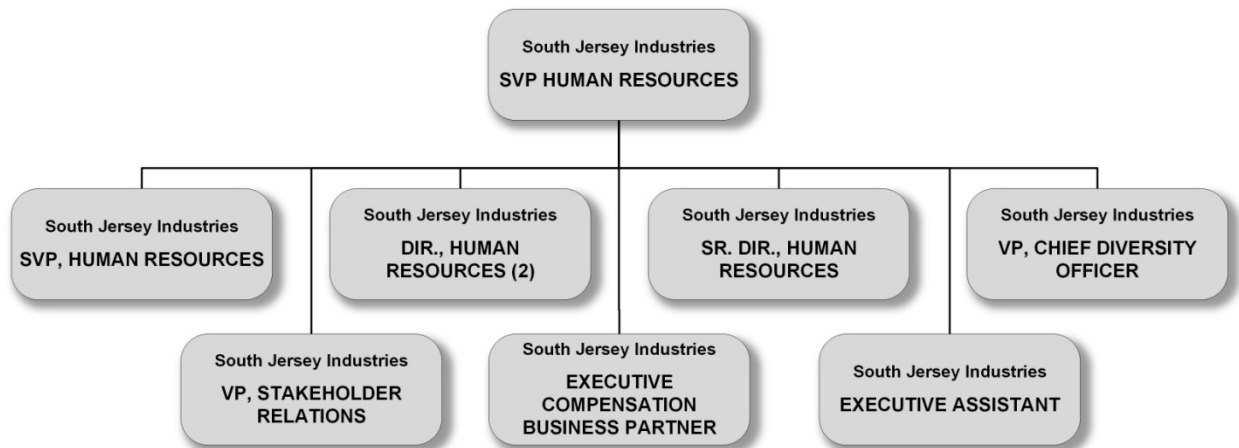
ORGANIZATION AND STAFFING

SJI's Senior Vice President (SVP), Human Resources (HR) has eight direct reports, although one of these positions is currently filled by the SVP. These direct reports, shown in the following organization chart are: (1) Business Partners, (2) Corporate Compensation, (3) Corporate HR Support, (4) D&I (Diversity and Inclusion) and Engagement, (5) HR Administration, (6) Investor Relations, (7) Executive Compensation Business Partner, and (8) Executive Assistant.

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IX. Executive Management and Corporate Governance

SJI Human Resources Organization



Executive Compensation Business Partner

The Executive Compensation Business Partner is responsible for managing the compensation and benefits program for the President and CEO, five Senior Vice Presidents (SVP), and 16 officers of SJI and its subsidiaries, as shown below.

➤ Executive Officers:

- ◆ President and CEO
- ◆ SVP and Chief Financial Officer, SJI
- ◆ SVP, SJI & President SJIU
- ◆ SVP, Chief Information Officer
- ◆ SVP & General Counsel, SJI
- ◆ SVP, Human Resources

➤ Officers:

- ◆ VP, Chief Diversity Officer
- ◆ VP, Accounting, SJI
- ◆ VP, External Affairs
- ◆ VP, Stakeholder Relations
- ◆ President, SJRG and SVP SJI Energy Enterprises
- ◆ VP, Rates, Regulatory Affairs & Sustainability
- ◆ VP, Business Development
- ◆ VP, Sales & Business Development
- ◆ President & Chief Operations Officer, ETG
- ◆ VP, Strategy
- ◆ VP, Finance & Compliance
- ◆ VP, Gas Supply & Gas Production
- ◆ President, SJI Renewable Energy Ventures and SVP SJI Energy Enterprises

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IX. Executive Management and Corporate Governance

- ◆ President & Chief Operations Officer, SJG
- ◆ VP, Enterprise Project Management
- ◆ VP, Customer Experience

COMPENSATION PHILOSOPHY

The executive compensation program is guided by the following principles:

- Alignment with shareholder interests: The program emphasizes variable compensation, with a focus on equity-based compensation, as a valuable means of aligning the interests of our named executive officers (NEOs) with those of our shareholders.
- Accountability for Performance: The program directly and measurably links pay to business and individual performance with a substantial portion of compensation designed to create incentives for superior performance and meaningful consequences for below target performance.
- Support our Business Goals: The program drives short- and long-term financial, operational, and strategic objectives and rewards executives for performance relative to the overall company performance.
- Competition Among Peers: The program enables SJJ to attract and retain key executives by providing a total compensation program that is competitive with the market in which SJJ competes for executive talent.

BASE SALARY

The Compensation Committee of the SJJ Board of Directors determines base salaries for the Executive Officers each year, accounting for multiple factors including breadth, scope, and complexity of the role; internal equity; succession planning and retention objectives; market positioning; and budget. This Committee also considers the analyses provided by an independent compensation consultant which include proxy peer data and survey data of similar positions.

The SJJ Executive Officers, with final approval from the CEO, determine base salaries for the Officers each year based on the same criteria as for the Executive Officers. An independent compensation consultant provides market data for each officer's position.

ANNUAL INCENTIVE PLAN (AIP)

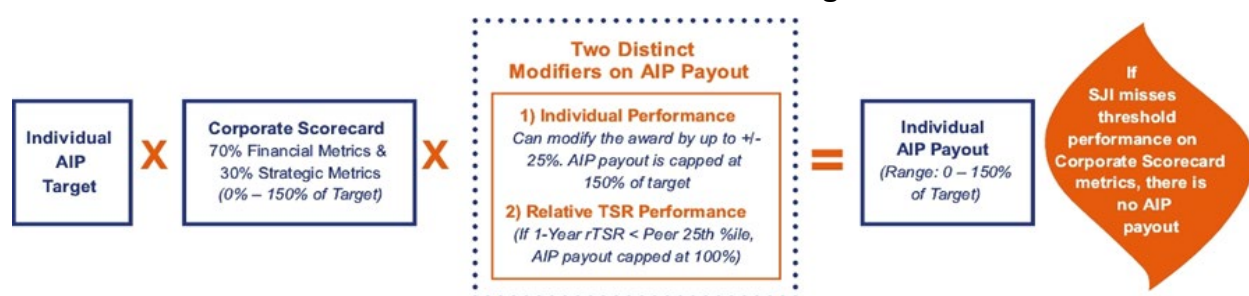
Target Opportunities: Target annual incentive opportunities under the AIP are expressed as a percentage of base salary and are established based on the NEO's level of responsibility and ability to impact SJJ's overall results. The Compensation Committee also considers market data in setting target award amounts. Actual AIP awards can range from 0% to 150% of each NEO's target AIP opportunity (subject to a threshold of 50%) based on the achievement of the performance criteria discussed below.

Annual Incentive Plan Design: The AIP is a formulaic program that considers quantitative goals set at the beginning of the year, along with individual performance, to determine the final payout. The design works as follows:

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Annual Incentive Plan Design



LONG-TERM INCENTIVE PLAN (LTI)

The Long-Term Incentive Plan for Executive officers consists of Performance-based Restricted Stock Units (PRSU) and Time-vested Restricted Stock Units (TRSU). PRSU awards are intended to promote “continued focus on both short- and long-term performance.” “TRSUs support SJI’s leadership retention objectives and foster a culture of ownership.”

ETG Long-Term Incentive Plan

Type of Equity Award	Weight	Description
Senior Executive Officers – SJI President & CEO and five Senior Vice Presidents		
PRSUs	70%	50% vest based on three-year relative TSR (vs. peers) and 50% vest based on three-year Cumulative Economic Earnings Per Share (“EPS”).
TRSUs	30%	Vest ratably (1/3rd) over three years; TRSUs
Officers – Four Presidents of SJI Entities and 12 SJI Vice Presidents		
PRSUs	50%	
TRSUs	50%	Three-year Cumulative Economic Earnings Per Share (EPS) vs. internal goals (100%)

EXECUTIVE BENEFITS

SJI relied on a triannual report from an outside benefits consultant to determine executive benefits. The 2018 report was used to help set the 2019, 2020, and 2021 executive benefits. The outside consultant was directed by the Compensation Committee “to assess the design and competitive positioning of its current executive benefits to ensure the benefits support key financial, strategic, and human resource objectives.”

This analysis looked at the comparative benefits offered by a panel of peer companies (see Peer Company Comparisons below). Considerations were given to industry trends, legislative updates, and shareholder considerations to recommend the type and level of benefits to be offered to SJI’s executive employees.

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PEER COMPANY COMPARISONS

The Compensation Committee reviews and selects a peer group of companies for purposes of comparing base salary, AIP, LTI, total direct compensation (base salary plus AIP and LTI opportunities) and executive benefits. Executive compensation programs are also compared to those programs in place at identified peer companies.

In consultation with an independent compensation and benefits consultant, the Compensation Committee selected a peer group of companies that was comprised of similarly sized gas and other utility companies with comparable revenue and market capitalization. Currently, the number of companies in this peer group is 12.

SJI uses the peer group listed below for the purpose of comparing base salary, AIP, LTI, total direct compensation (base salary plus AIP and LTI opportunities), and executive benefits.

Peer Group Companies

Name	Description
Atmos Energy Corporation	Regulated natural gas distribution, and pipeline and storage businesses in the United States.
Avista Corporation	Electric and natural gas utility company.
Black Hills Corporation	Through its subsidiaries, operates as an electric and natural gas utility company in the United States.
National Fuel Gas Company	Operates as a diversified energy company.
New Jersey Resources Corporation	Energy services holding company, providing regulated gas distribution, and retail and wholesale energy services.
NorthWestern Corporation	Provides electricity and natural gas to residential, commercial, and industrial customers.
Northwest Natural Holding Company	Through its subsidiary, Northwest Natural Gas Company, provides regulated natural gas distribution services to residential, commercial, industrial, and transportation customers in Oregon and Washington.
ONE Gas, Inc.	Operates as a regulated natural gas distribution utility company in the United States.
PNM Resources, Inc.	Through its subsidiaries, engages in the energy and energy-related businesses in the United States.
Portland General Electrical Company	Integrated electric utility company, engaging in the generation, wholesale purchase, transmission, distribution, and retail sale of electricity in the state of Oregon.
Southwest Gas Holdings, Inc.	Through its subsidiaries, purchases, distributes, and transports natural gas in Arizona, Nevada, and California.
Spire, Inc.	Through its subsidiaries, engages in the purchase,

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Name	Description
	retail distribution, and sale of natural gas to residential, commercial, industrial, and other end-users of natural gas in the United States.

The Compensation Committee relies on this peer group data along with industry compensation studies to provide the market value of each position on a comparative basis. The actual levels of pay determined for each position depend on a variety of factors, including experience and performance; however, the Compensation Committee uses the peer group median as a reference point when assessing compensation levels.

BOARD OF DIRECTOR'S COMPENSATION COMMITTEE

The purpose of the SJI Compensation Committee, as described in the committee's charter, is to:

carry out the responsibilities delegated by the Board of Directors relating to the review and determination of executive compensation for the CEO and the Executive Officers, as well as the structure and performance of significant, long-term employee defined benefits and defined contribution plans. Consistent with this function, the Committee should encourage continuous improvement of, and adherence to the Company's policies, procedures and practices at all levels.

COMPENSATION AND BENEFITS CONSULTANTS

Two independent compensation and benefits consultants provide advice to the SJI Compensation Committee.

Pearl Meyer & Partners, LLC is an independent compensation consultant that provides independent counsel and advice concerning matters related to executive compensation, including:

- Review and recommendations regarding the peer group to be used
- Annual competitive market assessment
- Recommendations for compensation decisions
- Review, design, and recommendations for annual and long-term incentive plans
- Other ad-hoc requests related to executive compensation market practice

Pinnacle Financial Group is an independent benefits consultant that the Compensation Committee relies on to examine all components of the executive benefits program and provide an analysis comparing SJI benefits with executives in peer companies and the broad market. The last review was presented to the Compensation Committee on August 30, 2021.

C. BOARD OF DIRECTORS GOVERNANCE

BACKGROUND

Because ETG, SJIU, and SJI are individual legal entity companies, they are each required to have a board of directors, as do corporate SJI non-utility subsidiaries.

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ETG and SJIU Board of Directors

In 2021, the ETG and SJIU Boards of Directors both had the same members, two SJI board members and three SJI/SJIU executives. The independent SJI Board Chairman who has extensive utility experience was also the Chairman of the SJIU and ETG boards. Another SJI independent board member and attorney with extensive utility experience served on the SJIU and ETG boards. The SJI executive board members for SJIU and ETG, two of which are attorneys, were the SJI CFO, the SJI SVP, and the SJIU president.

The SJIU board meets quarterly for approximately one hour, typically by video conference. The five board members usually attend along with SJIU officers, some SJI executives, and the presidents of ETG and SJG. The typical agenda includes:

- Approval of the prior meeting minutes
- Key performance indicators review
- Strategic and Financials Updates
- Regulatory review
- Cybersecurity update
- Executive session

Brief presentations on each topic are made by the responsible SJI, SJIU, ETG, or SJG executive.

SJI Board of Directors

The 2021 SJI Board of Directors (Board) had ten members, nine independent directors and the SJI CEO. The Chairman of the SJI Board was an independent, non-executive director.

According to the SJI Corporate Governance Guidelines, the mission of the Board is:

The Board of Directors (the “Board”) of South Jersey Industries, Inc. (“SJI” or the “Company”), which is elected by SJI’s shareholders, is the ultimate decision-making body of the Company except with respect to those matters, including the election of directors, that are reserved to the Company’s shareholders. The Board selects the senior management team, which is charged with conduct of the Company’s business. Having selected the senior management team, the Board acts as an advisor and counselor to senior management and ultimately monitors its performance. The Board does not manage the Company on a day-to-day basis.

The Board has a set of governance documents and practices including:

- Code of Ethics and Business Conduct
- Corporate Governance Guidelines
- Annual Third-Party Annual Self-evaluations and Evaluations of each Board Committee
- Board Member Education
- Independence from Management
- Committee Charters

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Each is described below.

Code of Ethics and Business Conduct – The SJI Code of Ethics and Business Conduct (Code) is approved by the Board and it applies to the Board of Directors as well as all officers and employees. The Code has sections on:

- Ethics and Compliance: Our Shared Responsibility
- Our Work Environment: Treatment of Others
- Conducting SJI's Business
- Protecting SJI's Information and Assets
- Waivers and Amendments
- Frequently Asked Questions and Ethics and Compliance Training

The Code requires at least annual training on the Code and related topics.

Corporate Governance Guidelines – The SJI Board has adopted Corporate Governance Guidelines (Guidelines). The Guidelines include:

- The Board's Mission
- Selection and Composition of the Board
- Board Training and Orientation
- Board Decision Making and Participation
- Compensation Review
- Board's Performance Assessment
- CEO Performance Evaluation
- Meeting Procedures
- Meeting Attendance and Preparation
- Committee Structure and Functioning
- Succession Planning
- Chairman of the Board
- Shareholder Access to CEO and Communication with Directors
- Confidentiality
- Annual Review of the Guidelines

Annual Third-Party Self-evaluations and Evaluations of each Board Committee – The SJI Board retains a third-party annually to conduct Board member self-evaluations and evaluations of every Board committee.

Board Member Education – The Board has an orientation program for new members and provides ongoing continuing education for all members. Pursuant to the Corporate Governance Guidelines, each Director shall attend at least one relevant educational activity per year, with at least every other year being an external educational activity.

Independence from Management – The Board conducts executive sessions of the independent directors without the CEO and management present at each in-person Board meeting (five times in 2021) and in-person committee meetings (29 times in 2021).

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Committee Charters – Each Board committee has a written charter designed to comport with Securities and Exchange Commission and New York Stock Exchange rules and corporate governance best practices. Each committee charter has sections on Purpose, Composition, Meetings, Responsibilities and Duties, and Review of Charter. The purpose of each committee as taken from the committee’s charter is shown below.

Executive Committee – The purpose of the Executive Committee (Committee) of South Jersey Industries, Inc. (Company) is to exercise the powers and authority of the Board of Directors in the management of the business and affairs of the Company to the extent permitted by law and by the Bylaws of the Company. The Committee shall keep full and fair account of its transactions. All actions by the Committee shall be reported to the Board of Directors at its next meeting succeeding each action. The Committee’s Charter was established by Board resolution dated April 17, 2003.

Strategy and Finance Committee – The purpose of the Strategy & Finance Committee (Committee) of South Jersey Industries, Inc. (Company) is to assist the Board of Directors (Board) in fulfilling its oversight of the Company’s strategic, financial and financing plans.

Audit Committee – The purpose of the Audit Committee (Committee) of South Jersey Industries, Inc. (Company) is to assist the Board of Directors in fulfilling its responsibility for oversight of the quality and integrity of the accounting, auditing and financial reporting practices of the Company. The Committee’s purpose is to oversee the Company’s accounting and financial process by reviewing: the financial reports and other financial information provided to any governmental body or the public; the Company’s systems of internal controls regarding finance, accounting, legal compliance and ethical standards that management and the Board have established; and the Company’s auditing, accounting and financial reporting processes generally. Consistent with this function, the Committee should encourage continuous improvement of, and should foster adherence to, the Company’s policies, procedures and practices at all levels. The Committee’s primary duties and responsibilities are to:

Serve as an independent and objective party to monitor the Company’s financial reporting process and internal control system

Serve as an independent and objective party to monitor the following risk areas: 1) financial reporting process; 2) financial disclosures; 3) financial controls; and 4) accounting/taxes

Review and appraise the audit efforts of the Company’s independent accountants and internal auditing department. The independent accountants and head of the internal auditing department shall report to the Committee

Provide an open avenue of communication among the independent accountants, financial and senior management, the internal auditing department, and the Board of Directors

Provide an open avenue of communication regarding ethical behavior

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The Audit Committee will primarily fulfill these responsibilities by carrying out the activities enumerated in section IV of this charter.

In discharging its role, the Committee is empowered to inquire into any matter it considers appropriate to carry out its responsibilities, with access to all books, records, facilities and personnel of the Company, and, subject to the direction of the Board, the Committee is authorized and delegated the authority to act on behalf of the Board with respect to any matter necessary or appropriate to the accomplishment of its purposes. The Committee is empowered to retain legal counsel and any other auditor, advisors or consultants to assist it in carrying out its activities. The Company shall provide adequate resources to support the Committee's activities, including compensation of the Company's auditors, legal counsel or other advisors or consultants retained by the Committee.

Compensation Committee – The purpose of the Compensation Committee (Committee) of South Jersey Industries, Inc. (Company) is to carry out the responsibilities delegated by the Board of Directors relating to the review and determination of executive compensation for the CEO and the Executive Officers, as well as the structure and performance of significant, long-term employee defined benefits and defined contribution plans. Consistent with this function, the Committee should encourage continuous improvement of, and adherence to the Company's policies, procedures and practices at all levels.

ESG Committee – The purpose of the Environmental, Social, Governance (Committee) of South Jersey Industries, Inc. (Company) is to assist the Board of Directors by providing oversight, monitoring, and guidance on matters related to corporate and social citizenship, public and legal policy, environmental and climate stewardship and compliance, political and regulatory affairs, sustainability, quality of work life, human capital management, diversity and the economic and social vitality of the communities and markets in which the Company operates.

Nominating and Governance Committee – The purpose of the Nominating and Governance Committee (Committee) of South Jersey Industries, Inc. (SJI or Company) is to: assist the Board of Directors (Board) in reviewing and recommending Board governance policy, organization, and practice; identify, assess and recruit candidates for Board membership; and review and recommend Director compensation.

Each committee had a Chair and three to four other members. The Executive committee and the Strategy & Finance committee have five total members and the other committees have four total members. Each independent Board member had two to four committee assignments and the SJI CEO only served on the Executive committee.

Committee Meetings

The committees met as follows in 2021:

Audit – Eight meetings with quarterly Executive Session meetings with Internal Audit and the independent auditing firm.

Compensation – Five meetings.

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ESG – Four meetings.

Executive – No meetings.

Nominating and Governance – Four meetings

Strategy and Finance – Eight meetings

Director Compensation

The 2021 independent director compensation program was as follows:

- Cash—Annual Retainer for Board Service \$65,000
- Restricted Stock—awarded in April¹ \$105,000
- Non-Executive Chairman—stock and cash retainer³ \$90,000
- Annual Committee Chair Fees⁴:
 - ◆ Audit \$15,000
 - ◆ Compensation \$12,500
 - ◆ Environmental, Social, and Governance \$7,500
 - ◆ Nominating and Governance \$8,750
 - ◆ Strategy & Finance \$7,500
- Annual Committee Member Fees⁴
 - ◆ Audit \$15,000
 - ◆ Compensation \$10,000
 - ◆ Environmental, Social, and Governance \$5,000
 - ◆ Nominating and Governance \$7,500
 - ◆ Strategy & Finance \$7,500

¹ The value of the shares is based on the daily average share price for the period July 1 through December 31 of the prior year.

² The annual retainer for the Independent Subsidiary Chairman is payable monthly. The Chairman of the Board of Directors and non-independent directors are not eligible to receive the Independent Subsidiary Chairman annual retainer.

³ The Non-Executive Chairman retainer is comprised of 50% stock and 50% cash. The cash portion is payable monthly.

⁴ Committee Chair fees and Committee Member Fees are payable monthly.

Directors are reimbursed for their travel expenses, upon request.

The independent director compensation for 2021 is shown in the following exhibit along with the number of common stock shares owned.

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SJI 2021 Independent Director Compensation and Shares of Common Stock Owned

Director	Director Since	Fees (\$)	Stock Awards (\$)	Group Life Insurance and Accident Protection Insurance (\$)	Total Compensation (\$)	Common Stock Shares Owned
Barpoulis	2012	110,000	139,219	372	249,591	36,903
Campbell		26,667	34,229	372	61,020	
Fortkiewicz	2010	85,000	139,219	372	224,591	46,072
Hartnett-Devlin	1999	100,000	139,219	372	239,591	19,219
Holland	2019	95,000	139,219	372	234,591	10,511
Holzer	2011	91,250	139,219	372	230,841	42,823
O'Dowd	2020	87,500	139,219	372	227,091	9,014
Paladino	2020	85,000	139,219	372	224,591	7,598
Rigby	2016	120,000	198,891	372	319,263	25,503
Sims	2012	100,000	139,219	372	239,591	95,520

Board of Directors members were required to own, within six years of becoming a director, shares of common stock with a market value equal to a minimum of five times the current value of a director's annual cash retainer for Board service.

Corporate Secretary

The Corporate Secretary reports to the General Counsel. She, the Assistant Corporate Secretary and the General Counsel provide most of the ongoing staff support to the SJI Board. The Corporate Secretary Team facilitates the quarterly Board meetings, including:

- Drafts the initial agenda for review and finalization by others
- Attends the full Board meeting
- Attends three of the committee meetings (the General Counsel and Assistant Corporate Secretary attend the others)
- Documents the attendees
- Prepares the minutes for review by others
- The Corporate Secretary serves similar roles for the quarterly virtual SJIU Board meetings.

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The Corporate Secretary works closely with the SJI Board Governance Committee Chair on potential governance improvements and assists in scheduling governance expert speakers.

The Corporate Secretary's budget includes the Board fees, stock awards, and meeting expenses including guest speakers and outside counsel. The CEO's assistant acts as the event planner for Board meetings. In 2021, total Board expenses were approximately \$2.7 million.

The Corporate Secretary also facilitates the required ETG annual meeting of shareholders which appoints new officers and directors (selected by the SJI CEO) and files the required paperwork with the state.

D. INDEPENDENCE AND REGULATORY COMPLIANCE

THE SARBANES-OXLEY ACT OF 2002 AND REGULATORY REQUIREMENTS

The Sarbanes-Oxley Act (SOX) of 2002 was passed in response to a series of financial scandals involving publicly traded companies. To protect investors from fraudulent financial reporting, the Act established new rules for accountants, auditors, and corporate officers and imposed criminal penalties for violations. SOX rules pertaining to governance are summarized below.

- SOX Section 301 Public Company Audit Committees. Establishes the following requirements pertaining to audit committees:
 - ◆ Audit committee members must be independent. Exchange Act Section 10A(m) prohibits receipt of any consulting, advisory, or compensatory fees. Business/Family member relationships also impair independence.
 - ◆ The audit committee must be the one to appoint, compensate, retain, and oversee the work of external auditors.
 - ◆ The audit committee must establish procedures regarding complaints (whistleblower and external).
 - ◆ The audit committee must have the necessary resources and authority to fulfill its function. (i.e., hiring outside advisors) and for its own administration.
 - ◆ The audit committee must have appropriate funding to hire auditors and advisors.
- SOX SECTION 302 Corporate Responsibility for Financial Reports. Requires that:
 - ◆ The Chief Executive Officer (CEO) and the Chief Financial Officer (CFO) must review all financial reports.
 - ◆ The financial report does not contain any misrepresentations.
 - ◆ Information in the financial report is "fairly presented."
 - ◆ The CEO and CFO are responsible for the internal accounting controls.
 - ◆ The CEO and CFO must report any deficiencies in internal accounting controls, or any fraud involving the management of the audit committee.
 - ◆ The CEO and CFO must indicate any material changes in internal accounting controls.

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- SOX Section 404 Management Assessment of Internal Controls. States that:
 - ◆ All annual financial reports must include an Internal Control Report stating that management is responsible for an "adequate" internal control structure, and an assessment by management of the effectiveness of the control structure. Any shortcomings in these controls must also be reported.
 - ◆ In addition, registered external auditors must attest to the accuracy of the company management's assertion that internal accounting controls are in place, operational, and effective.
- Section 806 Protection for Employees of Publicly Traded Companies Who Provide Evidence of Fraud. Provides authorization:
 - ◆ It authorizes the U.S. Department of Labor to criminally charge those responsible for retaliation against employees who report information the employee reasonably believes violates any rule or regulation of the Securities and Exchange Commission (SEC); any federal law relating to fraud against shareholders; or any act involving federal mail, wire, bank, or securities fraud.
 - ◆ This section does not establish any requirements for publicly traded companies.
- Section 906 Corporate Responsibility for Financial Reports. Requires that public companies include a specific written certification of the CEO and CFO in each periodic report containing financial statements attesting that:
 - ◆ The periodic report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934.
 - ◆ The information contained in the report fairly presents, in all material respects, the company's financial condition and results of operations.

THE AUDIT COMMITTEE

The SJI Audit Committee Charter requires that the Audit Committee be comprised of at least three independent Directors of the Board of Directors. During the 2018 through 2021 period there were always at least three and no more than five Directors serving on the Audit Committee (Committee) at any time, exclusive of ex-officio members. Director biographies are included in Proxy Statements filed with the SEC. All members were considered to be financial experts as defined by the SEC. Committee members received compensation as Board members but received no other payments, other than expense reimbursements, from SJI.

The Audit Committee Charter is available for public review on the SJI website. The Charter establishes the purpose, composition, meetings, and responsibilities of the Committee. The five purposes of the Committee are to:

- Serve as an independent and objective party to monitor the Company's financial reporting process and internal control system.
- Serve as an independent and objective party to monitor the following risk areas: (1) financial reporting process, (2) financial disclosures, (3) financial controls, and (4) accounting/taxes.

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- Review and appraise the audit efforts of the Company's independent accountant and internal auditing department. The independent accountants and head of the internal auditing department shall report to the Committee.
- Provide an open avenue of communication among the independent accountants, financial and senior management, the internal auditing department, and the Board of Directors.
- Provide an open avenue of communication regarding ethical behavior.

The Responsibilities Section of the Charter enumerates the activities by which the Committee is to fulfill its responsibilities.

SJI does not maintain a formal budget for the Audit Committee. However, the Charter does empower the Committee to retain legal counsel, auditors, advisors, and consultants to assist in carrying out its activities and it does require SJI to compensate auditors, legal counsel, other advisors, and consultants retained by the Committee.

The Charter requires the Committee to meet at least quarterly. The number of meetings per year is provided in the exhibit below.

Number of Audit Committee Meetings 2018–2021

	2018	2019	2020	2021
Meetings	8	8	8	7

Audit Committee standing agenda items include accounting updates, financial risk reports, and reports by both the external and internal auditors. Review of proxy reports, 10K and 10Q reports, earnings releases, litigation reserves, and other financial matters also routinely occur.

The external auditor attends and gives reports at Audit Committee meetings. Additionally, at each meeting the Committee meets with the external auditors in executive session. Annually, the Audit Committee reviews the proposed fees submitted by the external auditor, discusses auditor performance, and approves an annual fee amount.

The internal auditor also attends and gives reports at Audit Committee meetings and meets with the Committee in executive session. Annually, the Committee reviews and approves the Annual Internal Audit Plan, the Audit Charter, and the Audit Committee Charter.

The Audit Committee undergoes an annual third-party evaluation. Company practice is to delete/destroy all copies of third-party evaluations of the Board and its Committees after the Board and its Committees have had an opportunity to review and discuss the evaluations. Therefore, these third-party evaluations of the Audit Committee were not available for our review.

Whistleblower Protection

The Charter establishes that the Audit Committee is to provide an open avenue of communication regarding ethical behavior. The Committee achieves this by reviewing and approving the Code of Ethics for Financial Officers and the Employee Code of Ethics and by ensuring that management has established a system to enforce these codes.

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SJI's Code of Ethics and Business Conduct (Code) documents ethical expectations, reporting procedures, and related information such as the non-retaliation policy. The Code provides the website address and phone number that can be used to report fraud or other concerns. The Code also states that SJI will not retaliate, or knowingly allow anyone acting on SJI's behalf, to retaliate against a person who has, in good faith, reported a possible violation or participates in an investigation of a possible violation. A third-party hotline provider hosts SJI's whistleblower hotline, which provides for confidential reporting. A Frequently Asked Questions (FAQ) page provides detailed information regarding reporting.

External Auditors

Deloitte & Touche LLP (Deloitte) served as the auditor for SJI and its affiliates throughout the 2009–2021 audit period. During this period, partner rotations occurred in 2011, 2016, and 2018.

One Deloitte employee was hired by SJI during the period subsequent to the acquisition. The Audit Committee discussed the potential hiring of this employee and determined it was allowable because the employee had not been assigned to work on the SJI account while at Deloitte.

Deloitte also provided tax return preparation and review services as well as tax advisory services during this period.

Annually, Deloitte communicated in writing all relationships between the audit firm and SJI. Communications included family employment relationships, employment of audit firm employees by company, and the nature of tax and other non-audit services provided by the audit firm to the company, including the fee structure for the provided services. The communications were discussed in meetings of the Audit Committee.

The following exhibit provides the audit and other fees paid by SJI to Deloitte during the 2018-2021 period.

Fees Paid by SJI to Deloitte for All Services Provided

	2018	2019	2020	2021	2018–2021 Combined	2018–2021 Combined as Percent of Total
Audit Fees	3,713,000	4,711,025	3,738,975	4,015,459	16,178,459	92%
Tax Fee	525,415	250,561	263,808	435,884	1,475,668	8%
All Other Fees	-	2,021	8,582	1,180	11,783	<1%
Total	4,238,415	4,963,608	4,011,366	4,452,523	17,665,912	

Audit fees consisted of 92% of the total amount paid to Deloitte during the 2018 through 2021 period. These included amounts paid for audits of the SJI's annual financial statements, evaluation and reporting on the effectiveness of SJI's internal controls over financial reporting, reviews of SJI's quarterly financial statements, comfort letters, consents, and other services related to SEC matters.

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Tax fees, which included tax compliance and compliance-related research, amounted to about eight percent of the total paid to Deloitte. Tax compliance consists of services rendered based on facts already in existence or transactions that have already occurred to document, compute, and obtain government approval for amounts to be included in tax filings and federal, state, and local income tax return assistance.

Other fees were insignificant and included fees for research tools, subscription services, and registration fees for learning programs.

E. CORPORATE GOVERNANCE

BACKGROUND

ETG is governed by a three-level entity matrix structure in which ETG generally provides geographic specific field functions like construction and field service, SJIU generally provides non-geographic specific utility services like customer service and gas supply, and SJI generally provides non-geographic specific administrative services like human resources and information technology. The ETG President reports to the SJIU President who reports to the SJI CEO.

The SJI mission, vision, and values are covered in Chapter XII, Strategic Planning.

LEADERSHIP TEAM STRUCTURE

The actual employee organization structure for SJI, SJIU, and ETG is shown in Chapter X, Organizational Structure.

Entity Leadership Teams

The ETG, SJIU, and SJI leadership teams are essentially each President's direct reports. These teams meet weekly or biweekly and serve to govern each of their respective entities. In addition to the entity executives, subject matter experts are often invited to participate in the meetings for specific topics.

In addition, there are broader leadership teams used more for communication and feedback. For example, there is a broader SJIU leadership team that is headed by the President of SJIU and includes the following SJIU positions:

- President & COO, ETG
- President & COO, SJG
- Director, Technical Training
- Senior Director, Customer Experience
- Director, Emergency Preparedness, Compliance, and Standards
- Senior Director, Customer Experience
- VP, Utility Shared Services
- Senior Director, Energy Efficiency
- Director, Marketing
- VP, Safety, Quality, and Environmental
- Director, Rates

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- Regulatory Affairs Counsel Principal
- VP, Gas Supply and Gas Production
- VP, Customer Experience
- VP, Sales and Business Development
- VP, Rates, Regulatory Affairs, and Sustainability

The broader SJI leadership team is composed of the SJI directors, vice presidents, and senior officers. It is headed by the SJI President and Chief Executive Officer and includes the following SJI positions:

- Director, Information Technology
- Senior Director, Environmental and Procurement
- Director, Risk
- VP, Finance and Assistant Treasurer
- VP, Strategy and Business Development
- Innovation and Business Improvement Director
- Senior Director, Internal Audit
- Executive Compensation Business Partner
- Director, Tax Accounting
- VP, Information Technology
- Director, Information Technology
- Internal Communication Director
- External Communications Director
- VP, Information Technology
- Human Resources Business Partner
- Assistant General Counsel
- Labor Relations Business Partner
- Director, Human Resources
- Senior Director, Environmental, Social, and Governance and Risk
- Director, Information Technology
- Senior Director, Human Resources
- Senior Director, Assistant General Counsel
- Director, Corporate Secretary
- VP, Executive Succession and Development
- Director, Human Resources
- Human Resources Business Partner
- VP, Information Technology
- Director, Accounting
- Director, Government Relations
- Project Manager Principal

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- Director, Talent Acquisition
- Director, Information Technology
- Director, Financial Planning
- Human Resources Business Partner
- VP, Risk Management
- SVP and Chief Financial Officer, SJI
- SVP and General Counsel
- SVP and Chief Information Officer
- VP, Business Development
- VP, Controller, SJI
- VP, Strategy
- VP, Chief Diversity Officer
- SVP, Human Resources
- VP, Stakeholder Relations
- VP, Enterprise Project Management
- VP, External Affairs

The broader SJI leadership team meets from time to time. There were two meetings in 2021, one in June and one in August. Topics included:

- Welcoming new hires
- Employee survey results
- Employee giving campaign
- Return to office
- Clean energy goals
- Equity raise
- Safety
- Promotions
- Milestone employment anniversaries
- CEO award recipients

In addition, SJI holds approximately quarterly “town hall” meetings for directors and above for communication and feedback. These meetings are held off-site and last for about one-half day.

Cross-Functional Committees

In addition to the entity leadership teams, several cross-functional teams address specific governance issues. Examples include:

- Diversity Council
- Executive Workforce Committee
- Environmental, Social, and Governance Committee

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- 401K Trust Committee
- Compliance
- Project Management Council

Executives are drawn from across the SJI entities to serve on these cross-functional committees for a period of time. Membership is in addition to their regular duties.

CORPORATE PERFORMANCE MANAGEMENT

There is one corporate performance management process for SJI, SJIU, and ETG. There is no separate process for SJIU or ETG. The SJI Strategy department in the CFO's organization develops and administers the whole corporate performance management process with the exceptions of incentive compensation, employee performance plans, and employee performance evaluations which are administered by the Human Resources department.

SJI corporate performance management encompasses several elements:

- Mission, vision, and values
- Balanced scorecards with key performance indicators
- Benchmarking and best practices studies
- Strategic plan
- Financial plan
- Capital budget
- Position budget
- Operations budget
- Employee performance plans
- Employee performance evaluations
- Employee incentives

The SJI mission, vision, and values are covered in Chapter XII, Strategic Planning. Balanced scorecards and benchmarking are covered below and in individual functional chapters, such as Chapter XVI, Customer Service and Chapter XVIII, Distribution and Operations Management. The strategic plan is covered in Chapter XII, Strategic Planning. The financial plan, capital budget, and operations budget are covered in Chapter XIII, Finance. The position budget and employee performance plans, performance evaluations, and incentives are covered in Chapter XI, Human Resources.

Balanced Scorecards and Key Performance Indicators

The SJI CEO and the presidents of the ETG, SJG, and the two non-utility subsidiaries set the annual SJI corporate scorecard. Each year, SJI key performance indicators (KPI) are selected and targets set for four areas:

- Financials (e.g., economic earnings)
- Internal Process (e.g., improving customer cash collections)
- Customer (e.g., customer satisfaction rate)
- Culture (e.g., improving employee safety)

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IX. Executive Management and Corporate Governance

These enterprise level KPIs are cascaded down into each subsidiary, such as ETG, and each department in SJI administrative services and SJIU utility services.

Benchmarking and Best Practices Studies

Benchmarking and best practices studies are important for setting KPI targets and identifying opportunities for improvement. There should be a recent benchmark for each KPI and a recent best practices study for each major function. While many functions have recent, relevant benchmarking or best practices studies, there is no SJI corporate program for benchmarking and best practices.

ETG Corporate Performance Management

KPIs are not tracked at the SJIU level. They are tracked and reported at the utility level for ETG and SJG.

ETG reports the following KPIs to the SJI Board of Directors:

- Economic Earnings
- Margin
- Operations and Maintenance Expense (O&M) – total O&M and taxes other than income taxes
- Interest Expense – total interest charges excluding interest charged to construction
- Capital Investments – capital expenditures for base capital and accelerated infrastructure program
- Customer Growth (gross, conversions, and new construction) – new customer account additions for residential and commercial
- Occupational Safety and Health Administration (OSHA) recordable injuries – number of injuries and illnesses x 200,000 / employee hours worked = incidence rate
- Days Away Restricted or Transferred (DART) Rate – this rate includes only those OSHA recordable injuries or illness that resulted in days away from work, restricted duty, or transfer of duties. The DART rate is calculated using the following formula: number of OSHA recordable injuries and illnesses that resulted in days away; restricted; transferred x 200,000 / employee hours worked = days away restricted transferred rate
- Preventable Motor Vehicle Incident Rate – total preventable vehicle incidents x 1,000,000 / business use miles driven
- Leak Count – open grade A and B leaks
- NJBPU complaints – customer complaints received by the NJBPU
- Reportable NJBPU and Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents – reportable accidents or incidents related to utility equipment or operations to comply with NJBPU and PHMSA requirements
- Damage Prevention – third party facility damages per one thousand mark-out tickets

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IX. Executive Management and Corporate Governance

For ETG financial performance, annual budgets are set for key financial performance factors. The key financial performance factors include:

- Operating margin
- O&M expense
- Depreciation
- Energy and other taxes
- Other income and deductions
- Interest expense
- Income tax

The actual results versus the month's budget and year-to-date forecast are reviewed monthly by account at the ETG level.

ETG has a balanced scorecard with six categories:

- Safety
- Shared Services
- Financials
- Customer
- Internal Process
- Learn and Growth

For each category, goals are set, such as, "reduce excavation damages." Then, targets for each goal are set, such as, "reduce excavation damages to 2.28 per 1,000 tickets."

Monthly Operations Review

Each month, a large meeting is convened including ETG, SJIU, and SJI executives and managers with responsibilities for ETG. The actual ETG results for the month and year-to-date are reviewed against the targets by the SJI/SJIU/ETG leadership team. The review is facilitated with dashboard charts with each goal, target, actual performance, and the status (meets and exceeds, successfully meets, partially meets, or fails to meet). The status is followed by a comment.

Following the monthly review of the balanced scorecard, the SJI/SJIU/ETG leadership team has a monthly strategy update. The review is facilitated with dashboard charts on the following topics:

- JD Power score
- Safety
- Financials including operating expenses and capital
- Supply chain
- Field operations
- Energy efficiency
- System integrity
- Customer experience

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IX. Executive Management and Corporate Governance

- Sales and marketing
- Construction operations
- Rates and regulatory
- Gas supply
- Shared services (SJI level administrative services like Information Technology and Human Resources)

F. FINDINGS

IX-1 SJI uses independent consulting companies for advice on executive compensation and benefits.

SJI relied on advice from Pearl Meyer & Partners, LLC to assist in setting executive compensation and the Pinnacle Financial Group to help set benefits for 2019 through 2021. Both companies are nationally known and well considered in the compensation and benefits industry.

IX-2 A benchmark panel of comparable companies was utilized in determining executive compensation.

A panel of 12 gas and other utility companies with generally comparable revenue, total assets, and market capitalization was presented to SJI by the independent consultant. The companies in the current panel included utility companies that distributed and stored natural gas, distributed natural gas and electricity, or distributed only electricity, or were diversified energy companies. The final decision on which companies to include in the peer group was made by SJI's Compensation Committee of the Board of Directors.

IX-3 SJI ranked near the bottom half of its peer group on comparative company data.

For the Proxy Peer Group approved by the Compensation Committee in July 2020, SJI appeared near the bottom for comparative company data. SJI was ranked 12 of 13 for Market Capitalization, 9 of 13 for most recent quarter (MRQ) asset values, 8 of 13 for Last Twelve Months (LTM) Revenues, and 11 of 13 in Utility Revenue as a percentage of Total Revenue.

IX-4 The Compensation Committee uses the peer group median as a reference point.

The SJI 2020 Proxy Statement states that although they do not target any percentile in comparing SJI to the selected peer group, they do use the median as a reference point in determining executive compensation. The Proxy Statement further stated that "Actual levels of pay depend on a variety of factors such as experience and individual and Company performance."

IX-5 The executive compensation program is guided by goals and principles typical for utility companies.

The stated principles that guide SJI's executive compensation program are similar to those expressed by other utilities involved in gas distribution and similar to principles followed by most United States corporations. These include:

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IX. Executive Management and Corporate Governance

- Alignment with shareholder interests emphasizing variable, equity-based compensation that lines up the interests of executive officers with shareholder interest.
- Accountability for performance linking pay to business and individual performance for a substantial portion of each executive's compensation.
- Driving business objectives and rewarding performance relative to company performance.
- Ensuring competitiveness for executive talent with the market in which SJI competes.

IX-6 The 2021 SJI, SJIU, and ETG Boards of Directors were well qualified.

The board member selection process produced a well-qualified and well-balanced set of directors. The 2021 ETG and SJIU Boards included outside directors with substantial relevant utility experience. The 2021 SJI Board members had good representation and balance of experience and skills in utilities, corporate governance, finance, risk management, and strategy.

IX-7 The SJI Board of Directors Chairman and SJI Chief Executive Officer titles are separated.

The 2021 SJI Board of Directors Chairman was an independent director with substantial utility experience. He also served as the Chairman of the SJIU and ETG boards. The SJI CEO served on the SJI board but was not its chairman. This separation results in good checks and balances between the Board and SJI management.

IX-8 The Board of Directors and senior management are able to anticipate and respond to strategic issues on an ongoing basis and ensure that the ETG ratepayers are insulated from financial harm.

The Board of Directors, its committees, and committee chairs meet regularly with SJI, SJIU, and ETG senior management and are well-informed on their strategic issues and performance. The SJI planning and performance management process that encompasses SJIU and ETG is conventional and reasonably comprehensive and is shared with the SJI, SJIU, and ETG Boards of Directors. For more information on the insulation of ETG ratepayers from SJI, see Chapter III, Affiliate Relationships.

IX-9 ETG's and SJIU's senior management are largely insulated from the SJI non-utility subsidiaries and are free to focus on ETG performance and the best interests of its ratepayers.

Only the SJI level shared services like Human Resources and Information Technology serve SJI non-utility subsidiaries. The SJIU and ETG levels are focused on utility operations. ETG and SJIU senior management are largely insulated from SJI non-utility activities and are free to focus on ETG and SJI performance and the interests of their ratepayers. Only the SJIU President has a formal role with SJI by serving in a dual capacity as a SJI Senior Vice President.

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IX. Executive Management and Corporate Governance

IX-10 The 2021 SJI Board of Directors committee structures were conventional and largely appropriate; however, the Executive Committee did not meet from 2018 through 2021.

The 2021 Board of Directors committee structures described above are conventional and the board chair and committee chairs took their responsibilities seriously and performed their duties diligently.

The Executive Committee did not meet from 2018 through 2021. The Executive Committee is designed to act as directed by, or on behalf of, the Board of Directors during intervals between the meetings of the Board of Directors in the event a quorum of the Board is not available and, if at the discretion of the Chairman of the Board, immediate action is needed. However, there have been no Executive Committee meetings since 2018. This appears to be for two reasons. First, it is often possible to convene the full board telephonically, if necessary. Second, the Strategy and Finance Committee seems to be fulfilling the intended role of the Executive Committee. It has multiple *ad hoc* meetings each year. The types of issues that might go to the Executive Committee also fall within the scope of the Strategy and Finance Committee, such as financings, acquisition and divestiture opportunities, or strategic issue developments.

IX-11 There were no relevant SJI or ETG board lawsuits from 2018 through 2021.

The Corporate Secretary was not aware of any relevant SJI or ETG board lawsuits during the period SJI has owned ETG. Further, the SJI Board use of outside counsel is limited. From 2019 through 2021, two outside firms were used on nine governance or compliance matters costing a total of \$152 thousand.

IX-12 Through 2021, all SJI Board of Director Members were in compliance with their continuing education requirements.

Each Board of Directors member had at least one education activity, one external continuing education seminar, and attended a corporate governance or utility industry seminar within the prior two years.

IX-13 SJI maintains a current set of corporate governance documents.

SJI maintains current governance documents for SJI, SJIU, and ETG, such as:

- Articles of Incorporation
- By-laws
- Board Committee Charters
- CEO Emergency Succession Plan
- Corporate Charters
- Corporate By-Laws

IX-14 The Board Governance Committee, working with the Corporate Secretary, makes continuous improvements to Board governance.

The Corporate Secretary tracks SEC proposed rules, follows governance information from the Institutional Corporate Services for mutual fund recommendations on governance, and studies the Institutional Shareholder Services guidelines and

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IX. Executive Management and Corporate Governance

comparative proxy statements for potential improvements to SJI governance. The Corporate Secretary also participates in the Society of Corporate Governance and utilizes their education and information to improve SJI governance. She suggests governance improvements to the Governance Board which are often adopted. Some recent governance improvements include:

- New Director on-boarding
- CEO Emergency Transition Plan
- SEC Section 16 Insider Trading filing

SJI commissioned a Governance Quality Score Report from a third party board governance expert firm. The review was dated December 4, 2022. SJI received a Governance Score of 1, the best possible score. Factors considered included board structure, shareholder rights, compensation, and audit and risk oversight.

IX-15 The SJI CEO did not serve on the SJI Strategy and Finance Committee or on the SJIU, SJG, and ETG boards of directors.

The only SJI Board of Directors committee assignment for the SJI CEO is the Executive Committee, which has not met since 2018. Further, while he does serve as the Chair of several of the SJI non-utility subsidiaries' boards, he does not sit on the SJIU, SJG, or ETG boards. The SJI Board of Directors Strategy and Finance Committee deals with situations and issues critical to SJI and ETG, including strategic and financial planning, acquisitions and divestitures, and strategic developments such as the new NJ Energy Plan. The SJI CEO should be a strong voice and vote on the committee.

SJIU, SJG, and ETG are SJI's principal businesses and its most important assets. While the SJIU, SJG, and ETG boards are focused on compliance with corporate governance requirements, they also contain an important element of performance review. The SJI CEO should be a strong presence on the SJIU, SJG, and ETG boards as a symbol of the importance of the businesses.

IX-16 SJI is in compliance with Sarbanes-Oxley Section 301 requirements regarding audit committees.

The Audit Committee is comprised of independent directors who do not receive any consulting, advisory, or other compensatory fee. The Committee retains and sets compensation for the external auditor and oversees the external auditor's work, meeting with the external auditor several times yearly. Annually, the Committee reviews and approves the company's Code of Ethics & Business Conduct, which describes the whistleblower process.

IX-17 SJI could better demonstrate its commitment to SOX 301 compliance by establishing an Audit Committee budget.

Section 301 requires that the Audit Committee have the resources, authority, and funding to hire outside advisors and auditors. The Audit Committee Charter provides the Committee with the authority to retain outside advisors and auditors, and the Charter does specify that funding will be provided. However, SJI has not established a separate budget for the Audit Committee. Because funds have not been set aside through the annual

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budget process, the Audit Committee may be hesitant or reluctant to hire outside advisors.

IX-18 SJI is in compliance with Sox 302, 404, and 906 requirements regarding corporate responsibility for financial reporting and the assessment of internal controls.

The 10-K and 10-Q reports contain the required Section 302 certifications of the Chief Executive Officer, Chief Operating Officer, and Chief Financial Officer. The certifications are included as exhibits in Part IV of the reports. Certificates state the signer has reviewed the 10-K and that the 10-K fairly presents the financial condition, as required by Section 302. The certifications also address the Section 404 requirements regarding internal controls. The signers acknowledge that they and other certifying officers are responsible for disclosure and internal controls, that the controls have been designed and found to be effective, and that they made the specified, required disclosures. In addition, Section IV of the 10-Ks contains the external auditor's required attestation to management's assertion that internal accounting controls are in place, operational, and effective.

IX-19 SJI established appropriate whistleblower protections to support compliance with Sarbanes-Oxley Section 806.

The Code of Ethics and Business Conduct (The Code) establishes that employees have a duty to report suspected violations and sets forth the expectation that employees will do so. SJI contracts with a third party hotline provider that enables reporting to occur anonymously both through a website and a toll free telephone number that is operated 24 hours a day, seven days a week.

The Code further states that SJI will not retaliate or knowingly allow anyone acting on SJI's behalf to retaliate against a person who has, in good faith, reported a possible violation or participates in an investigation of a possible violation. The Code links to an FAQ document which provides additional information on reporting procedures.

IX-20 ETG's auditors are independent per the rules of the Public Company Accounting Oversight Board (PCAOB) and the SEC.

No engagement partner exceeded the allowable five-year period as mandated by Section 203 of the Sarbanes-Oxley Act. There were four different engagement partners during the time period covered by this audit (2009–2021). Changes in partner occurred in 2011, 2016, and 2018.

The U.S. Securities and Exchange Commission (SEC) Standard on Audit Committees and Auditor Independence (Standard 1) establishes what services are allowable and non-allowable.

All services provided were allowable. The work did not involve providing any specifically prohibited non-audit services. Deloitte provided permitted services that did not create a mutual or conflicting interest with the audit client, place Deloitte in a position of auditing their own work, cause Deloitte to act as management or an employee of the client, or place Deloitte in a position of being an advocate for the client. Provision of the services was pre-approved by the Audit Committee.

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The Standard also establishes that written disclosure to and discussion with the Audit Committee must occur regarding all relationships between the audit firm and the company that may reasonably be thought to bear on the audit firm's independence. Similarly, the Public Company Accounting Oversight Board (PCAOB) Ethics and Independence Rule 3526, Communications with Audit Committees Concerning Independence requires written communication concerning all relationships between the audit firm and the company.

Annually, Deloitte communicated in writing all relationships it had with the company. Discussion at Audit Committee meetings of these relationships followed.

IX-21 ETG, SJIU, and SJI have many recent and relevant benchmarking and best practices studies but there is no SJI benchmarking and best practices program.

ETG is an active member of the American Gas Association (AGA) with a focus on participation in the AGA Best Practices Program. Participation in this program encompasses submission of data packs for the company profile and system reliability (annually) and the additional topics identified by the AGA Best Practices Steering Committee for any given program year. ETG provides this information, appoints a representative for each topic to participate in topic specific roundtables, and reviews results as they are provided by the AGA. Over the past five program years, the topics have included:

2018 (For year ended December 31, 2017)

- Company Profile
- System Reliability
- Contractor Oversight and Quality Assurance and Quality Control
- Rights of Way, Encroachment and Permitting
- Transmission Integrity

2019 (For year ended December 31, 2018)

- Company Profile
- System Reliability
- Collection and Maintenance of As-built Documentation
- Training and Operator Qualification
- Distribution Integrity Management Program and Asset Management
- AGA Safety and Occupational Health Committee – 2019 Natural Gas Utility and Transmission Industry Occupational Injury and Illness Statistics benchmarking

2020 (For year ended December 31, 2019)

- Company Profile
- System Reliability
- Emergency Response and Preparedness
- Main and Service Replacements

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- Main and Service New Business
- System Regulation and Overpressure Protection

2021 (For year ended December 31, 2020)

- Company Profile
- System Reliability
- Carbon and Emissions Reduction
- Damage Prevention
- Leak Repair

2022 (For year ended December 31, 2021)

- Company Profile
- System Reliability
- Gas Control
- Contractor Oversight
- Compliance Oversight

In 2023, ETG will participate in a voluntary AGA Peer-to-Peer review covering:

- Safety Culture
- Technical Training and Worker Procedures
- Pipeline Safety Risk Management

ETG industry peer subject matter experts will review ETG and provide observations.

The total cost of SJI participation in the AGA was \$464 thousand in 2021. The impact of the ETG merger raised the total dues by \$106 thousand, which was phased in over a four year period.

For the shared utility services functions, SJIU had the following best practices and benchmarking activities as well as active participation in industry groups:

Compliance and Standards

- Northeast Gas Distribution Council (NEGDC) Emergency Management Committee
- Northeast Gas Association (NGA) mutual aid function
- NGA Emergency Management Committee
- New Jersey Local Distribution Company (NJLDC) committee (quarterly meetings with Engineering and Operations from Public Service Electric and Gas (PSEG), Chesapeake, and New Jersey Natural Gas (NJNG)
- AGA Operations Section Regulatory Action Committee calls
- AGA Engineering Committee
- AGA Piping Materials Committee
- AGA Peer Reviews
- AGA Operations Safety Regulatory Action Committee
- NGA Pipe Joining Committee

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- Mid-Atlantic Gas Networking Committee
- New Jersey Statewide Utility Safety Team

Records and Geographic Information Systems

- AGA GIS Best Practices Committee
- ESRI (supplier of geographic information systems) monthly meetings and Conference Presenters and Participants
- Mid-Atlantic Chapter Urban and Regional Information Systems Association, Presenter and Participants
- Northeast Gas Distribution Conference Presenter and Participants
- Northeast Gas Association Tracking and Traceability Committee
- Mid-Atlantic chapter of the Urban and Regional Information Systems Association

Technical Training

- Regularly scheduled monthly meetings with peer utilities (NJNG, PSEG, and Chesapeake) to discuss training topics
- Mosaic Energy Utility Training Roundtable Participants
- Industrial Training Services Conference Participants
- NGA Operator Qualifications Committee Participants
- NGA Training and Qualifying Committee
- Gas Technology Institute (GTI) Virtual Reality Training User Committee Member

Emergency Preparedness

- NGA Emergency Management Committee Member
- NGA Mutual Aid Committee Member
- Active participation in the Atlantic County Emergency Management Advisory Board

SJI corporate shared services also have benchmarking and best practices activities, including:

Human Resources

- Participation in compensation and benefits surveys. Benchmarking studies include AGA, Mercer, PwC, and Willis Towers Watson. In addition, SJI utilizes Pay Factors – a database management service that permits users to market price jobs scoped by industry, geography, and company size utilizing external market data points.
- SJI also participates in best practice studies via various memberships such as AGA, Society of Human Resource Management, and World at Work

Information Technology

- IT Key Metrics Data 2020, Industry Measures, Utilities Analysis

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Enterprise-Wide

- 2017 General and Administrative Expense Benchmarks – Energy and Utilities Sector
- 2018 General and Administrative Expense Benchmarks Report – South Jersey Industries Inc.

Financial

- Weekly financial comparisons to six other companies covering various public financial and valuation factors. The six comparison companies are:
 - ◆ Atmos Energy
 - ◆ New Jersey Resources
 - ◆ Northwestern Natural Holdings
 - ◆ ONE Gas Inc.
 - ◆ Southwest Gas Holdings
 - ◆ Spire Inc.

While SJI, SJIU, and ETG have many benchmarking and best practices activities, there is no formal SJI benchmarking and best practices program. Benchmarking and best practices activities are initiated by the individual functional areas and some KPI targets are set to achieve benchmarked first quartile performance, such as for employee safety and customer service. While this is admirable, there is no guarantee that each KPI target has a recent, relevant benchmark and each function has a recent, relevant best practices study. Benchmarking and best practices studies are important for setting KPI targets and identifying opportunities for improvement. There should be a recent benchmark for each KPI and a recent best practices study for each major function.

IX-22 SJI, SJIU, and ETG do not have a formal capital project prioritization scheme.

When asked for the capital project prioritization scheme, SJI responded, “The majority of the Company’s capital projects are related to infrastructure replacements and customer growth. Infrastructure replacements are prioritized based on risk, which is determined by the Company’s Distribution Integrity Management Plan and compliance review process.” No capital project prioritization scheme was provided either for utility plant projects or non-utility capital projects.

IX-23 SJI has a Chief Compliance Officer and a formal compliance program; however, it does not have a Chief Ethics Officer and a formal ethics program.

The General Counsel serves as the Chief Compliance Officer and there is a cross-functional Compliance Committee supported by personnel in the Legal Department. See Chapter XXI, Support Services – Legal for more information on the compliance structure and program. However, there is no SJI Chief Ethics Officer or formal ethics program. Ethics responsibilities are shared by the Legal and Human Resources departments on an informal basis. While there are significant ethics activities, such as training on the Code of Conduct, the ethics function is not as well developed as the compliance function.

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IX. Executive Management and Corporate Governance

G. RECOMMENDATIONS

IX-1 SJL should consider modifying its Peer Group to improve comparability. (See Findings IX-3 and IX-4)

In the 2020 peer group, SJL ranked near the bottom for most of the comparison criteria. While using the peer group median as a reference to help establish compensation, in 2020 SJL's base salaries were positioned 10% below the market median, total cash compensation was 7% below market median, and long-term incentives were 17% below market median. A more comparable peer group could be more useful in establishing a median for compensation that more closely fits realities at SJL.

IX-2 Disband the Executive Committee and formally assign its duties to the Strategy and Finance Committee. (See Finding IX-10)

The SJL Board of Directors Executive Committee is an archaic structure that has not met since 2018. While there are no direct costs for the committee (no member payments in 2021), it is carried on the books as a formal Board committee. The Committee can be disbanded, and the Strategy and Finance Committee charter can be updated to formally recognize its role as the Committee to address timely issues between scheduled Board meetings.

IX-3 Assign the SJL CEO to the SJL Board Strategy and Finance Committee and the SJIU and ETG boards of directors. (See Finding IX-15)

In lieu of the SJL CEO's membership on the Executive Committee, assign the CEO to the Strategy and Finance Committee which, in effect, is performing the role of the Executive Committee. In addition, to recognize the importance of SJIU and ETG to SJL, the CEO should be made a member of their boards.

IX-4 SJL should consider establishing an annual budget for the Audit Committee. (See Finding IX-18)

Establishment of a budget demonstrates commitment and ensures funds will be available if needed. An Audit Committee budget would ensure that funds are available if the Audit Committee deemed it necessary or prudent to retain outside advisors. Under the current arrangement in which funds have not been set aside, the Audit Committee may be hesitant to incur the expense of outside advisors as it would be forced to consider the extent and impact of reallocating funding from its planned and budgeted purpose.

IX-5 Develop a formal SJL, SJIU, and ETG benchmarking and best practices program to have a benchmark reference for each KPI at least every three years and a best practices study for each major function at least every five years. (See Finding IX-21)

The benchmark reference for each KPI will assist SJL, SJIU, and ETG determine the relative company performance in that indicator and will inform the target setting process. If performance is lower than standard for a KPI, the target for the KPI should be set at a higher level each year until better than standard or desired performance is reached. Corresponding improvement initiatives should be chartered to achieve the needed improvement in each KPI.

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IX. Executive Management and Corporate Governance

Best practices studies assist entities with determining how a particular function compares to others and identifies opportunities for improvement. Each major function, such as finance; legal; human resources; information technology; gas supply; rates and regulatory; customer service; safety; sales; and utility planning, engineering, construction, and maintenance should have a best practices study at least every five years.

IX-6 Develop and implement a formal capital project prioritization scheme. (See Finding IX-22)

The needed capital project prioritization scheme will assist managers and executives in containing the increases in capital expenditures by evaluating each capital project by an objective set of criteria to determine which possible projects are worthy of investment.

IX-7 Appoint a SJI Chief Ethics Officer and develop an ethics program modeled on the compliance program. (See Finding IX-23)

The SVP of Human Resources should be named the Chief Ethics Officer and a cross-functional Ethics Committee should be formed. Personnel from the Human Resources department should be designated to support the ethics program and committee.

X. ORGANIZATIONAL STRUCTURE

This chapter is presented in seven sections:

- A. Overview and Allocation of Resources
- B. Affiliate Policies and Procedures
- C. Affiliate Contracts
- D. Gas Sales Relationships with SJI and Affiliates
- E. Internal Controls
- F. Risk Management
- G. Information Security Policies
- H. Findings
- I. Recommendations

A. OVERVIEW AND ALLOCATION OF RESOURCES

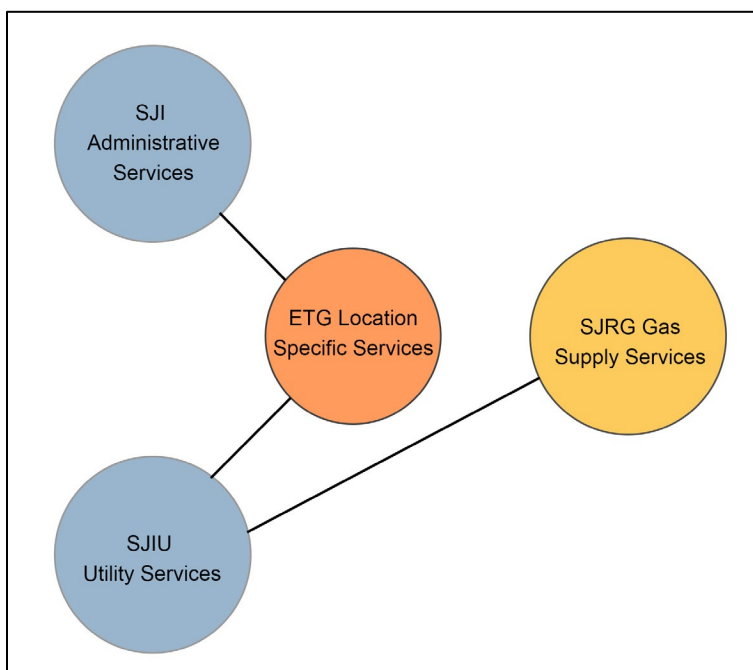
OVERVIEW

The Elizabethtown Gas Company (ETG) is served by four organizational entities, each with its own set of employees and contractors. ETG employees and contractors provide primarily geographic specific physical work functions like construction, field service, engineering, and design. The South Jersey Industries Utilities, Inc. (SJIU) employees and contractors provide primarily non-location specific utility services shared with the South Jersey Gas Company (SJG) like rates and customer service. The South Jersey Industries, Inc. (SJI) employees and contractors provide primarily non-location specific enterprise-wide administrative services shared with non-utility SJI subsidiaries like information technology and human resources. South Jersey Resources Group (SJRG) provides gas supply services to ETG under an asset management agreement working through the SJIU Gas Supply function. This is illustrated in the following exhibit.

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X. Organizational Structure

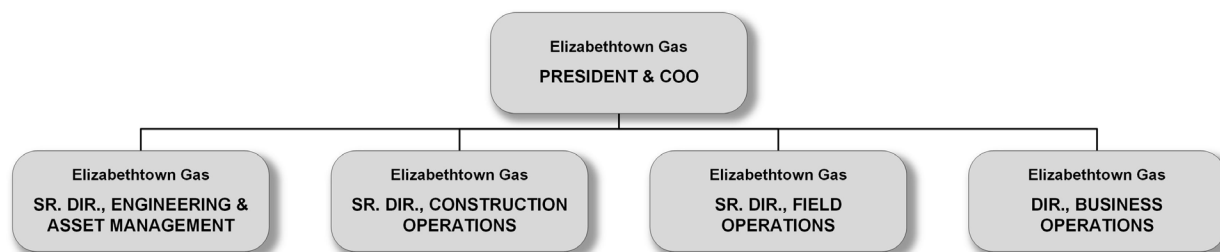
Entities Serving ETG



ETG ORGANIZATIONAL STRUCTURE

The ETG organizational structure is shown in the following exhibit.

ETG Organizational Structure



The ETG President and Chief Operating Officer has four direct reporting functions: Engineer and Operate, Build, Maintain, and Support. They are led by three senior directors and one director. Their functions are:

- Engineering and Asset Management, led by the Senior Director of Engineering and Asset Management
 - ◆ Systems Planning
 - ◆ Distribution Design
 - ◆ Transmission Design
 - ◆ New Business Design
 - ◆ Distribution Integrity Management Plan (DIMP)/Transmission Integrity Management Plan (TIMP) Development
 - ◆ Corrosion Control

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X. Organizational Structure

- ◆ Real-time Controls
- ◆ Measurement and Regulation
- Construction Operations (Build), led by the Senior Director of Construction Operations
 - ◆ Main, Service, and Meter Replacement in conjunction with Pipeline Replacement
 - ◆ Main Extensions New Service and Meter Installation
 - ◆ DIMP, Pressure Improvement, Department of Transportation, and Large Diameter Pipe work
 - ◆ Customer Relocations
 - ◆ Large Strategic Projects
 - ◆ Franchise Expansions
- Field Operations (Maintain), led by the Senior Director of Regional Operations
 - ◆ Leak Repair
 - ◆ Leak and Emergency Response
 - ◆ Meter Reading
 - ◆ Field Collections
 - ◆ New Meter Installations and Customer Meter Relocations
 - ◆ Turn Ons/Offs
 - ◆ Locates
 - ◆ ROW Maintenance
 - ◆ Fleet and Warehouse Operations
 - ◆ Compliance Work
- Business Operations (Support), led by the Director of Business Operations
 - ◆ Damage Prevention/Leak Survey
 - ◆ Dispatch
 - ◆ Resource Management
 - ◆ Business Improvement Initiatives

For more information on the ETG organization, see Chapter XVIII, Distribution and Operations Management.

Shared Service Functions Located with ETG

Several SJIU and SJI functions have joint shared service support personnel at the ETG Union headquarters to support local activities including:

- Sales and Marketing
- Customer Experience
- Information Technology
- Human Resources

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X. Organizational Structure

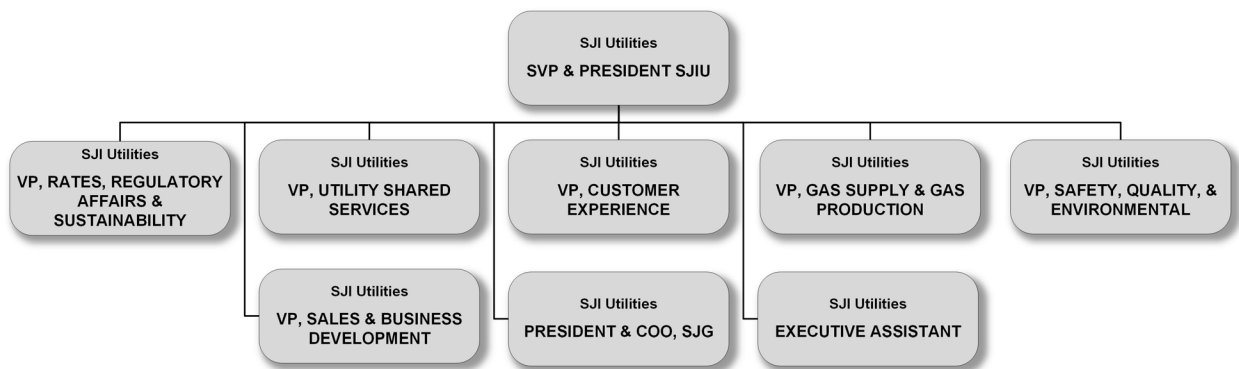
- Rates and Regulatory
- Gas Supply
- Technical Training
- Safety
- Government Affairs

All of the collocated employees are invited to the ETG All Leader meetings and the All Employee meetings. Both are held twice per year for an overall quarterly schedule.

SJIU ORGANIZATION STRUCTURE

The SJIU organization structure is shown in the following exhibit.

SJIU Organizational Structure



The President of SJIU is also a SJI Senior Vice President. The SJIU President has eight direct reports plus an Executive Assistant:

- President, ETG – organization is described above
- Vice President, Rates, Regulatory, and Sustainability
- Vice President, Utility Shared Services
- Vice President, Customer Experience
- Vice President, Gas Supply
- Vice President, Safety and Quality
- Vice President, Sales and Business Development
- President, SJG – has functions similar to the President, ETG as described above but is outside the scope of this audit

All of the SJIU functions serve ETG except the President of SJG. Each ETG serving function is described below.

Vice President, Rates and Regulatory

The Vice President of Rates, Regulatory, Clean Energy, and Sustainability reports to the SJIU President and is collocated at the ETG headquarters. The Vice President has six direct reports:

- Senior Director of Energy Efficiency and Clean Energy

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X. Organizational Structure

- Director, Rates
- Regulatory Affairs Counsel
- Administrative Assistant
- Regulatory Compliance
- Manager, Rates, Green Lane Division

The Energy Efficiency and Clean Energy function manages the ETG and SJG energy efficiency and clean energy programs. This function is covered in Chapter XX, Clean Energy.

The Rates function serves both ETG and SJG. There is a Rates Manager and three Rates Analysts assigned to, and collocated with, ETG. Three additional Rates Analysts focus on SJG. The Rates function involves compiling and analyzing, from company records, financial data and operating statistics which are necessary for filing rate and regulatory reports, rate filings, and tariff structures. In addition, the Rates function prepares schedules and tariffs to meet company revenue needs, complies with regulatory requirements, and prepares necessary exhibits in rate case and other regulatory initiative filings. This function also assists in modeling, forecasting, and providing variance explanations related to rate and regulatory items.

The Regulatory Affairs Counsel function is a single attorney currently, but an additional junior attorney is being recruited. This attorney assists the Vice President of Rates and Regulatory with regulatory proceedings for both ETG and SJG.

The Regulatory Compliance Specialist performs the day-to-day processes of the regulatory compliance function as overseen by the VP of Rates, Regulatory and Sustainability. The Regulatory Compliance function addresses the design, development, administration, and interpretation of the ETG and SJG tariffs and participates in the maintaining and filing of all regulatory reports in satisfaction of reporting requirements mandated by statute, regulation, NJBPU Order, and/or NJBPU request. The Regulatory Compliance function also assists with Customer Experience related filings, including customer service metric obligations, timely submission of reports, performing ad hoc analyses, interpretation of results and determination of the impact of rate activities on customer bills to ensure all regulatory requirements are met.

The Rates and Regulatory function files 65 different reports with the NJBPU on behalf of ETG. The reporting periods are monthly, quarterly, semi-annually, or annually. Topics include natural gas procurement and management, operations safety compliance, cyber security, financial results, and customer service.

Vice President, Utility Shared Services

The Utility Shared Services function serves both ETG and SJG. The Vice President has three direct reports:

- Director, Compliance, Standards, and Emergency Preparedness
- Manager, Records Management and Geographic Information Systems
- Director, Technical Training

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X. Organizational Structure

The Compliance function has two employees who produce 24 BPU reports on topics such as critical valve inspections and the meter replacement program. The Standards function is responsible for the ETG and SJG Operations Procedures Manuals. The Operations Procedures Manuals cover all aspects of ETG and SJG operations, such as fusion welding and standard parts and assemblies.

The ETG and SJG Operations Procedures Manuals are 88% harmonized. The remaining differences include meters (ETG meters are automated and SJG meters are not) and cast iron and bare steel pipe (ETG has cast iron and bare steel pipe and SJG does not).

The Operations Procedures Manuals are 1,200 pages long but are available to all who need them on SharePoint. They are searchable to find the relevant procedure. Any changes to the Manuals require forced acknowledgement of the updates from all relevant employees and contractors including the Technical Training function. There is an annual review and update of the manual.

The Emergency Preparedness function has two employees. It started in June of 2020. The function develops, maintains, and trains on the Gas Emergency Operations Plan. The function conducts regular training exercises. It also does monthly checks on the ETG emergency trailer. The emergency trailer has never been deployed.

There are six Records Management employees and six GIS employees. The function maintains all ETG and SJG asset maps and records.

The Technical Training group serves new hires as well as refresher training and operator qualifications training for existing employees. There are three trainers collocated with ETG. Training includes traditional classroom and hands on methods as well as a new virtual reality system that is particularly useful for training to handle dangerous situations.

For more information on Utility Shared Services, see Chapter XVIII, Distribution and Operations Management.

Vice President, Customer Experience

Customer Experience serves both ETG and SJG. The Customer Experience Vice President has four direct reports, two program managers, and two operations directors. One program manager handles the customer information system liaison with the Information Technology department, manages the bill production vendor, and is working on the Advanced Metering Infrastructure initiative. The other program manager handles the account portal, complaint escalations, the bill-to-pay vendor, payment kiosks, the email system, and is working on the telephone system replacement.

One operations director handles back-of-the house functions like billing and collections. The other operations director handles front-of-the house functions like contact centers and walk-in centers, as well as all quality and training functions.

All Customer Experience functional management is centralized between ETG and SJG. While there is a customer service center at the ETG headquarters that handles all ETG customer services, most management positions are SJIU employees. Legacy ETG union and non-management positions remain as ETG employees.

ETG does not use call center contractors.

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Most ETG Customer Experience non-management employees are now unionized under the Utility Union Workers of America. The vote to unionize occurred in November of 2021, prior to the consolidation of ETG Customer Experience with SJG Customer Experience. The initial contract was finalized in October of 2022.

For more information on Customer Experience, see Chapter XVI, Customer Service.

Vice President, Gas Supply

Gas Supply serves both ETG and SJG. Gas Supply and Gas Production has five units:

- Gas Production manages the liquefied natural gas (LNG) plants for ETG at Erie Street and SJG at McKee City
- Gas Control and Supervisory Control and Data Acquisition (SCADA) operates the gas distribution system
- Gas Supply for SJG does gas purchasing and scheduling only for SJG. Gas purchasing and scheduling for ETG is done by SJRG.
- Gas Transportation manages the third party natural gas supplier to end use customer process. It also does the ETG demand forecasts.
- Gas Supply for ETG is the interface with SJRG and does monthly and daily “logical requests” to SJRG to supply expected demand. It also monitors daily actual usage versus expected usage and makes necessary adjustments. It also does long-term gas forecasting. Further, it assists SJIU Rates and Regulatory with the BGSS filings and other gas supply regulatory issues.

In general, Gas Supply employees dedicated to ETG or SJG are employees of those entities, such as the LNG plant workers and the gas supply personnel. The exception is the gas controllers who, because of union issues, are all SJG employees. See Chapter VI, Affiliate Cost Allocation Methodologies for information on how the gas control costs are allocated between ETG and SJG.

Gas Supply does not have a dedicated SCADA technical function. It relies on IT for hardware and communications, the ETG field crews for field SCADA work, and a contractor for all other software, planning, installation, and maintenance.

Gas Supply works with ETG engineering on gas supply changes to support system expansion and changes.

ETG had an Asset Management Agreement with SJRG for gas supply during the audit period from July 2018 through 2021. However, in a recent agreement with the NJBPU, that agreement will be phased out by April 1, 2024, and SJIU Gas Supply will perform those functions for ETG going forward.

At the ETG acquisition, the ETG gas supply and transmission contracts owned by Southern Company and its affiliates were transferred to ETG. ETG then “released” the contracts to SJRG. As the SJRG AMA is phased out, the contracts will be returned to ETG to be managed by SJIU.

For more information on Gas Supply, see Chapter II, Procurement and Purchasing.

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Vice President, Safety and Quality

The Safety and Quality function serves both ETG and SJG, and, occasionally, SJI non-utility subsidiaries. There is no other SJI safety group. All Safety and Quality Assurance personnel are SJIU employees. The group has two sections: Quality Assurance and Safety.

The Quality Assurance section has four Quality Assurance Analysts. One is assigned to, and collocated with, ETG. The analysts do field audits of compliance with SJI, federal, and state required procedures. They complete standard evaluation forms on-line for each audit. They do between one and ten audits per day depending on the types and scales of the jobs being audited. They work closely with Safety, Technical Training, and Compliance and Standards. They are home dispatched but visit the service centers regularly.

The Safety section has three Safety Specialists. One is assigned to, and collocated with, ETG. The Safety Specialists do field observations, safety training, attend safety meetings, and conduct safety incident investigations. They are home dispatched but visit the service centers regularly.

The Quality Assurance and Safety Managers are full-time supervisors. They are not individual contributors.

The SJIU Safety function also serves SJI non-utility subsidiaries from time to time. For example, two members of the Safety team visited several dairy farms in Michigan to gain a general understanding of the worksites for a non-utility SJI subsidiary. The approximate [redacted] cost for time and expenses was charged to the non-utility subsidiary. However, there was no documentation produced on the results of the visit.

Only one environmental, health, and safety contractor is utilized by ETG. In 2021, the total charges were approximately [redacted].

Vice President, Sales and Business Development

Sales and Business Development is responsible for ETG and SJG sales and marketing. The Vice President has four direct reports. Two are responsible for SJG sales, one for ETG sales, and one for ETG and SJG marketing.

The ETG Sales group is headed by a director who has two unit sales managers. Both sales managers are also individual contributors primarily dealing with commercial and industrial customers. The director and one manager are collocated at the ETG headquarters Green Lane division office and the other ETG sales manager is collocated at the Stewartsville Northwest division office.

The SJG sales groups are primarily organized by market segment, such as new construction, major accounts, compressed natural gas, major accounts, and main extensions. The ETG sales group is organized by geographic division with one group covering all of the market segments in the Northwest division and one covering all of the segments in the Union division. ETG Sales gets some support from SJG sales on heating, ventilation, and air conditioning contractor liaison and compressed natural gas customer liaison.

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The Marketing function is led by a director and has three managers. One manager handles marketing for SJG and the other handles ETG marketing. The third manager is responsible for market research and business development for both SJG and ETG. Marketing activities include conversion campaigns, energy efficiency promotions, customer communications, and main extension campaigns. Essentially, Marketing generates prospects for the sales representatives to turn into customers.

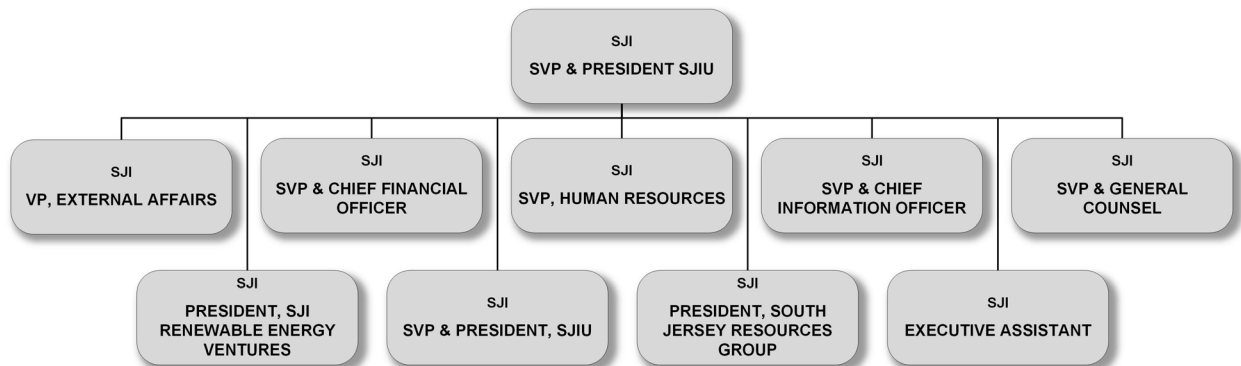
Marketing is the brand manager for SJG and ETG and manages the SJG and ETG websites. It maintains brand policies and guidelines.

There is no significant use of contractors other than for advertising buys and printing.

SJI ORGANIZATION STRUCTURE

The SJI organization structure is shown in the following exhibit.

SJI Organizational Structure



The SJI President and Chief Executive Officer (CEO) has eight direct reports plus an executive assistant:

- Vice President, External Affairs
- Senior Vice President and Chief Financial Officer
- Senior Vice President, Human Resources
- Senior Vice President and Chief Information Officer
- Senior Vice President and General Counsel
- President, SJI Renewables
- Senior Vice President and President of SJIU – organization described above
- President, South Jersey Resources Group

Each of these functions except SJI renewables serves ETG.

The CEO also has an additional temporary direct report, a Vice President working on a special project, executive development and management succession.

Vice President, External Affairs

The External Affairs department has two sections, External Communications and Government Affairs, each led by a Director. The External Communications Director is assisted by a Senior Communications Specialist and an Associate Communications

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Specialist. One focuses on media relations and video communications and the other focuses on communications content, such as the Quarterly Newsletter and social media. Internal Communications is in the Human Resources department.

External Communications maintains a list of 1,100 Government Relations stakeholders deemed to be “influencers.” Most are local government officials. The list does not include BPU or other state government officials. A quarterly newsletter is sent to the 1,100 stakeholders and the approximately 1,100 SJI employees, including SJIU and ETG employees. 2021 newsletters covered a wide variety of topics such as renewable energy, safety, and renewable natural gas.

External Communications promotes the SJI brand and its initiatives, such as renewable natural gas and infrastructure improvements. It writes news releases, responds to reporter inquiries, and develops corporate branding videos. External Communications facilitates SJI and SJG media “meet and greets.”

External Communications also manages the four SJI social media channels: LinkedIn, Instagram, Facebook, and X (Twitter). External Communications monitors social media using an automated platform that searches for key words relevant to SJI and other New Jersey local distribution companies. The SJIU Marketing function monitors social media for ETG.

External Communications assists with the annual Environmental, Social, and Governance report and, with Marketing, the SJI Annual Report. It develops press packets and mailers to shareholders.

The Government Affairs team includes a Government Affairs Specialist Lead and two Government Affairs Specialist Intermediates. In addition, the department is supported by an Executive Assistant.

Government Relations manages state and local government relationships. The Director focuses on state legislative and administrative officials and the three specialists focus on local government relations with one hired in September 2022 assigned to and collocated with ETG. One SJG specialist also works on non-utility federal and state government affairs like renewable natural gas and hydrogen.

The ETG local government affairs specialist works with approximately 90 local governments in the ETG territories. The principal focus is on communication and coordination for construction projects. There is also an outreach program to mayors. For example, the mayors were recently notified of the SJI “Game On” grant program that provides \$1,000 to local sports leagues.

In addition, the External Relations Vice President and the Government Affairs Director are individual contributors focusing on the state legislature and executive branch.

Government Relations also manages the SJI and ETG corporate giving program.

Government Relations has three contractors:

- A lobbyist focusing on Northern New Jersey and the New Jersey legislature and executive branch
- A lobbyist focusing on South Jersey and the building trades unions

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- A consultant focusing on energy organizations like the Energy Council and other utilities.

These contractors have annual contracts with monthly retainers. Until 2023, External Communications had a contractor for public relations and crisis communications.

For more information on External Affairs, please see Chapter XVII, External Relations.

Senior Vice President and Chief Financial Officer

The Senior Vice President and Chief Financial Officer has four direct reports:

- VP, Risk Management
- VP and Controller
- VP, Strategy
- VP, Finance and Treasury

For more information on this organization, see Chapter XIII, Finance; Chapter XIV, Cash Management; and Chapter XV, Accounting and Property Records.

Senior Vice President, Human Resources

The Senior Vice President has ten direct reports plus an Executive Assistant:

- Director, Broad Based Compensation
- Lead, Executive Compensation
- Senior Director, Corporate HR Support
- Director, Diversity, Equity, and Inclusion, Talent Management (training and development), and Talent Acquisition
- Director, Benefits, Human Resource Operations, Payroll, and Time Off (leaves of absence, workers compensation, short- and long-term disability, and Family Medical Leave Act)
- Vice President, Internal Communications, HR Compliance, Pension Fund and 401K program (formerly the Vice President of Investor Relations)
- Labor Relations Business Partner
- SJG and SJIU HR Business Partner
- ETG HR Business Partner
- SJI HR Business Partner

There is a separate Vice President for Executive Succession Planning and Development who reports to the SJI CEO.

HR personnel collocated with ETG and dedicated to ETG are:

- HR Business Partner
- Labor Relations Business Partner

In addition, there is a work-from-home talent acquisition specialist (recruiter) who is assigned to ETG. Most typical recruiting needs for ETG are for field operations entry-level workers, customer service representatives, and supervisory replacements.

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There are two non-practicing attorneys in HR. One is the Labor Relations Business Partner and the other is the SJG and SJIU HR Business Partner who started in Labor Relations.

Senior Vice President and Chief Information Officer

The Chief Information Officer (CIO) has four direct reports:

- VP, Application and Project Governance
- VP, Enterprise Project Management
- VP, Service Delivery
- VP, Security and Technology Architecture

The Application and Project Governance group is responsible for planning and budgeting for IT, both O&M and Capital. This group is responsible for managing IT projects and their contractors. Contractors perform and sometimes manage the capital projects and some of the O&M projects. The SJI businesses like SJIU and ETG identify the need for new or changed systems. All new or change projects must have a business case. The requesting business is also responsible for presenting and selling the project to the Project Management Council and the SJI Board of Directors. The CIO is responsible for presenting IT technology projects to the Project Management Council and the Board. IT policies and procedures are also the responsibility of this group.

The Enterprise Project Management group oversees large enterprise-wide projects, almost all of which have a significant IT component. The head of this group is also the Chair of the Project Management Council which prioritizes enterprise-wide capital projects other than for utility plant.

The Service Delivery group is responsible for day-to-day operation and administration of the IT systems.

The Security and Technology Architecture group is responsible for protecting the SJI IT hardware and software. It also evaluates risk when planning a new or changed system. Operating systems, such as the SCADA systems, are of the most concern; failures or problems with these can cause loss of life or disruptions in operations as opposed to the business systems.

Senior Vice President and General Counsel

The General Counsel's office serves all of SJI including ETG. The General Counsel has five direct reports plus an Executive Assistant:

- Corporate Secretary – provides board, governance, and compliance support for SJI and all of its subsidiaries, including ETG.
- Senior Director, Environmental and Procurement – provides environmental and procurement services for SJI and all of its subsidiaries, including ETG.
- Senior Director, Internal Audit – provides internal audit services to SJI and all of its subsidiaries, including ETG.

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- Senior Director and Assistant General Counsel – provides legal services primarily to the SJI shared services like Human Resources and Information Technology. Also provides the SJI-wide Corporate Compliance function.
- Director and Assistant General Counsel – provides legal services primarily to the utilities, SJIU, ETG, and SJG.

For more information on the corporate secretary and legal functions, see Chapter XXI, Support Services, Legal. For more information on Environmental and Procurement, see Chapter XXIII, Remediation Costs and Chapter XIX, Purchasing and Procurement of Goods, Services, and Bidding Processes. See Chapter XV, Accounting and Property Records, for more information on the Internal Audit function.

President, South Jersey Resource Group

SJRG provides gas supply services to ETG under an asset management agreement. See Chapter II, Procurement and Purchasing, for more information on this arrangement and the SJRG organization.

Cross-Functional Committees

In addition to the functional organization described above, SJI also utilizes several cross-functional standing committees for specific purposes, such as:

- Senior Management Team – a weekly meeting of SJI SVPs covering enterprise-wide matters
- Executive Workforce Committee (EWC) – a biweekly meeting of senior executives focused on employees and employment
- Pandemic Response Committee – early in the pandemic, a weekly meeting, later in the pandemic, a biweekly meeting of senior executives addressing pandemic effects on the company
- Project Management Council – Prioritizes major enterprise-wide projects, mostly information technology, excluding utility system (pipes) capital projects

Participation in these committees is in addition to the executives' normal functional responsibilities.

EMPLOYEES

Employees by Company

The following exhibit shows the number of SJI employees from the end of 2015 to the end of 2021 by company.

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X. Organizational Structure

SJI Employees by Company

Organization	2015 ¹	2016	2017	2018	2019	2020	2021
SJG	493	510	537	555	460	440	431
ETG	324	329	338	347	369	356	397
SJI	111	136	151	156	197	209	229
SJES LLC	100	90	88	45	31	36	39
SJES Plus Inc.	32	26					
Elkton	8	8	8	8	8	8	
SJIU					52	57	69
Totals	1,068	1,099	1,122	1,111	1,117	1,106	1,165

¹ All numbers are as of December 31 each year.

The total number of SJI employees increased from 1,068 in 2015 to 1,165 in 2021, an increase of 97 employees or 9.1%. This is an average annual increase of 1.5% over the six years.

The total number of utility related employees in ETG, SJG, and SJIU (excluding Elkton which was divested in 2019) increased from 817 in 2015 to 897 in 2021, an increase of 80 employees or 9.8%. This is an average annual increase of 1.6% over the six year period.

The total number of ETG employees increased from 324 in 2015 to 397 in 2021, an increase of 73 employees or 22.5%. This is an average annual increase of 3.8% over the six year period.

The total number of non-utility subsidiary (SJES LLC and SJES Plus, Inc.) employees decreased from 132 in 2015 to 39 in 2021, a decrease of 93 employees, or 70.5%. This is an average annual decrease of 11.7% per year over the six year period.

The number of SJI employees increased from 111 in 2015 to 229 in 2021, an increase of 118 employees or 106.3%. This is an average annual increase of 17.7% over the six year period.

Employees by Level

The following exhibit shows the number of SJI employees from the end of 2015 to the end of 2021 by level.

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X. Organizational Structure

SJI Employees by Management Level

Management Level	2015 ¹	2016	2017	2018	2019	2020	2021
Individual Contributor	841	870	867	865	900	882	930
Manager	92	93	100	94	87	79	82
Supervisor	87	82	96	90	68	70	75
Director	24	31	34	34	43	55	57
Officer	15	14	15	20	13	14	15
Executive	8	8	9	7	5	5	5
CEO	1	1	1	1	1	1	1
Totals	1,068	1,099	1,122	1,111	1,117	1,106	1,165
¹ All numbers are as of December 31 each year.							

The number of individual contributor employees increased from 841 in 2015 to 930 in 2021, an increase of 89 employees or 10.6%. This is an average annual increase of 1.8%.

The number of management employees (manager, supervisor, director, officer, executive, and CEO) increased from 227 in 2015 to 235 in 2021, an increase of eight employees or 3.5%. This is an average annual increase of 0.6% over the six year period.

Engineer Employees

Of the 1,165 total SJI employees at the end of 2021, 63 had bachelor's or higher degrees in engineering, or 5.4%. Of these, 52 were employed in the utility related companies of ETG, SJG, and SJIU. 17 are employed by ETG.

B. AFFILIATE POLICIES AND PROCEDURES

For regulated public utilities, the issue of a company's relationship(s) with related companies (affiliates) is important because of the potential for abuse that may result in costs and expenses that rightly belong to a non-regulated (i.e., competitive) affiliate being assigned—deliberately or inadvertently—to the regulated business and thus becoming part of the costs or asset base used to calculate rates to customers of the regulated utility. For a gas distribution company like ETG, a significant potential area for concern relates to the purchasing of natural gas itself. A detailed discussion of gas purchasing is addressed in Chapter II, Purchasing and Procurement.

The other areas of interest are those activities defined as corporate services, including executive management, corporate planning, finance and treasury, human resources, and other shared services that must be apportioned among the various beneficiaries of those services. Such cost allocations as well as asset transfers also need to be reviewed to ensure that costs are apportioned fairly and do not burden ratepayers. See Chapter III, Affiliate Relationships, for a complete discussion of the policies and procedures governing affiliate relations between ETG and its affiliates.

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X. Organizational Structure

C. AFFILIATE CONTRACTS

In order to evaluate ETG, SJI, and its affiliates' policies and procedures for effectiveness and adherence to legal, regulatory, and contractual requirements, all identified affiliate contracts must be examined:

- SJI's Master Services Agreement
- SJIU's Shared Services Agreement
- Joint Meter Reading Agreement
- Asset Management Agreement
- Asset transfers between affiliates

A review of these contracts and an evaluation to determine if an arm's length relationship exists between an obviously senior and more powerful entity dealing with a subordinate entity is covered in Chapter II, Purchasing and Procurement, and Chapter III. Affiliate Relationships.

D. GAS SALES RELATIONSHIPS WITH SJI AND AFFILIATES

ETG sought approval from the NJBPU to engage its affiliate Sequent Energy Management (SEM) as its Asset Manager. The NJBPU approved the Parties' recommendation that ETG's subsidiary SEM operate and administer ETG's gas-supply asset-management function, effective April 1, 2005. ETG had been using an external asset manager since early 2004. The arrangements included an asset management agreement (AMA) and a gas-supply agreement providing for monthly supplies, daily supplies, and storage-fill supplies.

The various AMAs, together with Gas Supply Agreements for the purchase and sale of natural gas and the identification of the Asset Managers, are as follows:

- In 2004, ETG was acquired by AGL Resources. The AMA agreement covers the period April 1, 2005, through March 31, 2008, between Pivotal Utility Holdings Inc. dba Elizabethtown Gas (Pivotal) and Sequent Energy Management (SEM).
- An AMA covered the period April 1, 2008, through March 31, 2011, between Pivotal and SEM.
- An AMA covers the period April 1, 2011, through March 31, 2014, between Pivotal and SEM.
- An AMA covers the period April 1, 2014, through June 30, 2018, between Pivotal and SEM. SJI purchased ETG effective July 2018 and the purchase resulted in a Consent to Assignment agreement between SEM and SJRG that transfers or assigns the AMA from SEM to SJRG for the remainder of the term, July 1, 2018, through March 31, 2019, and changes the parties to ETG Acquisition Corporation and SJRG.
- An AMA covers the period April 1, 2019, through March 31, 2022, between ETG and SJRG. This AMA was extended through March 2023.

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X. Organizational Structure

THE ASSET MANAGEMENT RELATIONSHIP

Shadow dispatch essentially represents what ETG would do if its assets were not under third- party management. ETG's Manager, Gas Supply, orders monthly and daily supplies under the asset-management arrangements with its affiliate in the same manner (and on essentially the same terms) as would apply in the absence of an asset management agreement.

The prices that ETG pays to purchase gas pursuant to the logical-dispatch provisions of these agreements follow a relevant index for the points where the purchase occurs. Monthly indexes govern monthly purchases; daily indexes govern daily purchases. The Asset Management and Agency Agreement provided for capacity release of ETG's transportation and storage contracts. ETG provides the Asset Manager with the relevant details of each contract (i.e., primary receipt point and primary delivery points). The receipt and delivery points on each interstate pipeline contract will be married to the indexes for the purpose of purchase and sale of gas supplies. Because the Asset Manager purchased the gas, the Asset Manager is the logical entity to nominate the gas supplies on the pipelines and move it to ETG's city gate.

Optimization Sharable Value Between ETG and their Asset Manager

The Asset Management and Agency Agreement contain the terms and conditions under which the Asset Manager provides ETG's seasonal, monthly, and daily requirements for gas supplies. The Asset Manager also acts as ETG's agent, operating ETG's gas pipeline and storage capacity upstream of its city gates. In conducting these activities, the Asset Manager seeks to generate sharable value through:

- Optimization of gas sales to ETG.
- Gas sales to third-party (off-system) customers
- Storage arbitrage

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X. Organizational Structure

Optimization of Excess Assets Through Profit Sharing (2009–2021)

Year	Excess Assets Volume (Dths)	Excess Assets Cost	[Redacted]	Redacted
2009	36,910,506	\$25,916,283.13	[Redacted]	[Redacted]
2010	38,580,183	\$29,580,445.48	[Redacted]	[Redacted]
2011	39,784,874	\$29,965,023.29	[Redacted]	[Redacted]
2012	42,576,578	\$31,624,324.30	[Redacted]	[Redacted]
2013	38,255,864	\$29,025,630.34	[Redacted]	[Redacted]
2014	36,240,788	\$27,670,491.77	[Redacted]	[Redacted]
2015	37,963,142	\$27,937,274.38	[Redacted]	[Redacted]
2016	38,700,801	\$28,537,278.70	[Redacted]	[Redacted]
2017	38,876,726	\$26,668,326.20	[Redacted]	[Redacted]
2018	41,984,829	\$25,992,327.65	[Redacted]	[Redacted]
2019	42,206,030	\$34,768,387.17	[Redacted]	[Redacted]
2020	56,553,680	\$40,367,216.72	[Redacted]	[Redacted]
2021	54,801,065	\$46,681,117.10	[Redacted]	[Redacted]
Totals	543,435,066	\$404,734,126.23	[Redacted]	[Redacted]

E. INTERNAL CONTROLS

BACKGROUND

The Committee of Sponsoring Organizations of the Treadway Commission, commonly known as COSO, established what has become the accepted definition of internal control. COSO established the following definition:

Internal control is a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting and compliance.

In addition to establishing the definition, COSO established an accepted framework for achieving internal control. According to the framework, internal control is established by integrating five components into the organization's processes. Each component embodies between two and five principles, with there being a total of 17 principles. Each component and its related principles are discussed below.

The Control Environment

The Control Environment is commonly referred to as the "tone at the top" because it recognizes that the board of directors and senior management establish the environment that will impact the overall system of internal control. The following five principles represent the fundamental concept associated with the control environment:

- The organization demonstrates a commitment to integrity and ethical values.
- The board of directors demonstrates independence from management and exercises oversight of the development and performance of internal control.
- Management establishes, with board oversight, structures, reporting lines, and appropriate authorities and responsibilities in the pursuit of objectives.

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X. Organizational Structure

- The organization demonstrates a commitment to attract, develop, and retain competent individuals in alignment with objectives.
- The organization holds individuals accountable for their internal control responsibilities in the pursuit of objectives.

SJI has established an employee code of ethics and business conduct. The code describes the ethical expectations of all employees and board members, informs employees of the duty to report violations of the code, and provides a means for anonymous reporting.

A detailed organizational chart establishes reporting lines within the organization. See Chapter XI, Human Resources, for information on SJI's human resource activities.

Nine of the ten members of the Board of Directors are independent as defined by the New York Stock Exchange rules. The Audit Committee is comprised of independent members of the Board of Directors. The Committee routinely receives reports from the SJI Sr. Director of Internal Audit, who is responsible for auditing the organization's internal controls.

Risk Assessment

Risk assessment involves a dynamic and iterative process for identifying and assessing risks to the achievement of objectives. Four principles represent the fundamental concepts associated with risk assessment. They are:

- The organization specifies objectives with sufficient clarity to enable the identification and assessment of risk relating to objectives.
- The organization identifies risk to the achievement of its objectives across the entity and analyzes risks as a basis for determining how the risks should be managed.
- The organization considers the potential for fraud in assessing risks to the achievement of objectives.
- The organization identifies and assesses changes that could significantly impact the system of internal control.

SJI has an established risk management program. The Vice President of Risk Management reports directly to the Senior Vice President and Chief Financial Officer (SVP/CFO) and is supported by five direct reports. Risk Management maintains a register of seven to ten key risks in each department. Internal Audit performs control validations of the high and very high risks to ensure the presence of mitigating controls. Risk Management policies are discussed in Section F of this chapter.

Control Activities

Control activities include authorizations, approvals, verifications, reconciliations, the segregation of duties, and other activities that exist to mitigate risks. The three COSO principles are that:

- The organization selects and develops control activities that mitigate risks to acceptable levels.

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X. Organizational Structure

- The organization selects and develops general control activities over technology to support the achievement of objectives.
- The organization deploys control activities through policies that establish what is expected and procedures that put policies into action.

SJI has established a list of 359 control activities that cover all major business processes. The controls are documented within detailed process flowcharts of work activities. On a quarterly basis, the individual responsible for the control must certify that the controls are in effect and every other quarter the individual must review the process flowchart to ensure it still accurately represents how the activity is performed.

Information and Communication

Information must be obtained or generated and then shared to support the functioning of other components of internal control. The three principles associated with information and communication as a component of control are that:

- The organization obtains or generates and uses relevant quality information to support the functioning of internal control.
- The organization internally communicates information, including objectives and responsibilities for internal control, necessary to support the functioning of internal control.
- The organization communicates with external parties regarding matters affecting the functioning of internal control.

The Internal Audit program communicates the results of its internal control testing to the Audit Committee orally and in writing. The SVP/CFO, General Counsel, Vice President/Risk Management, and the external auditor, Deloitte, are also typically present at the Audit Committee meetings.

Monitoring Activities

Evaluations of various types can be used to ascertain whether the components of internal control are present and functioning. The two related principles are that:

- The organization selects, develops, and performs ongoing and/or separate evaluations to ascertain whether the components of internal control are present and functioning.
- The organization evaluates and communicates internal control deficiencies in a timely manner to those parties responsible for taking corrective action, including senior management and the board of directors, as appropriate.

Each quarter Internal Audit tests a different subset of controls, spending about 40% to 45% of its staff time on the testing of controls. Independently, the external auditor, Deloitte, also does control testing. Each quarter, Internal Audit reports the results of its SOX testing to the Audit Committee, the CEO, and the SVP/CFO. The parties are informed of the number of deficiencies found, the type of each deficiency, the process in which the deficiency existed, whether mitigating controls were identified, and the quantitative impact resulting from the deficiency.

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X. Organizational Structure

F. RISK MANAGEMENT

BACKGROUND

ETG's Risk Management function is handled by SJI's Risk Management organization located in Corporate Headquarters, Atlantic City, New Jersey.

"Risk Management" addresses a broad spectrum of risks encompassing:

- Market Risk from both Regulated and Non-Regulated industry perspectives.
- Credit Risk, which entails evaluating entities that SJI does business with, and verification of pre-established market credit limits.
- Enterprise Risk, involving a broad spectrum of issues such as securing physical properties and establishing appropriate levels of insurance coverage for SJI's workforce and business interests.
- Delineation of "risk" boundaries as to what is "in scope" contrasted with "out of scope."

Effective security has been put in place regarding areas that SJI has effective control over, which includes:

- Monitoring of infrastructure
- Securing access to plants and facilities
- Layered protection and redundancy of critical controls.

Consideration is also given to addressing issues that are effectively out of SJI's control, such as unforeseen outages attributable to third parties, computer/network hacking, and "Acts of God." The challenge from SJI's perspective is to strike a balance for establishing effective mitigation plans, in concert with appropriate levels of insurance, given the complex cost/benefit tradeoffs involved.

Risk analysis entails assessment of an event's damage potential, the likelihood or probability of the event occurring, and the cost and effectiveness of possible mitigation plans. Even the most effective defensive measures that can afford protection against a threat "don't take all of the risk out of the equation."

Mitigation and controls reduce the probability and severity of loss; however, striking the right balance in terms of the levels of safeguards and the associated costs of establishing these safeguards is challenging. Considerations include:

- Providing an appropriate level of insurance.
- The ability to establish effective cyber security defense mechanisms.
- Thwarting sophisticated hacking and phishing schemes.

Enterprise Risk Management conducts a quarterly meeting involving the Risk Committee, which is comprised of a broad array of SJI Departments. Examples of risks taken into consideration include cybersecurity challenges, supply-chain disruption, talent retention, and attracting an upscale workforce. A comprehensive risk perspective is developed, and scenarios are delineated for further consideration going forward.

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X. Organizational Structure

The mission of SJI's Risk Management is to promptly identify, measure, manage, report, and monitor risks that affect the achievement of SJI's strategic, operational, and financial objectives. The following falls within their scrutiny.

- The impact of economic conditions that places receivables at risk.
- Disruptions in the physical transmission and distribution of natural gas.
- Inability to handle the operations of the company because of IT failures.
- Contracts that are not reviewed or amended properly and therefore expose SJI to risk.
- Non-compliance with regulations that exposes SJI to financial and reputational risk.
- Risk associated with financial instruments (i.e., price swaps).

Disaster recovery plans are in place to save data and provide data access in the event of a computer hardware crash.

Risks associated with the physical safety and well-being of SJI's employees are addressed in formal policies and procedures, as provided in SJI's Physical Security Plan. Directives are formulated to "First Providers;" and security evaluations are conducted on an ongoing basis. An Incident Support team addresses issues related to crisis management and escalation of "field incidences." These are reviewed for consideration by the Management Team for subsequent implementation and formulation of action plans. Records of security dispatches are maintained, and security inspections are conducted at Regulator Stations.

G. INFORMATION SECURITY POLICIES

Information security policies are the responsibility of the Security and Technology Architecture section of the Information Technology Department, headed by SJI's SVP & Chief Information Officer. This subject matter is covered in Chapter XXIV, Cyber Risk Mitigation/Cyber Security and the Computer Systems and Services section of Chapter XXI, Support Services.

H. FINDINGS

X-1 The ETG President only directly supervises the field operations personnel; however, multiple SJIU and some SJI functions have employees collocated with ETG at the ETG headquarters, which is a good practice.

The SJIU functions of Sales and Marketing and Customer Experience have substantial numbers of employees assigned to the ETG headquarters. In addition, Rates and Regulatory, Quality Assurance, Safety, Geographic Information Systems and Records, Energy Efficiency, and Technical Training have representatives there. SJI functions represented at the ETG headquarters include Human Resources, Information Technology, Environmental, Accounting, Security, Government Affairs, Facilities, Procurement, and Labor Relations.

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X. Organizational Structure

Further, ten, mostly legacy ETG employees, remain in the ETG territory but report directly to eight different SJIU department supervisors ranging from Customer Experience to Financial Planning.

Collocating support function personnel with utility operating personnel is a good practice that promotes communication and cooperation among the functions. These collocated personnel are invited to ETG-wide meetings and events.

X-2 ETG has current succession plans for all positions from supervisor through director.

ETG has current succession plans for all positions from supervisor through director. This is a good practice. The plans include a talent matrix evaluating the potential and performance of each candidate and a succession plan for each position listing the pipeline of potential replacements categorized as:

- Ready now
- Ready in one to two years
- Ready in three to five years
- Contingency

X-3 SJI is primarily in the natural gas local distribution company business.

As reported in the Overview section of Chapter IX, Executive Management and Corporate Governance, SJI is primarily in the natural gas local distribution company business through its two principal subsidiaries, ETG and SJG. In 2021, ETG and SJG made up 84.4% of the SJI operating income. While SJI had many non-utility subsidiaries in wholesale, retail, renewables, decarbonization, and midstream sectors, their importance to SJI was much less than the ETG and SJG utilities. For example, the Energy Management segment had operating revenue of \$1 billion, half of SJI's \$2 billion, but its operating profit of \$50 million was only 14% of SJI's \$349 million.

Further, there are now few non-utility entity employees. As reported above, there were only 39 employees in the non-utility subsidiaries in 2021, just three percent of the 1,165 total SJI employees. The number of non-utility entity employees decreased from 132 in 2015 to 39 in 2021. Meanwhile, the utilities had 897 employees or 77% of the total SJI employees in 2021 and increased from 817 in 2015 to 897 in 2021.

X-4 SJI has an overly complicated organization structure for two relatively small LDCs and some non-utility operations.

SJI has two organization levels, SJI and SJIU, serving primarily two relatively small LDCs. SJI provides shared administrative services to the utilities and to the non-utility subsidiaries. With the exception of the wholesale energy business, SJI utilizes contractors for the construction and operation of its non-utility businesses. SJIU provides shared utility services to ETG and SJIU. All utility function management except field operations are centralized in SJIU. ETG is served by multiple organizational units in SJI and SJIU, including:

- SJI
 - ◆ External Affairs

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- ◆ Government Affairs
- ◆ Finance, Accounting, and Internal Audit
- ◆ Strategy and Performance Management
- ◆ Risk Management
- ◆ Human Resources
- ◆ Information Technology
- ◆ Procurement
- ◆ Environmental
- ◆ Legal
- SJIU
 - ◆ Clean Energy
 - ◆ Rates and Regulatory
 - ◆ Compliance
 - ◆ Standards
 - ◆ Records Management
 - ◆ Geographic Information Systems
 - ◆ Technical Training
 - ◆ Customer Experience
 - ◆ Gas Supply
 - ◆ Safety
 - ◆ Quality Assurance
 - ◆ Sales
 - ◆ Marketing

Many of these functions have sub-functions that are highly important to ETG as well.

The ETG President must establish and maintain working relationships with each SJI and SJIU support function. This results in approximately 30 regularly scheduled formal meetings per month for the ETG President. The meetings include one-on-ones with her direct reports and the SJIU and SJI support service providers as well as group meetings with her staff and the SJIU and SJI management teams. The formal meetings range from bi-weekly meetings with the SJIU leadership to monthly lunches with the SJI CEO. In addition, issues that arise daily result in ad hoc meetings with the appropriate SJI or SJIU subject matter experts.

X-5 Although SJI's principal business is regulated local distribution utility operating companies, the utility operating functions are located several levels down in the organization structure.

The three main LDC operating functions are Gas Supply, Field Operations, and Customer Experience. Gas Supply and Customer Experience serve both SJG and ETG and report to the SJIU president at the third organizational level (SJI CEO, SJIU President, Gas

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Supply and Customer Experience Vice Presidents) in the organization structure. Unlike all other corporate support and LDC functions, the management of the Field Operations function has not been centralized between SJG and ETG and report at the fourth organizational level (SJI CEO, SJIU President, ETG President, Directors of Field Operations). These lower level organizational placements insulate the LDC operating functions from senior management attention and reduce senior management's attention on its principal businesses, ETG and SJG.

X-6 The SJI CEO does not serve on the SJIU or ETG boards of directors.

The SJI CEO is not a board of directors member of SJIU, ETG, or SJG. However, he is the Chairman or LLC Member on 27 of SJI's subsidiaries, including:

- Chairman of the Board, Energy & Minerals, Inc.
- Chairman of the Board, R&T Group, Inc.
- Chairman of the Board, South Jersey Energy Company
- Chairman of the Executive Committee, South Jersey Energy Solutions, LLC; SJI Midstream, LLC; Marina Energy, LLC; and South Jersey Resources Group, LLC

Not serving on the SJIU and ETG boards insulates the CEO from their operations and signals that the utilities are less important.

Further, the SJI CEO has limited operational involvement with ETG. He does not attend the monthly ETG operational review meetings and only has informal, occasional lunches with the ETG President. The CEO does make occasional visits to ETG and meets with the ETG executives and visits work sites.

X-7 The SJI staff functions' principal clients are the SJG and ETG utilities.

While SJI has non-utility subsidiaries, these enterprises are small in comparison to the ETG and SJG regulated operating utilities. The non-utility portion of SJI has only 39 employees. While the SJI staff functions (e.g., Finance, Accounting, Information Technology, External Affairs, Human Resources, and General Counsel) serve both utility and non-utility SJI subsidiaries, their principal focus is on SJG and ETG, as these SJI subsidiaries have the bulk of SJI's employees and profits.

X-8 The SJIU entity and intermediate staff level is unnecessary.

SJIU was originally formed to focus on the management of the LDCs and its formation was approved by the BPU. However, the SJIU level insulates the SJI leadership from its principal businesses, ETG and SJG. The existence of the SJIU legal entity and organizational level causes extra unnecessary organizational complexity and costs (e.g., separate board of directors and financial and other compliance reporting). The SJI and SJIU staff levels could be consolidated in one legal entity to reduce complexity and cost.

X-9 Many SJI and SJIU spans of control are too narrow which results in unnecessary positions and levels of organization.

The current SJI guidance on spans of control for Managers and Supervisors is a minimum span-of-control of three direct reports. Exceptions can be made for individual contributors or for management development purposes. This minimum span is too low.

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There are some notable examples of SJI and SJIU executives and managers with broader spans of control, including:

- SJI CEO – nine direct reports plus an executive assistant
- SVP Human Resources – ten direct reports plus an executive assistant
- SJIU President – eight direct reports plus an executive assistant

The functions reporting to these executives are highly diverse, which is more difficult to supervise than a set of homogeneous functions, like several units of field workers or customer service representatives.

The other SJI and SJIU top level executives have four or five direct reports except for one who has just two and one who has no direct reports.

An analysis of the SJI organization chart summary of positions reveals that, of the 83 management or supervisory positions shown, the number of direct reports is:

- One – 17
- Two – 25
- Three – 15
- Four -14
- Five or more – 12

Forty-two positions do not meet even the current minimum of three direct reports. However, “Senior” and “Lead” titles may supervise up to two employees but are expected primarily perform functional work as individual contributors. Some of the one and two direct report occurrences may be these individual contributors who also supervise an employee or two. The organization chart summary does not include titles.

An executive or manager with diverse functions should be able to handle at least six direct reports and one with homogeneous functions should be able to handle at least eight direct reports. The SJI guidance on the minimum span of control should be increased to six to eight with rare exceptions for managers who are also significant individual contributors (have individual responsibilities and regularly do productive work) and developmental assignments.

X-10 ETG can manage its own portfolio and realize a better return on its excess assets than 39%.

ETG is not dependent on an Asset Manager to administer the functions of buying and nominating its supply upstream of ETG’s city gate. The strategy of an LDC engaging an asset manager is the goal and expectation that an asset manager could better optimize excess transportation and storage assets than the LDC itself could. SJI provides services to all of its subsidiaries (i.e., ETG, SJG and SJRG) that are shared. Sharing services that are common to all subsidiaries is a prudent and logical decision but not indispensable to ETG. ETG is capable of continuing as a “going concern” without cross-subsidization.

X-11 SJI has established an appropriate system of internal control.

The system of internal control established by SJI includes all five components of the COSO framework. SJI has set an appropriate tone for the organization by establishing a

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code of conduct and instituting an anonymous reporting system. Key controls are well documented and embedded in business processes throughout all major functions of the organization. These controls are routinely tested and the results of testing are reported to the Audit Committee, which is made up of independent members of the board of directors, and to executive management.

X-12 SJI addresses inherently challenging and complex issues of “risk management” in a rational and proactive manner.

The Risk Management organization strives to identify and preempt potential threats to the Company and has established a formal organization structure capable of anticipating and managing risks to the extent practical.

I. RECOMMENDATIONS

X-1 Eliminate the SJIU organization level, elevate the consolidated ETG and SJG utility operating functions in the SJI organization structure, restructure the SJI CEO direct reports, and assign the SJI CEO to the ETG board of directors. (See Findings X-3 through X-10)

The separate SJI and SJIU staff levels distract senior management attention from ETG and the SJIU level insulates SJI senior management from ETG. The principal consolidated utility operating functions, Gas Supply and Customer Experience, should report directly to the CEO along with the Presidents of ETG and SJG who supervise the field operations. These functions provide direct customer contact and are responsible for the gas system integrity and safety as well as the lion's share of utility O&M costs and capital expenditures. This will also add engineering and utility operating backgrounds to the top level of the organization.

The consolidated SJI and SJIU staff functions can be restructured to leave a reasonable span of control for the CEO. For example, the following functions could report to the CEO:

- ETG President
- SJG President
- Gas Supply
- Customer Experience
- Shared Support Services (e.g., Sales and Marketing, Human Resources, Information Technology, Rates and Regulatory, Supply Chain, Fleet Management, Facilities Management, External Relations, Compliance, Environmental, Safety, Enterprise Project Management Office, and Innovation and Business Improvement)
- Finance and Accounting – Chief Financial Officer
- Legal – General Counsel
- Non-regulated Enterprises and Business Development

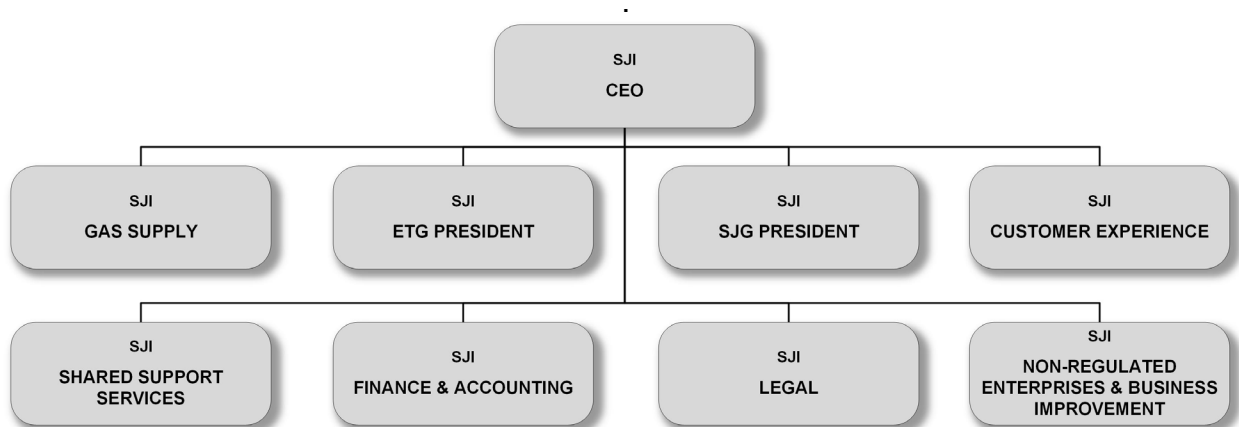
This would give the CEO the same number of direct reports as he has now – eight.

The following exhibit illustrates the recommended organization structure.

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Recommended Organization Structure



X-2 Increase the minimum span of control to reduce the number of executive, management, and supervisory positions; this will result in fewer positions and organizational levels (See Finding X-9)

Revise the span of control guideline from a minimum of three to a minimum of six for diverse responsibilities and eight for homogeneous responsibilities with appropriate adjustments for managers who are significant individual contributors. For example, a manager who is also a 50% individual contributor should still have three or four direct reports.

As shown above, at the end of 2021, throughout SJI, there were a total of 930 individual contributors and 235 manager titles (Manager, Supervisor, Director, Officer, Executive, and CEO). All of the 235 manager titles except the CEO report to someone. This makes a total of 1,164 employees reporting to 235 managers. This is an average of five individual contributors per manager. Increasing the span of control to an average of seven would reduce the number of managers to 166, a reduction of 69 management positions.

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XI. HUMAN RESOURCES

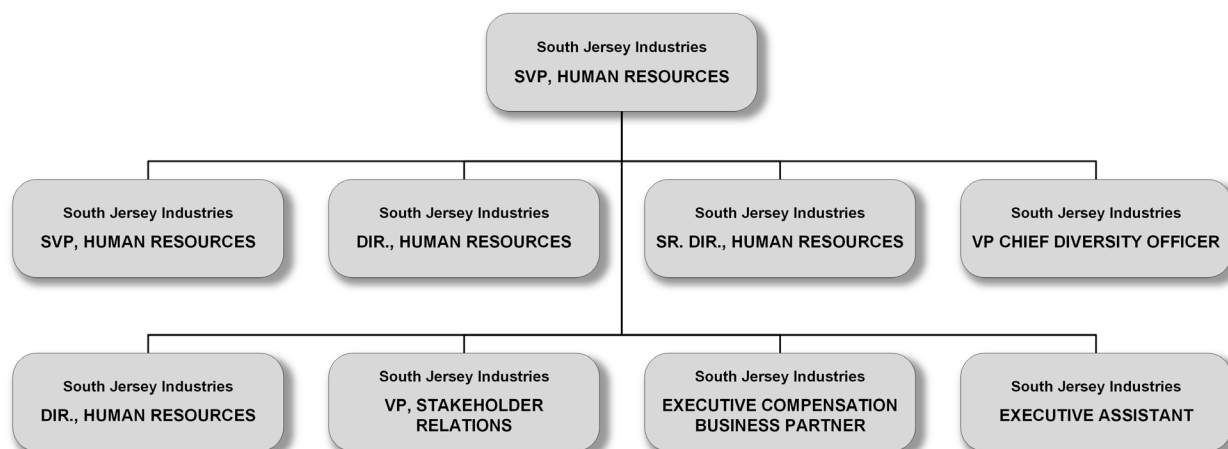
A. BACKGROUND

This chapter presents the support provided to the Elizabethtown Gas Company (ETG) by the Human Resources Department of ETG's parent company, South Jersey Industries (SJI) during the thirteen-year period from 2009 through 2021.

ORGANIZATION AND STAFFING

SJI's Senior Vice President (SVP), Human Resources (HR) has eight direct reports. Although one of these positions is currently filled by the SVP. These direct reports, shown in the following organization chart, are responsible for: (1) Business Partners, (2) Corporate Compensation, (3) Corporate HR Support, (4) D&I (Diversity and Inclusion) and Engagement, (5) HR Administration, (6) Investor Relations, (7) Executive Compensation Business Partner, and (8) Executive Assistant. HR has 45 employees, three contractors, and three open positions.

SJI Human Resources Organization



The primary functions of each of the HR work units are shown below:

- **Business Partners** have a dotted line relationship to the heads of the companies or functions to which they are assigned; they will work with the leader or the organization with whom they are liaising to help hire, fire, develop, perform management coaching for Corporate and Non-Regulated Entities, South Jersey Gas Company (SJG), ETG, and Labor Relations.
- **Corporate Compensation** is responsible for job descriptions, market analysis, surveys, and developing salary ranges for all non-executive compensation and benefits.
- **Corporate HR Support** is responsible for merger and acquisition activities, integration of new businesses, and preparing for integration with SJI's new parent company.
- **D&I and Engagement** is responsible for developing and managing SJI's diversity, equity, and inclusion strategy, talent acquisition, and talent management.

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- **HR Administration** is responsible for managing Benefits Administration, liaising with Information Technology regarding the WorkDay HR system, and managing the payroll process.
- **Investor Relations** is responsible for internal communications, HR compliance, and managing the Pension Fund and the 401K program.
- **Executive Compensation Business Partner** is responsible for managing the compensation and benefits program for the President and CEO, five Senior Vice Presidents (SVP), and sixteen officers of SJI and its subsidiaries. See Chapter IX. Executive Management and Corporate Governance, for a review and evaluation of Executive Compensation.

ETG WORKFORCE

The ETG workforce over the last seven years is shown in the following table.

ETG Employee Count by Type/Level 2015–2021¹

Employee Level	2015	2016	2017	2018	2019	2020	2021	Percent Change 2015–2021
Executive	1	1	1	1	0	0	0	N/A
Officer	1	1	1	2	1	1	1	N/A
Director	4	4	4	6	6	6	6	50%
Manager	10	10	11	11	17	20	19	90%
Supervisor	22	22	23	24	25	30	31	41%
Individual Contributor	286	291	298	303	320	314	340	19%
Total	324	329	338	347	369	371	397	23%

¹ The Workday HR system does not have details on employee records (such as Management Levels) earlier than December 31, 2015.

Union and non-union employees are shown in the following table.

ETG Union and Non-Union Employees 2015–2021

Employee Type	2015	2016	2017	2018	2019	2020	2021
Union	171	176	183	178	176	166	165
Non-Union	153	153	155	169	193	205	233
Total	324	329	338	347	369	371	398

COMPENSATION AND BENEFITS

The elements of SJI's compensation program include:

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1. The **Base Salary** is a fixed cash amount that reflects an employee's role, level of position, responsibilities, experience, and the competitiveness of the market.
2. The **Annual Incentive Plan (AIP)** is an annual at-risk cash compensation program with variable payout based on achieving quantitative company goals set at the beginning of the year. The program considers two components for final bonus: (1) company results and (2) achievement of individual objectives.
3. The **Long-Term Incentive Plan (LTI)** is a restricted stock unit program for director-level positions with time-based restricted stock units (TBRsUs).

Base Salary

Employee base salary compensation is reviewed on an annual basis, and merit increases are based on budget, market competitiveness, and individual performance. Individual increases will be based on both the Performance Management Program (PMP) rating and the employee's placement in the salary range. PMP ratings include five levels of performance: exceeds, meets and exceeds, successfully meets, partially meets, or fails to meet. Salary placement includes below minimum, 1st quartile, 2nd Quartile, 3rd Quartile, 4th Quartile, and above maximum.

Non-Executive Employees. The HR Corporate Compensation Department coordinates with and advises SJI's business leaders and the HR business partners on compensation philosophy, programs, policies, and practices and provides information and tools to support workforce planning, and strategic and financial objectives for the organization in order to:

- Ensure SJI's compensation programs are competitive by participating in market surveys and conducting market analysis on positions, programs and policies.
- Develop and administer annual merit and bonus programs.
- Design incentive programs that motivate and reward performance.
- Partner with business leaders and HR partners in the development of new and revised positions and compensation offers.
- Develop career ladders and paths that provide growth and opportunity.

The salary structure contains grades and ranges which are developed based on a review of external salary survey market data from two national compensation consulting firms, Willis Towers Watson and Mercer, as well as the American Gas Association (AGA). Additionally, Payfactors Market Data, an on-line service, is used to market-price jobs scoped by industry, geography, and company size.

AIP

AIP targets are a percentage of the employee's base salary. Target percentages are pre-determined by salary grade and are based on market competitiveness. Awards are based on meeting the goals of the AIP Corporate Balanced Scorecard (BSC), weighted 70% on the achievement of certain pre-determined financial metrics; and 30% on the achievement of certain pre-determined stakeholder metrics (Customer, Safety, and Strategic).

The director level and above payouts are based on BSC results, and a performance modifier based on the individual annual performance rating. Individual performance can

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modify the award up to $\pm 25\%$. The AIP payout calculation is: Individual AIP target x AIP BSC results x Individual Performance Modifier.

For employees below the director level, payouts are based on pool funding and Performance Management Program (PMP) rating. Pool funding is calculated based on the sum of all individual payout target dollars x AIP BSC Scorecard Results. Payout is based on individual AIP target dollars x PMP payout percentage. The AIP Performance Matrix is developed based on funds available from the AIP pool and final PMP rating distribution.

The AIP payout is maxed at 150% of target with two payout conditions:

- If relative Total Shareholder Return (TSR) is less than SJI's Peer Group 25th percentile, the AIP is capped at 100% of target.
- If SJI misses all its AIP BSC threshold metrics, there will be a zero AIP payout.

The elements of pay for SJI and ETG employees are shown in the following table.

SJI Pay Elements

Pay Element	Description	Rationale
Salary	Fixed Cash Opportunity	Provides stable market-based compensation for role, level of responsibility, and experience. Forms basis for other pay elements.
Annual Incentive Plan (AIP) Base	Annual cash compensation with variable payout based on achievement of pre-determined Economic Earnings, Return on Invested Capital (ROIC), strategic goals (customer, safety, and strategy) and individual objectives for the fiscal year.	Drives and incentivizes annual performance across key financial, strategic, and individual performance measures. Also includes a significant emphasis on ESG initiatives in Corporate Scorecard.
Long-Term Incentives (LTI)	LTI is granted: • 70% in PRSUs, based on three-year relative Total Shareholder Return (TSR) vs. peers and three-year Cumulative Economic Earnings Per Share (EPS), with caps on TSR and EPS portions based on TSR, and • 30% in Time Restricted Stock Units (TRSUs)	Performance-Vested Restricted Stock Units (PRSU) portion of awards, representing significant majority of total LTI opportunity, requires achievement of threshold level of performance for any payout; Combination of PRSUs and TRSUs drives long-term financial performance, shareholder value and executive retention.

Benefits

Benefits provided to ETG employees are shown in the following table.

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ETG Benefit Schedule

Benefit	Union Local 424	Union Local 601	Non-Union
Medical	Low and High Deductible Plans	Opt-out waiver program; Choice of Direct Access, Point of Service, or High Deductible	Opt-out waiver program; Choice of Direct Access, Point of Service, or High Deductible
Dental	X	Basic or Buy-up Enhanced	Basic or Buy-up Enhanced
Vision	X	X	X
Prescription Drugs	X	X	X
Basic Life and AD&D Insurance	X	X	X
Term Life Insurance	Voluntary	Voluntary	Voluntary
Accident Insurance		X	X
Legal Plan	X	X	X
529 Plan	X	X	X
Disability	Short and Long-Term	Short and Long-Term	
401K	Company match after one year of service	Company match after one year of service	Company match after one year of service
Health Savings and Flex Spending Account Plans	X	X	X
Wellness Program	Max of \$300	Max of \$300	Max of \$300

SUCCESSION

A single vice president who reports directly to the SJI President and CEO is tasked with building out the Executive Succession and Development process and working with Talent Management on succession for director level positions and below (individual contributor and above).

This function looks at critical and direct report roles, those that are single threaded and directly connected to the utility business, roles that may be vacated in the next one to three years, and personnel aged 62 to 65.

Talent discussions are held with a mixture of management and HR Talent Management. Meetings are held with the HR Workforce Committee, HR business partners, HR Compensation, and the Executive Workforce Committee (EWC). Succession risk is analyzed, considered, and presented to management.

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ETG succession planning evaluates team leads, engineers, individual contributors, and directors as low, moderate, and high in terms of potential and performance. Personnel identified are further assessed as being ready now, ready in 1–2 years, ready in 3–5 years, or as part of a contingency plan to advance to critical positions.

At the time of this audit, ETG had identified the following roles as critical:

- Mgr., Field Collections
- Director, Business Support
- Senior Director, Construction Operations
- Senior Director, Engineer Services
- Senior Director, Regional Operations
- Mgr., Field Operations

CAREER PATH

SJI utilizes a Job Architecture and Career Pathing Model to assist employees in planning their business careers within SJI and also help SJI in the development and maintenance of its workforce. This model provides a framework for organizing SJI regardless of the personnel performing the work or the location of the job. This common framework provides a single comprehensive and transparent job structure.

Employee benefits include:

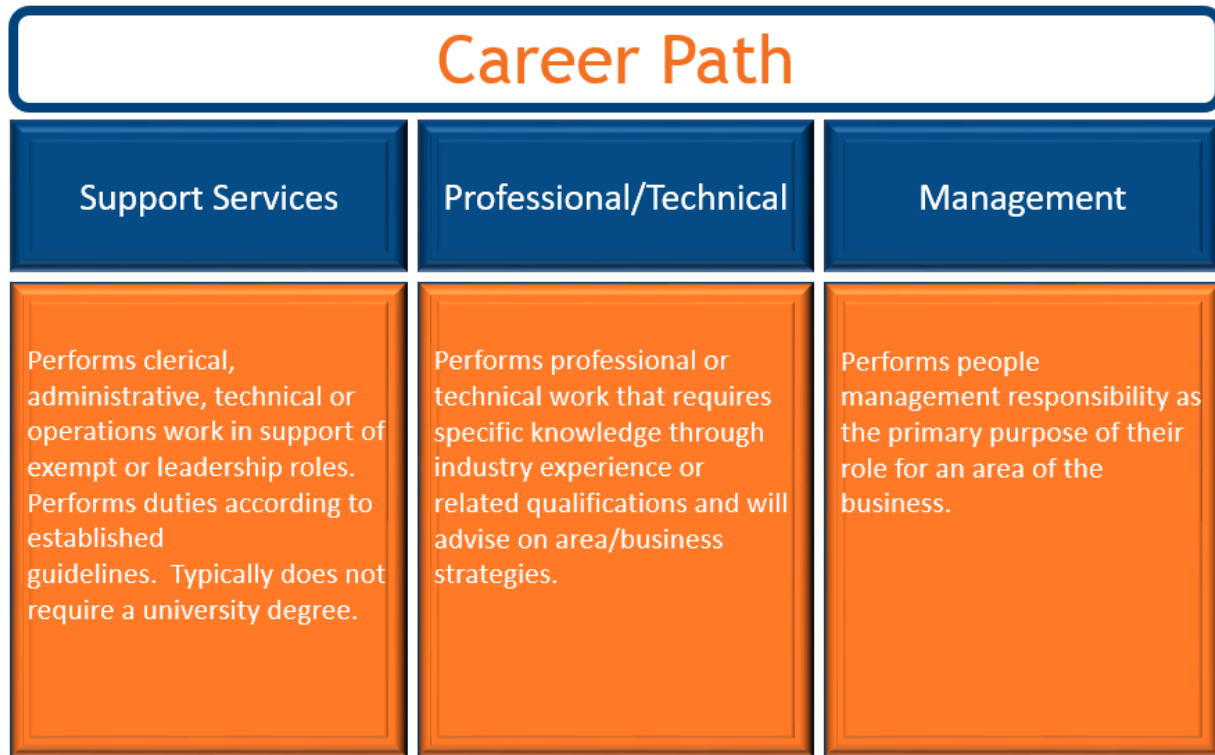
- Clearly defined jobs and roles
- Clearly defined career paths
- Standard set of job levels and job titles
- Employees empowered in their own career development

SJI has defined three career paths as shown in the following exhibit.

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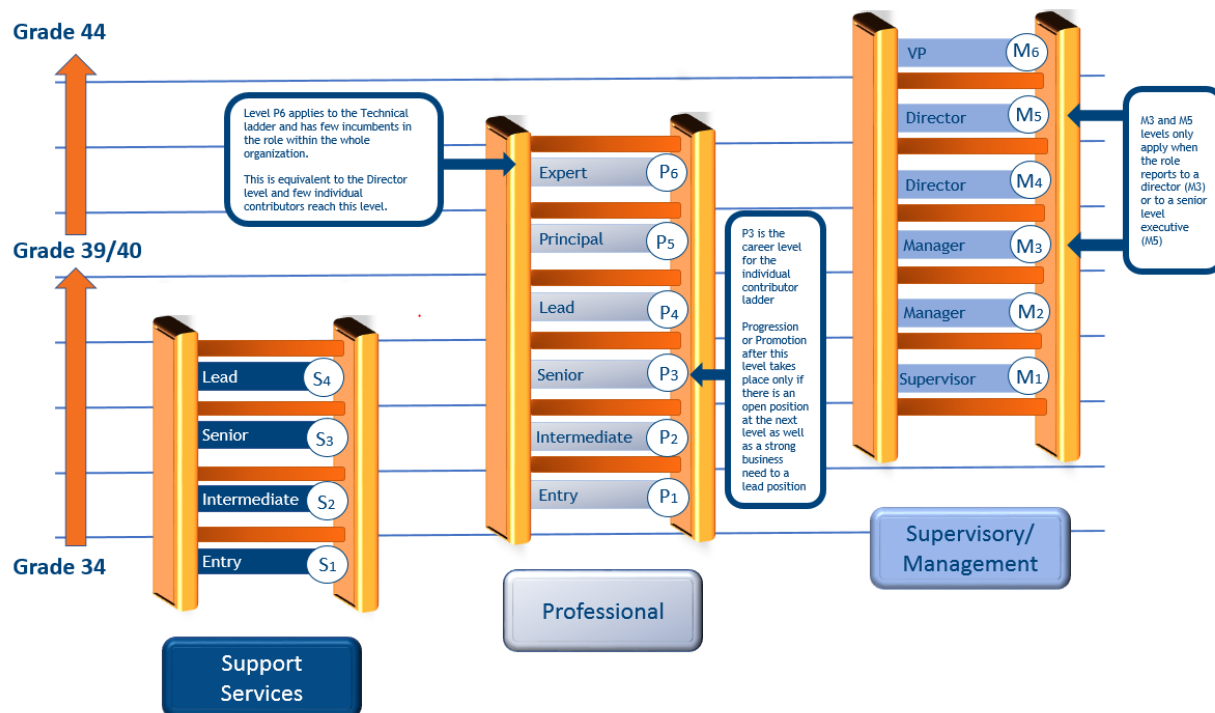
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SJI Career Paths



There is a ladder for each career path as shown below.

SJI Career Ladders



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DEVELOPMENT, TRAINING, AND EVALUATION

The development, training, and evaluation of employees is decentralized at SJI and its subsidiaries, including ETG. The HR function is responsible for general corporate-type training, while technical training is the responsibility of the responsible business units.

HR manages the corporate university, Empower U, and related training programs. Empower U, formed in 2016, provides training in professional development, leadership, emotional health and employee well-being, and Microsoft office courses. These courses are available for employees at all levels and range from live, in-person instruction to virtual and on-demand instruction offered through LinkedIn Learning.

HR's training and development function is responsible for organizational development services including new hire orientation programs, compliance training programs, individual and team development, new leader assimilation, early career programs including intern and POWER leadership programs, as well as diversity and inclusion programs.

New Employee Ambassadors are assigned to new non-union employees for the first 90 days of their employment to answer questions and help acclimate them. For Union employees, their collective bargaining agreement (CBA) covers what is required after the start of their employment.

New employees are surveyed at various times (1, 30, 60, 90, 180 days) after their start date to determine their opinions on the hiring process and their initial introduction to SJI and its subsidiaries. Additionally, an Employee Engagement Survey is conducted every two years on the topics of communication and resources, engagement outcomes, future outlooks, individual needs, manager effectiveness, team dynamics, trust in leadership, and survey effectiveness. The results of this survey are included on the Culture Dashboard initiated in 2019.

On-Boarding Training

All new employees take a one-day training course when they first join SJI. This course presents the background and values of the company, safety guidelines, instruction on setting up their office technology, and an overview of the Information Technology and Human Resources departments. This on-boarding orientation includes the following topics:

On-Boarding/Orientation Topics

Topic Description
New Employee Paperwork and Technology Set-Up
Welcome Message from SJI Leader and HR Team
Overview of Company Profile and Historical Timeline
Overview of Company Mission and OneSJI framework
Overview of Company Organizational Structure and Leadership Team
Overview of Company Values
Overview of Corporate Security of Badge and Building Safety

SAGE Management Consultants, LLC

Final Report for the Management and Affiliate Audits of Elizabethtown Gas Company.

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Topic Description
Overview of Corporate Safety and the Make Every Day a Safe Day philosophy
Overview of employee shared service systems and SharePoint sites, IT SolveITNow, HR Service Center, Workday HCM, Workday Learning, New Hire Onboarding SharePoint Site, SJI Today, EthicsPoint, and Impact SJI
Overview of Employee Benefits
Overview of New Hire WorkDay Transactions – Payroll Set-Up, Time Entry, Policies and Procedures Review
Employees will also: • Be paired with a New Employee Ambassador (NEA) starting the first week through the first 90 days of employment. • Be scheduled to attend a Natural Gas 101 overview of gas operations and technical training center. • Need to complete New Employee Compliance Training.

Compliance Training

All employees must complete a web-based training course designed to create an inclusive work environment and increase their knowledge of applicable laws and expected workplace conduct. As part of the new hire onboarding process, employees are required to complete compliance, diversity, and inclusion training modules through an on-line learning platform (Navex Global). New hire compliance and ethics training has to be completed within 60 days of hire and diversity/inclusion training must be completed within 120 days of hire.

Additional compliance training requirements include:

- Workday Learning – required of all ETG employees and must be completed within the first 60 – 120 days of employment.
- Affiliate Standards Training – provides an overview of the New Jersey Board of Public Utilities Affiliate Standards and reminds the employees of their responsibilities in this area.
- SJI Code Ethics and Business Conduct – required of all members of the Board of Directors and all employees and includes the following topics:
 - ◆ Ethics and Compliance
 - ◆ Maintaining a positive work environment
 - ◆ Conducting business on behalf of SJI
 - ◆ Protecting SJI's information and assets
- Red Flag training

Training Records

A record of compliance training is maintained by the Human Resources Department, and technical training records are maintained by the technical training department. Human

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Resources maintains the on-boarding training records and all other HR related training programs within the Workday Learning Management System (LMS).

EMPLOYEE AND LABOR RELATIONS

The Labor Relations Business Partner work group reports directly to the SVP, Human Resources and is responsible for managing activities with the local labor unions in place at ETG. Functions involving these labor unions include management and interpretation of the union collective bargaining agreements (CBAs) as they relate to union issues that come up – wages, overtime, duties, investigations, and disciplinary actions. The current labor contracts are shown in the following table.

List of Labor Contracts

Local #	Union Name	Duration
424	Utility Workers of America	Nov. 21, 2015 – Oct. 14, 2024
601	Utility Workers of America	Oct. 3., 2022 – Oct. 2, 2026

Union contracts are negotiated beginning 8–12 months prior to agreement expiration. Collective bargaining agreements are negotiated by the Labor Relations Business Partner and Labor Relations (LR) Team with support from outside counsel, when required. LR meets with the appropriate management team, develops a list of bargaining priorities, then meets with the union to negotiate a contract agreeable to both sides.

PRODUCTIVITY AND UTILIZATION

SJI's Performance Management Process (PMP) is designed to:

- *Create a culture of performance to drive business results, identify and differentiate “top talent” to further enhance our talent pipeline.*
- *Control costs by providing clear guidelines and recommendations for bonus payout based on performance ratings, level and corporate results. Maintain a 5-point rating scale and consistent performance forms that combine goals and competencies into one streamlined performance document to evaluate both performance competencies and business outcomes equally.*
- *Leverage technology to ensure a consistent design and individual accountability for delivery of business results.*

HR involvement in performance management includes developing goals, managing appropriations, and managing talent reviews, talent calibrations, and annual and mid-year reviews.

For non-union employees the PMP includes the following phases:

- Annual goal setting: first quarter of the year or within 60 days for a new employee
- Feb/March: Annual Performance Review meeting for prior year's performance, salary increase, and bonus discussions along with initial goal setting for the upcoming performance year.
- June/July: Mid-Year performance discussions to check in on goals, priorities, and progress to date.

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- Formal coaching conversations conducted during the year to include career discussions and development needs.

At the end of the year, employees can complete a self-evaluation of their performance to prepare for year-end performance discussions with their managers. Both self-evaluations and manager evaluations are completed in Workday. Upon completion of employee evaluations, calibration and talent review meetings are conducted between HR and business leaders to evaluate performance across business lines and ensure equity in performance measurement, rating, and overall rewards across the company. Once all performance ratings are evaluated and calibrated, the Executive Workforce Committee reviews and approves performance ratings, salary increases, and bonus payouts for all non-union employees.

A number of different information systems and applications are used to track employee productivity and utilization as shown in the following table.

Productivity and Utilization Tracking Systems

Area	Performance Item	System/Application	Description
Safety	Vehicle Safety and Driving Performance	GeoTab	Performance Data on speed, driving behaviors, tracking map locations, etc.
Field Operations/Customer	Appointment Attainment	Maximo Application; Operations Dashboard file	Maximo used for all reporting on appointment attainment, with drill down ability to the field technician, and remains system of record for all field work orders; Reports track appointments met within timeframes; Dashboard tracks monthly statistical performance and completion totals for field KPIs
Field Operations / Customer / Dispatch	Emergency Response	Maximo Application; Operations Dashboard file	Maximo used for all reporting on leak response, with drill down ability to the field technician, and remains system of record for all field work orders; Reports track appointments met within timeframes; Dashboard tracks monthly statistical performance and completion totals for field KPIs
Field Operations	Technician Productivity	Maximo Reporting	Reporting used to track and identify volume of orders per day per field employee, number of orders closed due to lack of access and orders completed, emergency volume and response times, etc.

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Area	Performance Item	System/Application	Description
Field Operations	Departmental Productivity against KPIs and Other Critical/Compliance Work	SharePoint Annual 'Dashboards'; PowerBI Scorecards; Maximo reports	SharePoint-based excel file tracking performance month over month for KPIs and other compliance/critical work against annual goals and targets; PowerBI Dashboard provides MTD and YTD actual performance totals against goal.
Field Operations	Meter Reading Metrics	ITRON	Tracks percentage of meters read, accuracy, and timelines
Field Operations	Field Collections Performance	CCB	Reports to reconcile and determine collections performance
Dispatch	ERT Call Quality	Finesse	Used to monitor ERT Call takers calls for quality and proper handling; includes recorded call and screen captures for selected agents
Dispatch	Emergency Response and Appointment Attainment	Maximo Reporting	Used to track missed appointments vs. on time appointments, emergency response, etc.
Dispatch	Dispatch Quality	CUIC (Cisco Unified Intelligence Center) and Calabrio	Tools used for call quality management and individual agent metrics such as handle time, hold time and status
Dispatch	General Performance Metrics	Dispatch Sharepoint Dashboard Site	Summary view of all metrics tracked from other sources and applications consolidated into 1 location
Dispatch	Pre-NOI Incident tracking	Dispatch Sharepoint Dashboard Site	Used to track all Pre-NOIs and Pre-NOI closures against order completion times.
Dispatch	Mark Out Ticket Response Times	Dispatch Sharepoint Dashboard Site and Polaris	Used to track mark out ticket response times
Safety	Preventable Motor Vehicle Accidents (PMVA), OSHA Injuries, Lost time due to injury (DART), Near Misses	PowerBI Safety Dashboard	Tracks PMVA, OSHA, DART and Near miss rates on monthly and yearly basis

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Area	Performance Item	System/Application	Description
Engineering		Sales Force Maximo Microsoft Power BI Microsoft Excel Asset Viewer (GIS)/Laserfische Syergi System Modeling AutoCad GasCalc Sharepoint	New Business Design and Reporting Create Projects for Financials, Design and Construction Tracking O&M/Capital Budgets, Large Engineering Projects' Schedules Tracking PRP Design Progress and Schedules, Individual Workload Management Records Research for Planning and Design System Modeling for Planning/Design, Operations Support Design Plans Preparation Pipe Sizing for NB Design Department Files/Reports Management
System Integrity		Maximo GIS Sharepoint Microsoft PowerBI	Corrosion, Leak Survey, and Damage Prevention work orders are managed by Maximo, which allows for scheduling and tracking of work. GIS dashboard and assignment tools allow for real time monitoring of technicians and assignment of work based on geographic areas. SharePoint is utilized to share and collaborate on documents, especially for integrity management working files. PowerBI is used for tracking and analyzing excavation damages.
Construction Operations	Permit processing	Maximo	Used to monitor the number of permits requested and received.
Construction Operations	Work Order processing	Maximo	Used to monitor the number of WOs assigned to contractors and the number of WOs reviewed and supervisor completed (SUPVCOMP).

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Area	Performance Item	System/Application	Description
Construction Operations	Invoice processing	SharePoint Contractor Submittal site and Workday	Used to monitor the number of contractor invoices are processed.
Construction Operations	Completed training	Workday	Used to monitor all training completed by employees.
Construction Operations	Field Inspection and Quality Metrics	Construction Quality Assurance (CQA)	Dashboards/reports for analyzing quantity and types of field inspections conducted by Construction team employees on all gas construction projects, measured against performance benchmarks
Construction Operations	Customer Service Metrics	Microsoft PowerBI	Dashboard for analyzing quantity and types of customer inquiries, compliments and complaints logged by Construction team for all gas construction projects, measured against performance benchmarks
Construction Operations	Operator Qualification Metrics	ITS and Construction Quality Assurance (CQA)	Dashboards/reports for documenting and ensuring Operator Qualification compliance for all Construction team field employees and associated field resources

ETG's current plans to improve employee productivity and utilization are represented by the list of initiatives for 2023 shown in the following table.

ETG's Planned Productivity, Performance, and Utilization Initiatives for 2023

Area	Item	Overview	Impacted Departments
Technology	ITRON IMR Radio Equipment	To improve meter reading and endpoint reprogramming, the Company will be migrating to an app-based portable radio device for use in the field	Meter Reading and Field Operations
	GIS Upgrades	Upgrades and enhancements to current GIS System	All
	Leak Survey Process Improvements	Enhancements to mobile GIS Leak Survey Application used by leak survey contractors in the field to improve overall device performance and run speed, as well as bug fixes	Leak Survey
	Field MDT Equipment Replacement	Replace and upgrade MDTs (Mobile Data Terminal computers) for field employees	Field Operations

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Area	Item	Overview	Impacted Departments
	Digitization of As-Built Records	Digitization of As-built records for efficient design and construction	Engineering
	Work Order Job Code Additions	Addition of new job codes to allow for better reporting and clarity for field technicians regarding order types they are assigned	Field Operations
Employee	Training and Development	Enhance and add additional job specific as well as developmental training offerings for employees	All
		Industry-specific training and conferences such as: GTI, NACE/AAMP, AGA committees, equipment manufacturers, vendors, etc.	Engineering
		Software Application training and discussion group sessions for increased knowledge, familiarity and use of software applications	All
	Performance	Development of Individual and Group Employee Scorecard for First Responders to add additional insight into their performance of core job functions	Field Operations
		Automated reporting and use of tools such as PowerBI for live metrics and data analytics	All
		Routine team meeting discussions regarding performance year-to-date and performance year over year	All
	ERT Call Taker Quality	Redesigning of agent quality evaluation to better align to the type and nature of calls handled	Dispatch/Resource Management
Pipeline	Continued Pipeline Replacement	Continued efforts and focus on pipeline replacement and cast iron pipeline replacement	Engineering, ConOps, Field Ops, System Integrity

HUMAN RESOURCES INFORMATION SYSTEM

SJI uses Workday's Human Capital Management system (HCM). It is a cloud-based system that provides SJI and its affiliates, including ETG, the functionality needed to support its HR operations. Workday was implemented in 2015 and replaced the former HR module in the Lawson enterprise resource planning (ERP) system. Workday's Payroll module was incorporated in 2018, starting with ETG.

SJI utilizes the HCM modules: Core HCM; Talent Acquisition; Talent Management; and Compensation, Benefits, and Absence.

- Core – employee records, basic information, credential, training records
- Talent Acquisition – recruiting module: application for employment, acceptance for interviews, timeline for acquisition, etc.
- Talent Management – performance, annual review, training

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- Compensation, Benefits, and Absence – job profiles, job architecture, benefit providers, leave (vacation, sick, holidays)

A case management system (ServiceNow), which is also a cloud-based system, provides HR with a tool to manage employee questions and requests and to document responses, and includes a knowledge library that assists employees in a self-service manner. This system has been in production since August 2019.

AFFIRMATIVE ACTION AND EQUAL EMPLOYMENT OPPORTUNITY (AA/EEO)

SJI affirms that it and its subsidiaries, including ETG, is an equal opportunity employer, and states in its EEO/Affirmative Action/Non-Discrimination Policy, that:

The Company prohibits discrimination and harassment of any type and affords equal employment opportunities to employees and applicants without regard to race, color, religion, sex, gender identity, gender expression, sexual orientation, national origin or ancestry, disability status, protected veteran status, age (40 and over), genetic information (including testing and characteristics), or any other characteristic protected by law.

This policy applies to all HR functions and relationships, including:

- Recruitment
- Employment
- Promotion
- Transfer
- Training
- Working conditions
- Wages and salary administration
- Employee benefits and application of policies

SJI follows the US Department of Labor guidelines for Affirmative Action and engages with external counsel on a study of the SJI Workforce Demographics, which includes an assessment of the results and recommendations to address any shortfalls. Findings and recommendations to stay within federal guidelines are reported to SJI.

AA/EEO policies and principles also apply to the selection and treatment of independent contractors and persons working on SJI premises or working for firms doing business with SJI.

DIVERSITY, EQUITY, AND INCLUSION

The D & I (Diversity and Inclusion) and Engagement work group reports directly to the SVP, Human Resources and is responsible for diversity, equity, and inclusion (DEI). This includes DEI strategy, developing and managing D & I events, and promoting a culture of inclusion and belonging.

SJI's goal statement for diversity and inclusion is shown below:

"SJI is committed to building a culture of inclusion where employees feel comfortable bringing their whole selves to work each day – regardless of their race,

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gender, ethnicity, sexual orientation, generation, disability status, or any other distinguishing difference that make up a diverse workforce.”

“SJI works to ensure that all levels of the workforce reflect the composition of the region we serve. Our commitment to inclusion is demonstrated through welcoming and supporting employees from all backgrounds so they can achieve their full potential. We strongly believe that differences of culture, circumstances and view play a key role in broadening our ability to grow our company and that a diverse workplace maximizes employee performance and creates value for our customers and our shareholders.”

SJI sponsors and supports several Employee Resource Groups (ERG) shown below:

- Women's Leadership Initiative (WLI) – goal is to develop a strong community where members communicate, educate, collaborate, influence, network, and encourage one another.
- American Association of Blacks in Energy (AABE) – dedicated to ensuring African Americans and other minorities have input into the development of energy policy regulations, research and development technologies, and environmental issues.
- VETS – goals include: (1) increasing employee awareness of veterans throughout the company, (2) supporting the veteran community in the SJG/ETG service territory, (3) increasing veterans' participation in recruiting events which will directly translate in a diverse workforce, (4) developing future SJI leaders, and (5) implementing into the business applicable practice and lessons learned from veteran experiences.
- The Green Team – mission is to provide an interactive and educational resource group that empowers employees to help support and create a more sustainable environment in our local communities.
- Emerging Leaders – aim is to develop, equip, and retain emerging leaders through targeted initiatives and programs encouraging innovation, professional growth, and development.

Membership is voluntary, and members of these groups are expected to spend a couple of hours per month on group activities. SJI would like these ERGs to put on one event per quarter, such as a panel event for Black History Month or the Veteran's Food Drive.

EXTERNAL REPORTING

SJI submits a number of HR reports to the State of New Jersey and the United States Government as shown below.

- Reports provided to the Federal Government
 - ◆ Forms 5500 for applicable Benefits plans (Pension, 401K, Health and Welfare)
 - ◆ EEO-1 report
 - ◆ Bureau of Labor Statistics Surveys and Reports
 - Wage and Position Reporting
 - Headcount Reporting

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- Job Openings and Labor Turnover Survey (JOLTS)
- ◆ Form 1385 – US Department of Labor – Drug and Alcohol Data Collection Form
- ◆ Credible Coverage Disclosure Form (CMS)
- ◆ Form 720 – Federal Excise Tax
- Reports provided to the state of New Jersey:
 - ◆ New Jersey Child Support Employer Services New Hire Reporting
 - ◆ Employee Information Report Form AA-302

B. FINDINGS

XI-1 ETG's compensation and benefits packages are appropriate for a regulated utility.

SJI's HR Department relies on outside consultants and market surveys to ensure that the salary and benefit packages for ETG employees below the executive level adequately reflect the employee roles, levels of position, responsibilities, experience, and market competitiveness. The annual incentive plan (AIP) and Long-Term Incentive Plan (LTI) are designed to match the employee's efforts with the company's goals and objectives. Compensation is reviewed annually, and adjustments are based on budget, market competitiveness, and employee performance.

XI-2 The Performance Management Process (PMP) is effectively used to help determine non-union employee compensation.

Employee PMP ratings and the employee's placement in the salary range determine the amount of base salary increase. The PMP rating also drives payout for any applicable annual incentive payout (AIP). Calibration and talent review meetings are conducted between HR and business leaders to evaluate performance and ensure equity in performance measurement, rating, and overall rewards. After the performance ratings are evaluated and calibrated, the Executive Workforce Committee reviews and approves performance ratings, salary increases, and bonus payouts for all non-union employees.

XI-3 Training is comprehensive and decentralized.

The HR Department is responsible for corporate-type training including new hire orientation, compliance, individual and team development, new leader assimilation, early career programs, as well as diversity and inclusion programs, organizational development, leadership, emotional health, and employee well-being. All technical training is the responsibility of the Technical Training Department within the business unit. New hire training is followed up with surveys throughout the employee's first six months to ensure that the operations of the company are clearly understood, and any issues are addressed.

XI-4 Training records are not maintained in a central database.

Records for training provided by HR are maintained by HR. Technical training records provided by individual technical business units are maintained in the business units. Information on certifications or individual licenses, likewise, is not maintained centrally and is not under the control of HR.

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XI-5 There are no significant labor issues at ETG.

There are no significant current and recurring union issues involving employees and the two labor unions at ETG. Utility Workers Union, Local 601 is still fairly new, starting October 2022 at ETG, and there are no reported issues. There are only two arbitration issues with Utility Workers Union, Local 424, both involving interpretation of the CBA relating to:

- Promotion based on job duties
- Long-term disability insurance

XI-6 Labor relations at ETG appear to be managed effectively.

The labor relations with ETG's two local unions seems to be managed effectively. The HR Labor Relations Business Partner is a former union representative with a law degree and reports directly to the SVP, HR. Approximately 20% to 30% of this work group's time is spent investigating disciplinary issues with the remainder used to manage and interpret the union CBAs. Assistance, if necessary, is available from external legal resources.

XI-7 There are adequate systems and applications tracking employee productivity and utilization.

There are a significant number of systems and applications used by SJI and ETG to track employee productivity and utilization. Data provided is used by the business units to measure and report periodically on the performance of their workforce. These systems provide productivity and utilization information for a significant number of the work areas or functions of ETG, including:

- Construction Operations
- Dispatch
- Engineering
- Field Operations
- Field Operations / Customer
- Field Operations / Customer / Dispatch
- Safety
- System Integrity

There are a number of initiatives planned for 2023 that should improve ETG's ability to monitor employee productivity and utilization.

XI-8 The HR Information System provides the necessary access to ETG's personnel information.

SJI utilizes Workday's human resource module, Human Capital Management system (HCM). This is a cloud-based system that provides ETG with the functionality needed to access and effectively manage its personnel information and human resources responsibilities and activities. This system allows ETG management and employees to access employee records, basic information, credentials, and training records. It is also useful in recruiting prospective employees and managing the application and employment

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processes. Workday and its human resource module, HCM, are well respected and widely used in the utility industry.

XI-9 There are effective affirmative action and equal employment opportunity policies, procedures, and practices in place at ETG.

The AA/EEO policies, procedures, and practices at ETG are clearly stated and provide comprehensive direction and instructions concerning compliance with federal and state AA/EEO rules and regulations. The officers and management of SJI and its subsidiaries, including ETG, are tasked with the responsibility to ensure that AA/EEO principles are enforced. Procedures in place to ensure that policies are followed include:

- Posting all required notices regarding employee rights under EEO laws in areas highly visible to employees.
- Advertising for job openings with the statement "We are an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, gender identity, gender expression, sexual orientation, national origin, disability status, protected veteran status, or any other characteristic protected by law."
- Posting all required job openings with the appropriate state agencies when seeking external candidates.
- Forbidding retaliation against any individual who files a charge of discrimination; opposes a practice believed to be unlawful discrimination; reports harassment; or assists, testifies, or participates in an EEO agency proceeding.

Additional procedures require reporting all suspected violations of the AA/EEO policies, advising HR promptly of all policy violation allegations, investigating allegations promptly, and providing protection against retaliation.

XI-10 SJI actively supports diversity in its workplace.

SJI sponsors and supports the formation and ongoing activities of five Employee Resource Groups (ERG), reflecting diverse populations of employees. These ERGs and their membership numbers are shown in the table below.

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ERG Enrollment

ERG	Charter Date	Membership	
		2021	2022
Women's Leadership Initiative	January 2010	Membership: 10 Mailing List: 120	Membership: 11 Mailing List: 174
American Association of Blacks in Energy	January 2011	Membership: 35 Mailing List: 36	Membership: 38 Mailing List: 45
Emerging Leaders	January 2020	Membership: 27 Mailing List: 270	Membership: 35 Mailing List: 373
VETs	January 2021	Membership: 10 Mailing List: 30	Membership: 15 Mailing List: 88
The Green Team	January 2022	Membership: NA Mailing List: NA	Membership: 28 Mailing List: 134

XI-11 The percentage of the ETG workforce that are minorities has increased over the past five years.

The demographics of the ETG employees are shown in the following table.

ETG Employee Demographics 2017 – 2021

Employee Description	2017		2018		2019		2020		2021	
	#	%	#	%	#	%	#	%	#	%
White Men	202	63%	211	61%	204	55%	200	54%	204	51%
Men of Color	41	13%	44	13%	52	14%	55	15%	67	17%
White Women	22	7%	25	7%	30	8%	29	8%	31	8%
Women of Color	56	17%	67	19%	83	23%	87	23%	95	24%
Total	321	100%	347	100%	369	100%	371	100%	397	100%

The total workforce has increased by 76, almost 24%, over the past five years. During this same period, the number of Men of Color has increased by approximately 63%, and the number of Women of Color has increased by almost 70%. In the five-year period ended December 31, 2021, the percentage of the SJI workforce represented by Men of Color has increased from 13% to 17%, and the percentage represented by Women of Color has increased from 17% to 24%.

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C. RECOMMENDATIONS

XI-1 All training efforts should be coordinated in the HR Department. (See Finding XI-3)

Training is decentralized at SJI and its subsidiaries. SJI's HR department is responsible for general, corporate-type training efforts, while technical training responsibilities lie with the various business units. In order to ensure that necessary training is being given and to minimize risk exposure to any possible training irregularities or absence of training, all training should be coordinated under the SJI HR department. The conduct of technical training can still be the responsibility of business units, but there should be a central control point for all training efforts.

XI-2 Training records should be centralized and automated. (See Finding XI-4)

There should be a central depository for all training records, tracking all requirements, training completions, training schedules, certifications earned, and licenses awarded. An automated system such as Workday should be able to accomplish this with minimal effort after the initial data entry and would provide a valuable tool to document, notify, and report on all training needed, planned, and completed.

XII. STRATEGIC PLANNING

A. BACKGROUND

Elizabethtown Gas Company (ETG) and SJI Utilities (SJIU) strategic planning is performed as part of the SJI strategic planning process. There is no separate ETG or SJIU strategic planning process and plan.

SJI MISSION AND VALUES

According to the SJI website, the SJI mission and values are:

Mission

Provide safe, reliable, affordable energy services, ensuring the safety of our employees, customers and the communities we serve while also delivering value for our shareholders.

Values

- Live up to commitments and conduct our business guided by the highest set of principles
- Commitment to customers, shareholders, employees, and community
- Integrity
- Highest standards of safety
- Innovation
- Performance
- Respect

ONE SJI

In addition, the 2022 SJI Proxy Statement (which was incorporated into the SJI 2021 Form 10-K) lists additional corporate guidance under its One SJI Committed to a Clean Energy Future through Environmental, Social, and Governance Investment section. One SJI is illustrated in the following exhibit.

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XII. Strategic Planning

One SJI



Purpose

Delivering safe, reliable, affordable clean energy for a better today and tomorrow.

Themes

- Think Big
- Lead and Inspire
- Do the Right Thing
- Deliver Results

Vision

One SJI inspired to build a clean future and deliver carbon neutral energy by 2040.

Core Values

- Safety

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XII. Strategic Planning

- Service
- Community
- Inclusion

Strategic and Operational Priorities

- Drive growth
- Operate with excellence
- Champion a “can do” culture

Brand Promise

We promise to be your trusted partner, delivering energy solutions that fit your life.

STRATEGIC PLANNING PROCESS

The strategic planning process is conducted simultaneously with the financial planning and the operations and maintenance, capital, and employee budgeting processes. SJI does not distinguish a separate and discreet strategic planning process.

There is a “SJI Strategy Team” composed of the SJI and SJIU senior executives including the ETG President. There were nine Strategy Meetings in 2021. However, there were no agendas and there are no minutes associated with these meetings.

SJI normally updates its strategic and financial plan on an annual basis, typically in conjunction with its annual budgeting process. The calendar can be modified in any individual year to coincide with the Board’s annual Strategic Retreat session or to ensure an update is performed prior to significant financial disclosures.

SJI’s 2020 strategic plan covered a five-year horizon. The planning process started with continuous monitoring and evaluation of performance and progress against milestones in the most recent update, as well as evaluation of internal and external factors impacting the strategy (new regulations, market conditions, industry trends, etc.).

Then, business leaders were tasked with providing updates, revisions, and corrective actions for their respective areas and initiatives to address changing conditions. The updates were processed through the financial model to quantify impacts of the changes on net income, earnings per share, balance sheet, and credit metrics.

Senior leadership reviewed and modified the updated plan and held a discussion with the Board of Directors’ Strategy and Finance (S&F) committee. The S&F committee’s feedback was incorporated, and the strategic plan was reviewed with the full Board.

The planning and budgeting process includes:

- Workforce planning (headcount and payroll budgeting)
- Non-Payroll budgeting
- Capital budget and cash flows
 - ◆ Blanket capital projects
 - ◆ Special capital projects

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XII. Strategic Planning

The budgeting calendar runs from August through November and includes multiple SJI Senior Team and CEO reviews culminating in the Board of Director's meetings for approval in November. See Chapter XV, Accounting and Property Records, for more information on the budgeting process.

SJI OBJECTIVES

SJI financial objectives for 2021 to 2025 include:

- \$3.5 billion capital expenditures [redacted]
- 10% compound annual growth rate in the rate base
- 5–8% compound annual growth rate in economic earnings per share
- 3% compound annual growth rate in dividends per share with the dividend payout as a percent of economic earnings per share decreasing from 75–80% to 65–68%.
- 20% compound annual growth rate in economic earnings from energy production
- 10% compound annual growth rate in economic earnings from energy management

Utility

Seventy to eighty percent of earnings are expected from regulated businesses in this time frame.

Non-Utility

The principle non-local gas distribution utility components of SJI are its Midstream \$68 million investment in the PennEast pipeline and its investments in energy production and energy management businesses. Renewable natural gas (RNG), fuel cell, and solar are growth drivers.

The SJI energy production component includes investments in renewable natural gas (from landfills, wastewater treatment, and dairy farms) and investments in fuel cell and solar renewable energy. The SJI energy management component includes wholesale services and retail services. Wholesale services include fuel management and wholesale marketing. Retail services include meter reading (joint venture with Atlantic City Electric to read both electric and gas meters at SJG and ACE) and appliance service contracts (SJI receives commissions from a third party) and energy consulting as an aggregator, broker, and consultant in matching end-users with suppliers for procurement of gas and electricity.

SJI has a 10–12% hurdle rate for non-utility businesses.

2020 STRATEGIC AND FINANCIAL PLAN

The 2020 SJI strategic plan includes the following components:

- External factors, such as the New Jersey Energy Master Plan
- Repositioning SJI as an infrastructure company (long term shift to 90% utility)
- Improving the balance sheet and credit ratings
- Strengths, weaknesses, opportunities, and threats

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XII. Strategic Planning

- Opportunities in clean energy and decarbonization
- Utilizing gas infrastructure for low or zero carbon fuels such as renewable natural gas and hydrogen
- Possible utility acquisitions

The 2020 SJI strategic and financial plan includes ETG. The strategic and financial plan is normally targeted to be renewed annually with a five-year planning horizon. The status of the strategic and financial plan is reviewed periodically by the SJI Senior Leadership Team and the Board of Directors. The following are elements of the June 2020 Strategy Discussion with the Board of Directors.

- Repositioning SJI as an infrastructure company, moving towards becoming 90% regulated over time, will provide more visibility into earnings and command a higher valuation multiple.
- Strengthening the balance sheet and improving credit metrics; emphasizing utility contributions and efforts to minimize regulatory lag; deemphasizing non-utility contributions and focusing on complementary, low risk/low volatility businesses; and providing clarity on timing and outcome of PennEast will address the most common concerns from investors and analysts.
- Repositioning SJI as an infrastructure company in an evolving decarbonized world.
- Long term shift towards 90% utility. Likely not achievable in the five-year planning horizon.
- Non-utility businesses that are complementary to utility business and provide stable, low risk, contracted revenue streams.
- EPS growth of four to six percent, driven by predictable rate base growth and regulatory outcomes.
- Focus on utility infrastructure capital expenditures, minimizing regulatory lag through trackers.
- Stable contribution from non-utility businesses with upside potential.
- Focus on our core skill set and provide high visibility for steady cash flow and earnings.
- Maintain BBB rating, return to stable outlook.
- Improve funds from operations/total debt ratio, equity/capitalization metrics.
- Dividends are critical to utility investors:
 - ◆ Approximately three percent annual growth
 - ◆ Payout ratio more aligned with peers over time
- Bolt-on acquisition opportunities (e.g., Mountaineer Gas).
- Diversification into water or electric.
- Geographic diversification.
- Wholesale marketing and fuel management (SJRG): De-risked portfolio; complementary to utility business; ETG Asset Management Agreement; set baseline expectations, with upside potential with weather or market volatility.

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XII. Strategic Planning

- [Redacted]
- [Redacted]
- [Redacted]
- South Jersey Gas Company:
 - ◆ Anticipate an extension of Accelerated Infrastructure Replacement Program (AIRP) program in 2021 to replace coated steel and vintage plastic pipe.
 - ◆ Pipeline and Hazardous Materials Safety Administration (PHMSA): Required transmission upgrades starting in 2021 with annual recovery to begin in 2022.
 - ◆ Energy Management Plan (EMP): Investments in support of the EMP such as Smart Meters and Renewable Natural Gas starting in 2021 with annual recovery to begin in 2022.
 - ◆ [Redacted]
 - ◆ System Growth and Maintenance - Addition of Lawnside II and III phase to meet the increase in system demand.
 - ◆ IT upgrades for core systems and traditional compliance, facility and engineering spend.
 - ◆ Rate Case –Forecast assumes two cases with full year revenues in 2022 and 2024 –Approximately \$145M of plant additions for prudent investments primarily related to system growth and maintenance, facility, engineering and technology upgrades.
 - ◆ 2024 –Approximately \$150 million of plant additions.
- Elizabethtown Gas and Elkton Gas Company:
 - ◆ Approved IIP investments through 2024.
 - ◆ EMP: Investments in support of the EMP such as Smart Meters and Renewable Natural Gas starting in 2022 with annual recovery to begin in 2023.
 - ◆ LNG Liquefier –Upgrades planned for the existing Erie St. Liquefier.
 - ◆ Rate Case –Forecast assumes two cases with full year recovery in 2023 and 2025
 - ◆ 2023 –Approximately \$257M of plant additions for prudent investments related to system growth and maintenance, facility, and technology upgrades
 - ◆ 2025 –Approximately \$180M of plant additions
- South Jersey Energy Services:
 - ◆ Marina:
 - Atlantic City Infrastructure repurposed as microgrid \$10M, (2020: \$5.5M and 2021: \$4.5M)
 - Solar renewable investment \$200M, (2020: \$75M, 2021: \$75M, and 2022 \$50M)
- South Jersey Energy Group – SJEI – Acquisitions: 2020: \$7.5M; 2021-2022: \$12.5M each year; 2023: \$27.5; 2024: \$15M

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XII. Strategic Planning

The following table presents the 2020 through 2024 actual and projected SJI capital expenditures.

2020–2024 Capital Expenditures (\$million)

[Redacted]

2021 American Gas Association Presentation

The 2020 Strategic and Financial Plan was not updated in 2021 in the same format. Rather, the 2021 strategic plan was published as a 2021 American Gas Association (AGA) Investor Day presentation. In the presentation, SJI described itself as a \$3 billion plus infrastructure company providing safe, reliable, and affordable energy and supporting economic growth. It is launching a utility centered \$3.5 billion five-year capital plan. Utilities will remain the core growth engine with a focus on infrastructure modernization. The non-utility strategy is complementary to the utility business and aligns with the clean energy goals of the region focusing on decarbonization investments.

In the AGA presentation, SJI summarizes its 2022 strategic plan as:

- Utilities will remain our core growth engine, focused on infrastructure modernization
- Utility and non-utility strategies align with goals of our region, with increased focus on decarbonization initiatives
- Committed to balance sheet strength, liquidity, and credit metrics to solidify execution of our growth plans
- Strategic plan delivers highly predictable and sustainable long-term earnings per share growth

B. FINDINGS

XII-1 The SJI strategic plan for ETG is focused on capital expenditures and rate cases, which is not optimal for ratepayers.

The SJI strategic plan for ETG focuses on capital expenditures to build the rate base and rate cases to increase earnings. This is consistent with SJI's overall focus on becoming an "infrastructure" company with an overriding interest in capital expenditures. SJI is projecting a 10% annual compound growth rate in the rate base. As shown above, ETG capital expenditures are expected to increase from \$273.8 million in 2020 to \$441.2 million in 2024, a 60% increase or a simple annual average increase of 15% per year.

While replacing aging infrastructure for system integrity and safety is important for ratepayers, the SJI emphasis on capital expenditures for ETG may be causing excessive or too rapid increases in the rate base and rates.

The SJI strategic plan for ETG does not address customers, other than adding new customers, nor O&M cost containment, market conditions, employees, or risk. The only strategic initiatives are for increased capital spending and rate cases to increase rates.

SJIU was created to manage the two utilities, ETG and SJG; however, it does not produce a separate strategic plan for the utilities together or individually.

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XII. Strategic Planning

XII-2 The SJI website mission and values are not the same as the more elaborate One SJI statements.

As described above the SJI mission and values displayed on the website are fairly concise. The One SJI presentation is much more elaborate. While the two versions are generally compatible, it would be a better practice to have one set of aspirational statements to avoid any confusion.

XII-3 The goals and objectives for SJI utility and non-utility businesses are generally compatible.

The SJI existing and planned non-utility businesses are generally compatible with ETG. They are energy and infrastructure related. No evidence was found that affiliate goals were in conflict with ETG goals.

XII-4 The 2020 strategic plan was updated in 2021 in a different format for an external audience and did not include the five-year financial plan.

The 2020 strategic and financial plan was not refreshed in 2021 in the same format. While SJI's intent is to renew a five-year strategic and financial plan annually, this was not done in same format in 2021 and the 2021 plan did not include the detailed five-year financial plan. It is a better practice to renew the strategic plan annually in a consistent format that includes the five-year financial plan and is designed for the internal SJI audience rather than the external investor audience. SJI should return to this practice.

XII-5 SJIU and ETG management are focused on the utilities; the SJI CEO is focused on non-utility businesses.

ETG's principal affiliate relationships are with SJIU, SJRG, and SJI. The SJIU management is focused on the ETG and SJG utilities with little non-utility distraction. The Asset Management Agreement for ETG is managed by SJIU (see Chapter II, Procurement and Purchasing, for more information on this arrangement). The ETG management is focused on its regulated utility operation.

The SJI senior leadership for administrative services such as Human Resources, Information Technology, and Legal are well-focused on the SJI utilities, ETG and SJG, in addition to serving the non-utility subsidiaries. However, the SJI CEO is principally focused on the development and management of the non-utility subsidiaries. He does not serve on the SJIU or ETG boards of directors but does serve on many non-utility subsidiary boards of directors. The CEO non-utility focus issue was addressed in Chapter X, Organizational Structure, and no further recommendation is included here.

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XII. Strategic Planning

C. RECOMMENDATIONS

XII-1 Develop and implement a separate SJIU strategic plan that covers ETG and SJG and emphasizes O&M cost containment, customers, workforce, and optimizing the pace of capital expenditures to accommodate growth and ensure system safety at the least cost. (See Finding XII-1)

An annual five-year SJIU strategic plan should cover both ETG and SJG and all SJIU shared utility functions and the planning process should include representatives of all major utility functions.

The planning process should begin with a review of KPI performance trends over at least the past five years and a strengths, weaknesses, opportunities, and threats (SWOT) analysis for each utility and utility and administrative shared service.

Aspirational goals should be set with corresponding quantitative KPIs that reflect whether each goal is being achieved. Targets should be set for incremental improvement in each KPI that would achieve each goal in a reasonable timeframe. Individual responsibility for achieving the target for each KPI should be clearly assigned. Current benchmarking studies should be used to set appropriate targets. See Chapter IX, Executive Management and Corporate Governance, for more information on a recommended benchmarking and best practices program.

The SJIU strategic plan should specifically address customer needs, the employee and contractor workforce, O&M cost containment, the purpose and pace of capital expenditures, market conditions, and risk mitigation. Capital expenditures for ETG should be developed from the bottom up to meet well-defined goals. ETG capital expenditure targets should not be assigned by SJI financial planning.

XII-2 Settle on one consistent statement of the SJI mission, vision, and values. (See Finding XII-2)

Having one set on the website and the One SJI model for other uses is confusing. SJI should settle on one set of mission, vision, and values and use it consistently. The website version is simpler. The One SJI model is more comprehensive but is perhaps too complex. A streamlined version of the One SJI model may be the best choice.

XII-3 Refresh the SJI strategic and financial plan in a reasonably consistent format and the recommended SJIU strategic plan every year. (See Finding XII-4)

The SJI strategic plan was not updated in the same format in 2021, perhaps because of the potential acquisition of SJI, and it did not include the detailed five-year financial plan. It is a better practice to refresh the strategic and financial plan annually in a reasonably consistent format, especially when large changes are possible.

XIII. FINANCE

A. BACKGROUND

The South Jersey Industries, Inc. (SJI) Finance Department is responsible for many accounting and related financial functions of Elizabethtown Gas Company (ETG) and all affiliates. Several organizational changes to the Department have occurred subsequent to the 2009 through 2021 audit period, resulting in the following functions being placed elsewhere:

- The Payroll Group had reported to Finance during the audit period but began reporting to the Human Resources Department in 2022. The change in reporting structure was due to the close relationship between Human Resources (HR) and Payroll, as well as the connections in the Workday software system for Human Capital Management (HCM) functions such as compensation, benefits, time-off, and leave.
- Internal Audit had also been part of the Finance Department until November 2022 when it was placed under the oversight of General Counsel as part of a reorganization.
- Business Development had been part of the Finance Department. Business Development currently focuses on non-regulated business opportunities and was moved out of Finance when the prior VP, Business Development retired.
- Investor Relations became Stakeholder Relations as a result of the February 2023 acquisition, which transitioned SJI from being a publicly traded company to being a privately held company. Stakeholder Relations is now part of the Human Resources Department.
- Accounts Payable became part of the Finance Department in 2022 and was placed under the direction of the VP, Finance and Assistant Treasurer.

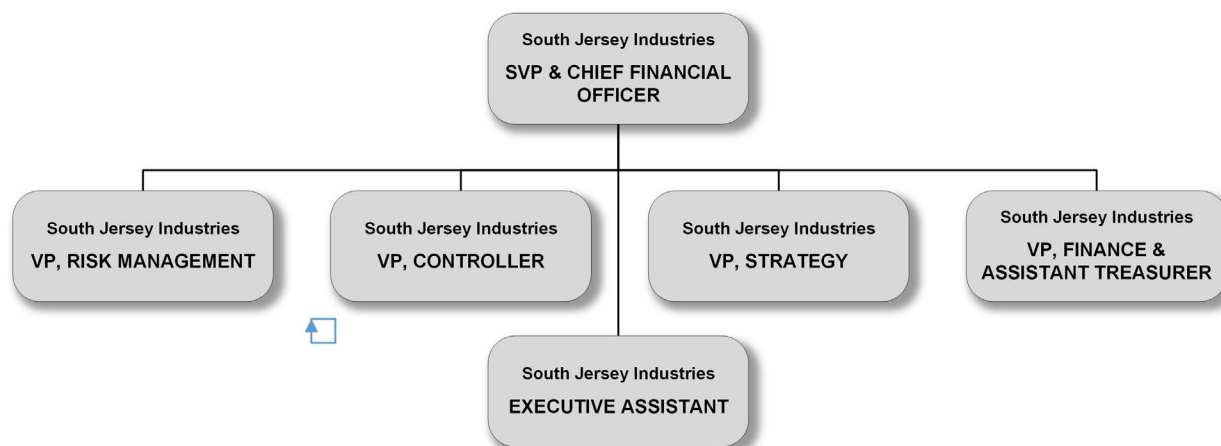
ORGANIZATION

The SJI Senior Vice President and Chief Financial Officer (SVP & CFO), reporting directly to the President and CEO of SJI, oversees the Finance Department. Four vice presidents (VPs) currently report to the SVP & CFO. Their areas of responsibility are Accounting, Risk Management, Strategy, and Treasury. The Finance Department's current organization structure is shown in the following exhibit.

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SJI Finance Organization Chart



The areas of responsibility of each VP are:

- The VP, Risk Management, is responsible for SJI's enterprise risk management (ERM) program. Five direct reports support the risk management program, which is discussed in this chapter.
The VP, Controller, is responsible for accounting. Direct reports consist of Director, Accounting; a Manager, Financial Reporting; and a Director, Tax Accounting. The Director, Accounting, is responsible for general ledger and plant accounting. The Manager, Financial Reporting, has responsibilities pertaining to ETG's pension accounting. Accounting functions and Financial Reporting are discussed in Chapter XV, Accounting and Property Records.
- The VP, Strategy oversees three programs: Financial Planning and Analysis (FP&A), which manages the budget process; Innovations; and Strategic Initiatives. See Chapter XV, Accounting and Property Records, for a discussion of the budget process.
- The VP, Finance and Assistant Treasurer is currently responsible for Accounts Payable, Cash Management, and Long-Term Forecasting. Accounts Payable is discussed in Chapter XV, Accounting and Property Records. Cash Management is discussed in Chapter XIV, Cash Management.

ENTERPRISE RISK MANAGEMENT

The VP, Risk Management, is responsible for Risk Management. The mission of SJI's Risk Management group is to promptly identify, measure, manage, report, and monitor risks that affect the achievement of SJI's strategic, operational, and financial objectives.

The VP, Risk Management, has five direct reports. Their titles and areas of functionality are:

- Manager, Security – Corporate security risks
- Senior Director, Environmental, Social, and Governance (SGC) and Risk – Environmental, social, and corporate governance risks
- Manager, Facilities – Facilities risks

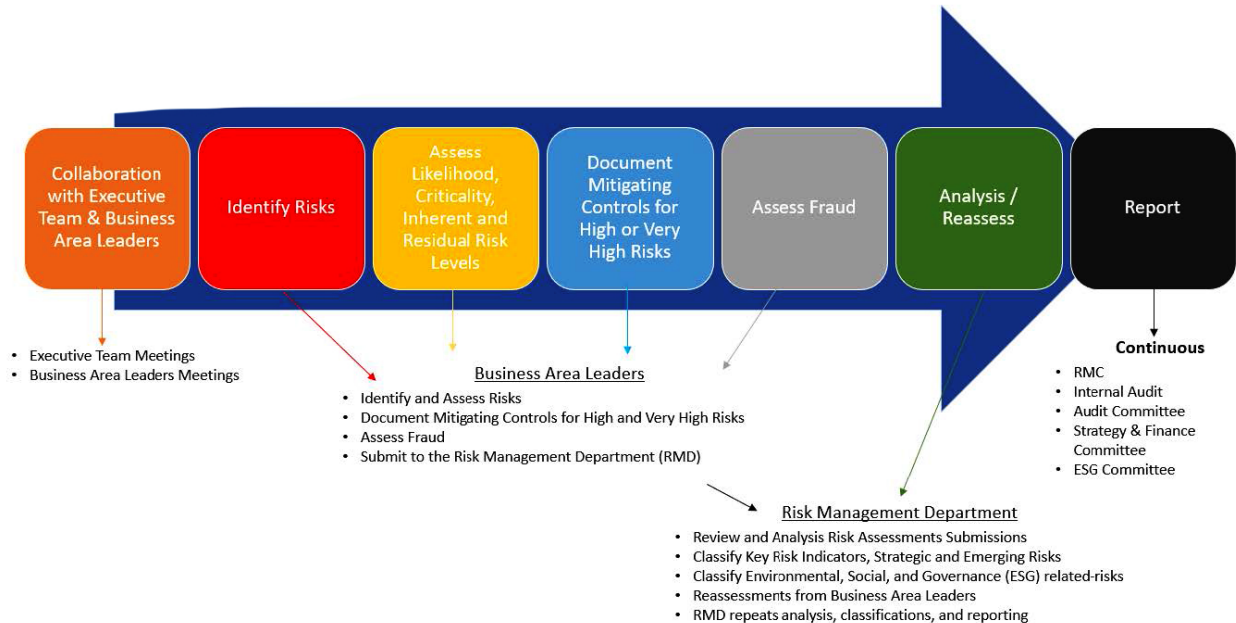
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- Director, Risk – Credit, market, and other financial risks
- Insurance Specialist Lead – Ensuring SJI is appropriately insured

The following is a graphical depiction of the Enterprise Risk Management process:

Enterprise Risk Management Process



An annual risk assessment is performed and used to determine risks and identify key risks. Company leadership is interviewed as part of this process. Key risks are identified through consideration of the likelihood and criticality of risk events occurring and the presence or absence of mitigating controls. Each business unit maintains a risk register which details all of the business unit's risks. Risk Management maintains a Key Risk Register that contains seven to ten key risks of each department. ETG was added into the process beginning with 2020.

The Key Risk Register is maintained in Excel. Twenty pieces of information are listed for each risk, starting with the business entity, function, and point of contact. The listing then goes on to document the type of risk and describe it, rate the likelihood and criticality before controls are in place, and then provides information about the mitigating control(s). The listing ends with information about the potential for fraud to occur.

Internal Audit performs an Enterprise Risk Management (ERM) Control Validation to ensure mitigating controls are in place. Controls that mitigate risks rated as high or very high risk are tested. Testing is performed to validate the controls are functioning as designed to mitigate the identified risks. Internal Audit tested 76 controls in 2020 and 2021. Internal Audit did not note any deficiencies and determined that the identified controls were being properly executed to mitigate the associated risks.

Additionally, input from Risk Management is used by Internal Audit in its development of the Annual Audit Plan.

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An ETG Risk Management Committee (RMC) is established and meets quarterly. The Committee consists of executive level representatives from ETG, SJI, and South Jersey Industries Utilities (SJIU). The Committee receives reports on gas supply hedging, secondary transactions, new gas supply service agreements and extensions, receivables and reserves, Federal Energy Regulatory Commission (FERC) compliance, exceptions to risk limit guidelines, and other matters.

AFFILIATE TRANSACTIONS

See Chapter III, Affiliate Relationships, and Chapter VI, Affiliate Cost Allocation Methodologies, for discussion of these subjects.

ETG did not provide any goods or services to SJI or affiliates. The table below provides the annual totals of goods and services, including pass-through amounts, provided to ETG by SJI and affiliates South Jersey Gas (SJG) and South Jersey Resources Group (SJRG) during the 2018 through 2021 time period.

**Affiliate Transactions Including Pass Through Amounts
2018–2021 (\$000)**

	2018 (Half Year)	2019	2020	2021
SJI	14,935	72,740	41,159	51,911
SJG	2,279	7,144	5,433	6,128
SJRG	51,220	46,359	97,018	148,953

FINANCING ACTIVITIES

ETG engages in short-term and long-term borrowing to meet its financial needs.

Short-Term Borrowing. All ETG's short-term borrowing needs are met through a five-year revolving credit agreement that ETG, SJI, and SJG entered into with a number of banks on September 1, 2021. In June 2018, an initial two-year credit agreement involving the ETG Acquisition Corporation, and the Elkton Acquisition Corporation was executed. Several extensions occurred, leading to the current agreement.

The borrowing limits of SJI, SJG, and ETG resulting from the current agreement are presented in the following exhibit.

Current Five-Year Revolving Credit Agreement Limits

Borrower	Initial Sublimit	Minimum Sublimit	Maximum Sublimit
ETG	\$250,000,00	\$200,000,000	\$300,000,000
SJG	\$250,000,00	\$200,000,000	\$300,000,000
SJI	\$500,000,00	\$400,000,000	\$600,000,000

Nine banks participate as lenders. In addition to their revolving credit commitments, five of the nine banks also made Letter of Credit Commitments. The nine participating banks and their commitments are presented in the following exhibit.

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Bank Participation in Current Five-Year Revolving Credit Agreement

Lender	Commitment	Commitment Percentage	L/C Commitment
Wells Fargo Bank, National Association	\$135,000,000	13.5%	\$10,000,000
JP Morgan Chase Bank, N.A.	\$135,000,000	13.5%	\$10,000,000
Bank of America, N.A.	\$135,000,000	13.5%	\$10,000,000
Citizens Bank, N.A.	\$135,000,000	13.5%	\$10,000,000
PNC Bank, National Association	\$135,000,000	13.5%	\$10,000,000
KeyBank National Association	\$87,500,000	8.75%	
TD Bank, N.A.	\$87,500,000	8.75%	
The Huntington National Bank	\$75,000,000	7.5%	
Manufacturers and Traders Trust	\$75,000,000	7.5%	
Aggregate Commitment	\$1,000,000,000	100%	\$50,000,000

The debt rating of each borrower establishes the interest rate to be charged to that borrower. A schedule of applicable interest rates, which is based on the borrower's credit rating, is shown in the following exhibit.

Interest Rate Margins Based on Credit Ratings

Pricing Level	S&P and Moody's Debt Rating	Applicable Base Rate Margin	Applicable Facility Fee Rate	Applicable LIBOR ¹ Margin and Applicable Letter of Credit Fee
I	≥ A / A2	0.000%	0.100%	0.900%
II	A- / A3	0.000%	0.125%	1.000%
III	BBB+ / Baa1	0.075%	0.175%	1.075%
IV	BBB / Baa2	0.275%	0.225%	1.275%
V	BBB- / Baa3	0.475%	0.275%	1.475%
VI	BB+ / Ba1	0.650%	0.350%	1.650%
VII	≤ BB / Ba2	1.050%	0.450%	2.050%
¹ London Inter-Bank Offered Rate				

Borrowing rates changed with each extension to the credit facility. The following table provides the history of rate changes at the BBB pricing level.

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Credit Facility Rate History at BBB Pricing Level

Agreement	Effective Date	Applicable Base Rate Margin	Applicable Facility Fee Rate	Applicable LIBOR ¹ Margin and Applicable Letter of Credit Fee
Initial Agreement	June 29, 2018	0.175%	0.200%	1.175%
2 nd Amendment	June 7, 2019	0.175%	0.200%	1.175%
3 rd Amendment	April 22, 2020	0.425%	0.375%	1.425%
4 th Amendment	April 26, 2021	0.300%	0.200%	1.300%
Current Agreement	Sept. 1, 2021	0.275%	0.225%	1.275%
¹ London Inter-Bank Offered Rate				

In 2020, the rates increased from 2019 but then receded slightly. During the period, the base rate margin never exceeded half a point.

Information on short-term debt was not available for the period prior to SJI's acquisition of ETG. ETG's beginning and ending of year outstanding short-term debt, as well as its high and low balances, are displayed in the chart below for the period 2018–2021.

ETG Credit Facility Balances 2018-2021

Balance	2018	2019	2020	2021
Start of Year	\$5,000,000	\$86,000,000	\$103,700,000	\$73,900,000
End of Year	\$86,000,000	\$103,700,000	\$73,900,000	\$83,00,000
Lowest Balance	\$5,000,000	\$68,000,000	\$45,000,000	\$0
Highest Balance	\$86,000,000	\$180,500,000	\$172,000,000	\$83,00,000

Long-Term Debt. The New Jersey Board of Public Utilities (NJBPUB) regulates the borrowing limit of ETG through the rate case process. ETG had outstanding debt of \$530 million at the time of acquisition in 2018. After the acquisition, the debt was extinguished and then re-financed. Additional First Mortgage Bond debt issuance occurred each year between 2019 and 2021.

The NJBPUB Financing Authorizations were:

➤ BPU DOCKET NO. GF18050512

This gave approval to issue \$800 million in long-term debt from July 2, 2018, through June 30, 2021, for the purposes of providing initial financing for ETG and for paying down other short-term balances which will be incurred by ETG in the ordinary operation of its business.

➤ BPU DOCKET NO. GF20120749

This gave approval to issue \$700 million in long-term debt from April 3, 2021, through December 31, 2023, for the purposes of retiring short-term debt, funding capital expenditure requirements, funding gas supply acquisitions, for other

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general corporate purposes, and, potentially, to redeem, refinance (without regard to and unaffected by the Financing Cap), or defease any or all of ETG's indebtedness or debt securities so long as such redemption, refinancing or defeasance is financially advantageous to Petitioner.

The following exhibit shows the amounts borrowed annually between 2018–2021.

Long Term Borrowing by Year 2018–2021 (\$000)

Year	Issuance Date(s)	Total Amount	Range of Rates	Year Due
2018	12/20/18	\$530,000	4.020% – 4.520%	2028–2058
2019	9/27/19 – 12/27/19	\$145,000	2.840% – 2.940%	2029–2031
2020	11/10/20	\$125,000	3.280% – 3.380%	2050–2060
2021	6/15/21	\$125,000	2.260% – 3.360%	2031–2051

As shown above, the rates during the four years varied from 2.26% to 4.52%. Rates varied by date of issuance.

The borrowing corresponded with an increase in investment activity when the post-acquisition years are compared to the pre-acquisition years. Investment activity increased significantly after the acquisition, as shown in the exhibits below.

Investment Activity and Resulting Gross Additions to Utility Plant 2009–2015 (\$000)

	2009	2010	2011	2012	2013	2014	2015
Net Cash Provided by (Used in) Investing Activities	(51,020)	(76,845)	(44,291)	(40,653)	(46,232)	(76,165)	(95,184)

Investment Activity 2016–2021 (\$000)

	2016	2017	2018	2019	2020	2021
Net Cash Provided by (Used in Investing Activities)	(120,559)	(161,910)	(69,688)	(221,861)	(210,452)	(224,014)

Investments before the acquisition had never been more than \$162 Million in a year. In the years after the acquisition year, investments were always more than \$200 Million annually.

Credit Rating. ETG is rated by Standard & Poor's (S&P) but not by Moody's. Rating reports were not available for the period prior to SJI's acquisition of ETG.

In September 2018, S&P assigned an A– debt rating to ETG's first-mortgage bonds. The rating was based on ETG's collateral coverage, which exceeded 1.5X, and reflected an expectation that there would be 100% recovery in the event of a payment default. The rating remained A– though August 5, 2021, the last rating given to ETG during the period of this audit. S&P concluded that replacement of cast-iron and low-pressure vintage main pipe and related services increased safety and reliability, thereby reducing the operating risk of the gas network. This, in turn, was seen as supporting ETG's credit quality.

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S&P assigned ETG a BBB credit rating in September 2018. The rating incorporated S&P's assessment that ETG is a core subsidiary of SJI and was reflective of the BBB rating given to SJI after its acquisition of ETG and Elkton Gas. SJI had been rated BBB+ prior to its acquisition of ETG and Elkton Gas but was downgraded to BBB because its financial risk profile was changed from significant to aggressive, as a result of the acquisition.

ETG's credit rating remained BBB through 2021. No activities of SJI or its affiliates, subsequent to the acquisition, adversely affected ETG's BBB credit rating. As of August 25, 2021, SJI and ETG were given a stable outlook that reflected S&P's expectation of improving financial measures, consistency in the projected mix of utility and nonutility businesses, and steady cash flow from the utilities. S&P also opined that SJI/ETG had sound relationships with banks, a generally satisfactory standing in the credit markets, and generally prudent risk management.

Interest Expense. No interest was paid to SJI by ETG. As part of the acquisition, existing debt was extinguished and refinanced through the issuance of bonds. The details of ETG's interest expense for the years 2009 through 2021 are provided in the two exhibits below.

Interest Expense 2009–2015 (\$000)

	2009	2010	2011	2012	2013	2014	2015
Interest on Long-Term Debt	2,342	2,311	2,274	2,327	1,737	1,558	1,608
Amort of Debt Disc. And Expenses	104	56	53	52	70	68	68
Amortization of Loss on Reacquired Debt	440	476	510	510	612	504	442
(Less) Amort. Of Premium on Debt-Credit	0	0	0	0	0	0	0
(Less) Amortization of Gain on Reacquired Debt-Credit	0	0	0	0	0	0	0
Interest on Debt to Assoc Companies	6,002	6,196	6,908	6,370	4,590	14,188	11,775
Other Interest Expense	1,512	1,433	2,780	2,956	1,084	541	1,174
(Less) Allow. For Borrowed Funds Used During Construction -CR	(100)	(277)	(138)	(310)	(670)	(432)	(185)
NET INTEREST CHARGES	10,299	10,194	12,386	11,905	7,422	16,426	14,882

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Interest Expense 2016–2021 (\$000)

	2016	2017	2018	2019	2020	2021
Interest on Long-Term Debt	2,027	2,666	10,011	23,495	27,184	33,645
Amort of Debt Disc. And Expenses	68	68	603	601	1,195	396
Amortization of Loss on Reacquired Debt	442	442	255	510	510	510
(Less) Amort. Of Premium on Debt-Credit	0	0	0	0	0	0
(Less) Amortization of Gain on Reacquired Debt-Credit	0	0	0	0	0	0
Interest on Debt to Assoc Companies	12,372	13,363	0	0	0	0
Other Interest Expense	231	(219)	83	4,294	2,325	769
(Less) Allow. For Borrowed Funds Used During Construction - CR	(208)	(360)	(441)	(1,542)	(1,217)	(1,165)
NET INTEREST CHARGES	14,932	15,960	10,512	27,358	29,997	34,155

Interest on long-term debt increased from less than \$3 Million annually prior to the acquisition to a high of over \$30 Million in 2021. However, after the acquisition, investments in plant increased and all interest on long-term debt was paid to bondholders and not the parent or affiliate companies.

Dividend Policy. SJI has established dividend policies for SJIU and SJI. The SJIU policy established the intent to achieve a dividend payout which approximates that of parent SJI while taking into consideration all of the applicable requirements relating to common equity balances of each regulated utility and adjusting dividends declared accordingly. The policy for SJI dividends is to gradually move the SJI dividend payout to a range between 55% and 65% and after achieving the midpoint of that range, grow dividends based on anticipated growth in economic earnings.

Dividends were routinely taken prior to the acquisition but have not been taken since the 2018 acquisition occurred, even though reported net income has increased. SJI made the business decision to use cash to accelerate replacement of aged assets rather than pay itself a dividend. The exhibits below present the relationship between net income and dividends from 2009 to 2021.

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Relationship Between Net Income and Dividends 2009–2015

	2009	2010	2011	2012	2013	2014	2015
Net Income (\$000)	19,323	26,233	29,548	28,534	32,326	22,096	31,048
Net Cash Flow (\$000)	0	0	1,992	0	0	0	0
Dividends (\$000)	16,808	18,264	22,095	23,198	23,242	24,897	24,001
Dividends as Percent of Net Income	87%	70%	75%	81%	72%	113%	77%

Relationship Between Net Income and Dividends 2016–2021

	2016	2017	2018	2019	2020	2021
Net Income (\$000)	22,213	33,089	(5,041)	34,243	47,733	50,742
Net Cash Flow (\$000)	0	0	459	8,157	(5,192)	(3,403)
Dividends (\$000)	23,493	25,229	0	0	0	0
Dividends as Percent of Net Income	106%	76%	N/A	N/A	N/A	N/A

Dividends had consistently been at least 70% of net income prior to the acquisition. Dividends then ceased after the acquisition occurred.

INCOME TAX ALLOCATION

The Director, Tax Accounting, who reports to the VP, Controller, is responsible for income tax preparation. PowerTax software is used to perform tax calculations and One Source software is used to calculate corporate tax estimates.

The process for allocating income tax liability has been formalized and documented in SJI's "Procedures for Calculation and Allocation of Current Federal Income Tax Liability." The procedure establishes that generally the Federal Income Tax for the individual member of the group is calculated on the taxable income in the same manner as if the member filed a separate return, with the following exceptions:

- The tax liability is based on the consolidated tax rate and each subsidiary's liability is calculated at that rate.
- A negative Federal income tax liability is calculated for members sustaining losses. The negative tax is treated as a tax credit for the member generating such negative tax and is not used to reduce the tax expense or liability of any other member of the group. The tax credit is based on the consolidated regular tax rate or the consolidated alternative minimum tax (AMT) rate, whichever is applicable for the particular tax year (until 2018 when the Tax Cuts and Jobs Act repealed the AMT on corporations).
- The minimum tax paid in one year may be carried forward (not carried back) indefinitely against regular tax liability. It cannot be used to offset any future minimum tax liability. The carry-forward credit will be allocated on a first in first out (FIFO) basis until the credit has been fully utilized.

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- The amount of credits generated by the individual members, limited in proportion to the total credit available in consolidation, is used to reduce their own Federal Income Tax in arriving at the final tax liability for the taxable year.
- A member would be entitled to any deduction or credit generated for the taxable year, providing these deductions and credits meet the consolidated limitations, regardless of the limitations imposed under a separate return basis. If a member generated credits that exceeded the consolidated limitations, these deductions and credits would be carried back and/or forward to other taxable years, within the provisions of the Internal Revenue Code.

SJI's consolidated federal income and the amount of that charged to ETG for the 2018–2021 period is provided in the exhibit below.

Form 1120, U.S. Corporation Income Tax Return, 2018–2021 (\$)

Taxable Income/(Loss)	2018	2019	2020	2021
ETG	(94,201,697)	(91,016,424)	(82,863,566)	(112,740,511)
SJG	29,469,426	51,280,728	84,234,005	69,019,380
SJI, Inc.	258,415,633	(30,906,697)	(48,985,150)	(25,087,045)
Elkton Gas Co.	(529,541)	(758,414)	1,077,149	N/A
EnerConnex, LLC	N/A	N/A	608,308	2,037,665
South Jersey Fuel, Inc	(316,041)	(358,443)	(308,056)	(825,823)
South Jersey Energy Co.	2,352,049	1,023,677	(1,810,718)	920,893
Energy & Minerals, Inc.	(234,197)	(546,380)	(150,600)	(174,457)
R&T Group, Inc.	580	(75,377)	(48,314)	(60,232)
S J Enertrade	21,806	(1,515)	(1,533)	548
SJI Utilities, Inc.	-	385,876	542,095	598,534
Total Taxable Income/(Loss) – Line 28	194,978,018	(70,972,969)	(47,706,380)	(66,311,048)
Net operating loss deduction – Line 29a	(194,977,403)			
Special deductions – DRD – Line 29b	(615)	(369)	(732)	(612)
Taxable Income/(Loss) – Line 30	-	(70,973,338)	(47,707,112)	(66,311,660)

ETG did not incur any income tax as neither ETG nor SJI had taxable income for the 2018–2021 period.

There are seven key and 13 non-key Tax Reporting Sarbanes-Oxley Act (SOX) controls embedded in the process. The seven key controls are provided in the exhibit below.

Tax Reporting Key Controls

Control	Frequency
Vice President / Controller and Vice President Accounting & Chief Risk Officer (or above) sign off on the Investment Tax Credit memo as evidence of review and approval.	Annually
The Senior Tax Accountant / Tax Lead prepares a Return to Provision (RTP) analysis based on the balances within the Corporate Tax Provision and Corporate Tax Return.	Annually

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Control	Frequency
The Senior Tax Accountant / Tax Lead also updates the cumulative deferred rollforward to verify that the adjusted beginning balances agree to the Corporate Tax Return. The Director of Tax reviews the RTP analysis by verifying that the amounts agree to supporting documentation (Corporate Tax Return and Corporate Tax Provision), formulas are accurate, and that RTP adjustments included in the deferred rollforward are accurate. The Director of Tax evidences their review within the RTP reconciliation via electronic sign-off.	
The Senior Tax Accountant / Tax Lead prepares the calculation of the deferred tax position (including rollforward), valuation allowance, and any respective adjustments within the tax package. The Director of Tax performs a review of the net Deferred Tax Position calculation to verify the accuracy of the beginning balances, including opening balance sheet purchase price agreements, formulas, as well as the appropriateness of any adjustments. The Director of Tax evidences review within the tax package electronic sign-off. As applicable, if there is any need to establish a valuation allowance, it is reviewed and discussed with the Vice President & Controller. SJI-TR-015 Quarterly, the Director of Tax reviews the Corporate Tax Footnote and Financial Statements to be included within the company's quarterly/annual filing. As part of this review, the Director of Tax verifies the following: (a) Accuracy of financial statement information based on supporting documentation reviewed. (b) Accuracy and appropriateness of tax assumptions included within the footnote. Evidence of review sign-off on the footnote by the Director of Tax. The Director of Tax forwards the Vice President & Controller the Tax Work Paper memo and support. The Vice President / Controller signs off on the Tax Work Paper Memo as evidence of review and approval of the tax work papers and disclosures.	Quarterly
The Senior Tax Accountant / Tax Lead completes the FIN48 schedule, within the tax package, to identify any uncertain tax positions and/or provide updates (changes to principal, interest, or penalties) for existing UTPs. The Director of Tax and Vice President & Controller review the FIN48 schedule to verify the completeness and accuracy of UTPs, accuracy of formulas and mathematical configurations, and appropriateness of reserve based on business knowledge. Evidence of review is maintained via electronic sign-off.	Quarterly
The Senior Tax Accountant / Tax Lead prepares an Effective Tax Rate Reconciliation within the tax package, including pre-tax income/(loss) on US GAAP financial statements, tax at the US federal rate, and any necessary adjustments to arrive at the ETR. The Director of Tax reviews the ETR reconciliation by verifying the pre-tax book income, appropriateness of adjustments, and the accuracy of formulas used within the reconciliation. For items with a variance greater than 5% from the prior period, the Director of Tax performs an additional inquiry to verify the accuracy of such adjustments. The Director of Tax evidences review via electronic sign-off.	Quarterly
The Director of Tax reviews the Income Tax Payable Rollforward to verify completeness and accuracy of liability. As part of this review, the Director of Tax verifies the following: a) Accuracy of beginning balance based on prior quarter financial statements. b) Accuracy of mathematical configurations and formulas utilized within the analysis. c) Appropriateness of activity within the current quarter based on supporting documentation. Evidence of review is maintained by the Director of Tax via electronic sign-off.	Quarterly

The external auditor, Deloitte, provides tax compliance, repair, and consulting work. The amount paid annually to Deloitte, and the amount and percentage allocated to ETG, are presented in the exhibit below.

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Payments to External Audit Firm for Tax Work 2018–2021

	2018	2019	2020	2021
Total Amount Paid	\$525,415	\$250,562	\$263,808	\$435,884
Amount Allocated to ETG	N/A	\$78,449	\$93,140	\$73,861
Percent Allocated to ETG	N/A	31%	35%	17%

The allocation of tax work expenses among SJI, ETG, and affiliates are based on invoices submitted by Deloitte, the external audit firm. The Deloitte invoices detail the amount to be allocated to each company.

INTERNAL AUDIT

Functionally, the Sr. Director of Internal Audit reports to the Audit Committee, which is comprised of the independent members of the SJI Board of Directors. The SJI Internal Audit Charter establishes this reporting arrangement, and the Audit Committee Charter likewise documents that the head of Internal Audit shall report directly to the Committee.

Administratively, the Internal Audit function had been part of the Finance Department, reporting directly to the SVP & CFO. In November 2022, the function was placed under the oversight of the SVP and General Counsel (General Counsel) as part of a reorganization.

The Sr. Director of Internal Audit is supported by an Audit Manager and three staff Senior Auditors. Additionally, the services of an Information Technology (IT) Auditor are obtained through a staff augmentation contract with an audit and consulting firm. The IT Auditor works at the direction of and under the supervision of the SJI Audit Group.

The following exhibit provides the licenses and certifications held by audit staff as of February 2023.

Audit Staff Certifications

Position	Certification(s)
Sr. Director	Certified Public Accountant (CPA) Certified Internal Auditor (CIA) Certified Fraud Examiner (CFE)
Manager	Certified Internal Auditor (CIA)
IT Audit Senior (co-sourced)	Certified Information Systems Auditor (CISA)
Internal Audit Senior	In progress towards CIA certification. One of three exam sections completed
Internal Audit Senior	No license or certification
Internal Audit Senior	No license or certification

Audits are performed in accordance with standards established by the Institute of Internal Auditors (IIA). The standards include the requirement that the audit function undergo an external quality assessment review (QAR), often referred to as a peer review, once every five years. The objectives of a QAR are to:

- Assess the audit function's conformance with IIA Standards

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- Assess the effectiveness of the audit function within the context of the function's charter and stakeholder expectations
- Provide counsel to the audit function on improvement opportunities and/or emerging practices

The SJI audit function was last peer reviewed in 2021. The peer review was performed by Protiviti, a firm that provides risk and business consulting and internal audit services. Protiviti found that SJI's audit function "Generally Conforms to the IIA Standards." "Generally, Conforms" is the highest rating available.

Audit Committee. The Audit Committee meets quarterly. The meetings are attended by the Sr. Director of Internal Auditing, the external audit firm, the SVP & CFO, the General Counsel, and Risk Management. Standing agenda items include updates on the progress towards completion of the annual audit plan, results of SOX testing performed that quarter, and reporting on the status of previously identified deficiencies.

In executive session, the Committee meets with the Sr. Director of Internal Auditing to discuss any matter either party believes should be discussed privately. Additionally, the Sr. Director of Internal Auditing meets monthly with the Chairperson of the Audit Committee.

Annual Audit Plan. As required by IIA Standards, the internal audit function prepares an annual audit plan. The plan is reviewed and approved by the Audit Committee.

The plan includes a mix of Sarbanes-Oxley (SOX) control testing and other audits. About 40–45% of Internal Audit's time is spent on SOX control testing. Controls are tested on a rotating basis so that each quarter a different subset of controls are tested.

Audits are routinely performed to test compliance with FERC regulations, to ensure controls are in place during the implementation of new software systems, and to review rate changes and economic earnings. The remaining time is spent auditing topics that are selected based on a risk assessment process. The process includes the solicitation of input from the Risk Management function and from senior management.

The number of reports issued by year, which includes reports communicating the results of quarterly SOX testing, are presented in the exhibit below.

Internal Audit Reports Issued by Year

Year	2018	2019	2020	2021
Reports	66	66	51	50

INVESTOR RELATIONS

SJI had an Investor Relations group that had been managed by a Vice President, Investor Relations, reporting to the SVP & CFO. Responsibilities had focused on communicating with analysts and investors and on ensuring compliance with requirements pertaining to information and communication. Duties included providing weekly updates to senior management of information relating to the company stock and industry news, providing quarterly reports to the Strategy and Finance Committees, preparing the presentation to be provided during the quarterly earnings call, and giving conference presentations.

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The group name and focus changed as a result of the 2023 acquisition which transitioned SJI from a publicly held company to a privately held company. Investor Relations became Stakeholder Relations. Communications and presentations are now focused on debt issuers rather than investors.

The Vice President retained his position with a title change to VP, Stakeholder Relations. He now reports to the Senior Vice President, Human Resources. In addition to his communication responsibilities, he also chairs the Trust Committee, which oversees pension and 401K investments.

The VP, Stakeholder Relations oversees three direct reports. One is responsible for regulatory filings regarding retirement benefits. The second administers the executive compensation program. The third is responsible for standard top-down internal communications with the organization's 1,200 employees.

B. FINDINGS

XIII-1 No adverse effects resulted from the financing of ETG, SJI, or affiliates.

ETG's financing activities were separate from those of SJI and its affiliates. ETG does not participate in a money pool with SJI or its affiliates. For short-term borrowing, ETG participates in a credit facility with SJI and SJG. Separate borrowing limits were established for each entity and interest rates are specific to each entity, based on that entity's credit rating. First-mortgage bonds were issued for long-term borrowing purposes.

ETG paid reasonable rates of interest during the 2018–2021 period. During this period, ETG's short-term borrowing rates were highest during the period April 2020 to April 2021. During that one-year period, the applicable base rate margin was 0.425%, the applicable facility fee rate 0.375%, and the applicable LIBOR margin and letter of credit fee was 1.425%.

Interest rates on long-term debt varied during the 2018–2021 period from a low of 2.260% to a high of 4.452%. The rates were consistent with interest rate trends during that time.

XIII-2 Affiliate interrelationships between ETG and its affiliates have not adversely affected the financial performance of ETG.

ETG's finances were kept separate from those of its affiliates during the 2018–2021 period. There was no cash pool, and credit facility borrowing was segregated. Cashflow was reinvested into ETG, and no dividends were paid to SJI.

The tables below present financial and customer trends for the 2009–2021 period.

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ETG Financial and Customer Trends 2009–2015
(\$000 except Customers)

	2009 ¹	2010	2011	2012	2013	2014	2015
Net Utility Operating Income	29,390	36,019	41,123	40,185	38,671	37,860	46,297
Net Income (Loss)	19,323	26,233	29,548	28,534	32,326	22,096	31,048
Net Utility Plant	630,795	682,537	705,705	727,332	753,836	808,551	880,082
Total Assets and Other Debits	868,238	954,475	1,028,540	1,022,374	1,074,795	1,053,578	1,064,880
Total Customers	273,622	275,371	276,609	278,088	280,392	282,301	284,536
Operating Revenue per Customer	107	131	149	145	138	134	163

¹ Ending date for all years is December 31.

ETG Financial and Customer Trends 2016 – 2021
(\$000 except Customers and Ratio)

	2016	2017	2018	2019	2020	2021
Net Utility Operating Income	38,200	49,965	5,165	60,976	77,461	75,922
Net Income (Loss)	22,213	33,089	(5,041)	34,243	47,733	50,742
Net Utility Plant	979,525	1,113,362	1,839,461	2,129,133	1,570,634	1,750,655
Total Assets and Other Debits	1,178,132	1,388,587	2,157,039	2,512,516	2,682,151	2,788,470
Total Customers	286,904	291,504	293,672	297,191	301,613	304,314
Operating Revenue per Customer	133	171	18	205	257	249

Net operating revenue and operating revenue per customer consistently followed an upward trend from 2009 to 2021. ETG net operating revenues increased 158% during the 2009 through 2021 time period, from about \$29 Million to about \$76 Million. Most growth occurred after the 2018 acquisition. In 2009, net operating revenue was about \$29 Million and in 2017 it was about \$50 Million. By 2021 it was over \$75 Million. Compounded annually, the growth rate was 8.23%. Prior to acquisition (2009 through 2017) it had been 6.86%. Excluding the year of acquisition, from 2019 through 2021 the compound annual growth rate was 11.58%.

Operating revenue per customer followed a similar trend line. Overall, it grew 132% during the 2009 through 2021 period. The compound annual growth rate was 7.28% for the entire period and 10.27% during the post-acquisition period of 2019 through 2021.

During the 2009 through 2021 period, the net value of the utility plant increased at a slightly higher rate than net operating revenues, 178% as compared to 158%. The plant was valued at just over \$630 Million in 2009 and was valued at \$1.75 Billion in 2021.

During the three full years SJI owned ETG (2019–2021), ETG's net income rose 48%. During the same three years, charges for goods and services provided to ETG from its

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affiliates rose 64%. The table below provides the allocation of affiliate charges by affiliate for the 2018 through 2021 period.

Allocation of Affiliate Charges by Affiliate 2018–2021

	2018	2019	2020	2021
SJI	22%	58%	29%	25%
SJG	3%	6%	4%	3%
SJRG	75%	37%	68%	72%

Except for 2019, the percentage of affiliate transactions attributable to each affiliate remained relatively constant. Gas supply accounted for more than two-thirds of the annual amount in each year except 2019.

It does not appear that the interrelationships between ETG and its affiliates hampered the financial performance of ETG.

XIII-3 SJI's financing activities did not impact ETG's creditworthiness as it pertained to short-term borrowing.

SJI's financing activities did not impact ETG's credit worthiness as it pertains to ETG's long-term debt, which was secured through the issuance of first-mortgage bonds. ETG maintained an A– debt rating from the time of acquisition by SJI through the end of the audit period. The debt rating is based primarily on ETG's asset value and the resulting expectation that 100% recovery could be achieved in the event of a payment default.

ETG's general credit rating remained BBB from 2018 through 2021. The BBB rating is a group rating assigned to SJI and all affiliates. The credit rating is used to determine credit facility borrowing rates. It is uncertain what credit rating would have been assigned to ETG if it had been a stand-alone business during that period as multiple factors are used in the rating process. Moreover, it is unknown whether ETG would have been offered the same credit facility borrowing rates as a stand-alone business that were offered to the combined pool involving ETG, SJI, and SJG.

XIII-4 No real or perceived encumbrances or negative effects from business diversification impacted ETG.

ETG's utility assets were and are pledged as collateral in conjunction with first mortgage bonds issued to finance ETG's long-term debt.

As established in the First Mortgage Indenture:

...the Company hereby grants, bargains, sells, conveys, assigns, transfers, mortgages, pledges, sets over and confirms to the Trustee, and grants to the Trustee a security interest in, all property, rights, privileges and franchises of the Company of every kind and description, real, personal or mixed, tangible or intangible, whether now owned or hereafter acquired by the Company, wherever located, except for any Excepted Property,...

Listed as included property were:

All gas generating plants, gas storage plants and gas manufacturing plants of the Company, all the buildings, structures, generating and purifying apparatus,

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holders, engines, boilers, benches, tanks, instruments, appliances, apparatuses, facilities, machinery, fixtures, and all other property used or provided for use in the generation, manufacturing and purifying of gas, together with the land on which the same are situated, in each case that is owned by the Company, and all other lands and easements, rights-of-way, permits, privileges, and sites forming a part of such plants or any of them or occupied, enjoyed or used in connection therewith, in each case located in the Service Territory and owned by the Company or to the extent of the Company's rights therein. All gas distribution or gas transmission systems of the Company, all buildings, structures, generating and purifying apparatus, holders, engines, boilers, benches, tanks, pipe lines, connections, service pipes, meters, conduits, tools, instruments, appliances, apparatus, facilities, machinery, fixtures, and all other property used or provided for use in the construction, maintenance, repair or operations of such distribution or transmission systems, together with all the certificates, rights, privileges, rights-of-way, franchises, licenses, easements, grants, liberties, immunities, permits of the Company, howsoever conferred or acquired, under, over, or upon any private property or any public streets or highways within as well as without the corporate limits of any municipal corporation, in each case located in or with respect to the Service Territory and owned by the Company or to the extent of the Company's rights therein

XIII-5 SJI's investment decisions have not negatively impacted ETG.

No dividends have been taken by SJI. SJI has reinvested all ETG net income back into ETG's physical infrastructure. By comparison, prior to the acquisition, at least 70 percent of ETG net income had been used to pay dividends.

The table below presents ETG's annual net cash flow:

ETG Net Cash Flow Provided by (Used in) Investing Activities

Year	Net Cash Flow Provided by (Used in) Investing Activities
2009	(51,020)
2010	(76,845)
2011	(44,291)
2012	(40,653)
2013	(46,232)
2014	(76,165)
2015	(95,184)
2016	(120,559)
2017	(161,910)
2018	(69,688)
2019	(221,861)
2020	(210,452)
2021	(224,014)

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Use of cash flow for the purpose of investing in plant increased subsequent to the acquisition.

XIII-6 SJl's method for determining and allocating consolidated income taxes is fair.

Each SJl entity has its federal income tax calculated in the same manner as if it were filing a separate return, with certain exceptions relating to losses and credits. The exceptions do not benefit SJl at the expense of ETG or other affiliates. The exceptions exist so the individual company retains the benefit of any tax credits or negative income tax liability.

XIII-7 ETG was not allocated any federal income tax expense in 2018–2021.

ETG had a taxable loss for the 2018–2021 period. SJl, SJlU, and affiliates had both taxable income and taxable losses, but when consolidated, a loss was reported by SJl 2019-2021. In 2018, taxable income was generated with utilization of a net operating loss.

XIII-8 Internal Audit operations conform to industry standards.

The Director, Internal Audit, reports administratively to the General Counsel but functionally to the Audit Committee. It is common for the head of the audit function to report administratively to a company employee and functionally to an Audit Committee. The Director, Internal Audit, has an open line of communication and appears to operate independent of management. The Internal Audit program is directed and managed by individuals with the appropriate industry certifications and experience. The program conducts a mixture of SOX testing and risk-based auditing. Policies and practices conform to industry standards.

XIII-9 External quality assessment reviews of Internal Audit are performed by a firm with an existing relationship with Internal Audit.

Protiviti conducted Internal Audit's last external quality assessment review (QAR). The QAR is performed using a standardized methodology based on the Institute of Internal Auditors Professional Practices Framework. Protiviti also provides staff augmentation to SJl Internal Audit. A Protiviti employee serves as a loaned IT auditor and works at the direction and under the complete supervision of the SJl Audit Team. The QAR and staff augmentation services are provided by distinct team and service groups, Protiviti QAR and Protiviti Co-Source.

C. RECOMMENDATION

XIII-1 SJl should contract for QAR services with an organization that has no other relationship with SJl. (See Finding XIII-9)

For matters of perception, SJl should seek to obtain QAR services from an organization that has no other relationship with SJl. The objectivity of the QAR may be questioned by the existence of other relationships between SJl and the organization performing the QAR.

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XIV. Cash Management

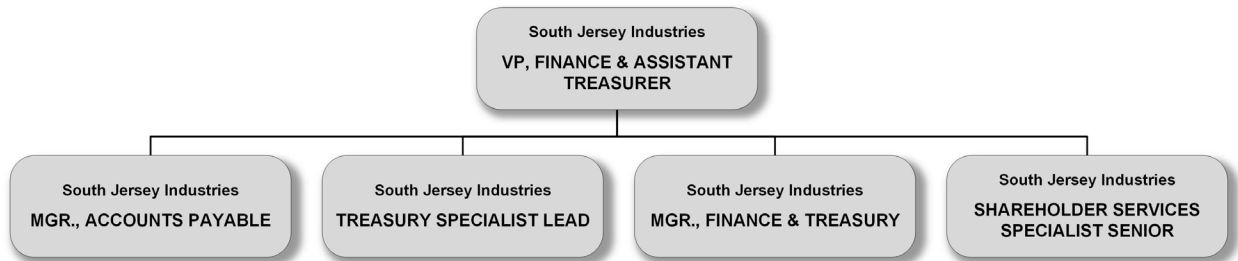
XIV. CASH MANAGEMENT

A. BACKGROUND

ORGANIZATION

The cash management functions of Elizabethtown Gas Company (ETG) are the responsibility of the Treasury and Accounts Payable Department under the control of the Vice President, Finance / Assistant Treasurer (VP, Finance/Assistant Treasurer), who reports directly to the Senior Vice President and Chief Financial Officer (SVP/CFO). This Treasury organization is shown below:

Treasury and Accounts Payable Organization Chart



CASH MANAGEMENT

ETG's finances are managed through the use of two banks that together include three accounts and also by use of a short-term revolving credit agreement (credit facility). The three accounts are:

- Citizens Bank – Lockbox and Cash Receipts Account
- Wells Fargo – Disbursements Account
- Wells Fargo – Operating Account

Customer receipts are transferred nightly from the lockbox to the operating account, which operates as the primary account. Funds are transferred from the operating to the disbursement account in coordination with accounts payable batch payments.

At the time of the acquisition, the prior owner of ETG had also been using three accounts for cash management. Those accounts were closed in conjunction with the acquisition and replaced by SJI with the accounts listed above.

CASHFLOW FORECASTING

On a daily basis, Treasury monitors ETG's cash position, analyzes the cash needs of the company, and determines whether to increase or decrease short-term debt. The Treasury Specialist Lead does this by reviewing the Schedule of Short-Term Debt and the Cash Positions Worksheet. A Daily Cash Management Package (DCMP) is then prepared to determine if more cash is needed or whether the existing balance can be paid down. As a control activity, each day's DCMP will be reviewed by month end.

Various monthly and quarterly reviews occur as part of the control system. These include the following:

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- Monthly, the Accounting Manager reviews and approves the Interest Accrued and Interest Paid Schedules.
- Monthly, the VP, Finance/Assistant Treasurer reviews and approves the Reconciliation of Short-Term Debt.
- Monthly, the VP, Finance/Assistant Treasurer reviews and approves the Cash Flow Forecast.

Cash flows for ETG, dividends payments to the ETG parent company, and retained earnings are presented in the two exhibits below.

Cash Flows and Financial Results 2009–2014 (\$000)

Cash Flow	2009	2010	2011	2012	2013	2014
From Operating Activities	131,737	43,959	71,129	59,531	70,252	142,033
From Investing Activities	(51,020)	(76,845)	(44,291)	(40,653)	(46,232)	(76,165)
From Financing Activities	(80,716)	32,886	(24,846)	(18,877)	(24,020)	(65,867)
Net Cash Flow	-	-	1,992	-	-	-
Dividends Paid	16,808	18,264	22,095	23,198	23,242	24,897

Cash Flows and Financial Results 2015–2021 (\$000)

	2015	2016	2017	2018	2019	2020	2021
From Operating Activities	108,980	20,038	251,856	(10,011)	69,075	112,404	89,041
From Investing Activities	(95,184)	(120,559)	(161,910)	(69,688)	(221,861)	(209,235)	(224,112)
From Financing Activities	(13,795)	100,521	136,724	80,159	160,942	92,857	131,668
Net Cash Flow	-	-	-	459	8,157	(5,192)	(3,403)
Dividends Paid	24,001	23,493	25,229	-	-	-	-

Except for 2011, Net Cash Flow was zero between 2009 and 2014. During these years, any positive cash flow was offset through conversion of equity to debt and by payment of dividends.

As shown above, financial activity has been different since SJI acquired ETG. SJI has not taken any dividends. SJI has reinvested cash generated from operations into the replacement of aged assets.

DEPRECIATION

Annual depreciation, depletion, and amortization are shown in the table below.

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XIV. Cash Management

Depreciation and Depletion 2009–2014 (\$000)

	2009	2010	2011	2012	2013	2014
Depreciation and Depletion	22,848	18,732	20,399	20,923	21,404	23,257
Amortization	0	0	0	0	0	0
Total: Depreciation, Depletion, and Amortization	22,848	18,732	20,399	20,923	21,404	23,257

	2015	2016	2017	2018	2019	2020	2021
Depreciation and Depletion	24,159	25,444	28,016	12,977	28,450	40,300	45,399
Amortization	0	0	0	603	601	17,667	25,244
Total: Depreciation, Depletion, and Amortization	24,159	25,444	28,016	13,580	29,051	57,967	70,643

Depreciation remained relatively stable during the years prior to the acquisition, ranging from \$18.7 million to \$28.0 million. After the acquisition, annual depreciation increased annually to a high of \$45.4 million in 2021. With the post-acquisition amortization, the total depreciation, depletion, and amortization ranged from \$22.8 million in 2009 to \$70.6 million in 2021.

WRITE-OFFS

New customers with no established payment history with ETG, or with a history that is impaired, are assessed deposits to mitigate against the risk of non-payment. The deposit amount is equal to two times the average monthly bill for established premises. If the service address lacks an established history, the recommended deposit amounts are \$100 for residential customers, \$500 for commercial customers, and \$1,500 for industrial customers. Deposits are returned, with interest, to residential customers once the account has been paid current, in full, and on time for 12 consecutive months. For commercial customers, the period is 24 months.

Write-off occurs after the account has been inactive for 86 days. A customer account becomes “inactive” once the account has been stopped (i.e., where service is disconnected or where the customer requests cessation of service) or final billed within the Customer Care and Billing (CC&B) system. The Accounting Department prepares a journal entry to record the write-off. Recording the write-off at the 86-day mark is a practice that was established before SJI’s acquisition of ETG and has been continued by SJI.

ETG contracts with a collection agency to pursue collections activities for customers that are inactive and written-off. The amounts written off and sent to collections and the amounts recovered through collection agency activities are shown in the exhibit below for the years 2018–2021.

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XIV. Cash Management

Recovery Efforts 2018–2021 (\$000)

Company	2018 ¹	2019	2020	2021
System Write Offs	3,067	3,445	2,465	3,894
Recoveries	646	779	654	638
Net Write Offs	2,421	2,666	1,811	3,257
Net Write Off as Percent of System Write Offs	79%	77%	73%	84%
¹ All years ended December 31				

The collection agency recovery activities recoup approximately 20% of the total write-offs.

Net write-offs equaled about one percent of sales for the years following the year of acquisition. Sales and write-off data are presented in the exhibit below.

Write-Offs as a Percent of Sales (\$000)

Company	2018 (post-acquisition) ¹	2019	2020	2021	Total 4 Years
Write-offs (Net Charge Offs)	2,421	2,666	1,811	3,257	10,155
Sales	102,178	278,413	302,890	308,711	992,192
Write-off Percent	2.4%	1.0%	0.6%	1.1%	1.0%
¹ All years ended December 31					

CAPITAL STRUCTURE

ETG had outstanding debt of \$530M at the time of acquisition in 2018. That debt was extinguished and refinanced in the same year.

Short-term debt consists of funds made available through a revolving credit agreement. See Chapter XIII, Finance, for a discussion of short-term debt.

ETG defines its capital structure as being comprised of the sum of its equity and long-term (LT) debt. Short-term debt is limited to ETG's credit facility. Equity and long-term debt for 2018–2021 are presented in the exhibit below.

ETG Capital Structure 2018–2021 (\$ million)

ETG	2018 ¹	2019	2020	2021
Equity	1,194	1,213	1,260	1,311
LT Debt	524	668	792	918
Total	1,718	1,881	2,053	2,229
¹ All years ended December 31. Totals may not equal sum of entries due to rounding				

Equity remained stable during the period, ranging from just under \$1.2 Billion to just above \$1.3 Billion. Equity is 100% owned by SJL. During the same period, long-term debt almost doubled. Long-term debt consists of First Mortgage Bonds issued between 2018–2021.

REDACTED

XIV. Cash Management

COST OF CAPITAL

ETG's cost of debt (weighted interest rate cost for the short-term credit facility and the weighted interest rates for the long-term debt issues) for 2018 through 2021, as well as the cost of capital after adjusting the debt costs for tax effects, is shown in the following table. Data is not available for the years prior to the acquisition of ETG in 2018.

Cost of Capital 2018–2021

Description	2018 ¹	2019	2020	2021
Short-term Debt (\$000)	86,000	103,700	73,900	83,000
Weighted Cost	3.613%	2.802%	1.925%	1.385%
Long-term Debt (\$000)	530,000	675,000	800,000	925,000
Weighted Cost	4.320%	4.012%	3.904%	3.764%
Total Debt (\$000)	616,000	778,700	873,900	1,008,000
Weighted Debt Cost	4.2210%	3.8510%	3.7370%	3.568 %
Federal Income Tax (FIT) %	21%	21%	21%	21%
Cost of Capital (1-FIT%) X Weighted Debt Cost	3.3346%	3.0423%	2.9522%	2.8188 %
¹ All years ended December 31				

ETG's cost of capital is comprised of the relative cost of debt after income tax considerations. The corporate federal income tax rate remained constant at 21% for the four-year period.

The weighted cost of ETG's short-term debt decreased annually during the four year period from a high of 3.613% in 2018 to a low of 1.385% in 2021. The weighted cost of ETG's long-term debt also decreased annually during the four-year period, from a high of 4.320% in 2018 to a low of 3.764% in 2021.

B. FINDINGS

XIV-1 The cash forecasting process is reasonable and provides a reasonable basis for estimating financial needs and managing debt.

Capital and operating needs are determined annually as part of the budget process as well as ongoing daily and monthly bases. Cash needs are analyzed daily for the purpose of minimizing short-term borrowing. Cash flow forecasts are prepared, reviewed, and updated (as needed) and approved monthly. Short term interest accrued and paid is monitored monthly, and long-term debt is monitored quarterly, with borrowing and monitoring activities appropriately segregated.

XIV-2 ETG cash is not intermingled with SJI and affiliate cash.

Separate bank accounts have been established for ETG. Customer payments are received into an ETG lockbox account and then transferred into ETG's operating account. Funds are transferred from ETG's operating account to its disbursement account. Funds never transfer through or sit in an SJI account. While a shared credit facility serves the needs of SJI, SJG, and ETG, each company's borrowing is kept separate.

REDACTED

XIV. Cash Management

XIV-3 Funds generated from depreciation have not been used for non-utility purposes since the acquisition. Information is not available for the period prior to the acquisition.

Depreciation and amortization have increased from \$13,580 in 2018 to \$70,643 in 2021. During this period, neither SJI nor ETG generated taxable income and no dividends were paid to SJI.

XIV-4 Neither SJI nor its affiliates have made use of ETG's generated income.

All ETG income has flowed back into ETG. Cash generated by ETG has been used to replace aged assets. ETG generated positive cash flow from operations in 2019–2021 but investments into property, plant, and equipment exceeded the cash flow generated by operations.

XIV-5 There has been no quantified or potential impact of write-offs by ETG, SJI, and their affiliates on ETG.

ETG's write-off amount of approximately one percent of sales in 2019–2021 compares favorably to that of other utilities. A 2019 McKinley article indicated that, at that point in time, write offs had risen to up to two percent across Europe and North America and that bad debt of five to seven percent was not unusual. The National Governors Association reported that electric and gas utilities had arrearages of \$32 billion at the end of 2020, with as many as 20% of households behind on utility payments. The same report remarked that in New York State arrears for electricity and natural gas customers doubled between March 2020 and July 2021.

XIV-6 Diversifying activities have not had an effect on ETG's cost of capital.

ETG's cost of capital is calculated using its cost of long-term and short-term debt. Long-term debt was secured through use of first mortgage bonds. S&P Global assigned an A-rating to ETG's first mortgage bonds with a 1+ recovery rating. Short-term debt borrowing rates were determined by ETG's overall credit rating, which was tied to SJI's credit rating and resulted in a 'BBB' rating. ETG may have received a minimally better rating as a stand-alone organization, but it is unlikely that the difference would have made anything more than a minor impact on ETG's cost of capital.

XIV-7 ETG's cost of capital appeared reasonable for the 2018–2021 period. Information was not available for prior years.

The cost of capital was in the 3–3.5% range for 2018–2021. Insulation was achieved by use of First Mortgage Bonds. Interest rates paid by ETG during this period were consistent with general economic trends.

C. RECOMMENDATIONS

None.

XV. ACCOUNTING AND PROPERTY RECORDS

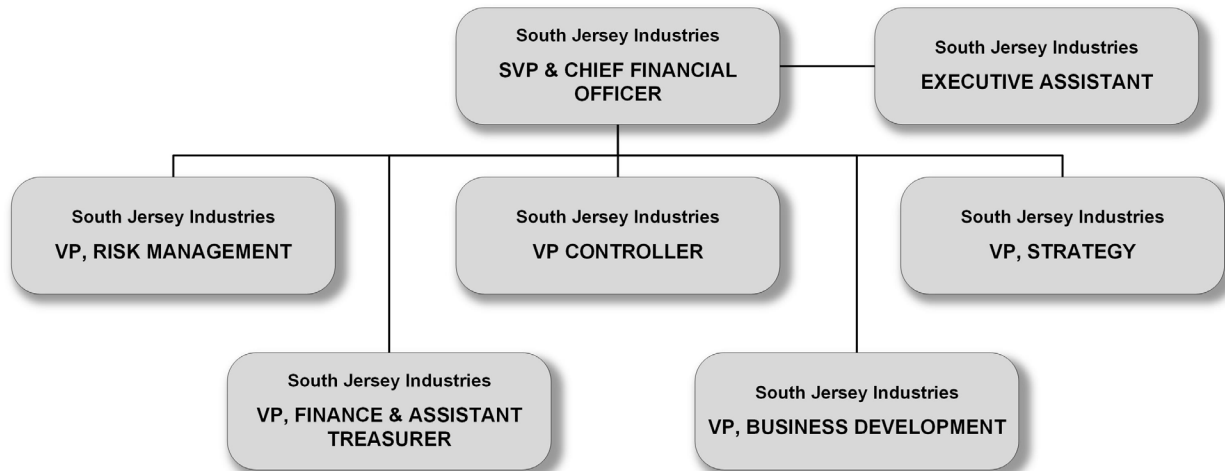
A. BACKGROUND

Accounting and property records functions for Elizabethtown Gas Company (ETG) and its affiliates are the responsibility of the South Jersey Industries (SJI) Accounting Department, under the direction of the Vice President, Controller (VP, Controller). Budgeting functions for ETG and its affiliates that are reviewed in this chapter are the responsibility of the Financial Planning and Analysis (FP&A) Department, under the direction of the Vice President, Strategy (VP, Strategy). Payroll functions for ETG and its affiliates that are reviewed in this chapter are the responsibility of the Payroll Specialist Lead, currently under the direction of Human Resources.

ORGANIZATION

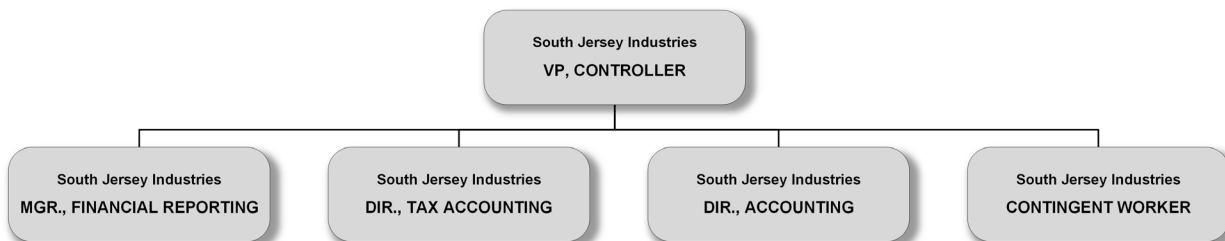
The VP, Controller and the VP, Strategy both report directly to the Senior Vice President and Chief Financial Officer (SVP & CFO). The organization chart of the Finance Department depicting this reporting structure and showing all the direct reports of the SVP & CFO is shown in the following exhibit.

SJI Finance Organization Chart



The VP, Controller, is responsible for standard accounting functions, with the exception of the payroll function, for ETG, SJI, and all SJI entities. The VP, Controller, has four direct reports. As depicted in the chart below, this includes a Manager of Financial Reporting, a Director of Tax Accounting, a Director of Accounting, and one contingent worker.

SJI Accounting Organization Chart



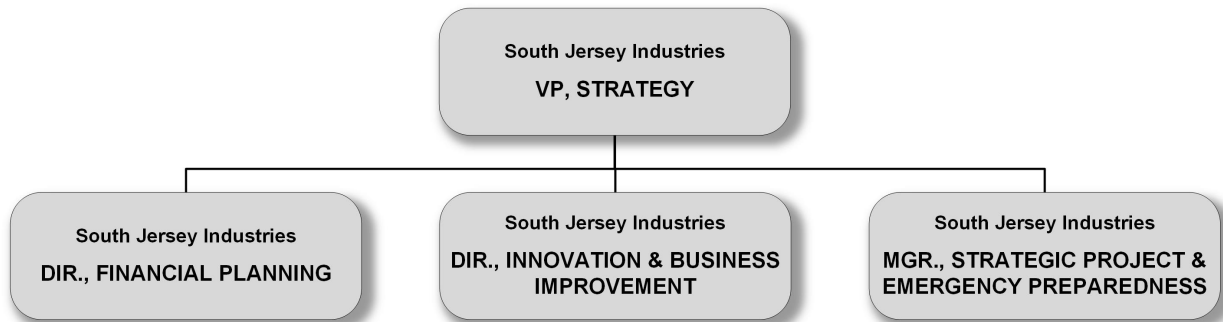
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XV. Accounting and Property Records

The payroll function was performed by the SJI Finance Department during the audit period. In September 2022, a SJI reorganization occurred, and the payroll function began reporting to the Director, Human Resources who, in turn, reports to the SJI Senior Vice President, Human Resources (SVP, HR).

The Director, FP&A, is responsible for budgeting activities and reports to the VP, Strategy as shown in the following chart.

SJI Strategy Organization Chart



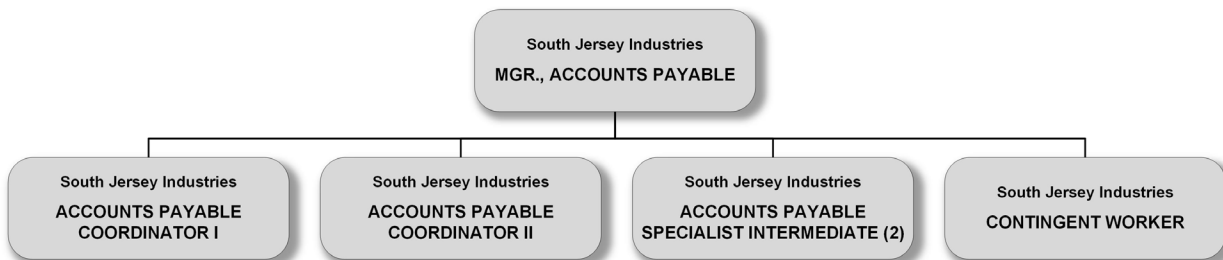
ACCOUNTING

Accounts Payable

The Accounts Payable (A/P) group reported to Treasury prior to 2020. In 2020, A/P began reporting to the Vice President, Shared Services. In 2022 A/P began reporting to the Vice President, Finance and Assistant Treasurer.

The A/P group consists of a manager who is supported by two A/P Coordinators, two A/P Specialists, and one contingent worker. The current structure is depicted in the organization chart below.

Accounts Payable Organization Chart



The A/P group processes between 3,000 to 4,000 invoices per month.

The two A/P Coordinators are primarily tasked with processing invoices for all SJI companies, which includes investigating and resolving discrepancies identified during processing. The two A/P Specialists are each assigned to specific SJI companies and are primarily tasked with settlement duties. The A/P Manager's time is primarily spent resolving issues and on special projects such as implementation of an Optical Character Recognition (OCR) automation project intended to eliminate the manual data entry

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XV. Accounting and Property Records

associated with A/P work. A contingent employee scans documents received by A/P as part of the OCR project.

Six performance metrics were adopted in 2021. Weekly, monthly, and year-to-date performance is reported to the VP, Finance and Assistant Treasurer. The metrics focus on taking advantage of prompt payment discounts, making use of electronic payment methods, and making timely payments. The metrics and 2021 performance are presented in the table below.

A/P Performance Metrics 2021 Performance

Metric	Goal	2021
On time payments percentage (excludes suppliers with net payment terms)	80%	87%
Percentage of payments 30 days or less aged	97%	97%
Percentage of payments paid electronically	70%	89%
Percentage of discounts taken	80%	85%
Number of invoices greater than 90 days aged	Less than 20	11
Average days to pay (only includes suppliers with net payment terms)	10	3

Payments are made by ACH, wire, and check. The total number of ETG payments by type of payment are shown in the following table.

ETG Annual Payments by Payment Method

Method	2018	2019	2020	2021
ACH	1,062	2,221	3,423	3,651
Wire	96	425	558	659
Check	16,103	8,279	2,372	2,578
Total	19,279	12,944	8,373	8,909

The use of electronic payment methods has increased annually. Correspondingly, payments by check have decreased.

The annual dollar value and number of payments made on behalf of ETG and SJL and its affiliates are shown in the table below.

A/P Payments 2018–2021

Account	Number of Payments				Payments (\$ Millions)			
	2018	2019	2020	2021	2018	2019	2020	2021
ETG	17,261	10,925	6,353	6,888	91	378	514	744
SJL and Affiliates	35,891	36,124	29,556	29,510	6,765	5,310	5,401	4,538
Total	53,152	47,049	35,909	36,398	6,856	5,688	5,915	5,282
ETG as Percent of Total	32%	23%	18%	19%	1%	7%	9%	14%

The dollar value of ETG payments as a percentage of all payments has increased annually. Excluding the acquisition year, payments made on behalf of ETG increased

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from 7% in 2019 to 16% in 2021. During the same three years (2019–2021), the number of payments made on behalf of ETG remained relatively constant, accounting for 18% to 23% of total payments made annually.

Payment requests are routed to A/P through four transmittal methods:

1. Customer refund requests are uploaded to the Workday system by Customer Care and Billing (CCB).
2. Vendors are able to electronically submit invoices through Workday.
3. Departments can email invoices directly to an A/P mailbox established for this purpose.
4. Hardcopy invoices can be sent to A/P and A/P will scan and send the invoices to the A/P mailbox.

Three software systems are used to process A/P, including Workday. The OCR software, which interfaces with Workday, reads the scanned invoices and inputs necessary data to Workday. The third system, Vertex, is used to identify and account for sales tax accruals.

Seventeen Sarbanes-Oxley (SOX) controls are embedded in the A/P system. These include 13 key and four non-key controls. Automated controls are performed by both the OCR system and Workday. Additionally, manual controls are performed by A/P staff.

The OCR system performs systemic validations. The extent of validation depends on whether the invoice is related to a purchase order, a service contract, or neither. The validation process prevents invoices from being processed until resolution through either a system change order or submittal of a revised vendor invoice. OCR validation controls are displayed in the exhibit below.

OCR Validation Matrix

Validation	Purchase Order	Service Contract	Neither
Valid Vender	X	X	X
Duplicate Invoice	X	X	X
Valid PO/Service Contract Agreement	X	X	
Valid Service Date		X	

Workday performs the following additional control activities:

- Verifies the service contract amount is not exceeded.
- Performs a three-way match of invoice, PO, and Receiving Receipt.
- Routes recurring payments to the A/P Manager for review and approval.
- Routes invoices, corporate credit card, and purchasing card charges for review and approval in accordance with the SJI authority matrix.

The authority matrix is established in SJI's Procedure for Approvals Necessary to Authorize Disbursement of Company Funds. The procedure also establishes the responsibilities associated with each position. For example, a Manager is responsible for ensuring goods and services will be obtained in a cost-effective manner and are appropriate and necessary for their intended use. A Director has the additional

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responsibility of considering whether the purchase fits within the department's budgetary constraints and strategic goals. Authorization limits are presented in the table below.

Disbursement Authorization Limits

Position/Level	Authorization Up To
Supervisor	\$35,000
Manager	\$75,000
Director	\$500,000
Officer	\$1,000,000
Executive, SJG or ETG President	\$5,000,000
SJI President	Over \$5,000,000

Workday also produces exception reports that, in addition to the control activities described above, identify when:

- There is a unit cost variance greater than or equal to five percent.
- The invoice line amount exceeds the receipt amount.

In addition to the controls, the following practices are also in place:

- Workday transmits payment information to the bank and checks are printed and mailed directly by the bank.
- Positive Pay, the matching of the check presented for payment to the company's check information, is in place to deter and identify check fraud.
- Duties which involve the entering and changing of vendor information are segregated between Procurement and A/P.
- An appropriate process is in place to mitigate against the risk of fraudsters posing as one of the company's vendors for the purpose of replacing the legitimate vendor's bank account information with an account set up by the fraudster to obtain wire transfers.
- Recurring payments are entered into the system with start and end dates to mitigate the risk of payments extending beyond the intended end date.

Accounts Receivable

See Chapter XIV, Cash Management, for a discussion of the processes for receiving and securing accounts receivable.

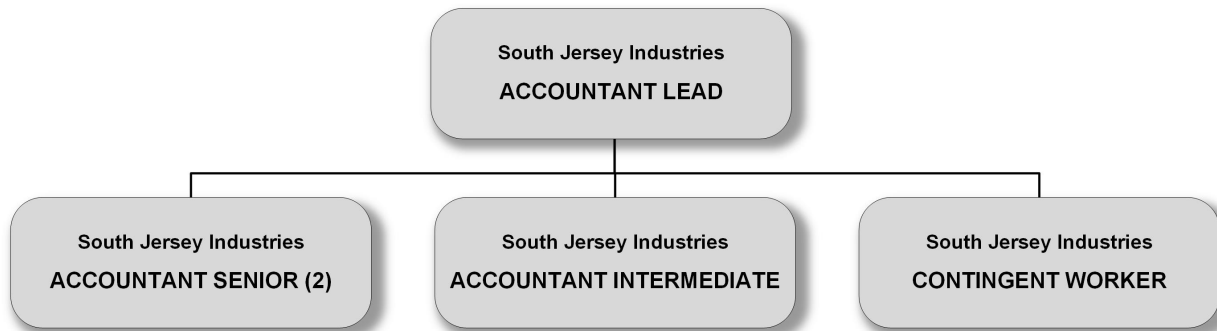
General Ledger Accounting

The Director of Accounting, reporting to the VP/Controller, has overall responsibility for General Ledger (G/L) accounting and plant accounting functions. An Accounting Manager manages the utility G/L accounting group. Within this group, one Accountant Lead is responsible for ETG's general ledger and a second lead for South Jersey Gas's (SJG) general ledger. The ETG Accountant Lead has four direct reports. The organization of the ETG G/L Accounting Group is presented below.

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Accounting Group Organization Chart



The Workday software system has been used for ETG's G/L accounting since SJL's acquisition of ETG.

The Accounting Group's responsibilities include monitoring expenditures to ensure projects stay within budget. Projects can exceed their budget by up to ten percent before action is taken. During the monthly close-out, variances will be reviewed to determine the accuracy and materiality of the variance. Formal explanation is required for balance sheet variances exceeding ten percent or \$1 million. Variances in the profit and loss statements require formal explanation when the variance exceeds ten percent or \$200,000.

Financial performance results are presented as part of the monthly Operating Results Call, which is a monthly meeting held to discuss and review financial and operational performance. An actual budget variance format is used for reporting purposes. In addition to the entity level financial overview, operating expenses are reported at the category level. An example of the financial overview dashboard is provided below.

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Financial Overview Dashboard

Business Summary	Actual	Budget	Variance
Margin			
Operations & Maintenance			
Energy & Other Taxes			
Depreciation & Amortization			
Impairment Charges			
Other Income & Deductions			
Interest Charges			
Income Tax			
Total			

The Accounting Group is also responsible for preparing the monthly reports submitted to the Board of Public Utilities (BPU). These reports include:

- Income Statement
- Balance Sheet
- Statement of Gas Operating Revenue
- O&M Expense
- BPU Therms
- Interruptible, Contract, Non-firm Revenue
- Other Data

Thirteen controls are embedded in the financial close process. This includes nine key and four non-key controls. Quarterly, the VP/Controller reviews and approves the quarterly Cash Flow Statement, the variance analysis of the Income Statement and Balance Sheet, and the SJI Consolidated Financial Statements. Monthly reviews are performed by the Manager, Accounting and Director, Accounting. Additional controls pertain to accruals, journal entries, and other areas.

Accounting controls are tested quarterly by the external auditor. Each quarter a sampling of the controls is tested.

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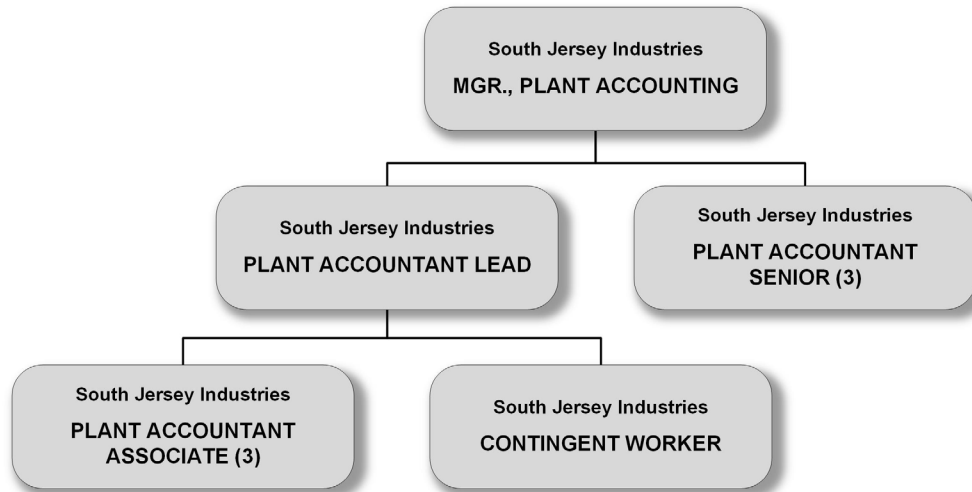
XV. Accounting and Property Records

Other responsibilities of the Accounting Group include processing journal entries, performing reconciliations, FERC reporting, and preparing other reports such as the quarterly cash flow report.

Plant Accounting

The Manager, Plant Accounting, reporting to the Director of Accounting, is responsible for plant accounting. Reporting to the Manager are a Plant Accountant Lead and three Plant Accountant Seniors. Additionally, three Plant Accountant Associates support the Plant Accountant Lead.

Plant Accounting Organization Chart



The Plant Accounting Group is responsible for retirements, unitizations, depreciation, construction work in progress (CWIP), allowances for funds used during construction (AFUDC) calculations, project closings, and reconciliations.

A documented process flow establishes how each area of plant accounting will function. Thirty-one property, plant, and equipment controls are embedded in the processes. These include 23 key and eight non-key controls. Controls are tested as part of the quarterly SOX testing program.

The Maximo and PowerPlan software systems are used for asset management and accounting purposes. Retirements are recorded in Maximo.

For additions, invoices are routed through the Workday system where they will be coded as either capital or O&M expenditures by project management staff. When uncertain, project management staff can contact the Plant Accounting Group for guidance in determining whether to classify an expenditure as capital or O&M.

Two documented policies guide staff in distinguishing between capital and non-capital expenditures. One policy is specific to information technology software and the second pertains to all other assets. The policies grant Plant Accounting the authority to interpret the policies and make capital/expense determinations.

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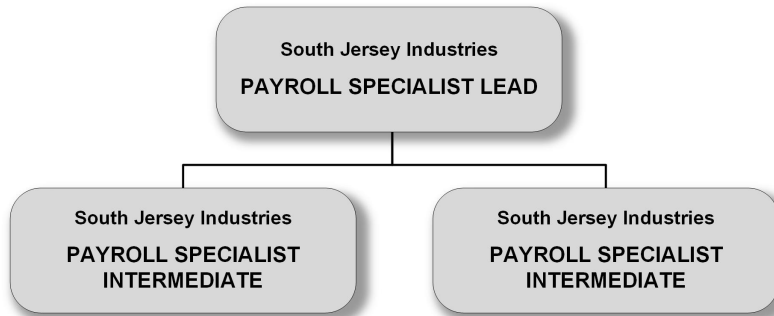
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The Plant Accounting Lead submits the depreciation worksheet to the Manager, Plant Accounting. The Manager, Plant Accounting, reviews for reasonableness and approves the monthly depreciation entry.

Payroll Accounting

As previously stated, oversight of the payroll group transferred from the SJI Finance Department to Human Resources in 2022. The payroll group consists of three SJI employees, which include two Payroll Specialists and a Payroll Specialist Lead. The organization of the payroll group is depicted in the chart below.

Payroll Group Organization Chart



The Specialists are tasked with processing the payroll and the Lead reviews and approves the payroll.

Payroll tax payments and filings and third-party garnishments are contracted out. SJI had contracted with one service provider during the audit period but has subsequently begun using a different provider.

Payroll is processed for one ETG union on a weekly basis. Payroll for all other ETG employees and all affiliates is processed bi-weekly.

Operating departments are responsible for entering and approving time. Time for hourly employees is entered by administrative staff into the Maximo system for project management purposes. The data is then transferred by IT into Workday for payroll processing purposes. All other time is entered directly into Workday.

Supervisors and Managers access Workday and review and approve their employees' time.

Payroll is not responsible for ensuring that time is charged to the correct project. Payroll's responsibility is to ensure employees are paid accurately for the hours worked.

The number and dollar total of payroll transactions are presented in the exhibit below.

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Payroll Transactions 2018–2021

Year	Regular Time		Exception Time		Total	
	Transaction Count	Amount (\$000)	Transaction Count	Amount (\$000)	Transaction Count	Amount (\$000)
2018	353	\$9,981	2407	\$5,002	2760	\$14,983
2019	448	\$22,498	3327	\$10,513	3775	\$33,011
2020	404	\$23,715	3155	\$11,466	3559	\$35,181
2021	434	\$24,858	4493	\$37,072	4927	\$61,930

The Payroll Specialists use multiple reports to ensure the accuracy and completeness of the payroll. These reports include the following:

- Retro Report – Identifies any employees who are owed retro pay.
- Unsubmitted Report – Identifies any employees who did not enter time. Payroll will follow up with the operating departments as needed.
- Unapproved Report – Identifies any employees whose time has not been approved. Payroll will follow up as needed.
- 40/80 Hour Report –An exception report to identify any employee whose hour total does not equal the assigned 40- or 80-hour pay period. Payroll will investigate to determine if an entry error occurred.
- Gross and /Net Total dollars – Identifies the total dollars by company and is compared to the prior pay period.

Five key SOX controls are embedded into the payroll process. These controls are presented in the table below.

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Payroll Key SOX Controls

Control	Summary of Control Description	Control Frequency
SJI-PRP-002	The Payroll Lead reviews the Payroll Summary Report prior to payment to ensure accuracy and appropriateness of the payroll expense for the payroll period. This includes reviewing variances in total payment expense per entity, between the current payroll period and the prior payroll period. Variances greater than one percent are investigated. The report and review occur at the Company level.	Each Occurrence
SJI-PRP-004	The Vice President Accounting (currently Director, Human Resources) signs off on the third-party vendor's memo bill for taxes and garnishments as evidence of review and approval	Bi-Weekly
SJI-PRP-006	The Payroll Lead signs off on the Direct Deposit Spreadsheet as evidence of review and approval. The spreadsheet lists total dollars, total number of direct deposits (checks), and net amount by company. As part of the review, the Payroll Lead matches the spreadsheet to the invoice sent to Cash Management. The invoice is used because it has already aggregated the data at company level from the source documents.	Bi-Weekly
SJI-PRP-007	Payroll reviews the Unapproved Time Report and follows up with the managers of employees with unsubmitted and/or unapproved timecards. Once satisfied that all time has been submitted, the Payroll Lead reviews the 40/80 hour report and verifies that any exceptions are accurate and explained.	Weekly
SJI-PRP-008	The Payroll Lead approves the third-party vendor's quarterly tax payment and filing report. This report is run to identify any missing data or data discrepancies	Quarterly

Internal Audit tests Payroll key controls as part of its ongoing SOX testing. Additionally, when process change projects occur, Internal Audit reviews documentation to ensure controls were in place and effective. Moreover, when payroll process anomalies occur, Internal Audit conducts root-cause analysis at the request of management.

Pension Accounting

The Manager, Financial Reporting, reporting to the VP, Controller, is responsible for entering the pension expense into the accounting records. SJI's actuarial firm prepares the estimated annual expense and provides that to SJI prior to the start of the fiscal year. The Financial Reporting group uses the estimate to prepare the monthly journal entry entering the expense. Midway through the year, the actuarial firm provides an updated estimate. The Financial Reporting group uses the updated estimate to perform a true-up

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entry for the prior months and then uses the updated amount for the remaining months. The VP, Controller, is responsible for performing an annual verification of the accuracy of the pension expense.

The Financial Reporting group is also responsible for preparing the FAS 158. The FAS 158 reports the overfunded or underfunded status of defined benefit postretirement plans as an asset or liability in the statement of financial position and recognizes the change in the status that occurred during the year.

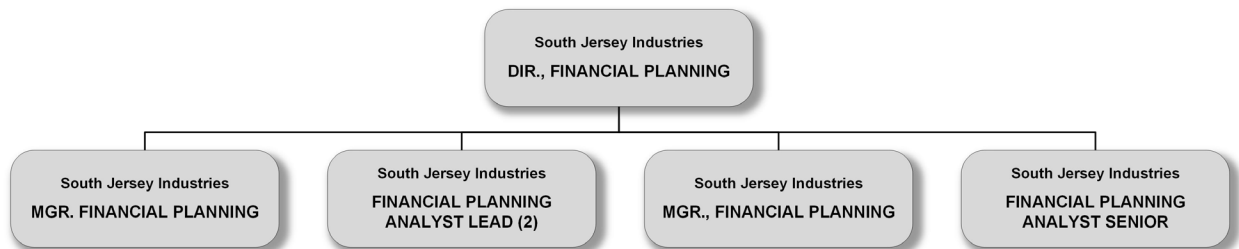
Tax Accounting

See Chapter XIII, Finance, for a discussion of tax accounting.

FINANCIAL PLANNING AND ANALYSIS

Under the direction of the VP, Strategy, FP&A Organization facilitates the budget process. The FP&A Organization consists of a Director, FP&A, assisted by five direct reports in managerial, lead, and senior positions. Members of the FP&A Organization are each assigned to facilitate the budgeting process for specific companies. The FP&A Organization's structure is depicted below.

Financial Planning and Analysis Organization Chart



Development of the annual budget begins in July and ends with the SJI Board of Directors (SJI BOD) approval in November. Budgeting initiates at the cost center and spend category levels and rolls up to the entity level. The process includes the following major steps:

- July: Kickoff and training presentation occurs. Budget goals, workforce planning changes, and assumptions and inputs to be used in the process are discussed, along with administrative details. As part of the process, information regarding capital budgeting procedures, business unit budget targets, and salary and promotion guidelines are also shared.
- Budget Templates are customized and distributed. The templates utilize the Hyperion planning tool. The use of Hyperion software enables the electronic gathering of budget data. Templates are customized for each cost center within the company and are designed to provide requisite budget data. Payroll templates contain headcount-related information (e.g., name, position, salary, incentive compensation structure). Non-payroll templates include historical actual expenditures, prior budgets and budget targets, and current budget forecasts.
- Aug/Early Sept: Initial budgets are generated and submitted by cost centers.

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- September: Management reviews begin. The goal is for three to four rounds of senior level review to occur.
- October: CEO reviews begin. The goal is for two or three CEO reviews to occur.
- November: Approval of budget is included in the SJI BOD meeting agenda.

Budgetary performance monitoring occurs throughout the year and is the responsibility of the FP&A group. The group tracks actual expenditures and forecast updates throughout the year. This includes producing monthly reports that include financial, variance, and operational data. The reports provide the basis for discussion at the monthly operational meetings. Cumulative quarterly reports that additionally include key performance indicator (KPI) data are also produced.

Year to date monthly operational updates provide the Board variance to budget data regarding the following financial KPIs:

- Economic Earnings
- Margin
- O&M
- Capital Investments (Infrastructure Investment Program (IIP) and non-IIP)

Capital budget revisions of more than ten percent require formal Board approval. O&M revisions do not go through a formal Board approval process. Instead, forecasts may be revised. The forecast revision process requires an explanation but not formal Board approval.

Annual actual-to-budget variances for total operating expenses are presented below.

Total Operating Expenses (in thousands)

Year	Actual	Budget	Variance (unfavorable)
2019	106,809	104,707	(2,103)
2020	123,753	124,457	704
2021	118,440	133,488	15,048

B. FINDINGS

XV-1 Accounting and property records functions are performed appropriately for utility operations.

The processing, recording, authorization, and accountability of the accounting and property record functions among all levels of management all occur in accordance with standard practices. The accounting and property records functions for ETG and its affiliates are handled by the SJI Accounting Department under the direction of the VP, Controller, who reports to the SVP & CFO. SJI has established appropriate processes and structure for the accounting functions reviewed in this chapter, which include accounts payable, general ledger accounting, plant accounting, pension accounting, tax accounting, and budgeting. Duties are segregated appropriately and guided by documented policies, procedures, and process flows. Controls are embedded into the

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process flows and are tested routinely. Control testing is performed by both internal and external auditors.

XV-2 Payroll functions are performed appropriately.

The independence, processing, and accountability of the payroll function, including the time and resources spent by employees on payroll, are appropriate and internal controls appear to provide a reasonable level of assurance that payroll records are complete and accurate. A 2018 benchmarking study suggests that the size of the payroll department is comparable to that of peers included in the study. Multiple exception reports are embedded into the payroll process to ensure records are complete and accurate. Key controls have been established and Internal Audit performs SOX testing to verify the controls are working as intended. Internal Audit also conducts audits to ensure any system changes do not result in unintended negative consequences.

XV-3 The Budget process is reasonable and appropriate.

Budget reporting, tracking, revisions, and analysis at all levels of the organization are reasonable and appropriate. Budget development and monitoring is handled by the FP&A Organization, under the direction of the VP, Strategy, who reports to the SVP & CFO. The budgeting process follows an established calendar. Budgeting starts at the cost center level and rolls up to the entity level, requiring formal Board approval. Budget monitoring duties are segregated from responsibility for budget management. Budgetary performance is communicated at least monthly. The communication process includes a requirement that variances above established thresholds be formally explained. Forecasts may be revised during the year, if explained, but capital budget revisions of more than ten percent require formal Board approval.

XV-4 Work order and property recordkeeping are appropriate for a gas utility.

Work order procedures, the corporate accounting manual, and property records are appropriately established. ETG's Plant Accounting Manager, who reports to the Director of Accounting, is responsible for property record accounting. Documented policies guide staff in distinguishing between capital expenditures and O&M expenditures. The Workday, Maximo, and PowerPlan software systems are used for asset management and accounting purposes. Twenty-three controls are embedded in plant accounting processes and control testing occurs as part of the quarterly SOX testing program.

C. RECOMMENDATIONS

None

XVI. CUSTOMER SERVICE

A. BACKGROUND

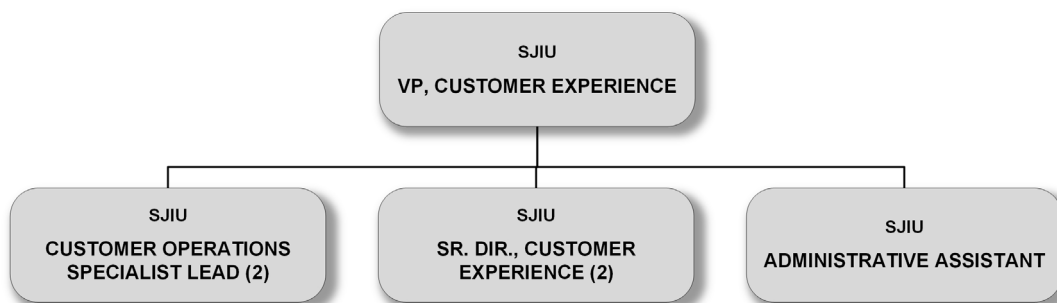
This chapter evaluates the customer service functions of the Elizabethtown Gas Company (ETG) to determine if ETG is serving the best interest of its ratepayers.

ORGANIZATION

The customer service department at ETG is managed by a Vice President (VP), Customer Experience, SJI Utilities (SJIU). This position reports directly to the Senior Vice President (SVP) and President, SJIU, who reports directly to the President and CEO, SJI.

The customer service functions of ETG and its affiliate gas utility, South Jersey Gas (SJG), have been recently consolidated under the VP Customer Experience, SJIU. The organization chart for the SJIU Customer Care Center is shown in the following exhibit.

Customer Care Center Organization Chart



The four direct reports, in addition to the Administrative Assistant position, include:

- Customer Operations Specialist Lead with one support staff – Program Manager, responsible for the Customer Care and Billing (CC&B) system
- Customer Operations Specialist Lead with one support staff – Program Manager, responsible for the customer portal and email activity
- Senior Director with 78 support staff and six vacant positions – responsible for the ETG Customer Care Center (CCC) with 40 support staff and three vacant positions, the South Jersey Gas Company (SJG) CCC with 35 support staff and three vacant positions, and Customer Operations (quality assurance and training) with three support staff.
- Senior Director with 49 support staff and six vacant positions – responsible for billing, collections, and remittances (assistance with customer payments)

Project-type work performed by the two Customer Operations Specialists and their support staffs can include coordinating with the rate case team, supporting or assisting with management audits, interacting with billing agents, working on the chat-type tools with application developers, working with outside vendors to evaluate analytics and incentives, working with banks on customer payment problems, and working on CC&B enhancements and issues.

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The Program Manager will serve as the business lead for Customer Experience and the liaison between Information Technology (IT) and the systems used by Customer Experience. They are involved in testing proposed changes and enhancements to the CC&B, WorkDay, and Maximo systems and determining the impact and cost of such changes or enhancements on Customer Experience. Although each project may take several months, these projects are not large or comprehensive enough to involve the project manager function of IT's Application and Project Governance group or the Enterprise Project Management Office (EPMO).

The other Program Manager works with vendors that support the payment portal (Bill2Pay) and the internet system. Although ETG does not currently have a payment option through email, they are looking for a system which would also be used by SJG. Liaison with the Bill2Pay system requires dealing with customer issues with payments, application of payments to accounts, and portal operating issues.

Usage of the Bill2Pay payment portal has increased; SJG also uses this portal for payment. There have been no major issues with this payment vehicle. Customers can see their bill through their Meridian (outside vendor) account which is linked to Bill2Pay. This group is also working on upgrades to the phone system, internet chat platform (My Account), Interactive Voice Response (IVR) phone system, and energy efficiency billed on customers' gas bills.

One Senior Director is responsible for each of the Customer Care Centers (CCC), one for ETG and one for SJG. Currently, there are no resources available to cover overflow, if needed. Support by one CCC for the other CCC is not currently allowed since there are two separate unions involved. Current plans are to have overflow from ETG handled by an outside contractor, although this deal had not been closed at the time of the audit fieldwork.

The other Senior Director is responsible for billing, collection, analytics, cash recovery, energy assistance, and meters. The actual reading of the meters, performed primarily with drive-by technology, is the responsibility of ETG's Senior Director, Field Operations (see Chapter XVIII, Distribution and Operations Management).

The ETG billing, collections, and remittance functions, located in Union, NJ, are headed by a Manager, Business Operations, who reports to the Senior Director, Customer Experience who is responsible for billing, collections, and remittances. Support includes three supervisors, one specialist, and 20 staff.

METER READING

As of the end of 2021, there were over three hundred thousand meters measuring the gas usage of ETG's customer base. These meters were read by an average of five meter readers daily that collected data on either a handheld device or mobile devices as they drove by the meter location. Although data from 2009 through 2015 was no longer available to review, the table below shows the number of meters and meter readers from 2016 through 2021.

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Meters and Meter Readers 2016–2021

At Year End December 31							
Description	2016	2017	2018	2019	2020	2021	Percent Change
Total Meters	287,523	287,046	293,619	297,001	303,000	310,544	8.0%
Meter Readers	8	8	7	7	5	5	-37.5%
Meters/Reader	35,940	35,881	41,946	42,429	60,600	62,109	72.8%
Accuracy	99.65%	99.90%	99.91%	99.92%	99.92%	99.81%	N/A
Meter Read Estimates	.18%	.16%	.14%	.17%	1.31%	1.11%	N/A

Meter readers perform the following functions:

- Meter reads through manual data entry and mobile data collection
- Periodic leak surveys and premise inspections
- Meter painting
- Minor leak repairs without service interruption (i.e., tightening a fitting)
- Meter turn-offs
- Electronic transmitting device on the meter (ERT) installs
- Non-payment meter locks

The reporting of diversions of service and leaks are not part of the meter reader's scope of work.

4,000 – 8,000 meters are read per day via radio signal between the ERT and the radio antenna on the readers' vehicles. Missed or skipped meters are read manually. Approximately 1,900 meters are not equipped with ERT and also must be read manually. Data from manually read meters is keyed into the ITRON system.

ETG complies with all meter reading, accuracy, and testing requirements and adheres to the New Jersey Board of Public Utilities (NJBPU) Administrative Codes for meter reading and other metering rules and regulations, including meter testing requirements.

Meter testing information is reviewed by the SJIU Compliance Department and the ETG Gas Operations Management Team before being sent to the SJIU Regulatory Department for inclusion in the required quarterly NJBPU reports. Resources utilized to test ETG Meters are approved by the New Jersey Office of the Attorney General: Office of Weight and Measures on an annual basis.

More detailed information and analysis of ETG's meters and meter reading processes are included in Chapter XVIII, Distribution and Operations Management.

BILLING

Billing functions include billing for average ratepayers, as well as for large account billing customers (LABS), transportation, third-party suppliers, and energy assistance payments.

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There are over 300,000 average ratepayer accounts, which are billed through the ETG billing system, CC&B, using 21 bill cycles. The billing staff handle all problems with the billing system, including failures in reading or billing, rebilling, meter-reading discrepancies, moving out and not notifying ETG, and high or low meter readings, sometimes receiving help from the cashiers if they have any free time. The billing work group will try to be proactive and notify the customer if there is a problem via email or letter. This work group will also be involved in Internal Audit-required quality checks.

ETG has over 700 LABS or industrial customers that require more hands-on involvement. These customers will have their gas usage read daily via electronic means at the ETG office, and their bills will be prepared manually. Along with the daily reads, there will be daily monitoring of usage and communications with the marketers concerning this usage. Outliers or anomalies will be identified and can require true ups at the end of the month. There are 18 – 20 marketers and four third-party contractors with whom ETG has a contract.

The ETG billing area was implemented after SJI acquired ETG in 2019. Billing processes from the previous owner were adopted to make the business operational. ETG converted its billing platform to SJI's CC&B platform in March 2020. Since this conversion, business processes have been reviewed and revised in attempts to improve efficiency and business performance. Some of these changes included:

- Revising meter processes
- Revising ERT processes
- Automating procedures and processes
- Revising or introducing new business practices

REMITTANCES

ETG customers can make payments via five different methods:

4. Lockbox – via credit card or bank account
5. Online Web payments – via credit cards
6. Walk-in Payment Centers – There are two Payment Centers, one is located in Elizabeth and the other in Perth Amboy
7. Kiosks – Two kiosks accepting cash, credit card, and electronic checks (Echecks) are located with the Payment Centers
8. Western Union, Speed Pay, and Autopay

The following table presents the payments via each of the above methods from 2017 through 2022 for data that was available to review. There is no data prior to 2017 for the Lockboxes, Western Union, Speed Pay & Auto Pay as this was not provided by Southern Company, the previous ETG parent company. Online-Web payment information was not available prior to 2020 when this payment choice was offered to customers, and the Kiosk payment method was only established in 2022.

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Customer Payments by Payment Method 2017–2022 (\$000)

Payment Source/Method	2017	2018	2019	2020	2021	2022
LockBox	28,130	127,380	125,040	68,670	138,287	143,588
Online-Web				67,157	125,918	163,288
Walk-In Payment Centers ¹	15,103	16,660	17,086	8,562	7,311	12,574
Kiosks						128
Western Union, Speed Pay & Autopay	11,326	63,496	70,767	23,290	496	328
Total	54,559	207,536	212,893	167,679	272,012	319,906
¹ The decrease in walk in payments and walk in payment count in 2020 and 2021 was due to the Covid 19 pandemic. In March 2020, the walk-in payment centers were closed due to the pandemic as mandated by the state of New Jersey. No payments were taken in the walk-in payment centers from March 15, 2020, to March 15, 2021. In March 2021, customer payments were taken only on Monday, Wednesday, and Fridays.						

Payment Centers

The primary purpose of the two payment centers, located in Elizabeth and Perth Amboy, is to take customer payments. However, they also provide simple customer service. Phones at the payment centers are connected to the CCCs and can be used by customers when they need more involved customer service.

Payment Center staffing includes one supervisor who oversees both centers, two leads (one for each payment center), two full time staff, and three part time staff

Procedures for Payment Center Cash Controls include the following:

- Cashiers verify proper tender (test for counterfeit bills with a highlighter. All denominations are tested)
- Twice a day cash is transferred from each cash register to a Loomis safe/ATM-like structure. At the time of each transfer, a receipt documenting the employee and the dollar total is printed by the Loomis safe/ATM. Additionally, an end of day report is printed. This report is the “Daily Cashier Report” and includes employee, location, and tender information.
- When Loomis does the pickup, a report is also printed. This report will agree with the totals to the bank’s deposit record. Any discrepancy between the amount that the Loomis safe/ATM report indicates was picked up and the amount shown on the bank deposit record becomes the responsibility of Loomis.
- Additionally, bank records are reviewed to ensure that they agree with the customer billing daily total.

Remittance processing responsibilities, in addition to managing remittances, also include managing the Energy Assistance program and handling inquiries from agencies (intake), turn off and on, call center questions, and the Customer Verification Team (CVT) which tries to determine who is responsible for gas usage.

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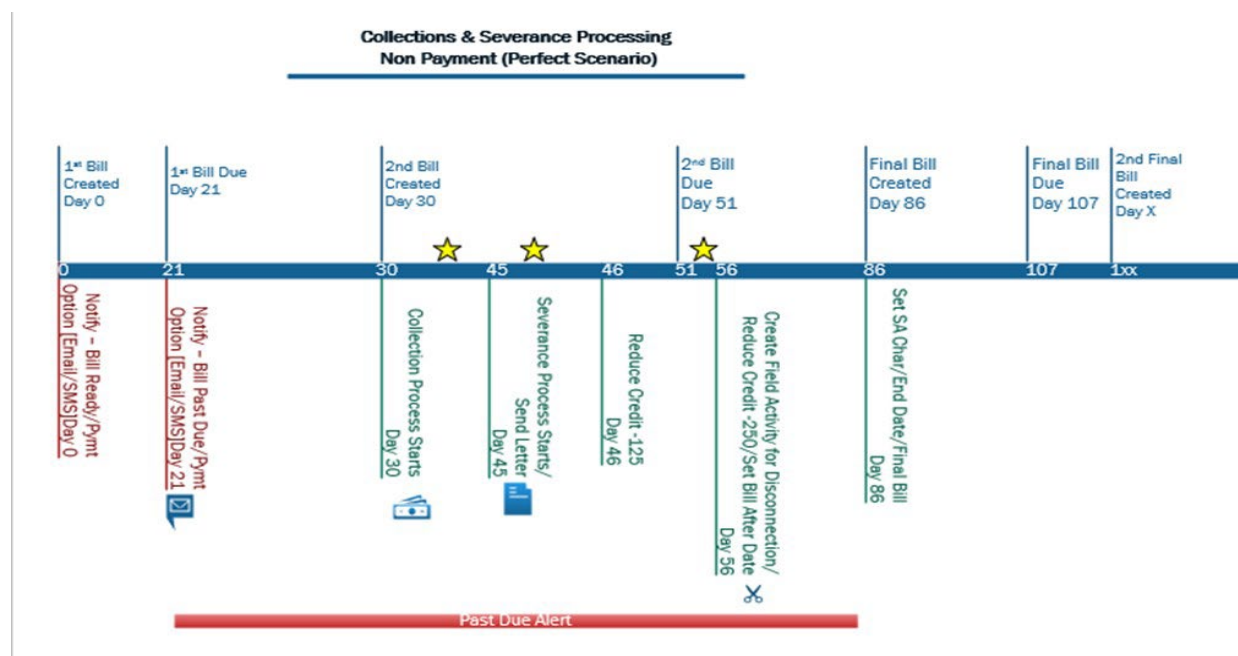
CREDIT AND COLLECTION

Collection functions of the Customer Experience primarily involve an automated process, including emails and letters sent by CC&B for all active accounts that are tardy. Collection efforts relating to inactive (closed) accounts are assigned to a third-party company under a collection contract.

Manual collection efforts are the responsibility of ETG's Field Revenue and Collections group which is part of ETG's meter reading function. See Chapter XVIII, Distribution and Operations Management, for a detailed review and analysis of ETG's field collection efforts.

The table below presents the collection and severance process.

ETG Collections and Severance Process



In order to improve field collection metrics, Field Supervisors, in conjunction with the department analyst, review various departmental and individual collection data daily. Field Supervisors provide monthly performance scorecards with feedback to Meter Readers. Because Meter Readers often complete other functions as well as field collections, their scorecard is inclusive of all their responsibilities. Field observations and Order audits are performed periodically, and immediate feedback is provided. Deficiencies identified via field observations and/or order audits may result in additional training or retraining. Meter Readers who perform the collection functions are rated on total dollars collected, amount of collection orders completed, and percentage of the notice amount collected.

The following table presents field collections performance metrics for 2014 through 2021.

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Field Collections Metrics 2014–2021

Metric	2014	2015	2016	2017	2018	2019	2020	2021
Dollars Collected (\$000)	5,167	4,590	3,762	4,514	5,177	5,917	2,291	5,732
Shut Offs for Non-Pays	4,076	3,621	3,476	2,802	5,115	5,513	86	485
Average Number of Collectors	7.8	8.0	7.7	7.1	8.3	8.6	4.4	9.7
Dollars Collected Per Collector (\$000)	662.4	573.8	488.6	638.8	623.7	688.0	520.7	590.9

In 2019, SJIU reviewed and renewed its contract with Rickart Collection Systems, Inc. (Rickart) concerning collection of delinquent ETG customer accounts and set performance standards in the statement of work.

- Contractor shall perform per the standards outlined below:
 - ◆ Residential Primary = 6% – 12% debt recovery
 - ◆ Commercial Primary = 8% – 15% debt recovery
- Failure to perform at or above the aforementioned service level agreement may result in either, at SJIU's sole discretion, reduction, reallocation or removal of referred accounts.
- Escalation and remediation of contract disputes shall follow the terms in the Master Services Agreement (MSA).

Data from 2019 through 2022 showing numbers of customers, dollars collected, and commission to Rickart are shown in the following table.

Collection Agency Results 2019–2021

Description	2019	2020 ²	2021
Customer Count	8,301	2,957	3,084
Debt to be Collected	¹	\$688,871	\$1,117,919
Debt Collected	\$3,766,940	\$435,324	\$451,514
Percentage of Debt Recovered	¹	65.08%	40.39%
Commission to Collection Agency	\$866,396	\$78,352	\$48,776
Commission as % of Debt Collected	23.0%	18.0%	10.8%
¹ Data prior to April 2020 is not available; data was managed by previous parent company under the Transition Service Agreement (TSA) and not made available to SJL.			
² Data shown is for nine months (April 2020 – December 2020).			

COMPLAINTS AND INQUIRIES

ETG's complaint organization consists of one Supervisor and two Customer Service Coordinators. The customer complaint process includes written and verbal complaints or inquiries addressed to the company via the ETG President, company officers, NJBPU, other outside agencies, and via social media channels. Complaints are defined as issues or problems communicating customer discontent and requiring remediation that are received:

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- Verbally, in person at a walk-in center or via phone, including voicemail
- Through correspondence, via postage mail, email, social media post, or other electronic means
- From a third party, such as the NJBPU, associations, or advocacy groups

There are written procedures directing the way in which complaints will be processed, remediated, and the related type of response. These include procedures for responding to:

- NJBPU complaints
- Formal NJBPU petitions
- Written complaints directed to the ETG President and ETG officers
- Social media complaints
- Better Business Bureau complaints

Additionally, there are written procedures covering required reports to the NJBPU concerning complaints.

The responsibility for resolving complaints rests with the Customer Relations Team (CRT), which serves as the customer's advocate by reviewing complaints and identifying areas that need to be addressed. All complaint responses to the NJBPU will be reviewed and approved by the Customer Relations Representative (CRR). All complaints addressed to the ETG President, social media complaints and inquiries, other agencies' complaints and inquiries, and any other escalated complaints are reviewed and approved by the CRT Leadership. All formal petition complaint responses to the NJBPU are reviewed and approved by the CRT Manager and the SJI Legal Department.

A schedule displaying the number of NJBPU complaints compared to customers is shown in the following table.

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Number of Complaints Compared to Number of Customers 2010–2021

Year	Complaints	Customers at Year End	Complaints Per 1,000 Customers	Annual Average Complaints Per 1,000 Customers
2010	546	275,372	2.0	1.0
2011	472	276,610	1.7	1.0
2012	310	278,089	1.1	0.6
2013	324	280,393	1.2	0.6
2014	489	282,302	1.7	0.8
2015	430	284,537	1.5	0.8
2016	312	286,905	1.1	0.6
2017	235	291,504	0.8	0.4
2018	309	293,672	1.1	0.5
2019	290	297,191	1.0	0.5
2020	138	301,613	0.5	0.3
2021	114	304,314	0.4	0.2
Total	3,969	3,452,502	N/A	N/A
Average	331	287,709	N/A	N/A

Note: 2009 data on the number of NJBPU complaints per 1,000 customers was not available.

A table showing the type of complaint and the number of escalated complaints to the NJBPU per 1,000 customers follows:

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Types of Complaints and Escalated Complaints 2009–2021

Year	Collections	Billing	Service	Other	Total	Escalated Per 1,000 Customers
2009	376	273	154	77	880	N/A
2010	244	156	126	20	546	0.2
2011	253	107	91	21	472	0.1
2012	136	72	78	24	310	0.1
2013	196	42	77	9	324	0.1
2014	310	64	99	16	489	0.1
2015	293	45	80	12	430	0.1
2016	202	22	66	22	312	0.1
2017	140	34	42	19	235	0.1
2018	178	46	66	19	309	0.1
2019	172	43	54	21	290	0.1
2020	56	46	29	7	138	0.0
2021	23	48	35	8	114	0.0
Total	2,579	998	997	275	4,849	N/A
Average	198	77	77	21	373	N/A

Elizabethtown Gas has taken the following steps to improve their complaint metrics.

- Customer Operations Representatives analyze the complaint trends each month to determine top trends. These trends are forwarded to the training, quality team, and respective departments.
- In 2021, complaints/escalations were added to Customer Service Representative (CSR) Scorecards to improve accountability with the CSRs. The inclusion of complaints/escalations on the scorecards allows the Leadership team to quickly identify complaint trends with certain CSRs. Any identified trends are reviewed with the appropriate Supervisor monthly as part of the CSR's coaching and feedback session.
- Complaint cases are established in the CC&B system to provide a detailed summary and status of all current and prior Customers.
- Refresher courses are scheduled throughout the year to improve complaint metrics. Refresher training includes topics such as de-escalation tactics, seasonal billing issues, soft skill training (reinforcing empathy, tone and acknowledging a customer's concern) and reviews of billing procedure and payment arrangement scenarios. Training refreshers were also provided for Energy Assistance information to be shared with customers during the Covid Pandemic period (2020–2022).

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- Improved visibility of complaint metrics throughout the organization by incorporating metrics onto the internal Customer Experience dashboard which is reviewed monthly among leadership.

REVENUE PROTECTION

There are several revenue protection functions in place performed by the ETG Customer Experience team, as shown below:

- Pending Start/Stop To-Do's – To-Do entry for pending start/stops that are older than the number of days specified (36 days). This To-Do identifies start/stop requests that have not been completed within the parameters (Number of Days) that have been specified.
- No Bill Report – This report is generated from CC&B and reviewed daily by the Billing team. The process involves reviewing the pending bill, meter read activity, service agreement dates, and issuing a bill.
- Consumption on Inactive Meter Report – This report is generated from CC&B and reviewed by the remittance team. The process involves reviewing meters that have usage, but a customer is not actively being billed. Research is done to identify the party responsible, or a 170U-unauthorized usage disconnect is issued.
- Customer Verification Team (CVT) Cases – Should a customer call in to turn on gas in a new name where an unpaid balance or unbilled consumption exist, a customer verification case is created and referred to the customer verification team. The customer verification team researches the case and determines responsibility by researching property records, lease, and ID provided by customer and account.
- Stopped Meter Report – A report that identifies meters that are possibly stopped. Accounts in the report are reviewed to determine if zero usage is valid, and, if not, a field visit is scheduled to determine the meter status, and, if stopped, the meter is changed.

ETG's Customer Verification Team uses these types of tools to help them determine who is responsible for gas usage in disputed cases. If ETG cannot determine the party responsible for the gas usage, it will have to absorb the cost or write-off the charge.

ETG's billing department was created after ETG was acquired by SJI in 2019, and processes were adopted from the previous owner to start business under SJI. To date, several revenue protection business practices have been improved upon, including revising practices, procedures, and reports.

MARKETING

The Marketing function for ETG is led by a director that reports to the VP, Sales and Business Development. There are three managers, one of whom handles ETG marketing. A second manager handles marketing for SJG and the third manager handles market research and business development for both ETG and SJG. Additionally, there are four staff for a total headcount of nine.

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The Marketing function uses market research, develops campaigns and advertising initiatives, and works with sales representatives. Marketing also looks for opportunities for new construction, for on-main growth, and for potential main extension opportunities for expansion. Marketing is the brand manager for ETG and manages the ETG website. It maintains the brand policies and guidelines and generates prospects for the sales representatives to turn into customers.

The Marketing team mission includes generating sales leads for both natural gas conversion and energy efficiency programs, increasing revenue, driving positive customer experiences, and protecting and managing the ETG brand. The Marketing mission is to leverage research and insights to create targeted lead generation, brand, positioning, and advertising initiatives to drive sales and create a positive customer experience.

The Marketing team manages the strategy and execution of marketing campaigns designed to increase interest and consideration for converting to natural gas, resulting in sales leads. This team also manages the promotion of energy efficiency programs. Channels include direct mail, email, digital advertising, radio, customer newsletter, website, social media, and bill messaging. Advertising metrics and reporting are captured on a Power BI dashboard.

Business Development Market Research leverages a combination of internal systems and geographic information system (GIS) data to identify potential new business growth areas. The ETG website serves as a key tool for messaging and includes online interest forms, a Check for Natural Gas Availability Tool, an instant Home Energy Assessment, and Conserve tool, a portfolio of energy efficiency programs, and tools and tips for saving energy and money.

The ETG Marketing Team has enlisted two advertising and marketing agencies to assist with executing marketing strategies, plans, and communications, and data segmentation and analysis. Marketing responses and leads are reported by Power BI dashboards (conversion) and agency reporting (energy efficiency) leveraging platforms including Salesforce and Google Analytics.

Several data analytics and advisory firms and programs including, J.D. Power, Cogent/Escalent, Voice of the Customer, customer satisfaction studies, and marketing best practices are used to inform ETG's marketing strategies.

Marketing KPIs include:

- Response/leads generated
- Impressions
- Click-thru-rates
- Calls
- Completed online forms
- Email open rates
- Email opt-out rates

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CUSTOMER CARE CENTERS

ETG's CCC is staffed with approximately 40 customer service representatives (CSRs) who answer customer calls and respond to emails and faxes. If the call volume is low, the CSRs may be assigned to make outbound calls to customers with past due accounts.

The performance of individual CSRs is graded in an agent-level scorecard and includes the following types of measurement:

- Adherence – percentage of time adhering to the agent's schedule – time on phone, breaks, etc.
- Average handle time – how long the call takes
- Average talk time
- Average hold time
- After call work – time required after the call to complete the transaction
- Calls handled – number of calls
- Calls transferred – transferred because they needed additional assistance from a lead, supervisor, or a more seasoned agent
- Calls per hour
- Escalations entered
- Preventable escalations – as determined by the supervisor
- Quality – of the call as determined by the supervisor

On a monthly basis the Training/Quality team will listen to and grade three calls per CSR. The scoring method is to start the call with 100 points and then subtract points for specific failures (e.g., for failing to ask customer at end of call "Is there anything else I can do to assist you today?"). Additionally, supervisors listen to, score, and provide coaching to their direct reports for one call per month.

A number of metrics and reports are produced on a daily, monthly, quarterly, and annual basis. These metrics are included in the Corporate Dashboard. To gauge customer satisfaction with ETG, customer surveys are also prepared and input to JD Power and subsequent analysis of ETG is provided. The Customer Experience Department is not compared directly to any peer companies. Only recently have the Customer Experience functions of ETG been compared to those of SJG.

ETG uses Qualtrics, an online survey tool with omni-channel distribution, to distribute customer surveys across multiple channels (including phone/email/SMS). Qualtrics allows ETG (and SJG) to provide ongoing customer experience improvements with feedback directly from the customer. ETG conducts transactional surveys and an annual customer satisfaction (CSAT) survey in the Qualtrics platform. Transactional surveys are distributed to customers after they have an interaction with an agent through various channels (phone, email, in-person).

Transactional Customer Surveys are sent out to customers automatically from Qualtrics based on triggers (transactional activity by the customers) but not more than once every 120 days. Customer Satisfaction Surveys (CSAT) are also pulled from Qualtrics. There is

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an annual Customer Satisfaction Report. Qualtrics also provides a comparison to similar (not named) utilities.

Annual external reports provided include the Deferred Payment Arrangements (DPA) and Arrearages Report, Monthly Collections Activity Report (formally “Arrears Report”), and the Quarterly Customer Service Metrics. The following table shows the metrics presented to the NJBPU on a quarterly basis.

Customer Service Metrics 2016–2021

Service Metric	2016	2017	2018	2019	2020	2021
Percent of Calls Answered Within 30 Seconds	83.4%	79.6%	69.7%	86.8%	76.6%	83.5%
Abandoned Call Rate	1.7%	2.7%	4.7%	1.6%	4.0%	3.0%
Percent of On-Cycle Meter Reads	99.8%	99.9%	100.0%	100.0%	100.0%	100.0%
Rebills/1,000 Customers	3.7	3.8	2.7	2.8	3.5	3.4
Leak/Odor Responded to Within 60 Minutes	96.2%	96.3%	96.7%	98.4%	98.8%	96.0%
Percent of Customer Service Appointments Met	98.6%	98.5%	98.0%	97.1%	96.7%	97.5%
Customer Satisfaction Survey						
Telephone Rep. Courtesy	91%	95%	93%	94%	91%	92%
Telephone Rep. Knowledge	88%	94%	91%	92%	87%	89%
Field Rep. Courtesy	95%	98%	97%	98%	90%	96%
Field Rep. Knowledge	94%	98%	95%	96%	87%	96%
Issue Resolution	84%	94%	89%	90%	76%	88%

ENERGY ASSISTANCE

The Energy Assistance Outreach program involves making the ratepayers aware of the various energy assistance programs for which they are eligible and setting up the process after the ratepayer applies for assistance with the State Department of Community Affairs. Assistance programs include the New Jersey assistance programs – Low Income Home Energy Assistance Program (LIHEAP), Universal Service Fund (USF), and Lifeline, as well as various private charity or donation-funded programs.

Currently, eligibility for the Energy Assistance Outreach program is limited to those with family incomes at or below 400% of the Federal Poverty Level. The State will provide the funds to ETG to credit the ratepayers’ accounts. In 2022, there were 16,000 ratepayers enrolled in these programs. The difficulty is getting eligible ratepayers to apply for the programs – they may not believe in the programs, or they may be undocumented and fear being identified and subject to deportation.

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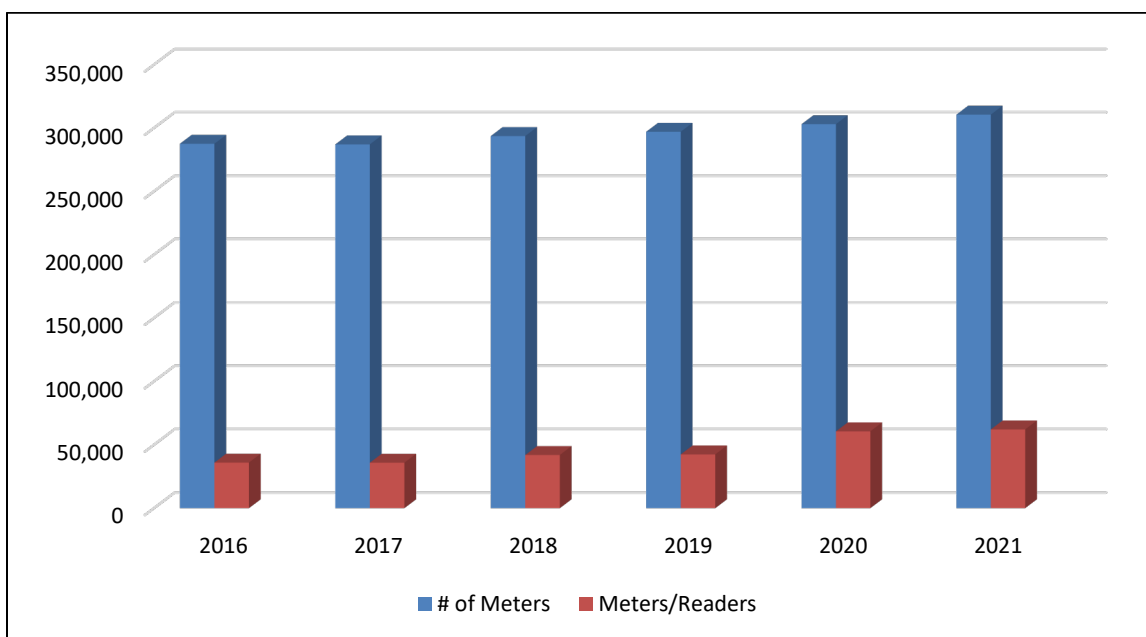
B. FINDINGS

XVI-1 Meter reading has become more efficient from 2016 through 2021.

The number of ETG meters to be read has increased by 8% from 2016 (287,523 meters) to 2021 (310,544 meters). During this same period, the number of meter readers has decreased from eight to five. The average number of meters read per meter reader was 35,940 in 2016 and 62,109 in 2021. This is an increase in meters read per meter reader of 72.8% over the last six years, 2016–2021, as shown in the following table and chart.

Number of Meters and Meters Per Meter Reader

Description	2016	2017	2018	2019	2020	2021	Percent Change
Total Meters	287,523	287,046	293,619	297,001	303,000	310,544	8.0%
Meters/Reader	35,940	35,881	41,946	42,429	60,600	62,109	72.8%



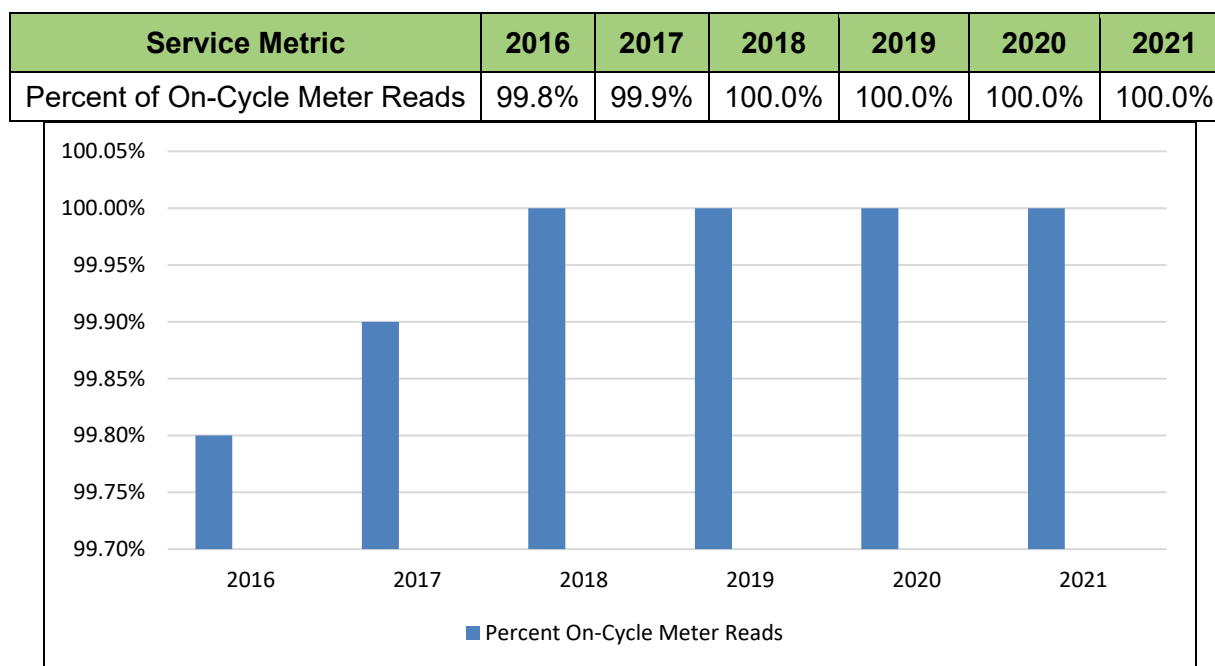
XVI-2 Meter reading percentages have exceeded NJBPU goals.

ETG's percentage of on-cycle meter reads has been consistently higher than the NJBPU requirements over the past six years. The NJBPU goal is 95% of meters read on-cycle. There are 21 billing cycles, and in order to distribute customer bills in a timely manner, gas meters must be read on a timely basis. ETG's percentage of on-cycle meter reads has been no lower than 99.8% for any year from 2016 through 2021, as shown in the following table and chart.

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On-Cycle Meter Reads



XVI-3 There was an increase in Meter Reading Estimates.

Meter Reading Estimates and No Bill Amounts increased significantly in 2020 and 2021. Estimates are necessary when access to the physical meter is restricted, or reading was not possible because of weather conditions.

Meter Reading Estimates 2016 - 2021

Description	2016	2017	2018	2019	2020	2021	Percent Change
Meter Read Estimates	.18%	.16%	.14%	.17%	1.31%	1.11%	N/A

The increase in meter reading estimates in 2020 and 2021 was partly due to the restrictions that were put in place to address customer and employee safety due to the Covid 19 pandemic and partly due to inclement weather, including blizzards, snowstorms, and a hurricane. Additionally, estimates were used in the conversion process from the previous billing system to the SJI CC&B platform in 2020.

XVI-4 ETG has an effective and efficient billing system.

ETG has used the Oracle CC&B application for billing its over three hundred thousand residential and commercial customers since March 2020. This customer information system provides ETG with the necessary customer billing functions and customer account management services required for a gas utility operating company. The Oracle CC&B is well considered in the utility billing arena and provides effective and efficient service to ETG, and to the ETG ratepayer.

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XVI-5 Corporate procedures governing the customer billing functions are lacking.

Documentation of the customer billing function at ETG consists of 25 pages of flowcharts. These detailed flowcharts that relate to the Sarbanes Oxley (SOX) key and non-key controls for the billing functions are displayed as process flows that are usually seen in computerized systems development environments. There are apparently no formal written instructions or procedures that provide a narrative of the work steps to be performed.

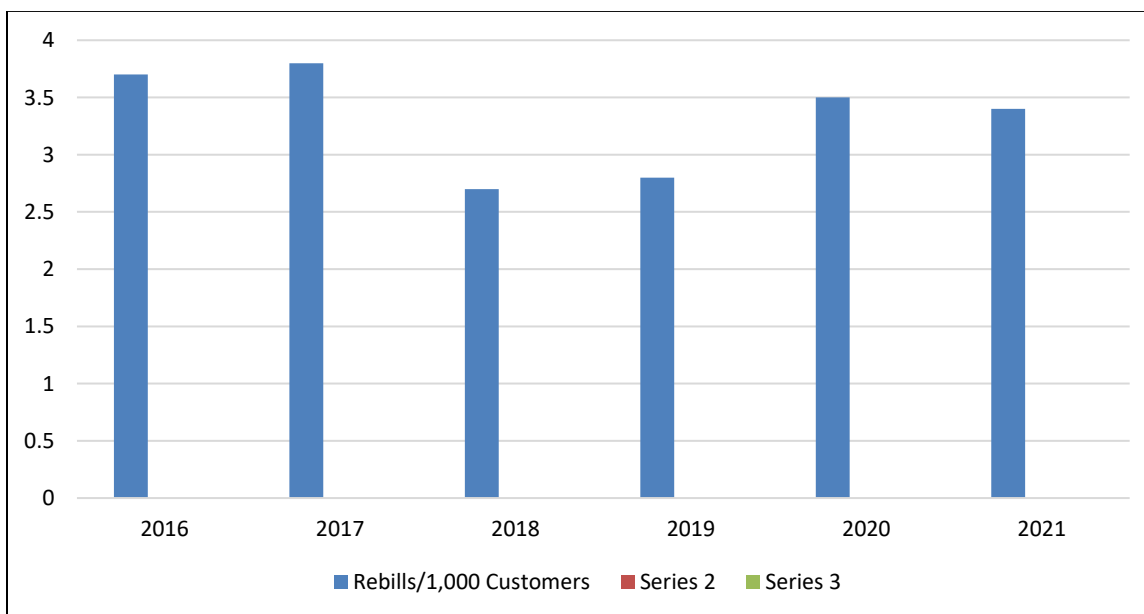
XVI-6 The average revenue collected per Field Collector has been significant over the past eight years.

The dollars collected through the work of Field Collection efforts has been fairly consistent from 2014 through 2021. The dollars collected have ranged from a low of \$2.3 million in 2020 to a high of \$5.9 million in 2019. The lowest collection amount was also when there were the fewest Field Collectors. The average amount collected by each Field Collector has ranged from \$488.6 million in 2016 to a high of \$688 million in 2019, with an average of \$603.1 million (average collections of \$4.644 million divided by 7.7, the average number of collectors = \$603.1 million).

XVI-7 Billing metrics have been consistently good.

The billing metric, “Rebills per 1,000 customers,” has been below 4.0 for the past six years, 2016 through 2021. This metric represents the requirement to send the customer another bill because the initial meter read was determined not to be accurate. The rebill numbers for ETG from 2016 through 2021 ranged from a low of 2.7 in 2018 to a high of 3.8 in 2017. The average number of rebills per 1,000 customers over this six-year period was 3.3, which is 1/3rd of 1%, which means that 99.67% of customer bills during this period were accurate.

Number of Rebills Per 1,000 Customers



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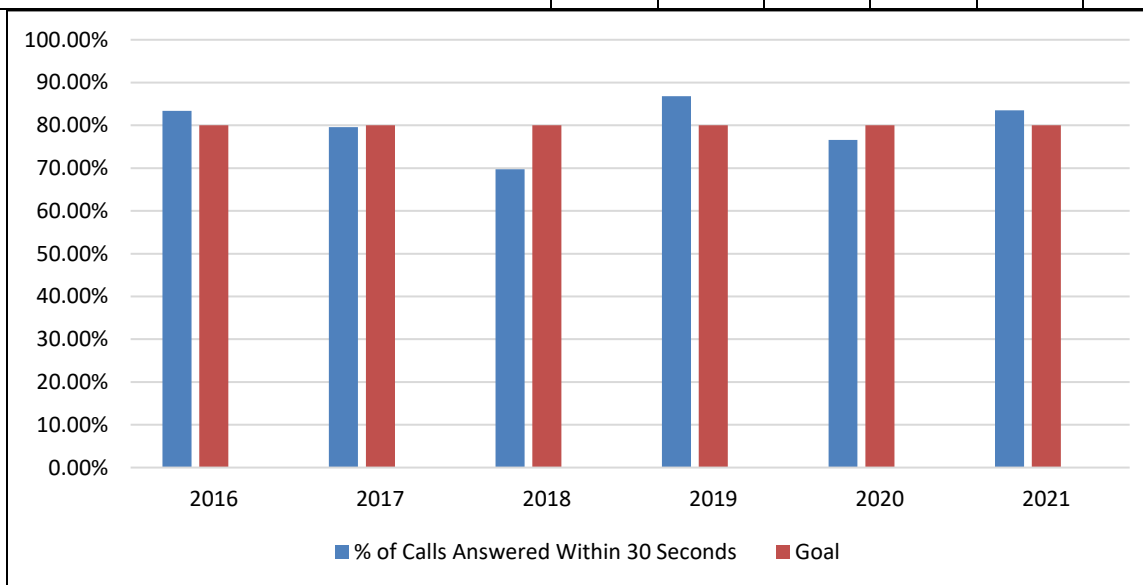
XVI. Customer Service

XVI-8 The percentage of calls answered within 30 seconds has shown recent improvement.

This metric shows whether a business has enough resources to fulfill customer needs. It indicates if customers are being quickly connected to CSRs and getting their problems resolved in a timely manner. Over the past six years, 2016 through 2021, ETG's Calls Answered within 30 Seconds metric has ranged from a low of 69.7% to a high of 86.8%. The most recent metric for 2021 was 83.5%, as can be seen in the following table and chart.

Percentage of Calls Answered Within 30 Seconds

Service Metric	2016	2017	2018	2019	2020	2021
Percent of Calls Answered Within 30 Seconds	83.4%	79.6%	69.7%	86.8%	76.6%	83.5%



XVI-9 ETG's Abandoned Call Rate Consistently Exceeded Goals.

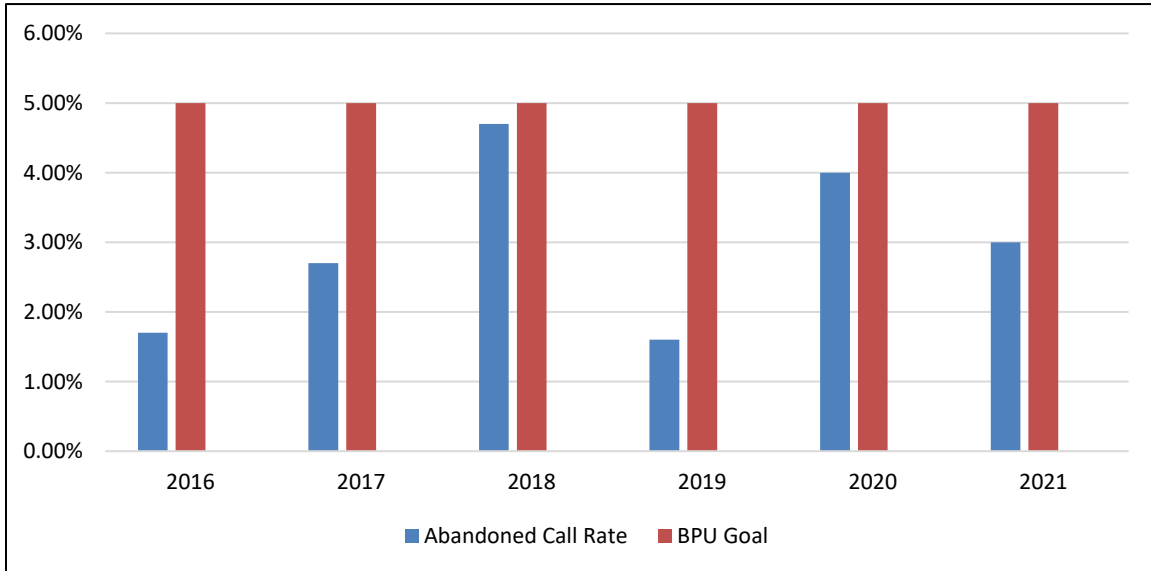
NJBPU has established a goal that no more than five percent of calls to the Customer Care Center (CCC) should be abandoned. Abandoned call rate is the percentage of customers who hang up the phone before they are answered by a CSR or ended a call while speaking with a customer service agent. This purports to indicate how often a CSR can successfully provide a solution before the customer gets frustrated and abandons the call. This metric is a reflection of the adequacy of staffing levels, systems, supervision, and response. ETG's Abandoned Call Rate for the 2016 through 2021 period exceeded the five percent goal set by NJBPU as shown in the following table and chart.

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Abandoned Call Rate

Service Metric	2016	2017	2018	2019	2020	2021
Abandoned Call Rate	1.7%	2.7%	4.7%	1.6%	4.0%	3.0%



XVI-10 ETG achieved its customer service appointments goal in all years.

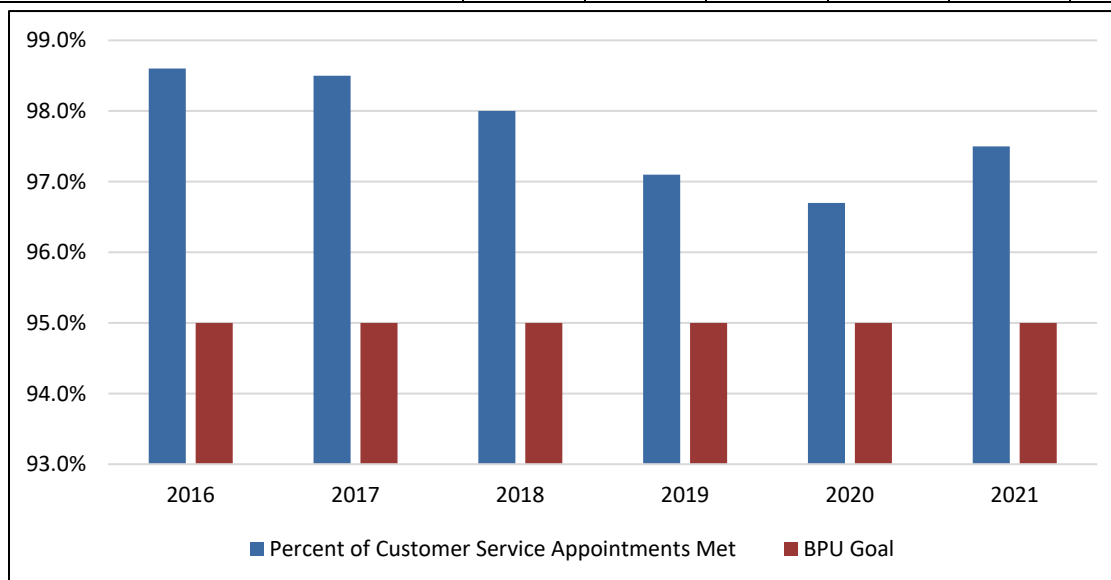
There is a NJBPU-set goal that ETG meet its customer service appointments 95% of the time. This is a metric that helps measure ETG's supervision, staffing levels, diligence, and systems support. During the six years for which data was available, 2016–2021, ETG met this goal every year as shown in the following table and chart.

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Percentage of Appointments Met 2016 – 2021

Service Metric	2016	2017	2018	2019	2020	2021
Percent of Customer Service Appointments Met	98.6%	98.5%	98.0%	97.1%	96.7%	97.5%



XVI-11 The number of customer complaints has declined since ETG was acquired by SJI.

ETG tracks and reports customer complaints by type of complaint and month to the NJBPU. Over the past thirteen years, a total of 4,849 complaints have been reported to the NJBPU, defined as 2,579 collections complaints, 998 billing complaints, 997 service complaints, and 275 other complaints. The average number of complaints per year was 373. The number of complaints over the past four years (2018–2021) has declined, with the average for these four years totaling 213. The number of complaints per 1,000 customers has declined as well, as can be seen in the following table.

Number of Complaints Per 1,000 Customers

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Complaints/ 1,000 Customers	2.0	1.7	1.1	1.2	1.7	1.5	1.1	0.8	1.1	1.0	0.5	0.4

XVI-12 The number of escalated complaints to the NJBPU has remained low.

ETG's number of escalated complaints to the NJBPU was low before ETG was acquired by SJI, and this number has gotten smaller since the acquisition in 2018. The NJBPU goal of one or less escalated complaint per 1,000 customers has been bested every year since 2010 as can be seen in the following table.

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Number of Escalated Complaints to the NJBPU

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Escalated Complaints Per 1,000 Customers	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0

XVI-13 There is no backup for ETG's Customer Care Center.

At the time of this audit there was no backup for ETG's Customer Care Center (CCC) to takeover in an emergency situation or to handle overflow requirements. Negotiations were ongoing with an outside vendor to handle overflow, but no deal had been made at the time of the audit field work. Backup support from the SJG CCC was not possible since SJG's employees belonged to a different union.

XVI-14 The performance of the outside collection agency exceeds requirements.

SJIU contracts with an outside collection agency to collect delinquent accounts for ETG. The collection agency is required to achieve a minimum percentage of debt recovery, calculated as the amount recovered as a percentage of amount to be collected. Required standards were 6% – 12% debt recovery for residential primary accounts and 8% – 15% for commercial primary accounts. Data related to collection standards was only available from April 2020 through the end of 2021. This data indicates a debt recovery rate of 65% in 2020 and 40% in 2021, far exceeding required standards.

XVI-15 There is no periodic peer review of ETG's Customer Service Function

There are no comparisons of customer service operations with those of peer companies. Only recently have these functions been compared to SJG's customer service functions.

C. RECOMMENDATIONS

XVI-1 Develop formal corporate procedures for the Billing function. (See Finding XVI-5)

This is the same recommendation that was made for ETG's sister company, SJG. Flow charts are useful in describing process flow and interactions with various entities, systems, and personnel. Flow charts are used throughout ETG for these purposes and are linked to relevant SOX controls and tests. However, written procedures, whether in a manual form or desk procedures, are more useful to describe work activities, as a basis for job descriptions and salary distinctions, and to provide management and auditors (internal and external) with a baseline of requirements against which to measure performance and compliance. Formal corporate procedures can be resident on ETG's internally shared files or can be in written document form available at the work group location. Written procedures should be reviewed as part of the annual SOX control reviews of relevant flow charts.

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XVI-2 Establish an agreement with a reliable customer service entity to provide backup as required for the ETG Customer Care Center. (See Finding XVI-13)

The obvious practical solution to the problem of a backup CCC would be to utilize the CCC for SJG. This would seem to offer the most efficient and cost-effective answer since both CCCs report to the same management organization, SJIU. While acknowledging the difficulties of coordinating and dealing with two different local unions, it would seem that something could be arranged to fulfill the backup requirement and still satisfy both of the unions involved. Absent this type of arrangement, ETG should pursue a contract with an outside customer service provider so that the backup support is in place as soon as possible. Whichever arrangement (SJG or outside customer service provider) is utilized should be included in ETG's disaster recovery planning.

XVI-3 ETG's Customer Service functions should be benchmarked against Peer Companies (See Finding XVI-15)

ETG's Customer Service function and department has not been compared to customer service functions in peer companies. Recently, this function has been compared to SJG's customer service operations. Due to the importance of the customer service function in a public utility, peer comparisons should be made on a regular basis to ensure that the ratepayers are receiving the best possible service.

XVII. EXTERNAL RELATIONS

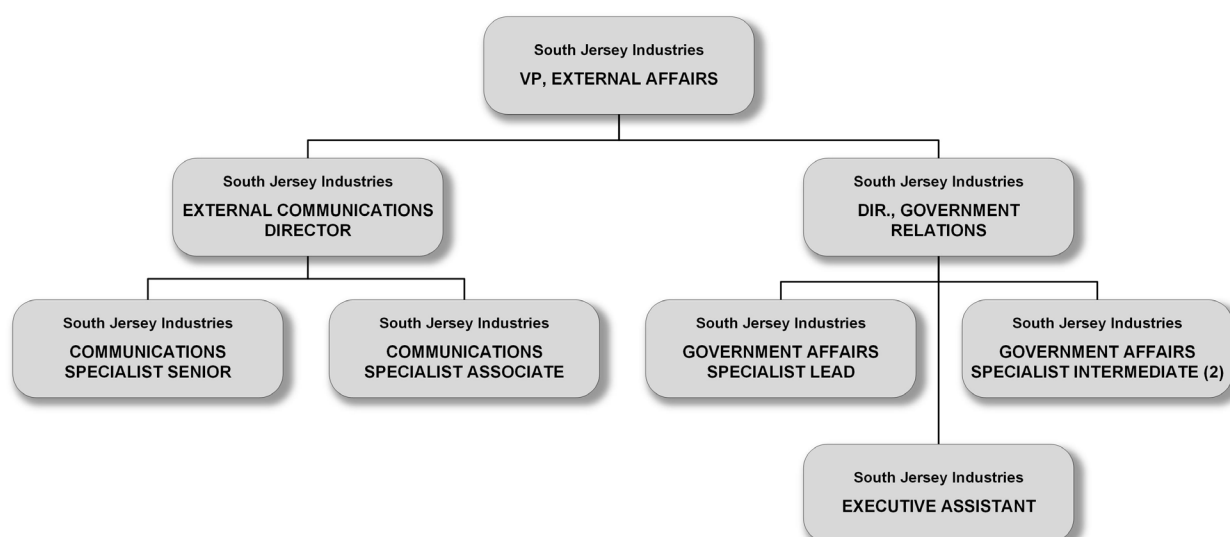
A. BACKGROUND

The ETG external relations function is provided primarily by the SJI External Affairs department. In addition to ETG, the External Affairs department also serves SJ and all SJ subsidiaries. The SJU Sales and Business Development organization also provides external relations related marketing and brand management support to ETG.

EXTERNAL AFFAIRS

External Affairs is led by a Vice President who reports to the SJ President and CEO. The External Affairs Organization Structure is shown in the following exhibit.

External Affairs Organization Structure



The External Affairs department has two sections, External Communications and Government Affairs, each led by a Director.

External Communications

The External Communications Director is assisted by a Senior Communications Specialist and an Associate Communications Specialist. One focuses on media relations and video communications and the other focuses on communications content, such as the Quarterly Newsletter and social media. Internal Communications is in the Human Resources department. See Chapter XI, Human Resources, for more information on Internal Communications.

External Communications maintains a list of 1,100 government relations stakeholders deemed to be “influencers.” Most are local government officials. The list does not include NJBPU or other state government officials. A quarterly newsletter is sent to the 1,100 stakeholders and the approximately 1,100 SJ employees, including SJU and ETG employees. 2021 newsletters covered a wide variety of topics such as renewable energy, safety, and renewable natural gas.

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External Communications promotes the SJI brand and its initiatives, such as renewable natural gas and infrastructure improvements. It writes news releases, responds to reporter inquiries, and develops corporate branding videos. External Communications facilitates SJI and SJG media “meet and greets.” There have been no ETG “meet and greets” to date and none are planned.

External Communications also manages the four SJI social media channels: LinkedIn, Instagram, Facebook, and Twitter. External Communications monitors social media using an automated platform that searches for key words relevant to SJI and other New Jersey local distribution companies. The SJIU Marketing function monitors social media for ETG.

External Communications assists with the annual Environmental, Social, and Governance report and, with Marketing, the SJI Annual Report. It develops press packets and mailers to shareholders.

Government Affairs

The Government Affairs team includes a Government Affairs Specialist Lead, and two Government Affairs Specialist Intermediates. In addition, the department is supported by an Executive Assistant.

Government Affairs manages state and local government relationships. The Director focuses on state legislative and administrative officials and the three specialists focus on local government relations with one hired in September 2022 assigned to and colocated with ETG. One SJG specialist also works on non-utility federal and state government affairs like renewable natural gas and hydrogen.

The ETG local government affairs specialist works with approximately 90 local governments in the ETG territories. The principal focus is on communication and coordination for construction projects. There is also an outreach program to mayors. For example, the mayors were recently notified of the SJI “Game On” grant program that provides \$1,000 grants to local sports leagues.

In addition, the External Affairs Vice President and the Government Affairs Director are individual contributors focusing on the state legislature and executive branch.

Government Affairs also manages the SJI and ETG corporate giving program.

Government Affairs has three contractors:

- A lobbyist focusing on Northern New Jersey and the New Jersey legislature and executive branch.
- A lobbyist focusing on South Jersey and the building trades unions.
- A consultant focusing on energy organizations like the Energy Council and other utilities.

These contractors have annual contracts with monthly retainers. Until 2023, External Communications also had a contractor for public relations and crisis communications.

SJI relies on the American Gas Association to follow federal legislative and administrative developments. SJI does not lobby at the federal level.

External Affairs utilizes two subscription services to assist with government relations:

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- An established subscription service for state government legislators and officials.
- A new subscription service for local government officials. This system can be used to track Government Affairs contacts made in the system.

There is a weekly “all-hands” meeting of the External Affairs team with each team member reporting. Once a quarter, this meeting is expanded to have an outside speaker on relevant topics, such as the renewable natural gas dairy farms.

The Vice President meets monthly separately with the SJI CEO, the SJIU President, and the Human Resources Director for Executive Succession and Development.

External Affairs has no performance metrics; its annual planning is all initiatives.

Both the External Affairs Vice President and the Government Affairs Director are licensed attorneys, but they do not practice law for SJI. They may make comments to the NJBPU on issues but make no filings. The ETG legal relationship with the NJBPU is handled by the Rates and Regulatory department attorneys. The Government Affairs Director leads the SJI pro bono legal initiative assisting low-income clients with getting their criminal records expunged. See Chapter XXI, Support Services, Legal, for more information on the SJI pro bono legal initiative.

SALES AND BUSINESS DEVELOPMENT MARKETING FUNCTION

Sales and Business Development is responsible for ETG and SJG sales and marketing. The Vice President has four direct reports. Two are responsible for SJG sales, one for ETG sales, and one for ETG and SJG marketing.

The ETG sales group is headed by a director who has two unit sales managers. Both sales managers are also individual contributors primarily dealing with commercial and industrial customers. The director and one manager are collocated at the ETG headquarters Union division office and the other sales manager is collocated at the Stewartsville Northwest division office.

The SJG sales groups are primarily organized by market segment, such as new construction, major accounts, compressed natural gas, and main extensions. The ETG sales group is organized by geographic division with one group covering all of the market segments in the Northwest division and one covering all of the segments in the Union division. ETG Sales gets some support from SJG Sales on heating, ventilation, and air conditioning contractor liaison and compressed natural gas customer liaison.

The Marketing function is led by a director and has three managers. One manager handles marketing for SJG and one handles ETG marketing. The third manager is responsible for market research and business development for both SJG and ETG. Marketing activities include conversion to natural gas campaigns, energy efficiency promotions, customer communications, and main extension campaigns. Essentially, Marketing generates prospects for the sales representatives to turn into customers.

Marketing is the brand manager for SJG and ETG and manages the SJG and ETG websites. It maintains the brand policies and guidelines.

Sales and Marketing is driven by targets for new meters added each year and the associated increase in after-tax margin (ATM). The Vice President confers with his team,

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analyzes past results, and proposes targets each year for approval by the ETG President and the SJIU President. They may recommend adjustments in the targets. Then Financial Planning uses the new meter target to calculate the expected revenue margin addition. Once the target for new meters is set, the targets cascade down to prospects needed and sales targets by market segment and territory.

B. FINDINGS

XVII-1 External Affairs has well-developed mission, goals, and initiatives statements.

The External Affairs mission statement is:

The SJI External Affairs team develops, implements and drives a cohesive strategy to align our most impactful and influential external stakeholders, including elected officials, policy makers, regulators, media outlets, community leaders, industry participants and our customers, with SJI's brand, actions, and values. Through a properly calibrated alignment of government affairs, strategic communications, stakeholder & community relations and related functions, the External Affairs team seeks to advance corporate initiatives, support business objectives and position SJI as an industry leader.

The External Affairs department goals are:

Position SJI as a meaningful resource to the communities we serve, strengthening external relationships and driving positive brand perception across the state.

Align SJI with statewide decarbonization goals and effectively communicate our efforts and initiatives to external stakeholders and influencers.

Provide public policy direction and industry perspective on matters that will advance the organization's interests.

Reinforce partnerships with Federal, State and local elected and appointed government officials and agencies, as well as influential media professionals and organizations, to drive support for corporate initiatives.

Develop, lead and execute strategic corporate sponsorship and corporate giving programs, initiatives and activities to align with organizational philosophies and advance corporate citizenship goals. Promote goodwill and meaningful outcomes while strengthening relationships with community leaders and stakeholders.

The current initiatives of the External Affairs department include:

External Communications

Establish, cultivate and strengthen relationships with key media personnel and organizations.

Define the brand we want SJI to represent in the industry and region.

Create an external communications plan that is strategically calibrated to drive key messages.

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Civic, Community, and Stakeholder Engagement

Develop and execute a community and civic engagement campaign.

Identify and activate external brand ambassadors to create and reinforce positive brand recognition.

Lead efforts to engage employees in strategic volunteerism, workplace giving, and community relations events, to create positive change in the community.

XVII-2 External Affairs communicates well within SJI.

The External Affairs department makes periodic reports which were approximately bi-monthly in 2021. The reports typically cover:

- Federal and state legislative updates on matters relevant to SJI, such as, renewable natural gas, Covid-19 requirements, and prior notice to municipalities on construction projects
- Outreach to local elected officials, principally around construction project permitting and coordination
- Community relations activities, such as charitable giving and participation in local events
- External communications, such as executive interviews and appearances, customer communications, and social media activity

XVII-3 External Affairs prepares a comprehensive annual SJI External Communications Strategy.

The SJI External Communications Strategy covers ETG. The 2021 strategy included:

- Objectives
- Audiences
- Strategy
- Tactics by audience
- Key messages

The strategy is comprehensive and covers all relevant audiences, including:

- Shareholders and potential investors
- Customers
- Federal, state, and local government officials
- Media
- SJI leadership and the Board of Directors
- Employees and Internal Brand Ambassadors
- Potential public office candidates
- Government and policy influencers
- Environmental, social, and governance ranking organizations

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Communication initiatives are wide-ranging, including a newsletter; videos (such as on the SJI Core Values like safety); speaking engagements; press releases; SJI, SJG, and ETG websites; social media; internal newsroom; and presentations at SJI leadership meetings.

XVII-4 External Affairs has a current list of New Jersey media outlets in the ETG territory and maintains relationships with them for public relations purposes.

External Affairs has a list of 16 media outlets in the ETG territory and the New York City market covering newspapers, television, online outlets, and radio. It maintains relationships with them and communicates with them for public information and public relations. External Affairs has a similar list for the SJG territory and the Philadelphia market. The combination of the ETG and SJG media lists make up the SJI media list.

XVII-5 External Affairs prepares a SJI Utilities Pipeline Safety Communication Plan in compliance with the American Petroleum Institute Recommended Practice 1162.

External Communications assists ETG in compliance with the Recommended Practice (RP) 1162 Public Awareness Program. 49 CFR 192.616 and 195.440 require pipeline operators to develop and implement public awareness programs that follow the guidance provided by the American Petroleum Institute Recommended Practice 1162, "Public Awareness Programs for Pipeline Operators."

Federal pipeline safety regulations (49 CFR 192.616 and 49 CFR 195.440) require pipeline operators to develop and implement public awareness programs that follow the guidance provided by the American Petroleum Institute (API) Recommended Practice 1162, "Public Awareness Programs for Pipeline Operators" (incorporated by reference in federal regulations).

API RP 1162 is an industry consensus standard that provides guidance and recommendations to pipeline operators for the development and implementation of enhanced public awareness programs. It addresses various elements of such programs, including the intended audiences, the kinds of information to be communicated, frequencies and methodologies for communicating the information, and evaluation of the programs for effectiveness.

In compliance with the RP 1162 requirement, External Affairs maintains a SJI Utilities Pipeline Safety Communication Plan that covers ETG. 2021 initiatives under the plan included:

- Safety brochures mailed in June by the vendor Paradigm to RP1162 stakeholder audiences:
 - ◆ South Jersey Gas – 21,776
 - ◆ Elizabethtown Gas – 6,417
- Thirty-seven in-person first responder training sessions

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- Nineteen outreach events for safe digging with contractors and the general public (Lowes and Home Depot parking lot events, Atlantic City Airshow, Sussex County State Fair)
- 8-1-1 safety messages emailed in monthly customer newsletters in April and August, regular messages to direct customers, and the safety pages of the ETG and SJG websites
- Social media messaging campaigns for Safe Digging during National Safe Digging Month in April and 8-1-1 Day in August
- “Nosey” leak detection and reporting inserts produced by the Northeast Gas Association mailed in March to all customers in their bills
- Pipeline and Natural Gas Safety fact sheets mailed in November to all customers in their bills
- Local radio ads distributed featuring 8-1-1 and leak reporting information
- Annual review of RP1162 written plan completed and quarterly meetings held for SJG Pipeline Safety Communication team of teams

XVII-6 ETG, through the program well-coordinated by External Affairs, exceeded its charitable giving commitment in 2021.

Government Affairs manages the ETG charitable giving program. From the SJG acquisition of ETG in 2018 through 2022, ETG was required to donate at least \$190,000 per year to organized charities and communities. The majority goes to long-standing relationships with charities. However, a portion is budgeted for unexpected new requests each year. ETG employees sometimes advocate for charities they are involved with.

ETG had \$215,000 in charitable giving and community support in 2021. This exceeded its SJG merger commitment of \$190,000. Twenty-eight charities received grants and donations ranging from \$314 to \$25,000. Recipients were wide-ranging and included food banks, health care, first responders, education, and local governments.

The ETG charitable giving program is guided by the SJG Corporate and Charitable Giving Pillars, the ETG First Responders Grant Guidelines, and the ETG Game On Grant Guidelines. The SJG Giving Pillars are:

- Educational and Vocational Career Development
- Environmental Stewardship
- Community Enrichment and Economic Development
- Diversity and Inclusion

The First Responders Grant Program provides variable grant amounts to support operations conducted by ETG territory first responder departments. The Game On Grant Program provides grants to support ETG territory local community centered sports and athletic programs, leagues, clubs, associations, and recreational organizations for youth. The program awards twenty grants in the amount of \$1,000 to qualified applicants selected at random.

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Government Affairs also maintains memberships in local community organizations like Chambers of Commerce. Neither the charitable giving costs nor the community organization membership costs are recovered in ETG rates.

XVII-7 The SJIU Marketing function develops and implements a Marketing Strategy for ETG each year.

The SJIU Marketing function in the Sales and Business Development organization develops a Conversion Marketing Plan and an Energy Efficiency Programs Marketing Communications Plan each year as part of an overall marketing strategy for ETG. The plans cover the timing of various marketing support activities like customer and prospect emails, social media advertising, website support, digital advertising, and paid search results.

XVII-8 SJI formed the External Affairs, Marketing, and Internal Communications Committee for the informal coordination of SJI messaging; however, it has no charter and no meeting minutes are kept.

As recommended in the SJG management audit, SJI formed the External Affairs, Marketing, and Internal Communications Committee. This committee has a monthly meeting that also includes representatives from the Investor Relations (prior to the IIF acquisition of SJI); Environmental, Social, and Governance; and Diversity and Inclusion departments. The meeting is led by Marketing. An administrative assistant compiles a list of agenda items from each member and sends a meeting invitation with the agenda. However, there are no minutes of the meeting.

Members of the External Affairs, Marketing, and Internal Communications committee report that it has had a positive effect and aids in the coordination of consistent messaging for SJI. However, it has no formal charter and minutes of information presented and decisions made are not kept.

XVII-9 External Affairs has a role in SJI brand management but the SJIU Marketing function maintains the Brand Book.

External Communications manages the SJI brand. The SJI brand covers the utilities and non-utility entities and stands for clean energy, safety, service, inclusion, and community. These are the Core Values and part of the Vision from the One SJI Mission, Vision, and Values statement. However, the SJIU Sales and Business Development group Marketing department manages the ETG and SJG brands.

The SJIU Marketing function in the Sales and Business Development group developed and maintains the sole SJI Brand Book that covers the Brand Identity Guidelines and Logo Usage. The Brand Book covers SJI and all of its subsidiaries, including ETG and the non-utility subsidiaries. It is 50 pages long and covers the SJI brand strategy, standards, and usage.

Likewise, External Communications manages the main SJI website but not the ETG and Investor Relations pages. The ETG website is managed by SJIU Sales and Marketing and the Investor Relations page was managed by Shareholder Relations. The websites are currently being updated to reflect the SJI acquisition by IIF.

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XVII. External Relations

C. RECOMMENDATIONS

XVII-1 Formalize the External Affairs, Marketing, and Internal Communications Committee with a charter, designated chair, and meeting minutes. (See Finding XVII-8)

The formation of the External Affairs, Marketing, and Internal Communications Committee was an important initiative to coordinate the several SJI functions that have communications responsibilities. It has had a positive effect to date. However, it could be improved with some additional formality. SJI should write a charter for the committee, appoint a chair, and keep minutes of the discussions and decisions. The charter should be formally reviewed for relevancy, updated as necessary, and reapproved at least every three years.

XVII-2 Clarify the SJI brand management responsibilities. (See Finding XVII-9)

Currently, SJI External Affairs is responsible for the SJI brand and SJIU Marketing is responsible for the ETG and SJG brands. A similar situation exists for the management of the respective websites. The specific responsibilities for the SJI and ETG brands and websites should be clarified and formalized. A final authority for these topics should be named. This could be done through the External Affairs, Marketing, and Internal Communications Committee.

XVIII. DISTRIBUTION AND OPERATIONS MANAGEMENT

Distribution and Operations Management is presented in eight sections:

- A. Utility Shared Services
- B. Safety and Quality Assurance
- C. Business Operations
- D. Field Operations
- E. Engineering
- F. Construction Operations
- G. Findings
- H. Recommendations

This chapter does not include reviews of Smart Grid Activities or Cyber Security and System Vulnerability.

- ETG does not utilize any metering system or Advance Meter Reading processes and procedures that interface with or support any Smart Grid-related technologies and facilities.
- Cyber security and system vulnerability is the responsibility of the Security and Technology Architecture section which is part of the Information Technology Department. Information Technology is covered in Chapter XXI, Support Services; and Cyber Security is covered in Chapter XXIV, Cyber Risk Mitigation/Cyber Security.

A. UTILITY SHARED SERVICES

Cyber risk mitigation and cyber security

BACKGROUND

Elizabethtown Gas Company (ETG) is a regulated Local Distribution Company (LDC) that owns/operates its own natural gas pipeline network. ETG receives gas into its system and distributes that gas to end-use customers within its geographic footprint. The principal mission of transmission and distribution system operations is to provide a safe and reliable network that minimizes gas system safety incidents. LDC's strive to prevent leaks and high- or low-pressure incidents that can cause property damage, injuries, or service interruptions.

ETG serves residential, business, and industrial customers within a service territory that covers the northern part of New Jersey, including municipalities throughout Union, Middlesex, Sussex, Warren, Hunterdon, Morris, and Mercer Counties.

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Customers by Category

Year	Residential	Commercial	Industrial	Totals
2022	285,328	23,549	101	308,978
2021	281,612	23,750	102	305,464

ETG Transmission and Distribution System

The ETG transmission system is divided into sections that are not connected to one another as follows:

- Northwest division is comprised of Sussex, Warren, Morris, Hunterdon, and Mercer counties. Northwest division serves 70,000 customers and has approximately 1,400 miles of distribution main lines and 13 miles of transmission main. The Northwest division represents approximately 80% of ETG's geographic territory and 20% of the customers. Line pressures have the ability to operate at 950 pounds maximum allowable operating pressure (MAOP) but generally operate at 650 pounds MAOP.
- Union division is comprised of Union and Middlesex counties. The Union division serves 239,000 customers and approximately 1,900 miles of distribution main. The Union division represents approximately 20% of ETG's geographic territory and 80% of the customers. The Union division is an older infrastructure with the majority of the system approximately 25 pounds per square inch gauge (PSIG) MAOP.

ETG INFRASTRUCTURE STATISTICS

Gate Stations by Interstate Pipeline:

New Jersey does not produce natural gas, nor does the state have any natural gas reserves. The majority of the state's natural gas supply enters New Jersey from natural gas transmission long-distance pipelines. There are four interstate pipelines that provided gas to ETG during the years 2009 through 2021 with various entry points into ETG's distribution system. Those entry points are commonly referred to as Gate Stations and the number of gate stations on each pipeline are as follows:

- Transco – eight
- Texas Eastern – five
- Columbia Gas Tennessee Gas – three
- Tennessee Gas – two

Transmission and Distribution Infrastructure:

Transmission pipes generally run in straight lines, have few side connections, and are not tapped for customer services. Distribution pipes receive from transmission lines and distribute gas throughout a community. Distribution pipes have many side connections and are frequently tapped for customer connections. Transmission lines are generally associated with interstate pipelines; however, distribution companies can also have transmission lines depending on the geography. ETG has approximately 13 miles of transmission mains, all of which are located in the company's Northwest Division. As

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previously stated, the Northwest division represents approximately 80% of ETG's geographic territory and 20% of its customers. The transmission line primarily supplies a natural gas power plant rather than residential or commercial customers.

ETG's system mileage includes:

- Distribution Mains – 3,314 miles
- Transmission Mains – 13 miles

DISTRIBUTION AND OPERATIONS MANAGEMENT ORGANIZATIONAL STRUCTURE

The Vice President of Distribution and Operations Management reports to the President of ETG. The ETG transmission and distribution system operations is divided into four segments: (1) Business Operations, (2) Field Operations, (3) Engineering and Asset Management, and (4) Construction Operations. There is a mix of ETG employees and contractors supervised by the appropriate Senior Directors in all of these four groups. The Vice President of Distribution and Operations Management reports to the President of ETG.

The ETG Operations group is also supported by two SJIU level centralized groups that serve both ETG and SJG:

- Utility Shared Services
- Safety and Quality Assurance

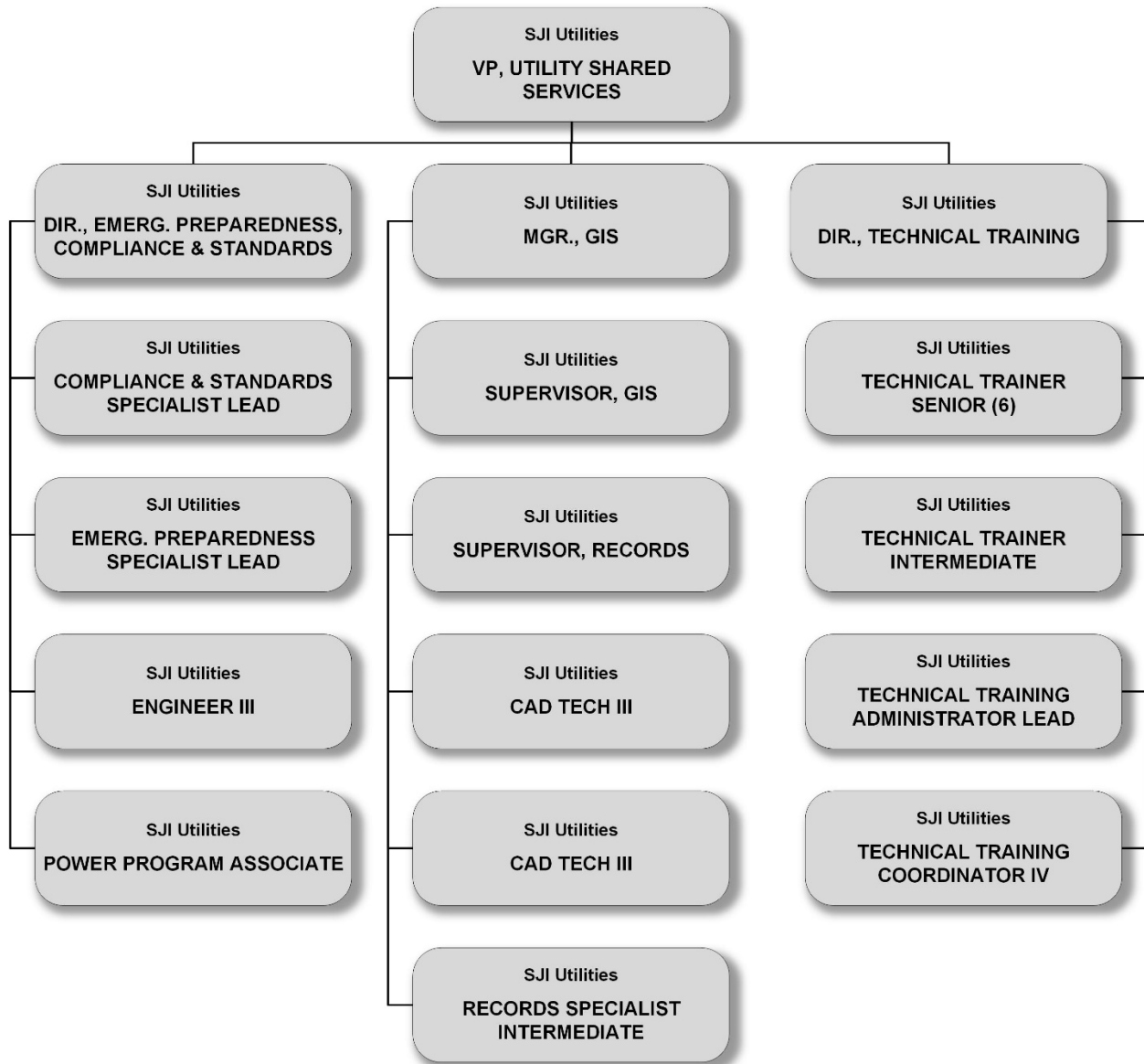
UTILITY SHARED SERVICES

Utility Shared Services is a SJIU organization serving both ETG and SJG. The organization structure for the Utility Shared Services group is shown in the following exhibit.

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Utility Shared Services Organization Structure



GEOGRAPHIC INFORMATION SYSTEM (GIS)

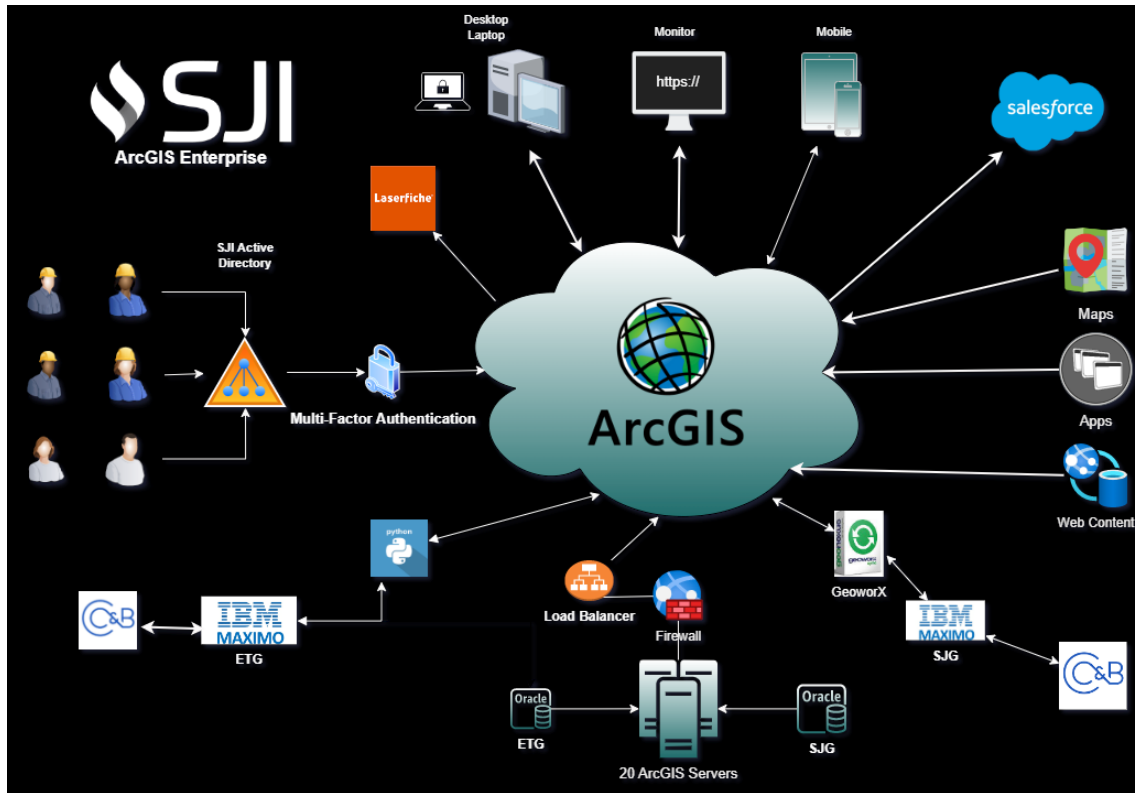
GIS is a system that creates, manages, analyzes, and maps all types of data. GIS connects data to a map, integrating location data with all types of descriptive information.

ETG asserts that they are one of the first natural gas utilities to implement the Environmental Systems Research Institute's (ESRI) ArcGIS Utility Network (UN), a spatial information system that provides functionality over massive datasets. A utility network is the main component users work with when managing utility and telecom networks through ESRI's ArcGIS PRO, a desktop GIS application. It provides a comprehensive framework of functionality for the modeling of utility systems such as electric, gas, water, storm water, wastewater, and telecommunications. In addition, ETG's GIS and document management data is available via mobile, desktop, and offline applications. ETG's GIS is

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integrated with various systems throughout the organization. The following image illustrates the connection throughout the organization:



The Utility Pipeline Data Model, as currently construed, comports with ESRI standards. ETG asserts that the GIS improved model is among the leading applications of GIS software in the world and that the enhancements implemented by ETG are so respected in the industry that other gas companies are consulting with ETG for recommendations.

The GIS system was inherited from Southern as part of the acquisition. ETG used the foundation in the then current GIS system to build a progressive and cutting-edge system within an 18-month time frame. There are measures in place to clean up existing data, and further enhancements are being developed for the future. GIS has been programmed to generate cost estimates from design plans.

All leak information, locate work, construction projects, and any aspect of business that would result in work to be completed is added in the Maximo System. Maximo interfaces with GIS allowing it to have a comprehensive database of work underway as well as future work that is identified.

GIS now has a complete picture of work projects both current and future. A sophisticated model of the entire embedded network has been built, which incorporates the following attributes:

- GIS dovetails with the Maximo System enabling cost estimates to be generated from precursor design “as-built” plans.

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- Moreover, when actual “as-builts” are recorded downstream -- and contracted physical assets are available, predictions are compared with actual physical assets.

A model of the entire network has evolved. In that context, the following data construct has been established:

- Physical address: a local map of the address is generated and the infrastructure that has been installed is positioned on the site map, with dimensions of “as-builts” added.
- An ability to “telescope down” to provide “actuals” as needed to proceed, with confirmation that a full data set has been acquired.
- The physical address is added.
- A local map of the address is generated.
- The infrastructure that has been installed is positioned on the site map.
- Dimensions of “as-builts” are added.
- Once established, there is the ability to “telescope down” to any desired level of aggregation. This provides a capability to generate “actuals,” as may be needed to proceed -- with confirmation that the full data set has been acquired.

GIS system mapping provides the approximate location of the gas assets owned by ETG. This feature is of high interest to ETG System Operations so that damage and conflicts can be avoided. Examples of when the location of ETG gas assets are important to system operations include:

- Any form of excavation
- Below ground leak investigation and pinpointing
- Service abandonment
- Service replacement
- Leak repairs
- During the design phase of new main and service work
- New main and service installation
- Replacement of main and service

Training

All employees at ETG who require access to the GIS system are provided with general system training on the GIS application (i.e., Asset Viewer). Additional advanced training is provided for particular jobs. Lastly, ETG generates reports upon request (e.g., mapping asset data, etc.).

GIS Enhancements

Planned, upcoming enhancements to GIS include the Tracking and Traceability program, Outage Management, Emergency Preparedness, and ad hoc applications requested or required by the business.

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The Track and Trace application is in the final stage of development. This application will track an exhaustive list of materials to include pipe, valves, fittings, etc. For the future, ETG, through GIS, will be able to establish the pipe, valve, supplier, diameter of fittings, and installation date or repair date for each specific geographical location.

The Track and Trace application will be able to compare the materials used in a project to a projection of what should have been used. GIS will be able to count materials used by contractors in a particular project (i.e., identify items not reasonable – catch mistakes).

Audits not Tracked

The GIS Platform assumes that work required as a result of ETG's examination of their pipeline systems is itemized in work orders entered into the Maximo system. Therefore, the inquiries or probes made in the process of identifying said work are not tracked by the GIS System. GIS does not track the following items:

- Any audit information at ETG.
- Work required as a result of audits associated with physical operations. Only a work order entered into Maximo/GIS is tracked.

TECHNICAL TRAINING

The Technical Training group provides technical training and operator qualification (OQ) certifications for both ETG and SJG. The Director of Technical Training guides the overall learning and development for the organization. The team is responsible for developing, implementing, and evaluating employee development plans and programs to support the organizational needs to comply with state regulations.

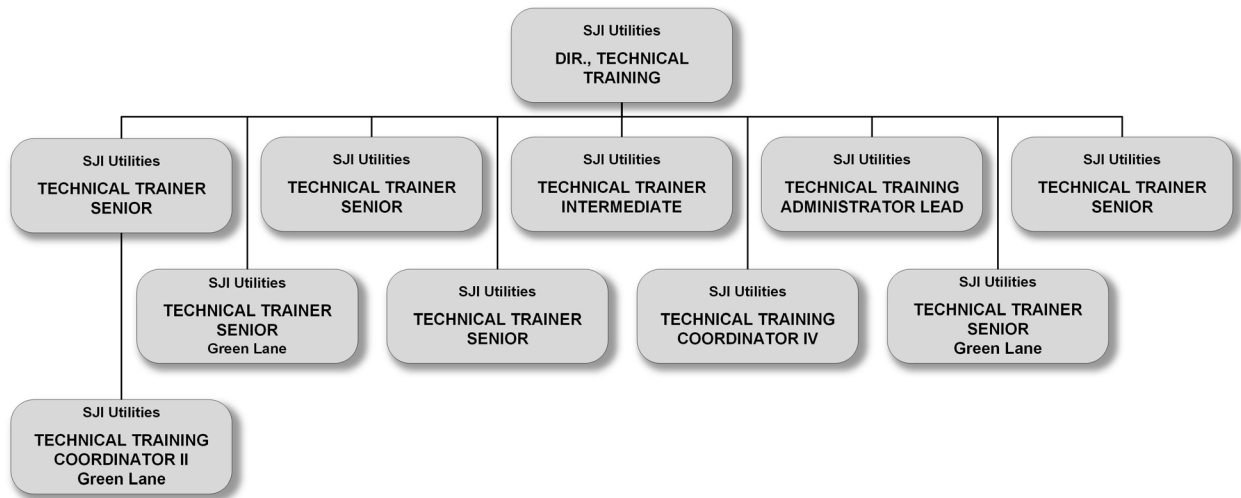
The Green Lane training center is staffed with two Senior Technical Trainers and a Coordinator. The coordinator reports to a Senior Technical Trainer located in the Green Lane training center.

A six-person group operates the Glassboro training center and provides technical training and OQ services to SJG employees and some contractors. A Senior Technical Trainer leads the group and is proficient in all areas of training and acts as a technical resource for less experienced employees. The following exhibit shows the Technical Training group organizational structure.

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Technical Training Group Organizational Structure



The six-person group for the Glassboro technical training and OQ certifications includes a Coordinator, an Administrator, and three Senior Technical Trainers. The coordinator does class scheduling, administers tests, and maintains the employee and contractor OQ records matrix.

The Administrator oversees the OQ program for the approximately 2,000 contractor employees, including the New Jersey Board of Public Utilities (NJBPU) required semi-annual audit program for both ETG and SJG, to ensure that ETG and SJG contractors are complying with the OQ program requirements.

Two of the Technical Trainers are focused on Utility Services, and one is focused on Field Operations. Technical Training only does OQ and new hire training for Field Operations and Construction Operations. All three Technical Trainers plus the manager do the second performance evaluation component of the OQ certifications. The first part is a written test.

ETG Utility Services does its own On the Job Training (OJT) shadowing the more experienced responders. One of the Technical Trainers just does street department, meter readers, new employees, and contractor basic meter activation. A coordinator does class scheduling, administers tests, and maintains the employee and contractor OQ records matrix.

Independent contractors train their own new employees; therefore, it is recognized that new contractors are already OQ qualified. Regardless, new contractors must go through training from ETG so that ETG is satisfied that they are fully trained. Existing contractors are long-term ETG contractors and understand ETG standards. There is no need for ongoing ETG basic training for contractors. The contractors train their own new employees. Any changes to ETG standards are communicated to the contractors and they must acknowledge the change.

Actual Training

Virtual Reality training is used to put employees in emergency situations that are difficult to create in the training center and situations that they may not experience in the field on

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a regular basis. The training modules allow the employees to interact with the public and first responders while identifying hazards and remediating problems on a gas emergency scene. Tools are provided within the module to assist employees in completing the job properly and safely. After completing the module, employees see a review indicating the portions completed properly and any portions missed or not completed properly.

The Training Department meets with Operations Management to review the tasks performed by the field employees. The tasks are matched up with the OQ test/modules offered by ETG's Learning Management System, Industrial Training Services. Each job role has a matrix which identifies the OQ tasks required to perform that job.

There are 17 categories of mechanical divisions that, depending on a trainee's role, a trainee must master. Examinations required by the Technical Training Department include the Green Lane Street Mechanic II Schedule and Virtual Reality Training Modules, which are discussed below.

Green Lane Street Mechanic II Schedule Breakdown

The Green Lane Street Mechanic II Schedule includes:

- Core tasks require completion of 10 examinations.
- Upon completion of 3 months OJT the completion of 21 examinations is required.
- Upon completion of 6 months OJT the completion of 18 examinations is required.
- Upon completion of 9 months OJT the completion of 14 examinations is required.
- Upon completion of 12 months OJT the completion of 10 examinations is required.

Testing begins with a written test; there are 170 written tests in all. Not every test is required of every employee but the appropriate tests are administered and there may be 100 applicable to any one employee. Each written test is associated with rules and regulations and physical equipment ranging from hand tools to large equipment.

ETG has a fully equipped training facility with a classroom; written testing room; appliance lab; meter wall; sheds for meter sets; and concrete and asphalt breaking, trenching, and equipment operation. The meter wall provides training on how to set a meter at a residential home that may be placed on a wall. Sheds are used to demonstrate larger meter sets including meter installation and maintenance procedures (i.e., the meter must have the appropriate regulators and gas flow must be at the proper rate as well as ensuring that the meter registers accurately and safely after installation is complete). Concrete and asphalt surfaces are used to demonstrate jackhammers and the like. Trenching is used to demonstrate the equipment to lay pipe in trenches and equipment includes the operation of tractors and small backhoes. Safety includes many other considerations, such as ensuring that compression hoses are attached properly.

ETG takes surveys from those employees that have completed the training courses. Many updates and improvements have been made based on the results of the surveys.

Virtual Reality Training Modules:

To improve emergency response effectiveness and coordination, first responder trainees are challenged and assessed on their ability to conduct critical job tasks using virtual reality training modules. These tasks include:

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- Perform a leak investigation – Locate, classify, and document the nature, location, and severity of the gas leak emergency.
- Identify and eliminate ignition sources – Identify all potential ignition sources that could turn a gas leak into a life-threatening explosion.
- Evacuate, ventilate, and secure the area – Follow protocols to ensure the protection of life and property including orders to evacuate and secure the area.
- Communicate and Coordinate – Coordinate with dispatch and the local fire department while relaying critical information to at-risk customers.
- Monitor Changing Conditions – Actively monitor the situation for changing gas levels, gas migration, and other factors.
- The training modules consist of the following:
 - ◆ Emergency Response Situations
 - ◆ Inside Meter Inspection
 - ◆ Appliance Inspection
 - ◆ Inside Leak Investigation
 - ◆ Outside Leak Investigation and Classification
 - ◆ Facility Locating and Marking
 - ◆ Pipeline Patrolling
 - ◆ Leak Survey

ETG provides safety glasses, steel toed boots and head mounted tablets on hard hats for ground field workers. The head mounted tablet (HMT) is an android computer that is worn on the head; it is hands free and voice activated. It allows the user to communicate and broadcast live. The Training Department is the only department using the HMT. ETG purchased it during COVID shutdown to conduct virtual training classes. ETG continues to use it for remote training classes. Other advantages of using an HMT include:

- The HMT can provide hands-free verification and visual documentation with a high-definition camera that takes photos and videos of hard-to-reach places. Currently this feature is only used to deliver training to remote groups.
- The HMT can provide workers with real-time data needed when operating, inspecting, or maintaining equipment. Currently this feature is only used to deliver training to remote groups.
- The HMT allows more productivity and improved safety by viewing technical manuals and reference documents with eyes forward and hands-free.

Employees are trained to use the Mueller High Pressure stop changer. This device is used when a high pressure stop needs to be exchanged and a curb stop cannot be located. ETG uses compressed air to simulate natural gas. ETG provides meter bypass training with compressed air. The bypass process is most often used for commercial accounts; it will allow ETG to perform maintenance on the meter and/or build-up without interrupting gas service.

ETG has a Training Trailer to educate the public on a basic natural gas system and how natural gas is supplied to ETG's customers. The trailer has a mock distribution system

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with a pipeline regulator station (worker/monitor) feeding a distribution main, then to a customer service line, and then into a residential meter set. The mock system has different components such as electrofusion couplings, elbows, and an electrofusion tee along with an excess flow valve (EFV). The trailer also has a pipeline marker along with a casement vent.

Training implemented a PIXAR virtual reality training system in recent years. Among other things, PIXAR's mission is to provide a world-class education to anyone, anywhere on any topic in a televised manner. ETG, through its PIXAR system, built a learning and development (L&D) on-line training center that works. ETG invested in training programs that emphasize its core mission of safety first. ETG matches their systems operations workforce with the right safety courses, choosing from a library of 450 online safety courses.

PIXAR has a simulator that allows the student to practice and eventually master various controls such as levers, fixtures, and all the operational devices/attachments. Using a simulator, individuals can deal with various potential risks and pressures that can occur in real time by following the rules and regulations. A simulator creates an exact recreation of the real event. Skills learned in the simulator will be identical to what the student will encounter on the job. The simulator scores the performance of the student and provides guidance for improvement as well as the correct answers for any errors. PIXAR does not have a driving simulator. Although logistically ETG has the space to house a simulator for driving, currently there is no plan to purchase one.

ETG joined the tidal wave of organizations rapidly shifting to online training. It is safer, smarter, more efficient, and supports every level of critical workforce development.

COMPLIANCE, STANDARDS, AND EMERGENCY PREPAREDNESS

Compliance, Standards, and Emergency Preparedness ensures all required work is performed in accordance with federal, state, and utility standards. Performance is completed within the standards and protocols required. Having the alertness and mobility to prepare for a disaster and knowing what to do before, during, and immediately following an emergency are the heart and groundwork of emergency management and preparedness.

Compliance

The Compliance Department ensures that required work is performed as required by federal, state, or internal standards, such as leak surveys and valve inspections, through the work management system. GIS has the transactional data that itemizes leaks found, work detail, and information detailed with regard to the completion of the work performed. Work completion is monitored weekly, monthly, biannually, and annually through trackers and displayed on Dashboards for the business to validate. Additionally, reports required by the NJBPU are checked/audited and data retrieved through various data sources, Maximo Reporting, and Power Bi. Maximo is used to verify the completed work, and reports are sent to the process owner for correctness, prior to reporting to NJBPU or to the state.

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The Compliance Department ensures that Selective Meter Sampling and Periodic Meter Sample Programs are compliant with federal and state requirements. It monitors which meters are to be sampled, removed from service, and/or field tested—as with the Rotary Meters that are Differential tested in the field—and ensures the removed meters are tested within an acceptable time frame. There can be problems and deficiencies associated with meter field measurement of Rotary Meters. Many problems, including pulsation and variation, complicate measurement in the field. Pulsation is a variation that has a frequency of less than one HZ cycle/sec. Variation has a period of less than one second. Pulsation and variation usually cause measured volumes to be overstated. Meters that fail due to this are removed, retired, and replaced.

Standards

The Standards Department maintains the Operating Procedures Manual (OPM) and Approved Materials List (AML). The Manager chairs the Standards Committee. Manuals are computer-based for easy access. There is an annual review and update of the manuals. The department is in the process of harmonizing ETG and SJG standards over time. When a material is approved, removed, or placed on hold, an automated message is sent to the critical users so that they know that they may purchase or use a material. Alternatively, if a material is taken off the approved list, the operators and procurement know not to use that material until further notice.

The Standards Department sought to harmonize ETG with SJG standards by working on all areas common to both. There are unique qualities associated with each utility. ETG and SJG use different meter configurations. Additionally, ETG has low pressure and cast-iron pipeline in service. Geography and geology are also different. The standard pressure to deliver gas is slightly different at both utilities. SJG company has migrated to high density plastic pipe, whereas ETG has not yet made this transition.

Emergency Preparedness

ETG utilizes the SJIU Gas Emergency Operations Plan (GEOP) which is hosted on ETG's Emergency Preparedness Department's SharePoint site. Additionally, hard copies are housed in the EOC in the Green Lane division as well as the Atlantic City office.

All employees listed on the GEOP are asked to complete the Federal Emergency Management Agency (FEMA) courses as initial training. Additionally, employees complete training on the national incident management system (NIMS), a combination of procedures, facilities, and equipment designed to aid in the management of on-scene resources during incidents. Further testing is compulsory for the Incident Command System (ICS). ICS consists of a standard management hierarchy and procedures for managing temporary incident(s) of any size. ICS procedures are pre-established and using ICS procedures, personnel should be well-trained prior to an incident. The ICS training enables personnel to operate efficiently during an incident or event.

Personnel may choose to take additional courses at their leisure. Certificates are tracked. In 2023, ETG plans to implement a training tracker system and will ask all personnel to re-take the training every three years as continuing education. The tracker automatically notifies and reminds personnel of the training due date and continues to send reminders if they are overdue in their training.

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Each utility has an Emergency Operations Center (EOC). In addition, each utility has a Mobile Command Trailer or Mobile EOC. The Mobile Command Trailer is equipped with generators to provide power, four workstations, and a small conference room. Each workstation is outfitted with a satellite phone.

The Emergency Preparedness (EP) Department also conducts training awareness classes on a continuous basis throughout the year for First Responders, including Police, Fire and Emergency Medical Services (EMS), located in the ETG Service Area. SJIU participates in the Northeast Gas Association First Responder Training as well.

Since the EP Department was formed in 2020, EP has coordinated exercises at ETG at least once per year. Prior to that, ETG Management coordinated the exercises. Approximately 66% of the drills are unannounced with the idea being to make the situation comparable to a real-world event. ETG engages a third party periodically to plan, observe, and assess ETG's planning, responses, and after-action reporting.

Examples of exercises are as follows:

- Simulated a vehicle crash that impacted the gas meter/service in Stewartsville, NJ.
- Simulated a landscaper damaging a meter set with blowing gas and injuries at a commercial establishment in Phillipsburg, NJ
- Simulated a construction crew working on water mains near the Phillipsburg Mall which caused an accidental break of a gas main.
- A multi day joint drill that focused on an extreme weather event with cyber and pipeline damage scenario.

UTILITY SHARED SERVICES/NEW BUSINESS

The Sales and Business Development marketing function develops sales leads for both natural gas conversion and energy efficiency programs. The VP, Sales and Business Development, uses market research, develops campaigns and advertising initiatives, and works with sales representatives who contact leads. Marketing also looks for opportunities for new construction and for on-main growth and for potential main extension opportunities for "prudent" expansion.

The actual physical work that results from new business is completed by the Construction Operations or the Field Operations group depending on the size of the project. Main line extensions and new service and meter installations are completed by Construction while most meter sets are installed by Field services.

Dollars invested in new business for ETG, post-merger, are presented in the following chart:

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New Business Investments

New Business Investments	Post Merger (Jul-Dec 2018) 2018 Actuals	2019 Actuals	2020 Actuals	2021 Actuals
Core NB	\$11,497,446	\$23,821,028	\$24,168,414	\$30,046,837
Large Strategic	\$2,308,142	\$3,775,598	\$7,297,493	\$7,568,919
NB Overheads	\$821,420	\$2,518,904	\$3,315,392	\$5,873,099
NB AFUDC ¹		\$67,969	\$201,33	\$413,089
Total	\$14,627,008	\$30,183,499	\$34,982,637	\$43,901,943
¹ Allowance for Funds Used During Construction				

B. SAFETY AND QUALITY ASSURANCE

BACKGROUND

Safety and Quality Assurance is an SJIU level organization serving both ETG and SJG. In addition, Safety serves all of SJI but is focused on the utility field operations: Construction Operations and contractors, Field Operations, and Utility Services. Previously, Quality Assurance (QA) was managed by Field Operations but was transferred to Safety and Quality Assurance in 2019. QA focuses on SJG and ETG utility operations only and does not serve the rest of SJI.

The organization structure for the Safety and Quality Assurance group is shown in the following exhibit.

Safety and Quality Assurance Organization Structure



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The VP, Safety, Quality, and Environmental has two direct reports, one manager for Safety and one manager for Quality Assurance.

Safety implementation is the bedrock for the welfare of all employees through prevention, education, and awareness with the ultimate goal of reducing or eliminating workplace accidents.

The core purpose of QA is to prevent mistakes in the delivery of natural gas to ETG's customers. Ensuring that quality is process-oriented means it focuses on the processes related to quality. Quality Control (QC) is related because it is product oriented, which means it focuses on the inspection of the product. Adding QA and QC together in the natural gas industry ensures gas will be delivered to customers safely, and it will be a safe product to burn in the homes of ETG's customers.

The Vice President Safety, Quality Assurance, and Environmental (VP Safety) reports to the President of SJIU and provides the SJI corporate safety function for SJI and non-regulated entities.

Reporting to the VP Safety is one Safety Manager and one Quality Assurance Manager. Reporting to the Safety Manager are three Safety Specialists. One of the three Safety Specialists is based in ETG's Green Lane Division. The safety department employees' job duties include developing safety policies and procedures, developing and conducting safety training, performing safety inspections, investigating and analyzing incidents, and preparing reports.

The QA Manager is the most senior leader in QA and has three QA Auditors and one QA Analyst that report to her.

QA develops, implements, and completes audits to determine company-wide levels of compliance with relevant state and federal laws as well as company procedures. They identify operational safety and quality concerns and develop recommendations to improve internal controls to maximize effectiveness and efficiency.

The Elements of Process Safety Management (PSM)

The PSM standard outlines 14 main components, or elements, of compliant process safety programs, which are defined below:

- Safety must encourage or require employees to participate in PSM-related initiatives such as training, surveys, feedback, and reward programs. Regulatory issues are a part of the employee participation because it focuses on rules and regulations.
- ETG's PSM program ensures that employees receive required safety and process-specific training. All training is documented. ETG implemented a new driver safety metric that measures seat belt use, speeding, hard braking, and hard turning. Test scores result in a 1 to 100 score. GPS is installed in all vehicles and GPS tracks a great deal of data. When patterns are determined for a particular bad habit, classroom training to a group is initiated. If an employee scores lower than acceptable, one-on-one training is provided. Currently, counseling and retraining to improve performance is provided.

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- Training is provided to neutralize or deescalate a confrontation. Training is provided on how to handle a dog or other animal on the premises when ETG employees are attempting to collect money. Because there are situations where an ETG employee may be alone, a Lone Worker Program is being designed with an eye towards implementation during 2023. Bill collections performed by Field Services has a primary fear of combative customers.
- Process safety information includes documentation outlining the specific safety protocols that ETG has in place. There are classroom instructions and training on the protocols and electronic teaching and training with regard to protocols. Segments are targeted and forwarded to employees with a due date for completion. This is followed by another segment and so on.
- ETG has written operating procedures. These procedures provide clear instructions to workers performing the related task and are easily accessible to all employees. ETG has a new system in place where notifications are forwarded to managers informing them that a certain percentage of their staff did not complete a particular training and that there are two weeks left in which they can do so. There is a focus on “lessons learned” and for a particular incident that happened, a study is performed and targeted training is provided to ensure that such incidents are minimized or eliminated.
- A process hazard analysis (PHA) is an assessment of the potential hazards within an operation. ETG must complete PHAs for all processes to ensure that preventative safety measures are in place. Essential job functions are categorized by task and analyzed using that approach. Jobs are analyzed to determine if heavy lifting is involved and what weights are likely a part of the different tasks. Safety boots and gear are outlined for each task (i.e., specialized gloves, hearing protection, and/or 100% natural fiber clothing in case of fire). The training manuals outline all the protocols.
- Training contractors is one of the hardest elements of PSM compliance to implement due to the difficulty of managing third-party workers. ETG ensures that all contractor workers receive appropriate training for the hazardous chemicals with which they will work. Monthly meetings are held for the purpose of educating the independent contractor with regard to protocols. A review of all contractor employees is not performed. There are ETG Operational Qualification (OQ) auditors in the field every day and the auditors have an eye on compliance factors. Managers of independent contractors are notified of any infractions.
- Whenever a new facility is opened or remodeled, or a new piece of equipment is introduced, ETG completes a pre-startup-safety review (PSSR). The third-party contractor is regarded as the owner of the project and is therefore held responsible. The safety group inspects emergency exits that provide for evacuations, if evacuations are necessary, and they verify that OSHA fire extinguisher requirements are in place. The safety group verifies that areas off limits are clearly marked with signs stating restricted from entry.
- ETG frequently engages a third party to confirm that critical process equipment is designed and installed correctly and working correctly. This applies to pumps, piping systems, valves, emergency shutdown systems, and controls. Again, the

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Project Owner is held responsible but ETG, in the interest of safety, takes the additional safety step.

- ETG has procedures in place and warnings posted in areas in close proximity to hot work being performed. Hot-work *involves gas welding, cutting, grinding, brazing, or similar flame or spark-producing operations*. Safety gear is outlined (i.e., safety goggles, footwear, and special clothing specific to the different tasks). Adherence to the safety measures is required, and permits may also be required.
- Management of change (MOC) refers to the standard process that everyone must follow when implementing process, equipment, or personnel changes. ETG has a MOC tracking system in place. Again, the owner of the project is held responsible. Upon assignment and again at completion of the project, ETG's Safety Group steps in to establish emergency protocols (i.e., emergency exits, fire extinguishers, and other safety requirements to meet standards).
- ETG on every site has comprehensive emergency response plans in place regardless of whether it falls under the PSM standard or not. In addition to documenting these protocols, employees are trained how to act quickly and correctly in a variety of emergency situations. Emergency personnel generally take the lead. ETG's Safety Group provides assistance or provides input.
- At least once every three years, ETG must demonstrate that it is compliant with the PSM standard. The ETG OQ Auditors are in the field daily and they monitor the crews for compliance, adherence to regulations, that equipment used in digs is correctly calibrated, and that OQ qualifications are up to date. The ETG Quality Assurance Manager (QA) audits include safety practices at work sites. ETG's QA also audits the accuracy of Service Record Cards. Further, it investigates all third-party damage (dig-in) and near miss incidents.
- The ETG's Safety Group ensures that all software used goes through the IT Department so that security measures are followed and employee documents are kept confidential.

In 2020 a formal Near Miss Incident Reporting Program was implemented. The program was created by a cross functional team. The Near Miss program is designed to ensure that ETG will make every day a safe day. Employees report any observed near misses into the Health, Safety, Environmental, and Quality (HSEQ) system. HSEQ is an incident management system for near misses/observations, motor vehicle accidents (MVA), on the job injuries (OJIs), environmental observations, environmental inspections, and security incidents.

C. BUSINESS OPERATIONS

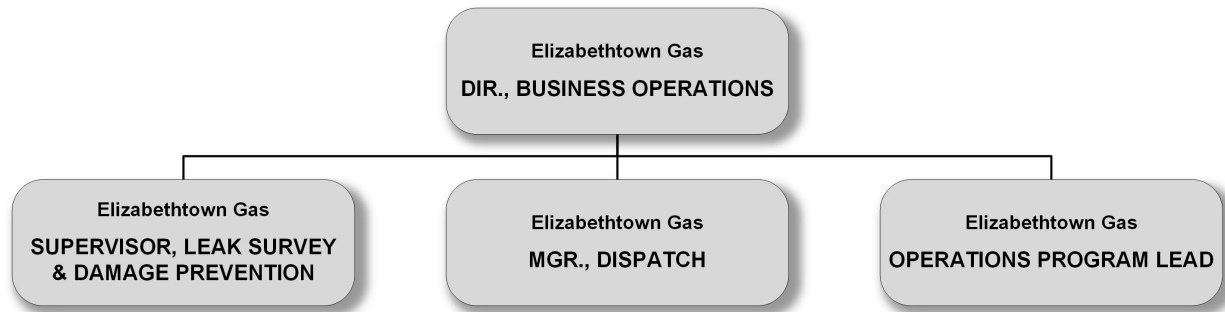
BACKGROUND

The Business Operations group, within ETG's Distribution and Operations Management, in similar organizations is frequently titled The Utilities Group. It focuses on preventing damage to the pipes in the ground, manages calls from emergency and non-emergency situations, and dispatches responders to attend to those situations. The organization structure for the Business Operations group is shown in the following exhibit.

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Business Operations Organization Chart



The Business Operations Director has three direct reports, a Supervisor of Leak Survey and Damage Prevention, a Manager of Dispatch Services, and an Operations Program Lead which is currently unfilled. There is a total of 25 non-unionized ETG employees ultimately reporting to the Director of Business Operations.

Leak Survey and Damage Prevention

Natural gas transmission and distribution pipelines are buried underground. Preventing damage to critical gas infrastructure is important. The top four reasons pipeline damage prevention is critical are as follows:

- It protects workers and the community.
- It prevents interruption of gas service to customers and communities.
- It saves the utility company money.
- It helps reduce methane emissions.

Operators of underground facilities, including ETG, are required to participate in the NJ 811 One-call system in accordance with NJAC § 14:2-1.1. NJAC title 14, chapter 2 establishes the NJ One-call system. Excavators that plan to perform excavation or demolition work are required to notify operators that own or operate underground facilities within the scope of the excavation work.

ETG and One-call work together to establish a grid of ETG's territory. Following notification of a plan to perform excavation or demolition through 811, One-call sends the excavation notifications and/or tickets to ETG. ETG has three business days to mark-out facilities and satisfy the ticket. The process is as follows:

- When ETG receives a notice of intent to excavate, all available records, including the GIS system, are reviewed to identify any underground facilities within the scope of the excavation work. Facilities are then located and marked accordingly.
- Photographs of the mark-out area are taken to document the completion of the mark-out.
- Mark-outs of ETG's facilities are documented within a ticket management system. This system is used to receive incoming notices of intent to excavate (commonly referred to as "tickets") and document the completion of the mark out.

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Response is provided to NJ One-call and the excavator when mark-outs are completed through a process called "positive response", which indicates that the facilities have been marked and/or facilities are not in conflict.

The Damage Prevention Program was developed by ETG; the supervisor enhanced and improved the program with the purchase and sale of ETG in 2018. More oversight staff were added, increasing staff from the one employee who is now the supervisor to a total of four employees. The employees supervise and assign work to independent contractors and confirm that work is completed on time. Once damage is detected and located, the job is transferred to the appropriate groups within Field Operations who perform the repair or replacement as needed.

The Damage Prevention program consists of daily management and oversight of damage prevention technicians and damage prevention contractors. This includes training and development, performance management, damage investigations, and contractor excavation damage awareness and outreach. Technicians are responsible for conducting field audits for utility mark-outs and locate requests, record verification, damage prevention awareness, contractor support, and acting as liaison for facility locations. Mark-outs must identify all gas facilities within planned excavation area, with particular focus on most dangerous high-profile situations (i.e., an underground facility that delivers services in a highly populated area close to geographical facilities where people gather like schools and sporting events that could cause major problems if hit).

During the pandemic, ETG continued to manage and respond to all routine and emergency ticket requests received via the New Jersey 811 One-Call system (i.e., call before you dig). New Jersey Law requires anyone digging to call at least **three full business days** prior to beginning work. This includes excavators as well as property and homeowners' contractors. However, due to resistance from some customers to allow entry into their residences/premises during the height of the pandemic, locators had to rely on records and inductive locating from main to service for no-access ticket locations. Additionally, 811 One-Call meetings were held virtually versus in person. All other aspects of the Damage Prevention program continued throughout the pandemic.

The mark-out duties are performed by independent contractors who provide staff that have Operator Qualification (OQ) certification as follows:

Survey Contractor

There is a standard three-year contract with the standard leak survey, atmospheric corrosion, and meter inspection program contractor. Contracts for leak surveys are competitively bid. Heath Consultants (Heath) is an independent contractor engaged by ETG as their survey contractor. ETG signed a three-year contract with Heath in 2022. Reduction of gas leaks on aging infrastructure has been an issue for the natural gas industry, particularly for the downstream (distribution) marketplace. Heath addresses this issue through the identification of gas leaks. Heath provides ETG with 14 Leak Survey Specialists to determine if there is a leak and indicate the approximate location of the leak.

ETG performs leak surveys of all distribution facilities on a one-year cycle for facilities within a business district, or three-year cycle for facilities outside of a business district.

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This would include highway and railroad crossings, as well as exposed pipe. Atmospheric corrosion and meter protection inspections are completed in conjunction with leak surveys during either cycle, depending on business district status. The leak survey contractor is provided with survey schedules on an annual basis. The contractor, together with ETG Business Operations staff, assigns work on a monthly schedule. There were no known late surveys from 2009 to 2021.

In addition to the mobile unit, there are 11 individuals who walk the pipe with handheld devices that are called “dippers” which scroll back and forth on the main. When a leak is detected, this method grades the severity of the leak. A grade 1 is very severe, grade 2 a little less severe, and grade 3 is the least severe. Grade 1 leaks go directly to the dispatch group; a work order is generated and a team is dispatched immediately. Grades 2 and 3 are entered into Maximo which transfers to the GIS system. The walkers are engaged between January 1 and November 15 of each year except during rainy weather. Wet ground interferes with the detection of gas leaks. Payment is per mile for mobile units and per meter or per service for the walkers.

Effective October and continuing through April 30 of each year, a mobile unit is disbursed to inspect the steel and cast-iron pipe. From time to time there are two mobile units available to ETG. The unit continues and starts over repeatedly for the entire seven-month timeframe. The vehicle is equipped with large detectors, GPS, anemometer, and proprietary software loaded onto the vehicle’s computer/tablet.

ETG performs the following types of leak survey:

- Special Winter Leak Survey – This survey is conducted during the winter season (October 1 to April 30). The survey is conducted using mobile leak survey equipment and covers all of ETG’s cast iron, bare steel, and ductile iron mains. The survey is run on a continuous basis during the winter period, every day during business hours.
- Business District Survey – Leak surveys of all mains and meters within business districts are completed annually utilizing walking leak survey equipment. Meters are inspected for atmospheric corrosion and meter protection in conjunction with these surveys.
- Non-business District Survey – Leak surveys of all mains and meters outside of business districts are completed every three years utilizing walking leak survey equipment. Meters are inspected for atmospheric corrosion and meter protection in conjunction with these surveys.
- Transmission Survey – Leak surveys of all ETG transmission assets are completed annually or semi-annually, utilizing walking leak survey equipment.

The routine upkeep and maintenance of leak equipment is as follows:

- Heath Gas Surveyor 500 – Calibrated monthly along with a regular visual check for operation of filters and hoses as needed, but not to exceed 30 days. ETG has onsite/in-house calibration equipment.
- Detector-Pack – Draft project impact report (DPIR) that authorizes cotton throw away filter to be changed daily. Hydrophobic filter and brass filters changed as

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needed. Both are self-tested daily and are recalibrated if they fail self-test. Outside independent expertise is used for recalibration as needed, and outside independent expertise is used every three years for periodic maintenance.

- Sensit Gold – two regular equipment inspections for operation. If self-test fails, it is re-calibrated against the primary leak detection equipment, the Gas Surveyor 500. Also calibrated on an as needed basis for use and operation.

Meter Testing Equipment Maintenance

Leak Detection Equipment	Upkeep and Maintenance	Calibration Schedule	Calibration Location
Heath Gas Surveyor 500	Regular visual check for operation of filters and hoses	As needed, not to exceed 30 days	Onsite / in-house calibration equipment
Detecto-Pack DPIR	Cotton filter is to be changed daily. Hydrophobic filter is changed as needed. Brass filter in walking cone is changed as needed.	Self-tested daily and recalibrated if they fail self-test	Send out for recalibration as needed and every three years for maintenance
Sensit Gold 2	Regular equipment inspection for operation	Calibrated against primary leak detection equipment of Gas Surveyor 500 and if self-test fails, calibrated. Also calibrated as needed based on use and operation.	Onsite / in-house
Soap and Water	N/A	N/A	N/A

Locate Requests

UtiliQuest is an independent contractor engaged by ETG to prevent damage to their infrastructure. UtiliQuest manages locate requests to assist with safer excavations and reduce damage to the underground infrastructure. UtiliQuest utilizes modern technologies and professionals to deliver locate services to protect utility operators' infrastructure. ETG signed a three-year contract with a one-year extension based on performance with UtiliQuest in 2022. UtiliQuest is assigned to the Union and Middlesex areas. ETG in-house staff are assigned to the Northwest region. UtiliQuest provides 22 locators, three supervisors, and one manager.

UtiliQuest specializes in the search of underground facilities locating specific points of interest to serve the gas industry which results in safer excavations, reduced damages, and reduced costs. To minimize damage risk, ETG must be confident that before any excavation begins, the underground search produced the location with 100% accuracy.

The procedures utilized for reviewing the accuracy and detail of mark-out audits are as follows:

- Review the excavation mark-out ticket to determine the scope of work that is being described.
- Review ETG records for all facilities within the scope of the ticket.

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- Use Magnetic Radio Frequency (EM/RF) locating instruments to trace a line. These instruments find utilities made of metal (i.e., a steel water pipe, an electric cable, telephone wire, etc.). The instrument gives off a tone when it detects a utility. This is often described as “to tone or scope the gas line.”
- Ensure the gas line’s diameter is measured where the locate technician has indicated with appropriate gas markings in accordance with requirements. This is often referred to as toning the gas line.
- Ensure all markings and flags used to complete the mark-out ticket are in accordance with the NJBPU-NJAC 14:2.
- Ensure the full scope of the work area, as indicated in the description of the mark-out request, was fully marked.
- Ensure appropriate photos have been uploaded by the locate technician and are attached to the ticket to confirm an accurate completed mark-out.
- Failed field audits are reviewed with the locate technician’s supervisor for appropriate corrective action.

Prior to 2018, ETG’s Operations Procedures Manual (OPM) was drafted and implemented within Southern Company Gas and AGL Resources OPM and maintained by their Standard Department. Changes were made in the years 2016 and 2017 to OPM Division II Section 3 – Damage Prevention, which contains the Company’s locating procedures. Upon the sale and purchase of ETG in 2018, the OPM became the responsibility of the new owner, SJIU.

The SJIU Standards Department reviews every section of the ETG OPM on an annual basis for compliance with Federal and State codes. In addition, they monitor Pipeline and Hazardous Materials Safety Administration (PHMSA) Notice of Proposed Rulemaking correspondence and consider industry best practices. They have developed a comment process and tracker wherein company employees may make suggestions about standards and processes which are also considered during the reviews. Additionally, remediations implemented as a result of incidents, both inside and outside ETG, are reviewed and may result in modification of standards by SJIU.

From time-to-time calls from the public are received (e.g., an accident that might cause damage). Every damage reported as a result of such a phone call is treated as a grade 1 leak. Immediate action is taken to fix the problem. Occasionally the damage is not related to ETG but another local utility. ETG tracks non-involvement tickets and ETG bears the cost of the call out. If the locate contractor discovers that ETG is not involved and no mark-out is necessary (typically referred to as being ‘not in conflict’), the locate contractor is still required to physically verify that the location, mains, and/or services do not belong to ETG. The locate contractor is compensated for completing verification and responding to the incident.

The locate responsibilities also include the following involvement in building demolitions:

- Damage prevention locate contractor (UtiliQuest) for Union Division and in-house locators from Field Operations in Northwest perform utility mark-out in advance of scheduled demolition.

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- Leak surveys are completed upon request.

Resource Management

Dispatchers are responsible for receiving emergency and non-emergency calls from people in potential danger. They manage the call by ensuring that proper first response teams are mobilized; they prioritize calls according to urgency and importance.

Wherever there's a natural or man-made disaster, first responders/utility workers from ETG are on the scene alongside firefighters, law enforcement, paramedics, and other first responders to mitigate these disasters. Not all situations are this critical, but responders from the gas company must be prepared to manage any gas issues that might be part of a dangerous situation. The responder group transferred from Southern with the purchase and sale of ETG in July 2018. Therefore, ETG has a well trained and experienced crew.

Dispatch

Responsibilities of the manager of the dispatch function are to (1) handle emergency response calls and field calls from internal resources as needed, (2) provide oversight for first response team mobilization and (3) provide administrative services to support the Dispatch, First Responders, and Field Operations and perform other tasks as assigned. Dispatch has 21 employees.

Emergency Calls

Dispatch responses to emergency calls include:

- Receive emergency and non-emergency calls and record significant information.
- Prioritize calls according to urgency and importance.
- Dispatch is able to monitor the route and status of field units to coordinate and prioritize their schedule.
- Dispatch provides field units with information about orders, traffic, obstacles, and requirements. Such traffic information is not known to the dispatchers 99% of the time, but when traffic data is known the data is communicated immediately.
- Dispatch maintains the standby list for after-hours callouts. This is provided before a shift ends each day.
- Fires are communicated to fire departments as well as ETG responders assisting fire departments as best they can.
- Dispatch will send first responders to inside and outside leak calls (smell gas) and carbon monoxide reports.
- First responders will be dispatched to third-party damage (dig ins) in case it could be an emergency situation.
- Use phone or computer to send crews, vehicles, or other field units to the appropriate locations. There are cell phones and Mobile Data Terminals (MDT) in each vehicle

First Responders

Vehicles for first responders are equipped with phones, computers, and MDTs in each vehicle. An MDT facilitates access to the GIS system which provides mapping, direction,

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and geographical information associated with the location that the first responder is traveling to.

First responders receive extensive training from Shared Services as follows:

- ETG provides on-the-job training under Master Responders who are responders that are fully trained and have experience. The Technical Training Group within Shared Services provides training with an emphasis on how to use mechanical tools. Additionally, employees receive education and training that leads to Operator Qualification (OQ) certification. Shared Services Technical Training, through its PIXAR system, has built a learning and development (L&D) on-line training center. The training programs emphasize the core mission of safety first. The System Operations workforce matches their personnel with the right courses, choosing from a library of 450 online safety courses.
- The training provided in the Emergency Preparedness group is designed to educate staff on how to handle a particular situation. This group educates employees to manage disasters; ETG partnered with SJG to address the root causes of vulnerability and to better mitigate, adapt, prepare for, and manage disasters. Live educational demonstrations of actual disasters are created for the purpose of training the first responder group.
- ETG provides training in safety. Process safety information includes documentation outlining the specific safety protocols that ETG has in place. There is both classroom and electronic instruction and training on the protocols. Segments are targeted and forwarded to employees with a due date for completion. Another segment is forwarded with each successful completion.

Administration Services

Dispatchers take emergency calls from customers and crews; monitor field scheduled and unscheduled work and adjust appointments with customers, as necessary; and call-in emergency below ground locate requests for Field Operations crews. Dispatchers will schedule new meter sets and light ups and relights after shutoffs. Dispatchers will follow the scheduling as per the work order regardless of the reason for shut offs. In addition, Operations Technicians do some compliance work (i.e., meter exchanges for the sampling program and meter replacements as a result of the meter sampling tests). MRC Ltd, a laboratory technology service company, performs initial testing for meters prior to shipping to ETG; however, Measurement and Regulation conducts testing of a sample of meters upon receipt, and testing of all meters upon removal. If the samples fail at a certain rate, that batch of meters is replaced.

Dispatch receives instructions from customers and/or distribution operations for demolitions and provide the following assistance:

- Call in for locations.
- Confirm receipt of any necessary payments/documents from requesting customer.
- Apply for road permits.
- Hire traffic control as needed.
- Schedule demolition with customer and internal asset crews within Field Ops.

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- Provide demolition letter upon completion.
- Initiate leak surveys, if necessary.

General Background

The Service Dispatchers are assigned seven days per week, 24 hours per day. Every shift has a minimum of two dispatchers. All dispatchers rotate to all shifts and shifts can be traded between individual dispatchers to provide flexibility. The Dispatch Support Agents are spread over three shifts: Monday through Friday morning (7:00 AM to 3:30 PM), mid-afternoon/evening (3:30 PM to 11:30 PM), and night shifts (11:30 PM to 7:00 AM) and weekends are covered with two twelve-hour shifts. Vacations can be granted with 24-hour notice; clearly, more advance notice is appreciated but not required. Dispatchers are currently working remotely two days per week with three days in the office. The weekend shifts are on a remote basis.

Business Operations in conjunction with Field Operations and Dispatch administer the “red tag” program administer the “red tag” program where ETG performs an inspection of gas appliances upon customer request for a safety check. An inspection can be during emergency order investigations, or any time gas is turned on and reintroduced into the environment. Records for customer appliances out of compliance involve the following:

- ETG performs an inspection of gas appliances upon customer request for safety check, during emergency order investigations, or any time gas is turned on and reintroduced into the environment.
- If possible, ETG will leave the appliance off at the appliance shut off valve and issue the warning card or red tag the valve.
- If ETG cannot isolate the affected appliance, ETG will leave the meter off, locked, and carded/red tagged until necessary repairs are made. At which point the customer will have to contact ETG to restore gas service.
- If there is a customer fuel valve present, and it is safe to do so, ETG will leave gas turned off at the customer fuel valve until appliance repair can be made.
- The customer is notified by the field technician if there is an issue with the appliance and service is needed before the appliance can be safely used.

On occasion, ETG responds to poor pressure investigation. During investigation, an ETG technician identifies the appliance not operating correctly. The ETG technician will attempt to isolate and tag/card the appliance, leave the meter off and locked, or leave the customer fuel valve off with card/tag until appliance repair is made. ETG or a qualified contractor (if left off at customer fuel valve) restores gas service after the customer notifies ETG of repair completion.

Computer Systems:

SJI has made Maximo the system of record that houses all work orders. Not all work orders created in the Maximo system are sent to Mobile Workforce Management (MWM) system; however, all work orders are integrated with GIS. Only above ground work is sent to MWM. Data is captured through one or more systems including recording all telephone calls, the asset management system, a mapping and geographical computer system, mobile data terminals, and a data collection project collaboration tool for job sites.

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ETG uses MWM which is an Oracle off-the-shelf product. Unique features are as follows:

- MWM is designed as an automated scheduling tool which is not available through the Maximo application. GIS, however, has a dispatching tool, but it is not as sophisticated as MWM.
- MWM is designed with a scheduling algorithm which means as unplanned changes occur and emergency work is received, the algorithm is continuously optimizing the work schedule for all the field technicians.
- Responders are assigned to areas called grids on a rotating quarterly basis. Grids are a grouping of zip codes. These areas/zip codes are entered into MWM to create an efficient route for technicians within a given territory.
- The dispatcher will provide MWM with the field technician's work schedule and skill set.
- The field technician's computer location is integrated with MWM which will provide their location every two minutes.
- All this information is fed into the MWM algorithm which continuously updates the schedule throughout the day, making changes for unplanned work and emergencies.

In addition, the MWM application contains a Gantt chart which allows the dispatcher to view all changes made by the application, and the dispatcher can make changes to the field technician's schedule through a simple drag-and-drop feature. Open Resource Systems (ORS) has the Gantt chart embodied into it for scheduling appointments.

Additional computer software used by Business Operations includes:

- Call Recording Software from Calabrio Systems is used to capture and record all phone calls. Having a voice record of phone communications is important, given the nature of the natural gas business.
- A statement of work is generated and the resulting work order is entered into Maximo, an asset management system. Maximo forwards the work order into the GIS geographical mapping system.
- Radio, phone, and/or computer are used to send crews, vehicles, or other field units to appropriate locations. There are cell phones and MDTs in each vehicle. The MDT facilitates access to the GIS system which provides mapping direction and other important geographical information associated with the location the first responder is traveling to.
- The work order is transferred from MWM to Maximo and CCB upon completion.
- Field records are scanned into the asset record system, Laserfiche, and these records are transferred to the Maximo system. These records include construction as-builts, service record cards, and main records.
- Updates of leak records, ongoing six- and nine-month resurveys of grade 2 and 3 leaks, are entered into Maximo and then loaded to GIS.

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Staff Meetings

There is a monthly meeting with all dispatchers and a monthly meeting of the manager and four direct reports, which is followed by individual meetings with each direct report. This process is followed by each direct report having the same kind of meeting with their staff.

Qualifications

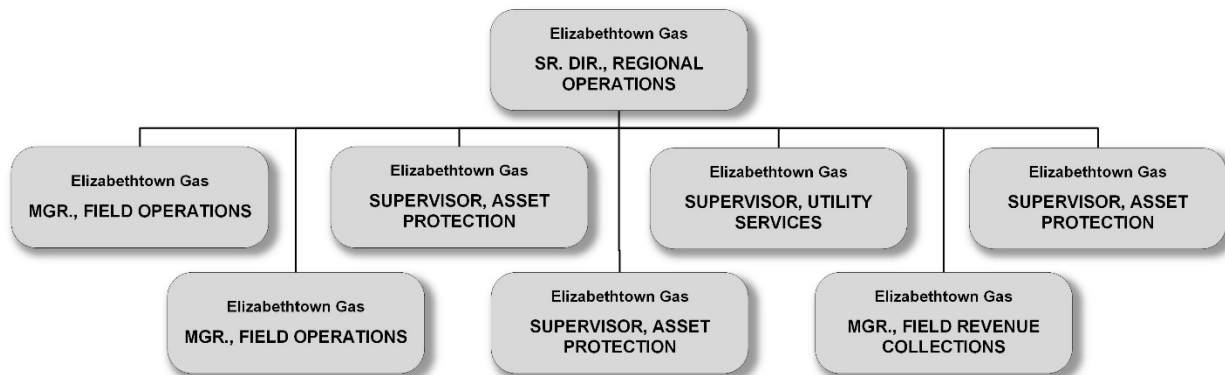
Qualifications required to become a dispatcher include strong customer service skills. Training is provided by ETG as long as the requisite customer service skills are there as a foundation.

D. FIELD OPERATIONS

Safety is the number one priority for the Regional Operations Unit and in the furtherance of safety Field Operations frequently assist in emergency situations. Their main focus is preventative maintenance, inspections, and leak repair for both above ground and underground leaks, handles the smaller new business facilities for main extensions and new replacement services. They perform critical valve inspections.

The Senior Director of Regional Operations has seven direct reports and a total of 170 employees. The organization structure is reflected in the following exhibit.

Regional Operations Organization Chart



Regional Operations is fully unionized and has 170 employees split into six groups as follows:

- In the Union geographical area, Utility Services works 24/7 and handles all emergency situations including first responders.
- In the Northwest geographical area, Utility Services works 24/7 and handles all emergency situations including first responders.
- The Asset Protection or Street group for the Union Area handles below ground, including leaks.
- The Asset Protection or Street group for the Northwest Area handles below ground including leaks.
- Field Revenue and Collections handles meter readings and collections.
- The Fleet and Warehouse Group reports to the Director of Regional Operations

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Field Operations Work Origins

Field Operations work comes from various areas. Field Operations is comprised of one area that investigates and surveys existing facilities to determine if there are leaks and the exact location of those leaks. The results of this surveillance are transferred to Field Operations for repair and resolution. A general description of Regional Operations responsibilities is as follows:

- The Leak Survey contractor under the Field Operations Group does leak surveys and locates leaks for the Northwest areas; the results of the leak surveys together with the exact location of those leaks is forwarded to the Field Operations Group for resolution.
- New business generates a lot of work, smaller jobs are completed by Regional Operations.
- Meter standards and requirements specified by NJBPU.
- All meter settings.
- Meters required to be turned on or off.
- Monthly meter reading for existing customers and collecting past due money.
- Right-of-Way Maintenance.
- Emergency incidents (e.g., leaks, fire, CO, explosions) Fleet and warehouse operations.

The fundamental responsibilities of the Field Operations group are leaks, emergency response, meter activation and replacements, and meter installs. Only a few days' notice is required for a new meter installation; there is a crew dedicated to this task. There is a standing weekly meeting that focuses on work schedules and tasks within Field Operations for the upcoming week. Field Operations has a 24/7 staff and provides the first response to all emergency situations for the ETG geographical area. Notice of a gas leak is often reported to ETG's Business Operations Dispatch Center by a member of the public. Dispatch immediately creates a work order that reflects the best description of the emergency available at that moment. Utility Services field personnel are notified immediately as well as any other specialty group that appears to be appropriate to provide assistance with the emergency. Response time is usually 20 minutes but depending on distance, it could be longer. Depending on the source of the leak, the residential home may be evacuated, and based on the time required to fix the problem, occupants could be housed elsewhere.

With a view toward asset protection there is a group within Field Operations that focuses on below ground leak repair, emergency response, and compliance inspections. Additionally, they handle right-of-way (ROW) clearing and maintenance, and locates for existing gas facilities.

Field Operations, in conjunction with Construction Operations and Dispatch administer the "red tag" program where ETG performs an inspection of gas appliances upon customer request for a safety check. An inspection can be during emergency order investigations, or any time gas is turned on and reintroduced into the environment. Records for customer appliances out of compliance involve the following:

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- ETG performs an inspection of gas appliances upon customer request for safety check, during emergency order investigations, or any time gas is turned on and reintroduced into the environment.
- If possible, ETG will leave the appliance off at the appliance shut off valve and issue the warning card or red tag the valve.
- If ETG cannot isolate the affected appliance, ETG will leave the meter off, locked, and carded/red tagged until necessary repairs are made. At which point the customer will have to contact ETG to restore gas service.
- If there is a customer fuel valve present, and it is safe to do so, ETG will leave gas turned off at the customer fuel valve until appliance repair can be made.
- The customer is notified by the field technician if there is an issue with the appliance and service is needed before the appliance can be safely used.
- On occasion, ETG responds to poor pressure investigation. During investigation, an ETG technician identifies the appliance not operating correctly. The ETG technician will attempt to isolate and tag/card the appliance, leave the meter off and locked, or leave the customer fuel valve off with card/tag until appliance repair is made. ETG or a qualified contractor (if left off at customer fuel valve) restores gas service after the customer notifies ETG of repair completion.

Leak Surveys and Locates

The Business Operations Group handles all leak surveys for Union and Northwest Divisions, and locates for the Union Division, sourcing to independent contractors. Field Operations manages locates for the Northwest division. Both follow the same process and procedures.

ETG performs leak surveys of all distribution facilities on a one-year cycle for facilities within a business district, or a three-year cycle for facilities outside of a business district. This includes highway and railroad crossings, as well as exposed pipe. Atmospheric corrosion and meter protection inspections are completed in conjunction with leak surveys during either cycle, depending on business district status. The leak survey staff is assigned to survey schedules on an annual basis. An independent contractor is assigned leak survey work on a daily, weekly, and monthly basis for the Union and Northwest divisions. There were no known late surveys from 2009 to 2021.

Field Services manages locate requests to assist with safer excavations and reduce damage to the underground infrastructure in the Northwest Division. The Field Services in-house staff utilizes modern technologies and their staff is professionally trained to deliver locate services that protect utility operators' infrastructure.

The locate task specializes in the search of underground facilities locating underground gas lines which results in safer excavations, reduced damages, and reduced costs. To minimize damage risk, ETG must be confident that before any excavation begins, the underground search produced the location with 100% accuracy.

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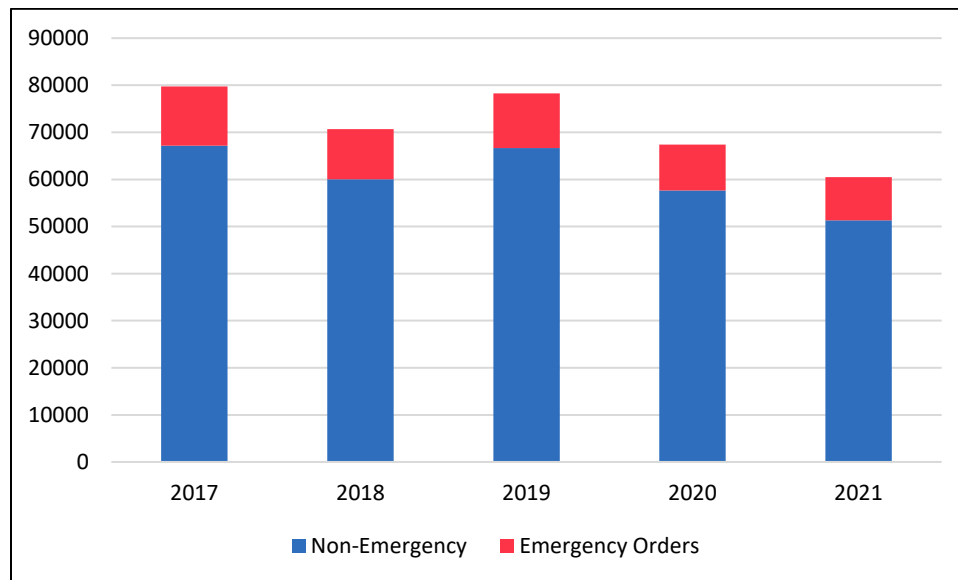
Gas Leaks

Contractors survey all external mains and service lines up to the meter outlet to ensure no gas leaks are present. Customers may have missed or were unavailable during a contractor survey attempt; regardless, an ETG associate will survey the gas meter, and head of service, from foundation to meter outlet to ensure no gas leaks are present. On occasion special meter reads are required to verify meter usage, and/or that billing information is correct.

Gas leaks are generally the cause of emergency and non-emergency situations concerning the public. Below are the 2017 through 2022 emergency and non-emergency responses that were handled by Dispatchers. Records from 2016 and prior were archived following a system application upgrade under ETG's prior parent Company, AGL Resources, and are not readily available.

Gas Leak Reports 2017–2021

	2017	2018	2019	2020	2021
Non-Emergency	67,147	60,022	66,639	57,644	51,339
Emergency Orders	12,607	10,635	11,625	9,750	9,137
Total Order Volumes	79,754	70,657	78,264	67,394	60,476



A review of the emergency situation and the non-emergency situations indicates that they are day-to-day type situations where an outside meter has a slight leak or a line appears to have a leak. The more serious types are carbon monoxide and explosions, and both situations are explained in this chapter.

In recent years, ETG has experienced more incidents of grade 1 leaks in both of ETG's divisions. The Union division had 546 grade 1 leaks in 2010 which increased more than four times to 2,383 in 2015. In 2021 grade 1 leaks were reduced to 1,205 which was still more than twice the number experienced in 2010. While ETG's Northwest division had better statistics, they had 105 grade 1 leaks beginning in 2010 and 226 grade 1 leaks in

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2021, so the trend is also increasing as with the Union division. Also, the Northwest Division reflects more grade 2 and grade 3 leaks between 2010 and 2021.

The following table shows all leaks both above ground and below ground with a breakdown of leaks repaired by division and grade from 2010–2021:

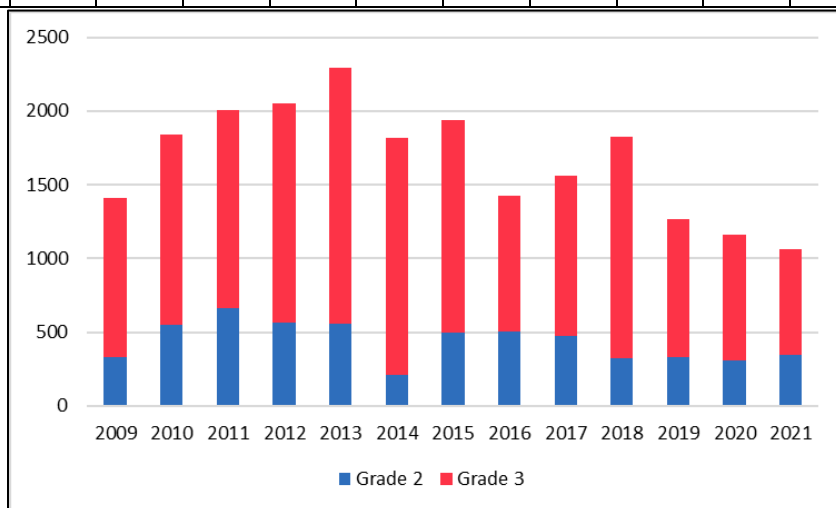
Number of Leaks Repaired by Grade in each Division

Year	Northwest			Union		
	1	2	3	1	2	3
2010	105	66	20	546	900	133
2011	207	234	50	1425	1064	134
2012	359	90	69	1633	784	148
2013	326	90	49	1792	985	63
2014	377	105	42	2179	912	40
2015	361	76	82	2383	712	115
2016	390	164	162	1980	592	136
2017	307	194	151	2014	616	71
2018	277	127	191	2197	671	94
2019	288	128	233	1817	593	268
2020	179	118	97	1003	701	145
2021	226	144	178	1205	720	91

With the high percentage of pipeline being replaced, ETG experienced an overall reduction of both Grade 2 and Grade 3 below ground leak balances as shown in the following exhibit.

Grade 2 and Grade 3 Below Ground Leaks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Grade 2	327	550	665	562	559	210	499	502	473	319	331	309	349
Grade 3	1085	1293	1344	1492	1735	1605	1440	922	1088	1509	934	851	710
Total	1412	1843	2009	2054	2294	1815	1939	1424	1561	1828	1265	1160	1059



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Critical Valve Leaks

A critical valve is defined as a valve that, upon failure, jeopardizes a company's operations. Valves are systematically placed throughout gas distribution lines to control the pressure in a specific area of the pipeline. In the simplest of terms, valves control the flow of fluids. Valve types can be broken into two basic categories: control valves and shut-off valves (i.e., seismic, or earthquake-actuated, valves and excess flow valves). Seismic gas shutoff valves (also called earthquake valves) shut off the flow of gas from the meter to the house if earth movement equivalent to about 5.4 or more on the Richter scale is detected. An Excess Flow Valve (EFV) is a mechanical safety device installed on a gas service line. In the event of damage to the gas service line between the main line and the gas meter, the EFV will minimize the flow of gas through the service line.

Critical valves must be checked for access and operation once every calendar year not to exceed 15 months (Department of Transportation mandated). Valve failure can result in leaks or loss of system control. All valves are checked once per year in accordance with government regulations.

Leak surveys performed in the Union and Northeast regions will pick up leaks associated with valves as well as leaks associated with pipes. Critical valve leaks are dealt with immediately. Below ground valves are typically replaced as part of pipeline replacement projects. Above ground valves are typically replaced if they are damaged, inoperable, or leaking. Valves can be either repaired or replaced depending on the type of valve and location. Repair typically involves greasing the affected valve. Replacing a valve involves disrupting gas service and changing valves. The time and manpower involved varies based on the scope of the replacement or repair.

METERS AND THEIR FUNCTIONS

Gas Meter Testing

NJBPU and New Jersey Administrative Codes have provisions for meter reading and other metering rules and regulations, including meter testing requirements and reporting. These regulations are extensive and a sampling is outlined below:

Each gas utility shall provide itself with equipment necessary for testing meters that are either in use or in inventory. Utilities may cooperate in making these arrangements.

A bell type prover shall be set up permanently in the location where it is to be used. All provers will be calibrated according to ANSI B109, incorporated herein by reference, as amended and supplemented, and is available at www.ansi.org. (ANSI B109. 2 is the standard for diaphragm meters handling more than 500 Cubic Feet Per Hour and ANSI B109. 3 covers the "Rotary Type Gas Displacement Meter. Both B109.1 and B109.2 define diaphragm type gas meter capacity as that volume of 0.60 specific gravity gas at an absolute.)

Whenever a utility calibrates a prover, the calibration shall be witnessed and approved by the Board. Whenever a manufacturer calibrates a prover, the calibration shall be verified and approved by the Board.

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All gas utilities shall ensure that each prover is furnished an inspection and approval tag by the Board.

For any group of meters in a sampling program to remain in service, at least 80 percent of the meters in the sample tested must be within the accuracy limits of 98 percent (two percent error slow) to 102 percent (two percent error fast) at the low flow (check) rate, with no more than 10 percent of the meters exceeding 102 percent (two percent error fast).

If a group of meters does not meet the performance standard, then corrective action is taken.

ETG has implemented NJBPU meter testing and meter accuracy regulations. The meter testing is done by ETG employees at the Union Division. There are instances where the meter size exceeds their testing capabilities and these are tested by IMAC systems in PA.

Actual Meters Tested

Meter samplings are generally grouped by similar attributes as follows:

- Manufacturer
- Year of installation
- Meter type (three groups)
 - ◆ Group 250 includes all meters that can measure less than 400 cubic feet (CF).
 - ◆ Group 250R Rockwell Meters has a higher failure rate and are more prone to fail the group.
 - ◆ Group 400 includes all meters that can measure less than 500 CF.

Rate of Meter Failure

The rate of failure in order for the entire batch of sampled meters to be replaced is in accordance with American National Standards Institute (ANSI). Ansi Z1.4 is the standard used to establish meter sample requirements that controls criteria based on sample size.

- A percentage of meter groups are to be tested annually.
- ANSI Standards are the controlling NJBPU document used for the Sampling Program. It establishes all the criteria for the sampling and the failure rate which would require a batch of meters to be replaced.
- In general, if a batch or group of meters fails in a consistent two-year period, the meter group is moved to the Forced Removed List in the third year.

Process for Failed Meters

The list of meters to be replaced, as a result of being categorized as Forced Removal Meters, is sent to the Maximo team. The meters are flagged in the Maximo System based on their group designation (i.e., Group 250, Group 250R, or Group 400). The Compliance and Standards Team will inform the owner of the meters that failed and advise on the next steps. The Forced Removed list is on a five-year removal schedule. This is tracked by the Compliance and Standards team.

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Meter Installations and Meter Turn-Off/On

New meter installations require only a few days' notice; there is a crew dedicated to this task. Field Operations handles the smaller new business facilities for main extensions. Compliance inspections may require new replacement services that would include new meter installations. Failed meters require new meters to be installed.

Customers may request meters to be turned off and turned on. For customers in arrears, a Work Order (WO) is generated in Maximo/MWM for the Field Revenues Collections Department to collect payment or shut off the service for nonpayment. Other turn-offs are issued when premises are inactive accounts but showing usage on the meter.

Field Revenue and Collections Meter Readings

ETG performs a drive-by method of reading meters using an Encoder Receiver Transmitter (ERT) style meter. This is a computerized measuring and encoding device with a built-in radio transmitter which fits behind the faceplate of a standard residential gas meter. ERT allows a "drive-by" meter reading with an automatic meter reader (AMR), a reading device installed in a vehicle. The AMR automatically collects a meter reading as the meter reader drives past the meter. Of ETG's total gas meters, 99% are the ERT type. Additionally, ETG uses an American technology company, Itron, that offers products and services for energy and water resource management. Itron manufactures *FC300* handheld computers to collect meter data from gas meters. Itron mobile can synchronize route data from any location while the handheld is uploaded and downloaded in the office. Route data is loaded by the supervisor on each device. This technique reads customer meters and then transfers the data into ETG's Billing System.

The following exhibit shows meter count by customer class:

Meter Count through 2021

Customer Count	ETG
Residential	285,748
Commercial	23,578
Industrial	101
Total Count	309,426

A description of the meter reading function is as follows:

- The individual meter readings are on a particular schedule and there are 21 different schedules. Meters are read once each month on a schedule that varies between 27 to 33 days.
- Most meters are placed outside so access to enter a household is not required.
- Customers with meters inside their facility may want to know when the meter reader is coming so that access to the house can be granted.
- It takes one person with a vehicle and a handheld meter to take a meter reading. There are 5- or 6-meter readers dedicated to this task.
- Meter readings are edited to filter out faulty readings. The drive-by meter reader will return to re-read those accounts that were faulty.

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- The handheld ERT device may be used for second readings because prior faulty readings are generally caused by other intrusions or obstacles interfering with the view.

Backyard Meter Readings

All meter readers must be able to access a back yard to get meter readings. If the gate is locked, the utility may be unable to read the utility meter. The meter reader must approach the customer directly in order to gain meter access. During the winter months, accessing the meter can be potentially dangerous because of heavy snow and icy surfaces. The owner of the home or business can help meter readers remain safe by:

- Clearing a path to the meter(s) and checking for dangerous snow, ice and buried items.
- Ensuring that the gate opens easily and isn't blocked by snow or ice.
- Keeping dogs indoors or housed in some way that protects the meter reader.

Additional Duties for Meter Readers

The Business Operations area gives direction to the meter reading group for meter inspections. Letters are sent by ETG to customers requesting that they make an appointment for ETG staff to enter a dwelling and inspect the meter. The meter reading group will be sent to the dwelling. An average day could include 12 households.

Right-of-Way Maintenance

Right of Way (ROW) clearing and maintenance is a task performed by Field Services. As a practical matter, ETG requires access to its lands and facilities and a significant amount of the geographic territory is heavily populated with foliage and brush. Frequently, Field Services engages helicopters to fly over and survey a particular area in order to get photographs and map the area to determine where the ROW is. A crew is sent to cut, trim, and remove foliage and clear the ROW so that access is possible.

Carbon Monoxide Incidents (CO)

When notified of potential CO issues, ETG dispatches in-house employees to investigate the situation and take any necessary action to ensure safety. Because CO typically originates from malfunctioning customer owned appliances or equipment, these events usually do not meet reporting requirements. In 2020, there were no CO investigations reported to the NJBPU or other agencies. In 2021, three notifications were made to the NJBPU regarding CO related incidents. Details of these three incidents are listed below. Please note that because the source of CO was not from ETG facilities or equipment, the events did not meet state or federal incident reporting criteria. Therefore, these notifications were made as a courtesy.

- [Redacted]
- [Redacted]
- [Redacted]

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Explosions

ETG responded to one notification of explosion in 2021 and three notifications of explosion in 2020. If ETG facilities are not involved, a particular incident did not meet state or federal reporting requirements. ETG's Gas Control is not involved because the particular incident was not caused by ETG's facilities. Details of these responses are summarized below:

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

FIELD REVENUE AND COLLECTIONS

A fundamental responsibility of the Field Revenue and Collections group is the collection efforts of delinquent invoices where customers have not paid their gas bills. In-person collection of receivables and shut-offs for non-payment, if appropriate, are managed by this group. There is a complete process in place with collection notices, and finally a visit from the Field Revenue and Collection group.

At any point in the collections process and severance process phases, the customer can pay 75% of the amount owed to stop the shut-off of service. The steps taken by Collections and Severance are as follows:

- **Day 1:** The Collections Process phase begins when a first check passed due reminder is placed on a bill. The past-due status is reflected on the invoice to the customer. Once the customer is 30 days past due and the amount owed is \$300 or more, or 60 days past due and the amount owed is \$100 or more, the collection phase begins.
- **Day 15:** The Severance process phase begins with a Disconnection Letter sent to the customer. A severance service agreement is created and a severance alert is added to the customer's account 14 days after the beginning of the collections process.
- **Day 35:** An additional late collection letter is forwarded to the customer to collect all delinquent monies when payment is 35 days past due.
- **Day 40:** Email, text or auto-dial begins in an effort to collect the past due amount from the customer.
- **Day 45:** Final notice is sent when the invoice is 45 days past due.
- **Day 56:** Shut Off Non-Payment (SONP) Field Activity (FA) status created. A WO generated in Maximo for the Field Revenues Collections Department to collect payment or shut off the service for nonpayment.
 - ◆ Field Collections has up to 45 days to collect a payment or shut off a customer's gas service and obtain the Final Meter Reading.
 - ◆ The SONP Field Activity remains valid for 45 days. If gas service is not disconnected or payment is not collected within this period, the Severance from

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the date the Disconnection Letter was sent begins with the first day of the next month.

The Field Revenue and Collections Office begins the process of collections as follows:

- A field order is forwarded to Field Revenue and Collections with the total amount owed and shows the last three payments.
- The field office must manually build a route by sorting street names and postal codes so that travel to collections is as efficient as possible. While the team has access to certain functions of GIS, the team is currently not able to use the route mapping for collections within areas.
- An attempt is made to begin the collection process with the oldest and highest balance invoices first, but that effort must consider the route.
- A first visit is made to the customer without an appointment or prior notice, after receipt of the letter.
- An explanation is made to the customer that money is owed and they are asked for payment. The customer may ask that they return later after the customer has visited the bank. Each visit takes an average of 30 minutes and as much as 45 minutes.
- The ETG employee can assist with direct payment online or by calling the ETG phone number and assisting the customer with payment over the phone.
- The ETG employee is equipped with a triplicate receipt book. One receipt is given to the customer, one is kept for ETG, and one is for the employee. The Meter Readers who perform the collection function do not have the ability to accept credit cards payments nor print out receipts for the customer. The customer must call the Bill Pay number or pay online to make any credit card payments.
- The ETG employee has a safe in their car for secure storage/transportation of payments. Payments are taken back to the Greenlane ETG facility and can be dropped in the overnight deposit.
- The ETG Green Lane facility deposits all checks, while a Loomis armored car picks up cash for deposit.
- The ETG employee provides the customer with information regarding Energy Assistance Programs that may be of assistance. The state of NJ has programs that provide assistance to people who are middle class and not just low-income people.
- ETG does have payment plans available and a plan can be negotiated if the customer contacts ETG requesting one.
- Field Revenue and Collections group has up to 45 days to collect a payment or shut off a customer's gas service and obtain the Final Meter Reading. The collection process authorizes the meter to be shut off at this stage.

ETG attempts field collections one to two Saturdays per month between April and November. Historically, ETG worked four nights per month, 4–8 pm, between April and November. Both scenarios are dictated by workload and availability.

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Training for Debt Collectors at Field Operations

Because of Union guidelines only the most senior field employees are eligible to become debt collectors. ETG debt collectors are trained on billing systems, customer service, negotiations, and technology. The Safety Department provides additional training on how to deescalate an angry customer or manage household pets.

UTILITY SERVICES

Fleet Management

Fleet management refers to all actions required to keep a fleet running efficiently and within budget. It includes the processes used by fleet managers to monitor fleet activities and make decisions for proper asset management, dispatch and routing, and vehicle acquisition and disposal. The aim is to operate in accordance with all applicable quality, safety, and environmental standards and achieve zero incidents and spills, while improving continuously. Safety is the number one priority.

ETG has 48 CNG-fueled vehicles. The CNG units are not being replaced due to the lack of availability of fueling locations within the area. There is a fueling station charge which is a fixed monthly amount, designed on an individual customer basis to recover the company's projected cost of maintaining the Customer's specific CNG fueling facility.

Warehousing

The objective of warehousing is to keep the inventory level optimized by maintaining the supply needed to support demand. The goal is to maintain a small inventory while ensuring ETG is able to have parts delivered within hours of placing an order. Common parts are kept in stock; the type of items that are common to their vehicles and used frequently (e.g., pipes, gas meters, fittings and valves).

Physical structures by division are discussed below:

- The Union Division Service Center serves as company headquarters and has a full office building to handle administrative, clerical functions, meetings, and locker rooms. The service center has a full-service garage for fleet maintenance and refueling capability for natural gas, diesel, and gasoline. There is also a main warehouse at this location to sustain construction and maintenance activities, along with spoil bins to drop off and receive clean fill, stone, and sand. The Union Division Service Center, which also serves as the company headquarters, is staffed by one full time security guard from 6:30 AM to 4:00 PM Eastern, Monday through Friday.
- ETG has an indoor and outdoor training center located in Union NJ at the service center.
- Northwest Division Stewartsville work center has a full office building to handle administrative, clerical functions, meetings, and locker rooms. There is also on-site refueling capability for gas and diesel. This location maintains a smaller depot style warehouse to sustain construction and operations in this division.
- Northwest Division Satellite work center has limited office space, meeting rooms, and locker room facilities to support a small contingent of above and below ground

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field employees. There is no onsite refueling, and there are smaller depots for specific and common materials that are required to sustain localized field operations.

- Work centers are secured with fencing and vehicular gates operated via badged access. Similarly, all buildings are secured with badged entry. The work center that houses the warehouse is fully secured by fencing and vehicular gates. There are security cameras positioned at various locations in the yard.
- ETG's main warehouse, located in Union NJ, is staffed by a full-time warehouse clerk from 7:00 AM to 3:30 PM Eastern, Monday through Friday and on occasional Saturdays. The warehouse is a separate building at the service center with badged access control, alarms, and cameras.
- Materials are distributed to employees by the Warehouse Clerk, or Fleet and Warehouse Supervisor. On weekends or after hours, select operations supervisors have access to the warehouse in the event something is needed. All doors are secured via badged entry and there are security cameras throughout the warehouse. The Warehouse Clerk is the primary employee responsible for restocking the warehouse. Deliveries are made throughout the workweek mainly by MRC Global, the main supplier. ETG does not have a Divisional Clerk role; however, each division has nonunion administrative assistants that support their respective department.

Fleet Size and Service Territory

The fleet consists of approximately 345 vehicles and equipment which includes cars, vans, pickups, larger trucks, tractors, forklifts, and excavation machinery. ETG is in contract negotiations with a Fleet Management Company. This group will not only help ETG collect new data but organize old data to provide a Total Cost of Ownership for each vehicle and in turn create a replacement plan that is reflective of the trends effecting ETG's specific fleet.

The fleet services Regional/Field Operations in their entirety. The fleet also supports Measurement and Regulation facilities in the Engineering Group and provides transportation vehicles to support first responders. Very little if any support is provided by Fleet to Construction Operations because the independent contractors provide their own equipment. Outside vendors are used for convenience when a vehicle is not local to the mechanics and for small jobs (i.e., oil changes and the like). Permission is granted to outsource if there is a crunch or necessity.

Staffing Levels and Training

The Fleet staff consists of five mechanics, one administrative person, and one warehouse person who are responsible for maintenance of the fleet. The mechanics have been with ETG for many years; therefore, retirement becomes an issue. Probably all five will retire within the next ten years with one retiring in five years and a second employee eligible to take early retirement in two years and ETG anticipates that this employee will take early retirement.

Mechanic positions require a highly specialized trade that requires special skills to understand complex vehicle systems and be able to identify and fix any issues. An

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Automotive Service Excellence (ASE) certificate is an industry-standard way to test and prove skills for a mechanic. ETG requires mechanics to have ASE certification in at least two of the mechanical areas and two years of work experience with large excavation equipment.

There are ten entry-level automobile ASE certification areas. These areas are:

- Suspension and steering
- Manual drive train and axles
- Maintenance and light repair
- Heating and air conditioning
- Engine repair
- Engine performance
- Electrical/electronic systems
- Brakes
- Automobile service technology
- Automatic transmission/transaxle

New employees are assigned to a master mechanic for on-the-job training. Additionally, the ETG technical center will provide the new hire with forklift training and commercial driver's license (CDL) training for the operation of commercial vehicles such as semi-trucks, cargo vans, and buses. Depending on the needs of the entire fleet group, additional certifications in the remaining eight certification areas will be required. Overall training, together with shadowing master mechanics, is expected to take at least two years and to become as qualified as the other staff mechanics may take up to five years.

E. ENGINEERING

ENGINEERING AND ASSET MANAGEMENT

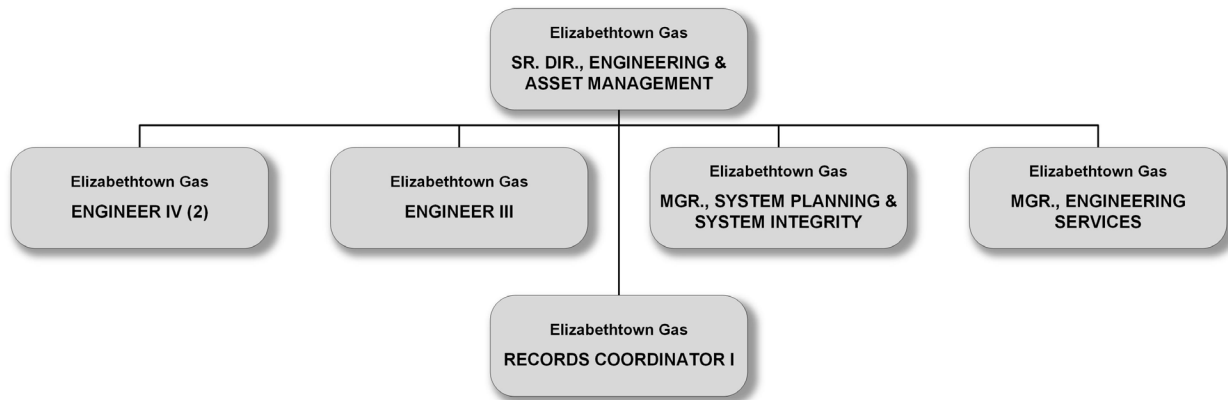
The Engineering and Asset Management Group is focused on system planning for distribution design, transmission design, and new business design. The focus extends to the Transmission Integrity Management Program (TIMP) and the Distribution Integrity Management Program (DIMP). Both integrity programs outline processes for evaluating and reducing pipeline risk. Engineering Services controls corrosion, places real time controls where appropriate, and administers regulations associated with measurements.

The Senior Director of Engineering and Asset Management has six direct reports with 17 union employees and 23 non-union employees. The organization structure is reflected in the following exhibit:

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Engineering Services Group Organization Chart



The Director of Engineering Services and Asset Management has oversight of System Integrity, System Planning, System Design, and Measurement and Regulation (M&R).

SYSTEM PLANNING AND SYSTEM INTEGRITY

This group has a manager with four Corrosion Technicians, and one Integrity System Engineer focused on system planning and integrity.

There are two programs that fall under the Integrity Management Programs (IMP). These programs are called TIMP and DIMP. Both programs outline processes for evaluating and reducing pipeline risk.

Inspections are performed by ETG staff as well as one long-time contracted inspector. System Integrity manages the contract inspector. The inspections result in work orders to repair problems that are discovered.

TIMP and DIMP are listed as responsibilities under both Engineering and Construction Operations. TIMP and DIMP for Engineering refers to analysis of pipeline performance and the design of the projects. These are pipeline replacement projects that fall under the capital budget category; however, any construction work is performed by the Construction Operations department using outside contractors.

TIMP

TIMP is a transmission line inspection program that includes gate stations, regulator stations, leak surveys, and right-of-way (ROW). Federal integrity assessments are conducted on a 7-year cycle, in which in-line inspections are conducted utilizing smart pigging technology. Annual inspections include ROW patrolling, cathodic protection checks and leak survey. While the requirement is for a seven-year cycle, ETG inspects annually. Inspections include in-line inspection (pigging), calibration digs (spot checks to confirm the tool's measurements), and integrity digs to physically examine flagged pipe portions. Typically, a vendor is engaged to perform the digs; digs may take as much as four or five days. The Business Operations Group frequently flags issues that end with this sort of dig.

TIMP is part of the Pipeline Safety Improvement Act of 2002 Annual Planning Process, 49 Code of Federal Regulations (CFR), Part 192 Subpart O. The process includes the

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gathering and integration of risk factor data and indirect examination or analysis to identify areas of suspected corrosion. This subpart prescribes minimum requirements for an integrity management program on any gas transmission pipeline covered under this part. The code specifies the following:

- Identify the threats to pipelines in High Consequence Areas (HCAs). High density areas are usually urban and populated by high-rise buildings with many units; therefore, identification of HCAs along pipeline rights-of-way is critical. The TIMP process must attach a high priority status to accurate mapping and integrating HCA data, documenting how mapping systems are used, periodically verifying and updating their mapping systems, utilizing buffer zones (tolerances) to provide additional protection around the calculated potential impact radius (PIR) along pipelines, and ensuring the accuracy of class locations. It emphasizes that HCA identification relies on pipeline-specific information regarding the location, size, and operating characteristics of the line, as well as the identification of structures, specified sites, and their intended usage along the pipeline right-of-way. Emphasis is placed on areas where people assemble or gather (i.e., schools, churches, parks, and entertainment areas).
- Analyze the risk posed by these threats.
- Collect information about the physical condition of pipelines.
- Take actions to address the applicable threats and integrity concerns to increase safety and preclude pipeline failures.

DIMP

DIMP has a line inspection program that includes gate stations, regulator stations, leak surveys, and ROW. It should be noted that the same concerns are present for distribution systems as those concerns associated with transmission lines. The facilities are different (i.e., different pressures and different pipe materials). Transmission pipelines are constructed from steel piping and can range in size from several inches to several feet in diameter. Transmission pipeline systems can be designed to operate at various pressures but are usually designated as transmission when the operating pressure exceeds 20% of the specified minimum yield strength (SMYS) of the pipe. However, the largest portion of gas distribution pipelines, both mains and service lines, are constructed of plastic pipe. The next largest is constructed of steel pipe. Gas distribution pipelines are also constructed of iron, copper, and other materials. Distribution pipelines receive gas from multiple transmission systems. Distribution lines are small and are the final link in the chain of gas delivery. They move gas from final transportation points along large transmission pipelines to homes, businesses, and industrial facilities. In addition, distribution lines have many more interconnects, regulators, looping, and routing.

DIMP gas distribution Integrity Management (IM) regulations require operators, such as natural gas distribution companies, to develop, write, and implement an integrity management program with the following elements:

- The distribution system is a grid that relies more on data gathering than a transmission system does.

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- Understand system design and material characteristics, operating conditions and environment, and maintenance and operating history.
- Identify existing and potential threats.
- Evaluate and rank risks.
- Identify and implement measures to address risks.
- Measure IM program performance, monitor results, and evaluate effectiveness.
- Periodically assess and improve the IM program.
- Report performance results to the Pipeline and Hazardous Materials Safety Administration (PHMSA) and, where applicable, to individual States.

Under DIMP, ETG also manages an annual review and update of the system integrity manuals and the risk models done by contractors, and it oversees the transmission cathodic protection program provided by a contractor.

DIMP requires a compilation of records of mechanical failures and pipeline failures to produce monthly, quarterly, and annual reports that guide distribution system planning for replacement, renewal, and redundancy (looping) projects. The Maximo computer system houses the data; historic data serves ETG to understand its own System Integrity. Responsibilities include collection, review, and analysis of pertinent data, development of programs to mitigate risk and improve data collection and monitoring of results. DIMP is governed by state regulations, not federal, administered by NJBPU.

TIMP and DIMP inspection results are used to determine work requirements. These are transferred to the Design Engineers and once the design is complete, the project is forwarded to Construction Operations to manage the completion of the work.

A Request for Proposals (RFP) is circulated to obtain a vendor. Vendors bring their own tools and equipment for the dig. Such equipment is specialized and having it shipped across the country to perform these specialized tasks is common.

Corrosion Control Management

System Planning and Integrity has four engineers assigned to ETG's cathodic protection program to protect pipes from corrosion. One is a senior corrosion technician who, in addition to the responsibilities of the other corrosion technicians, is primarily responsible for cathodic protection design and advanced troubleshooting. ETG procedures also require the monitoring of unprotected steel systems for evidence of active corrosion. During this process, the Corrosion section reviews the operating history of both distribution and transmission systems to determine if the frequency of leak repairs and other maintenance activities indicates that active corrosion is occurring. If there is evidence of active corrosion, a recommendation is made for the suspect portion of the system to be replaced and is passed to the Engineering Department.

ETG has 1,000 miles of steel pipe, and the technicians take voltage readings of current steel pipe to determine if the voltage is within range. Voltage readings out of tolerance signal that a problem may exist. A range of 5,600 locations are surveyed each year. The leak survey and atmospheric corrosion and meter protection programs are run by vendors under long-established contracts.

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In addition to these processes, ETG has procedures for Continuing Surveillance of ETG's distribution and transmission systems. This procedure requires that personnel make every effort to identify and report factors or conditions that may adversely affect the safe operation of ETG facilities. There is open communication between Field Operations, System Integrity, and Engineering to allow issues to be reported and corrected. If employee expresses concern for a particular area, it is analyzed and a determination is made if a replacement is justified or if it requires higher prioritization. All identified issues are prioritized based on severity. However, ETG has the ability and funds available to complete replacement immediately, if necessary.

ETG utilizes contractors to provide support for specialized corrosion work when needed. This includes integrity assessments, such as in-line inspection, advanced cathodic protection design/troubleshooting, and evaluation of anomalies. ETG has worked with the following companies:

- Enduro Pipeline Service, Inc. – Provided in-line inspections services for an integrity assessment of a transmission line. Contracts are developed on a project basis, the most recent of which lasted from March 1, 2022, until the end of the project in October 2022.
- Pipetel Technologies. – Provided in-line inspections services for an integrity assessment of a transmission line. Contracts are developed on a project basis, the most recent of which lasted from October 10, 2020, to December 21, 2020.

ENGINEERING SERVICES

Engineering Services is responsible for System Planning, Pipeline Design, New Business, and Measurement and Regulations.

It is noteworthy to clarify that System Planning reporting to "System Planning and System Integrity" is focused on the protection of pipes from corrosion while System Planning reporting through Engineering Services is focused on computer modeling and data analysis tools to aid in the evaluation, justification, and development of solutions to gas system issues, opportunities, and/or emergencies; and maintaining and updating various system models.

System Planning operates the hydraulic gas system model and manages its contracted, every two-year calibration. This includes adding new customer loads and optimizing existing main pipeline diameter for renewals and new business. System planning also initiates all renewal and replacement work orders for Construction Operations division engineers (see Construction Operations below). It also maintains a "construction by others" database on the planned projects by local governments, such as water and sewer construction and road repaving. ETG projects are coordinated with work done by other contractors, utilities, and local governments.

System Planning creates 65–70 miles of pipe replacement work orders for the engineers per year and approximately 20 miles of new pipe annually. The Division engineers then pick from the backlog (queue) for their work. They try to balance work with local governments, work by others, and sizes of jobs while still achieving the targeted miles of replacement.

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System Planning is also contacted for blowing gas emergent incidents so it can prioritize valve shut offs to minimize customer impact. A range of 15 to 25 incidents per year have occurred in the past. Previously, System Planning did not track the requests from Field Operations for analyses to shut down systems for customer impact. A log to track said requests was started in January 2023 so that, going forward, ETG will have the information. These requests are usually received by phone, but could also be received by text, or in person. ETG not only recommends which valves to close, but sometimes will recommend where to squeeze off or stop off a main and if bypasses are required.

ETG System Design

Design engineers manage the work orders through to design completion. The engineering group has three degreed engineers on staff plus three consulting engineers to assist with design work. Responsibilities are as follows:

- The design of large diameter gas main replacement projects.
- New Jersey Department of Transportation (NJDOT) reimbursable projects and special projects.
- Responsible for DOT, relocation, and DIMP project design.
- Pipeline Replacement Program (PRP) Projects, including PRP tracking, managing Design Vendors, and design review.
- Pipeline Design/Permitting for Replacements
- New Business, Reinforcements, Public Works
- Metering and Regulation (M&R) Stations.

All design work is done in the standard ETG computer aided design and drafting (CAD) system. It has a standard title block with basic project information and standard “objects” like trees and mailboxes that are dragged and dropped into the designs. There are three Engineers responsible for the Engineering design associated with gate stations, regulator stations and large meters specific design contractor employees dedicated to ETG work. Design contractors notify the responsible engineer by email when designs are ready for review.

All distribution work orders are managed through the standard ETG work management system. The design group prepares a materials list and estimates units required for the specific project. Approximately 50% of design work is contracted and the remainder is completed in-house. Design contracts are paid by the hour. Further negotiations take place if extra time or materials are required which are not outlined in the RFP.

Design contractors and their responsibilities are as follows:

- [Redacted] manages new business project design
- [Redacted] handles traffic control plan design
- [Redacted] handles Index Industrial Production (IIP) Program Replacement and Project design
- [Redacted] takes care of IIP Program Replacement Project design and special project and plan design

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- [Redacted] handles IIP Program Replacement, Project design, New Business Project design, and special project plan design

New Business

Responsible for design, design review, and design completed by vendors of all New Business Projects in both the Union division and the Northwest Division.

The Engineering Services section manages the contract design for both renewal (system replacements) and new business system expansions. New business work comes from the Sales Department through the sales management system to the permitting clerks who cost the project, secure needed permits, and notify the new business design contractor. The contractor enters the design into ETG's standard work management system, Maximo, for review by the Engineering department which is notified when the design is ready for review.

Renewal work comes from System Planning. System Planning identifies and prioritizes system replacements and creates work orders for scheduling by Engineering Services. Work is balanced between the two divisions, but it is heavier in the Union division because they have more applicable plant. Only the Engineering Manager has significant input into the system plan. There is a constant planning process jointly with System Planning and the Division engineers.

The following reflects new meter sets effective in the years 2009 through 2021:

New Meter Sets 2009–2021

Year	Actual Meters	Meter Goals	Percent of Goals Achieved	Difference
2009	1793	2718	66%	-34%
2010	2221	2246	99%	-1%
2011	1853	2148	86%	-14%
2012	2033	2163	94%	-6%
2013	2386	2095	114%	14%
2014	2809	2720	103%	3%
2015	2748	2960	96%	-4%
2016	2624	3006	87%	-13%
2017	3329	2802	119%	19%
2018	2959	2953	100%	0%
2019	3807	3365	113%	13%
2020	3870	4374	88%	-12%
2021	4938	4525	109%	9%

Measurement and Regulations

The Measurement and Regulation (M&R) Department is part of Engineering Services. Regarding the aspects of M&R, Engineering Services is responsible for the design of M&R stations and appurtenances. Construction assists with the installation of meter

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stations and M&R Regional Operations is responsible for operation and maintenance of stations and appurtenances.

The supply of natural gas is measured with physical equipment. Both the volume of new reserves and the level of existing flowing production can be measured.

One Field Supervisor is responsible for large meter stations, gate stations, regulator stations, large meter testing, large main taps and stops and main purging. A second Field Supervisor is responsible for the Meter Shop and gate station, regulator station and large commercial and industrial meter station electrical, instrumentation, communications and security.

Real Time Controls:

Real Time Controls is synonymous with Measurement and Regulation. Real time control is often confused with regular measurement. “Real-time” essentially means “happening now or immediately responsive.” In engineering, real-time refers to systems that not only need to calculate the correct response, but they must respond instantly, often in continuous interaction (dynamically) with the system's environment. Such Telecommunication applications come through Gas Control.

PIPE AND PIPE REPLACEMENT

ETG has approximately 13 miles of transmission mains, all of which are located in the company's Northwest Division and are comprised of coated steel. The maximum allowable operating pressure (MAOP) of these lines is 950 pounds per square gauge (PSIG) but are typically operated at 650 PSIG. Operating pressures remain constant throughout the year because they primarily supply a natural gas power plant rather than residential or commercial customers.

ETG has a total of 3,200 miles of main pipeline and ETG has been replacing between 65–70 miles of cast iron main piping per year. There are 3,300 total miles of main pipeline and 2/3 are in the Union Division. Eighty percent of customers are in the Union Division while only twenty percent of the territory is in Union. Union has an older infrastructure with older pipe.

Critical Pipe Replacement

The NJBPU authorized ETG to implement an accelerated program to replace 250 miles of cast iron and bare steel pipe because that particular pipe is the most leak prone. Effective July 1, 2019, \$300 million was approved in a five-year program. ETG has already completed four years of this program and completed installation of 184 miles of new distribution main placed in service, 22,700 services on the main and installed 22,700 safety valves on the services.

Cast iron vintage pipe that was placed in the ground prior to 1971 and prior to federal regulations being properly developed is a concern. ETG has approximately 200 miles of this pipe subdivided into the following categories:

- Cast iron has 184 miles left to replace, with 170 of those miles being low pressure lines. This is the pipe that is currently targeted in their accelerated replacement program. This is the most leak prone pipe based on past performance. Inferior

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materials were used and it cracks easily because there is no elasticity or flexibility in the material. Materials like cast iron are weak in tension, therefore a heavy load causes cracks and faults. Over time, the joining moves. They move because of the load. The brittle materials actually fracture or break at the maximum load by splitting or by cracking.

- Ductile iron is an additional 9.7 miles.
- Copper main is 0.4 miles in short pieces and inserted in an older casing.
- The cast iron, ductile iron, copper main and vintage plastic equal approximately 194 miles and the goal is to have it replaced by 2026.

ETG has replaced approximately 268 miles of cast iron distribution mains between 2009 and 2018. Between 2018 and 2021, an additional 181 miles of cast iron has been replaced from ETG's system.

Other Older Pipe

There is other older pipe in the ground that is not part of ETG's current accelerated pipeline replacement initiatives.

- Modern steel and modern plastic are 2,400 miles and categorized as good pipe.
- Vintage main equals 540 miles placed in the ground, prior to 1971. This pipe has been identified as riskier pipe and is the subject of accelerated replacement in the Company's future pipeline replacement initiatives.
- Vintage plastic is 141 miles installed prior to 1984. The DIMP and TIMP programs are diligent in reviewing integrity issues and ETG feels that there is not an issue with the vintage plastic.
- Replacement of the elevated pressure, large diameter cast iron pipe is progressing at approximately two miles per year. All piping is anticipated to be replaced by the end of 2029. Pre-1971 steel pipe is planned to be replaced by the year 2037.
- As of 12/31/2021, ETG operates approximately 32 miles of bare steel distribution mains. ETG plans to eliminate all bare steel pipelines once all cast iron has been eliminated.

Risk Associated with Older Pipe

Leaks and repairs are tracked within the company's Maximo and GIS systems. Currently, there is no automated process to "flag" individual segments of main. However, there are several processes that take place to analyze leak data and address threats to ETG infrastructure.

All leak data is analyzed by DIMP and drives annual risk assessment and the ranking of risks. The top risks are analyzed further and "additional or accelerated actions" (A/A actions), which exceed federal code requirements, are developed to address those risks. A recent example of an A/A action is ETG's current IIP program and the replacement of all low-pressure cast-iron pipe. This program was developed after cast iron was consistently a top threat in annual risk rankings.

In addition to risk ranking and A/A actions, the DIMP Plan contains an Ad Hoc Threat Investigation Process, which is used when new information becomes available that

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indicates further analysis is needed. For the threat of cast iron pipe, an Ad Hoc Threat Investigation was performed by completing a spatial analysis, utilizing GIS, of ETG's low-pressure cast-iron system. Various factors such as leak history, existing leaks, and emissions data were used to determine the areas that were of highest priority for replacement. This analysis drives the prioritization of replacement projects for the IIP program.

F. CONSTRUCTION OPERATIONS

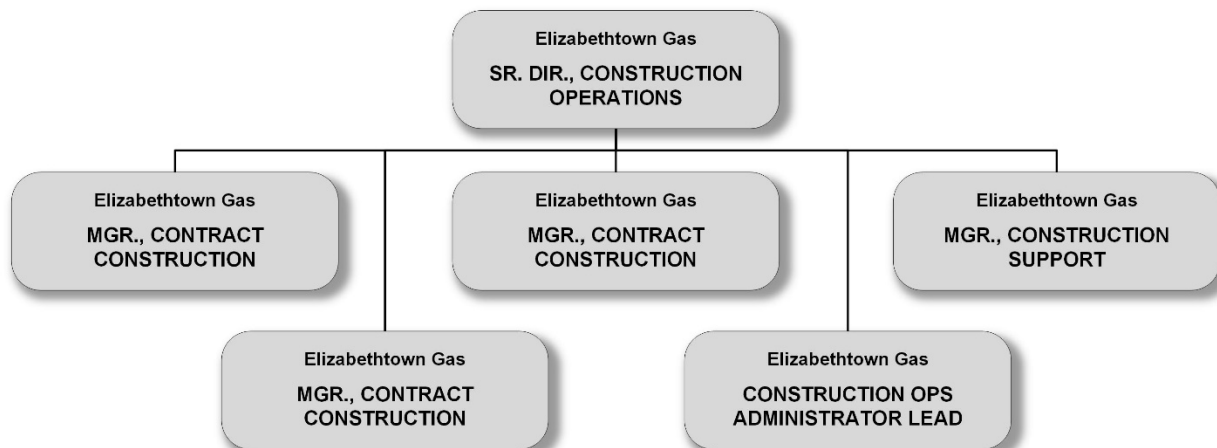
BACKGROUND

Construction Operations manages and builds the vast majority of new distribution system facilities and conducts the distribution system replacement and renewal program. This group is responsible for the majority of distribution facilities work on pipeline mains, services, regulator stations, and new meter installations. Additionally, they are responsible for renewal of pipeline main and services, including moving inside meter sets to the outside, meter activation, pipeline main and service activation, retirement activities, pipe joining, excavation, and all associated restoration of hard and soft surfaces disturbed by excavation activities.

Construction Operation engages independent contractors to perform the primary construction projects and is therefore responsible for the management of those contractors. The management responsibility includes liquidated damages that allow for the payment or non-payment of a specified sum should one of the parties be in breach of contract (e.g., if an independent contractor has not completed a project within timeline requirements).

The Senior Director of Construction Operations has five direct reports with a total of 39 non-union ETG employees. The organization structure is shown in the following exhibit:

Construction Operations Organization Chart



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CONSTRUCTION AND PIPELINE CONTRACTORS

Origin of Work Assignments

Construction Operations receives work assignments from various groups within Systems Operations as a whole; the following areas represent the origin of the majority of work assigned to the construction group:

- Engineering and Asset Management provide engineering design and support for Systems Operations as a whole. Future work is identified, and such tasks are communicated to upper management for approval and budgeting so that the work can begin. Once the engineering design work is complete, the job is passed to the construction group to accomplish the actual work.
- One example of Engineering and Asset Management assignments is that between 2009 and 2018, ETG replaced approximately 268 miles of cast iron distribution mains. Between 2018 and 2021, an additional 181 miles of cast iron was replaced. ETG installed and placed in service 184 miles of new distribution main and connected 22,700 services with safety valves.
- Some work assignments, initiated by Sales and Business Development, require new construction based on pipeline growth, and potential main extension opportunities for "prudent" expansion. New business, once under contract, is assigned to the construction group so that the work can begin. This may include laying a direct gas line be laid and/or setting meters. ETG has implemented several large strategic projects in the Northwest service territory. To date these large strategic projects have added more than 2,500 new customers.

Independent Contractors:

ETG contracts with independent construction crews to perform all its physical construction work. ETG gains experienced professionals without the time and expense of training in-house staff. ETG has established a comprehensive construction quality assurance program to evaluate and monitor potential contractors and their relevant experience, including reliability, capacity, and safety/quality performance. Contractors being considered for new projects are assessed on criteria such as safety, Experience Modifier Rate (EMR), experience on similar work, experience and familiarity working in the territory, diversity commitment level, acceptance of company contract terms, size of contracting firm, quality of proposed work plan, available resources, proposed schedule, and price. Interviews may be conducted with prospective contractors to evaluate their merit in further detail when necessary, including reviewing team member resumes proposed for the project. ETG has not received any out of state inquiries/applications.

Construction Operations currently has five active pipeline contractors and seven approved contractors to perform gas construction work. Construction Operations manages typical new business and renewal workloads based on territory, either Union Division or Northwest Division. If steel is involved, more senior project coordinators that have obtained their Certified Pipeline Welding Inspector's Certificate (CPWI+V) certificate, are required. Construction Operations has a special projects group that coordinates the larger, more complex projects.

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Both ETG and its sister utility company, SJG, have lists of approved construction contractors; three of which are common to both. The common contractors receive an RFP each time a bid is prepared by ETG or SJG. JF Kiely Construction was added to ETG's approved bid list in 2021 to establish a more consistent list of bidders capable of providing services at both utilities. Contractors may not be used by both utilities for a variety of reasons including not having familiarity, desire, or an established physical presence within the respective utility's service territory. The following exhibit shows the contractors for both companies. Common contractors used by both companies are identified with an asterisk.

ETG and SJG Contractors

[Redacted]

Currently, there are more than 50 crews with a total contractor employee count of more than 400 employees.

ETG has no active / recent contracts or construction projects with problems that required exercising a contract's termination clause.

On a per contractor basis, amounts spent/paid to contractors, 2018 through 2021, are provided in the following exhibit.

Contractor Fees 2018–2021

Contractor	2018	2019	2020	2021	Contractor Totals
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
Total	\$108,112,408.11	\$111,368,230.28	\$123,870,761.93	\$137,918,094.12	\$481,269,494.44

ETG requires contractors to warrant that all employees have undergone drug screening per Department of Transportation (DOT) Drug and Alcohol Testing Regulations Title 49 Code of Federal Regulations. Vendors upload drug alcohol testing data to an ETG approved system.

All contractor employees that interact with customers are required to have an ETG-issued identification badge. Contractors are required to submit employee background checks and photos through ETG's approved system which is managed by the ETG's Corporate Security group. Badge IDs are issued to contractor employees prior to commencement of services. Contractors hire workers from local union halls if not already working for the construction company.

Independent Contractor Performance

Contractor performance is evaluated based on a combination of criteria including cost, quality, schedule, safety, customer service, and administrative functions (e.g., quality and timeliness of invoices, work orders, as-builts, etc.). The Company has a comprehensive quality assurance program that allows it to monitor and maintain a record of contractor

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performance, including the use of a balanced scorecard that the Company utilizes to measure the overall quality of its construction contractors.

Annually, the contractor balance scorecard metrics and targets are updated to drive continuous improvement across three primary categories: (1) Safety and Quality; (2) Records and Documentation; and (3) Customer Service.

On a monthly basis the contractor balanced scorecard and overall performance is presented to contractor leadership.

Bi-weekly meetings are held with contractor resources to review project progress against operational targets and execution of the schedule.

Additional Contractor Responsibilities

Contractors are obligated to provide tools and materials including the following:

- Equipment (i.e., excavators, backhoe loaders, bulldozers, trenchers, and hand tools such as hammers and shovels).
- All needed materials for the contracted work unless it is procured by ETG.
- Warehouses and other storage to house equipment and materials.

Typical Pipeline Installation Duties

Often construction projects will use a combination of mechanical and vacuum excavation. ETG has trained staff members who supervise and inspect the excavations to ensure that there is a solid base for the foundation of the assembled pipeline before it is placed in the ground. Backfilling is used to protect the pipe and typically includes the following steps:

- The trench/ditch must be level and stable for pipeline installation.
- Sandbag benches are placed within the trench to support the pipeline.
- Padders are used to excavate and crush the earth to form a sand pad underneath the pipe.
- Added precautions are necessary when backfilling high density polyethylene (HDP) or polyethylene/polythene (PE) plastic pipe due to plastic's weaker structural integrity than steel. This includes installing a tracer wire alongside the pipeline to enable future location. Smaller sand pads are needed as plastic pipes are naturally more delicate. The smaller sand pads are essential in mitigating damage.
- Once covered with not less than 12-inches of compact bedding, the remainder of the trench can be filled with approved backfill material.

CONSTRUCTION GROUP

Supervision and Management of Construction Contractors

The NJBPU records management requirements clearly outline the care and surveillance mandated when pipeline construction activities are underway. The highlights of those requirements are outlined below.

(a) A pipeline operator shall provide for the inspection of all pipes during their installation, and prior to backfilling, in order to assure that the pipe installed is free

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of nicks, gouges or other forms of damage which would tend to reduce the strength of the pipe below the minimum required under the Federal Code and this chapter. This inspection shall be performed by the operator or by a qualified inspection contractor.

(b) A pipeline operator shall ensure that each contractor crew performing work on behalf of the operator is inspected by the operator's inspectors at least once each workday; or as often as the operator deems necessary to ensure the quality and safety of the work being performed. (c) A pipeline operator shall employ only inspectors that are qualified, by knowledge and experience, in all areas of work that will be inspected, and who meet all requirements of the operator's program for qualification of pipeline personnel, established under 49 CFR 192, Subpart N, 192.801 through 192.809.

In order to comply with NJBPU requirements, ETG Construction Operations currently has 24 construction inspectors (known as Project Coordinators) who provide field oversight of pipeline contractors. Of these, 17 inspectors are ETG employees, and 7 are engaged through outside resources. The inspectors are present in the field every day. Construction Inspectors working for ETG ensure compliance with applicable federal, state, local, and company standards, and specifically the ETG Operations Procedure Manual (OPM) and Operator Qualifications (OQ).

ETG inspectors are responsible for coordination with local government inspectors.

The ETG inspector inspects and counts the materials as they go into the ground or are otherwise physically placed into the project. ETG does not permit inspectors to rely on materials count in the warehouse; the inspector must count or measure only materials used as ingredients in the project.

A set of inspectors will begin and end with the same project. They are usually on their assigned project from early morning to the end of the workday. If there is a need elsewhere, they may have to inspect or fill in as needed.

ETG has a comprehensive quality assurance program to monitor and maintain a record of inspections and audits. ETG utilizes various resources to inspect main and service contractors daily. Internal ETG workforce and third-party inspectors oversee the day-to-day critical functions being performed by contractors, including main tie-ins and abandonments, directional drill installation, welding and tapping, service installations/abandonments, and meter inspections. These inspector responsibilities include:

- Maintain accurate work logs of construction activities, job information sheets, and project team rosters.
- Review invoices submitted by contractors for accuracy.
- Oversee construction contract administration and submittal log processes to ensure that the ETG contract document requirements are met throughout construction.
- Enforce quality control process measures to ensure compliance with building and code regulations.

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Contractors are allowed to install meters designed for measurement of smaller volumes but are not allowed to set meters for large volumes therefore ETG staff cannot assign all this work to contractors.

No construction employees transferred from Southern with the purchase and sale to SJI. ETG hired and trained all construction inspectors, construction support, and program management employees. While some of the construction positions were filled with internal ETG employees (e.g., Sr. Director), the majority were filled externally.

Qualifications of Construction Inspectors.

Training is provided to construction inspectors to meet the standards set forth by NJBPU NJAC 14:7-1.24 – Training for construction inspectors is set by ETG as follows:

- Construction inspectors do not undergo any specialized training at vocational schools or community colleges.
- For inspectors that oversee steel work, ETG has invested in supplemental training with several employees obtaining a hands-on CPWI+V Certificate administered through the National Welding Inspection School (NWIS).
- Past work experience is the main factor that qualifies the inspectors for their current duties, particularly hands-on gas construction/maintenance experience, and/or gas construction inspection experience.
- ETG inspectors attend Occupational, Safety and Health Administration (OSHA), safe driving, and various other safety training modules through ETG's Safety Management System which is managed by the SJIU Safety Department. Gas construction training and qualifications are administered through SJIU Shared Services Technical Training Department. Inspectors are offered routine Supervisory/Managerial training/classes through the Human Resources (HR) Department administered through ETG's Workday system.

A full list of qualifications and training required by ETG and administered by ETG's Industrial Training Services (ITS) system is outlined in the matrix below. The Training department meets with Operations Management to review tasks performed by field employees. The tasks are matched with the Operator Qualification test/modules offered by the Learning Management System, Industrial Training Services. Each job role has a matrix that identifies the OQ tasks required to perform that job. The following graph outlines the testing requirements:

Industrial Testing Services OQ Testing Requirements

Type	ITS Covered Task Qualification Methods and Training	ETG Coord Project
Exam	E02.0811 WE: Visual Inspection of Welding and Welds	Required
Exam	F05.5011 WE: Visually Inspect Butt Fused Polyethylene Pipe	Required
Exam	F05.5041 WE: Visually Inspect Mechanical Fittings on Polyethylene Pipe	Required
Exam	F05.5501 WE: Visually Inspect Electrofusion Fittings on Polyethylene Pipe	Required
G-Exam	G01.0981 WE: Backfilling	Required

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Type	ITS Covered Task Qualification Methods and Training	ETG Coord Project
Exam	G01.1321 WE: Damage Prevention During Excavation Activities by or on Behalf of the Operator	Required
Exam	G01.1331 WE: Damage Prevention Inspection During Third-Party Excavation or Encroachment Activities as Determined Necessary by the Operator	Required
Exam	G01.1341 WE: Provide or Ensure Adequate Pipeline Support During Operator-Initiated Excavation Activities	Required
Exam	G01.5051 WE: Verified the Correct Marking of Permanently Marked Underground Pipeline Facilities	Required
Exam	G01.5061 WE: Verified the Correct Marking of Temporarily Marked Underground Pipeline Facilities	Required
Exam	G02.0641 WE: Visually Inspect Pipe and Components Prior to Installation	Required
Exam	G02.0861 WE: Installation of Steel Pipe in a Ditch	Required
Exam	G02.0941 WE: Install Tracer Wire	Required
Exam	G03.0961 WE: Above Ground Supports and Anchors: Inspection, Preventive, and Corrective Maintenance	Required
Exam	G04.0871 WE: Installation of Steel Pipe in a Bore	Required
Exam	G04.0911 WE: Installation of Plastic Pipe in a Bore	Required
Exam	H07.5781 WE: Check for Irregularities in the Condition of Meter Installations	Required
Exam	I04.0151 WE: Visual Inspection of Buried Pipe and Components When Exposed	Required
Exam	I04.0171 WE: Measure External Corrosion	Required
Exam	I04.5131 WE: Determine Appropriate Remedial Measures for Corrosion Control and Notification of Proper Personnel	Required
Exam	I06.0061 WE: Inspect or Test Cathodic Protection Bonds	Required
Exam	I07.0051 WE: Installation of Exothermic Electrical Connections	Required
Exam	I09.0161 WE: Visual Inspection for Internal Corrosion	Required
Exam	I10.0141 WE: Visual Inspection for Atmospheric Corrosion	Required
Exam	I16.5721 WE: Inspect Pipeline Coating Using Holiday Detection	Required
Exam	L02.1651 WE: Purge–Flammable or Inert Gas	Required
Exam	L08.5801 WE: Interpret Pressure Recording Charts and Electrical Devices	Required
Exam	M03.0561 WE: Pressure Test: Nonliquid Medium – MAOP Less Than 100 psi	Required
Exam	M04.0411 WE: Spring-Loaded, Pressure-Limiting, and Relief Device-Inspection, Testing, Preventive and Corrective Maintenance	Required
Exam	M04.0421 WE: Pilot-Operated, Pressure-Limiting, and Relief Device-Inspection, Testing, Preventive and Corrective Maintenance	Required
Exam	M07.5741 WE: Prevent Accidental Ignition	Required
Exam	M08.0201 WE: Visual Inspection of Installed Pipe and Components for Mechanical Damage	Required

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Type	ITS Covered Task Qualification Methods and Training	ETG Coord Project
Exam	M08.0211 WE: Measure and Characterize Mechanical Damage on Installed Pipe and Components	Required
Exam	M08.1141 WE: Squeeze Off Plastic Pipe	Required
Exam	M10.5081 WE: Abandon/deactivate Mains	Required
Exam	M10.5091 WE: Abandon/deactivate Service Lines	Required
Exam	M11.5751 WE: Recognize and React to Generic Abnormal Operating Conditions	Required
Exam	M17.1151 WE: Squeeze Off Steel Pipe	Required
Exam	M21.5761 WE: Operate Within an Established MAOP	Required

Contractor performance is evaluated based on a combination of criteria including cost, quality, schedule, safety, customer service, and administrative functions (e.g., quality and timeliness of invoices, work orders, as-builts, etc.). ETG has a comprehensive quality assurance program that allows it to monitor and maintain a record of contractor performance, including the use of a balanced scorecard that ETG utilizes to measure the overall quality of its construction contractors.

In addition, internal quality assurance (QA) and quality control (QC) personnel conduct jobsite safety, compliance, and restoration audits. Additionally, job site audits are conducted by Construction Operations supervisors and management.

The contractor balance scorecard metrics and targets are updated annually to drive continuous improvement across three primary categories: (1) Safety and Quality, (2) Records and Documentation, and (3) Customer Service. On a monthly basis, the contractor balanced scorecard and overall performance is presented to contractor leadership. Bi-weekly meetings are held with contractor resources to review project progress against operational targets and execution of the schedule. Each calendar year a Contractor of the Year award is presented to the contractor with the best overall performance.

Importance and Necessity of Permits

Permits are not required if ETG owns the property or rights-of-way. Permits generally apply if a road crossing is involved and if there is a moratorium on that road at the time of permit application.

Depending on the permitting jurisdiction's preference, communication is accomplished through electronic correspondence, virtual meetings, in-person workshop meetings, or public Town Council meetings. ETG's outreach program also includes notifying elected officials as necessary so all stakeholders are informed of planned replacement efforts for the current calendar year and beyond.

ETG has regular communication and planning/coordination meetings with permitting jurisdictions around anticipated replacement work. Each calendar year, ETG typically produces a map displaying a one-to-five-year outlook of planned projects within the respective municipality.

The NJBPU authorized an accelerated infrastructure replacement program known as the Infrastructure Investment Program (IIP) over a five-year period from July 1, 2019, to June

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30, 2024. Due to the depth of ETG's planning and coordination efforts with permitting jurisdictions, there have been zero permit application denials.

In addition to the targeted small diameter replacement pipeline efforts under the IIP program, ETG has recently commenced large diameter, elevated pressure cast iron pipeline replacement over the last two years. Recognizing the greater disruption this type of construction will bring to local municipalities, ETG began permitting coordination and planning efforts with jurisdictions more than two years in advance of the construction start-date. Advance planning is necessary to ensure ETG maintains the pipeline replacement schedule. As mentioned previously, due to the depth of the coordination and planning efforts by ETG, there have been no permit denials for this work type.

Hypothetically, if a permit is denied, ETG would engage the respective permitting jurisdiction to understand the reason for the denial and collaborate with the jurisdiction directly in partnership with ETG's Government Affairs team to resolve their concern(s) to a successful outcome.

CONSTRUCTION

Construction has one full time employee assigned to program management. This function provides administrative support for capital construction projects (i.e., arrange project schedules, obtain permits from the state, etc.). Construction administrators coordinate and support projects from the initial stages through to completion; they ensure that relevant documents are prepared at set intervals.

Ten employees are assigned to Construction Support. The mission of the Construction Support Group is to assist construction management and constructions inspectors with all administrative tasks. A construction administrator's duties include monitoring contracts; process billing; keeping track of documents; and arranging utilities, if required.

Clerical tasks are as follows:

- Coordinate and support projects from the initial stages through completion; ensure relevant documents are prepared at each interval.
- Management and oversight of document processes and the maintenance of accurate records of all aspects of construction.
- Work with the office manager to complete clerical, administrative, and general office tasks that support the entire construction management team.
- Execute clerical and general office duties such as setting up filing systems, data entry, typing, copying, ordering office supplies, and other administrative tasks for special projects as requested.
- Prepare forms such as change orders, service agreements, and subcontracts
- Monitor the contractor drawings and maintain accurate records of installations.
- Answer incoming phone calls and respond to emails.
- Act as a point of contact with various construction service teams.

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G. FINDINGS

XVIII-1 The GIS is innovative and intelligent and will provide advanced development and pioneering technical abilities in the future.

The GIS concept is not new; however, the enhancements that ETG's Information Technology (IT) group has brought are forward thinking and progressive. GIS went live early in 2020 and is still being continually enhanced. Ongoing mapping, verification of documents, and digitization of scanned material are still underway. Future tracking and expanded training capabilities, which capture additional material and identify special relationships, are being implemented. Provisions have been made for importing pictures to capture the local environment. These provisions are also being enhanced.

XVIII-2 GIS is currently not able to assist the marketing function for natural gas conversion.

It is an advantage to know what fuel source is burned by targeted leads. The Marketing function develops sales leads for both natural gas conversion and energy efficiency programs. They use market research, develop campaigns, develop advertising initiatives, and work with sales reps who contact leads. Marketing also looks for opportunities for new construction and for on-main growth and for potential main extension opportunities for "prudent" expansion.

XVIII-3 The Technical Training Center has a PIXAR simulator. It does not have a driving simulator.

PIXAR has a simulator that assists the student to practice the fundamental training associated with equipment safety and how to operate equipment. This includes instruction and hands on experience with various controls such as levers, fixtures and all the operational devices/attachments. Skills learned in the simulator will be identical to what the student is going to encounter on the job. Although logistically ETG has the space to house a simulator for driving, a plan to purchase one does not appear to be in place. ETG established a new driver safety metric that measures seat belt use, speeding, hard braking, and hard turning. The safety metric results in a score of 1 to 100. Low score results in counseling and retraining and in the future could result in discipline. In 2020 a formal Near Miss Incident Reporting Program was implemented.

XVIII-4 Transmission and distribution system integrity is favorable.

Prior to 2020, safety statistics for OSHA's/DART and PMVA incidents were only kept at a parent company level; data is gathered for both utilities (i.e., ETG and SJG) by the parent company and reported on a cumulative basis. Driver scores were only available for the parent company as well. The reportable incidents are low and reflect a solid safety record. The following exhibits show the statistics by department for DART and PMVA incidents.

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OSHA DART Incidents by Department (2020–2022)

Year	Utility Services	Asset Protection	Corrosion
2020	2	3	0
2021	1	1	0
2022	2	3	0

OSHA PMVA Incidents by Department (2020–2022)

Year	Utility Services	Asset Protection	Corrosion	Measurement	Other
2020	1	2	0	0	0
2021	2	0	0	1	1
2022	0	2	1	0	0

XVIII-5 There are a significant number of tickets that were not completed by the expected due date.

The locate function, administered by UtiliQuest, issues work assignments and, together with ETG's supervision, a work schedule is drafted. Each project or task is assigned a start date and a completion date. The proposed dates in the schedule of work are estimates. An examination of the data reflects that in most instances, the actual completion was one day after the estimated completion date. The data did show a small number of projects being as many as seven days after the target date, and those delays appeared to be weather related. It's difficult to foresee or visualize how ETG could improve on their existing performance because weather and unforeseen factors play a large role. The following chart demonstrates tickets per year from 2016 through 2021 that were not completed by the expected due date.

Tickets Not Completed by Due Date 2016–2021

	2016	2017	2018	2019	2020	2021
Number of Tickets	1,010	3,590	10,201	7,346	6,233	6,853

XVIII-6 Not all excavation mark-out tickets were properly marked and completed.

The Damage Prevention Program was designed for the purpose of locating underground gas facilities to reduce risk of excavation damage. ETG's contractor, UtiliQuest, specializes in the search of underground facilities locating specific points of interest to serve the gas industry which results in safer excavations, reduced damage, and reduced costs. ETG must be confident that, before any excavation begins, the underground search produced the location with 100% accuracy to minimize damage risk. Failed locate audits reflect mark-out tickets with the following categories of negligence or carelessness:

- Inaccurate locate
- Failure to mark full scope

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- Failure to mark as high profile
- Failure to escalate difficult to locate
- Failure to follow mark-out standards
- Inadequate documentation/photos
- Failure to use available access points
- Failure to use available records

The following exhibit shows the number and percentage of failed locate audits during 2012–2021.

Failed Locate Audits 2012–2021

[Redacted]

XVIII-7 A certain number of audits must be performed in order to demonstrate a credible sampling of the locator's work.

ETG Damage Prevention department is expected to complete monthly field audits based on performance KPIs, need, and volume. Prior to 2021 an insufficient number of audits were performed; the evaluation of work product in order to implement training geared towards improvement depends on accurate records of performance. Field audits are the foundation for those records.

XVIII-8 Both ETG and the UtiliQuest Locate Contractor are responsible for inaccurate tickets.

For locate contractors and ETG employees that perform locates and generate locate tickets, ETG works to correct poor performance through training, requalification, and corrective action based on the number of failed audits and/or mismarks per technician. Additionally, there are financial penalties if the locate contractor's audit performance exceeds a certain percentage of failure.

The table indicates Locate/Mark Out Vendors together with effective start and end dates for vendor contracts.

Locate/Mark-out Vendor Contract Dates

[Redacted]

XVIII-9 Measures are in place to ensure that the locate contractor performs and delivers acceptable work.

In addition to performance criteria and expectations outlined in the Scope of Work portion of the Agreement between the locate contractor, UtiliQuest, and ETG, ETG and UtiliQuest review and complete the following:

- Review late tickets and late ticket volumes.
- Records Verification – if UtiliQuest completes the mark out, pipeline contractors receive the service and main records to physically verify. If there is a discrepancy, it is sent to a damage prevention technician for follow up verification.
- UtiliQuest is contracted to provide dedicated and qualified locate support technicians.

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- ETG and UtiliQuest conduct weekly calls with all team members, and quarterly calls with leadership.

XVIII-10 Actual meters tested and meter samplings are satisfactory and are within the standards required by regulation.

The following chart outlines meters tested and shows the numbers of over, under, fast, slow, and faulty meters. The percentage rate is well within regulations.

Meter Testing Results 2009–2021

Year	Faulty	Total Tested	Passed	Over Two Percent Fast	Over Two Percent Slow	Percent Passed	Percent Over Two Percent Fast	Percent Over Two Percent Slow
2009	2	81	79		2	97.5%	0.0%	2.5%
2010	6	119	113	4	2	95.0%	3.4%	1.7%
2011	103	2042	1939	69	34	95.0%	3.4%	1.7%
2012	0	74	72	1	1	97.3%	1.4%	1.4%
2013	2	109	104	2	3	95.4%	1.8%	2.8%
2014	3	213	204	3	6	95.8%	1.4%	2.8%
2015	17	121	120	0	1	99.20%	0.00%	0.80%
2016	18	121	121	0	0	100.00%	0.00%	0.00%
2017	15	129	129	0	0	100.00%	0.00%	0.00%
2018	14	111	110	0	1	99.10%	0.00%	0.01%
2019	16	74	74	0	0	100.00%	0.00%	0.00%
2020	14	230	228	4	2	99.1%	1.7%	0.9%
2021	6	180	176	3	4	97.8%	1.7%	2.2%

XVIII-11 Meters to be replaced are removed on schedule within a satisfactory timeline.

Meters are removed when they reach the age of ten years in the ground per NJBPU regulation. Additionally, meters are tested and if a meter is determined to be flawed beyond repair, it is then categorized as a faulty meter. The meters are flagged in the Maximo System based on their group designation. The Compliance and Standards Team will inform the owner of the meter(s) that failed and advise of next steps. The Forced Removal list uses a five-year removal schedule; however, Field Operations has a mandate to remove all such meters within 60 days. This is tracked by the Compliance and Standards team.

XVIII-12 In recent years, ETG has experienced more incidents of grade 1 leaks in both of ETG's divisions.

Damage prevention was virtually non-existent in 2010. Regulation has caused greater surveillances each year determining leaks. Leak equipment is more advanced and improved. The outcome is that the number of leaks determined today may not have increased in number because all leaks in earlier years were not detected. Additionally,

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there are more outside elements, as in third party damage, because of increased construction in the areas that causes leaks.

There are underground grade one leaks and above ground grade one leaks; all grade one leaks are repaired immediately. Underground leaks are a result of the physical pipe in the ground. Cast iron vintage pipe was placed in the ground prior to 1971 and, prior to federal regulations being properly developed, was the most leak prone based on its past performance. ETG has replaced approximately 268 miles of cast iron distribution mains between 2009 and 2018. Between 2018 and 2021, an additional 181 miles of cast iron was replaced from ETG's system; the replacement schedule provides for the remainder of the cast iron pipe to be replaced by 2026. Underground grade one leaks are being dealt with by ETG.

Above ground grade one leaks include all inside leaks. Typical causes of inside gas leaks are inside gas lines not installed, maintained, or ventilated correctly. Appliances (i.e., gas stoves, furnaces, fireplaces and generators) are sources of potential carbon monoxide leaks. An area with aging residential homes and increases in population over time will result in more inside leaks. ETG, or any LDC, does not have control in these situations. Outside leaks from meter equipment can be a grade one leak so when a leaky meter is detected, the meter is replaced immediately.

XVIII-13 ETG experienced an overall reduction of both Grade 2 and Grade 3 below ground and above ground leak balances.

With the high percentage of pipeline being replaced, ETG experienced an overall reduction of both Grade 2 and Grade 3 leak below ground balances. Please see chart below.

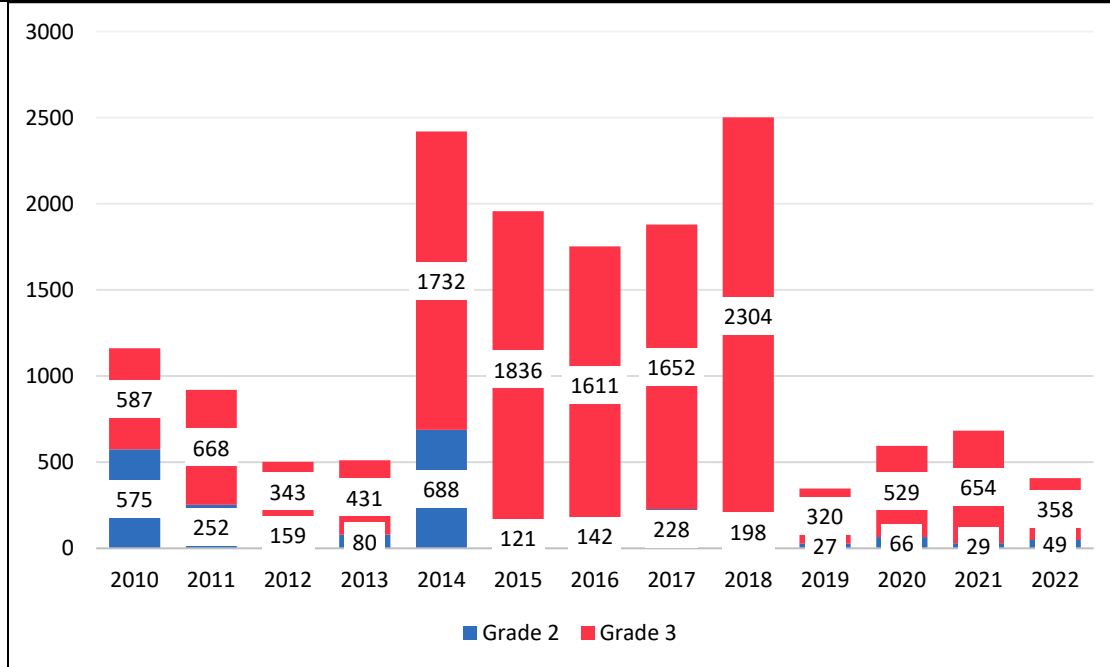
The number of year-end active aboveground leaks is shown in the graph below. ETG experienced an overall reduction of both Grade 2 and Grade 3 above ground leak balances filed with NJBPU Docket GA 22030141.

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Year-end Active Above Ground Leaks

Above Ground Leaks	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Grade 2	575	252	159	80	688	121	142	228	198	27	66	29	49
Grade 3	587	668	343	431	1732	1836	1611	1652	2304	320	529	654	358
Total	1162	920	502	511	2420	1957	1753	1880	2502	347	595	683	407



XVIII.14 ETG experienced an overall reduction in emergency and non-emergency callouts between 2017 and 2021.

Gas leaks are generally the cause of emergency and non-emergency situations received from the public. There is a 28% reduction in emergency calls between January 2017 and December 2021. There is a 24% reduction in non-emergency calls between January 2017 and December 2021. Fire Department callouts involve ETG and are generally not related to an ETG facility but are reported as an emergency call-out.

XVIII-15 ETG's Utility Services Fleet Management group has one employee eligible to take early retirement in two years, and ETG anticipates that this employee will retire early.

Mechanical positions require a highly specialized trade that requires special skills to understand complex vehicle systems and be able to identify and fix any issue. Commercial driver's license (CDL) training that allows the operation of commercial vehicles such as semi-trucks, cargo vans, LNG vehicles, excavation equipment, and buses is required. In addition to the driving certification, mechanical skills to fix and maintain such equipment is the foundation of the job.

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XVIII-16 It is expected that all five mechanics will retire within the next ten years with one retiring in five years.

A similar situation as stated above with the added concern of all mechanical staff reaching retirement over the next ten years as opposed to only a portion of staff members retiring in the short term. Without advance planning and preparation, ETG could be at risk of not having many master mechanics with five years of training and experience to operate ETG's fleet.

XVIII-17 There are no guidelines in place that determine when a fleet vehicle should be replaced.

There is currently no specific mileage identified as a decision point for replacement. Replacements generally occur at approximately 100,000 miles. Vehicles within the fleet are aging with resulting higher repair costs and more manpower to maintain. Age, mileage, and previous costs incurred impact vehicle repair/retirement decisions.

The current broad gauge replacement cycles are as follows:

Current Vehicle Replacement Cycles

Vehicle Class	Replacement Cycle (Years)
Cars/Light trucks	5
Service trucks	7
CNG Vehicles	10
Large trucks	10
Excavation	10
Trailers	10
Forklifts	20

XVIII-18 ETG's collection staff does not have the ability to accept credit cards.

The ETG employee can assist with direct payment online or by calling the ETG phone number and assisting the customer with payment over the phone. The ETG employee is equipped with a triplicate receipt book. One receipt is for the customer, one for ETG, and one for the employee. The Meter Readers who perform the collection function do not have the ability to accept credit cards payments nor print out receipts for the customer.

XVIII-19 ETG's collection staff has to manually build the route for collection staff to go knock on doors for collection purposes.

The field office must manually build a route by sorting street names and postal codes so that travel to collections is as efficient as possible. While the team has access to certain functions of GIS, the team is currently not able to use the route mapping for bill collections.

XVIII-20 The collection effort is not efficient. Other collection techniques and processes should be implemented prior to sending staff members to knock on doors.

There are several hundred late invoices each month. Once a directive is received from the Credit and Collection Department, the goal is for the field collection group to either

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successfully collect the money or have the meter turned within 45 days. This is a very time-consuming effort; each visit takes at least 30 minutes and often 45 minutes. Customers often have to request a follow-up visit so they will have the needed money.

XVIII-21 There is no automated process to flag individual segments of pipe that indicate a concentration of leaks.

ETG has a GIS which can be used for development planning. The GIS system does identify pipe type, length, and installation dates. GIS has a Track and Trace application that, in conjunction with Maximo, can compare the materials used in a project to a projection of what should have been used, count materials used by contractors in a particular project, and identify items not reasonable – catch mistakes.

XVIII-22 Further acceleration of the 184-mile replacement of cast iron pipe is not possible because of the lead time required to obtain permits from local authorities.

Further acceleration of the 184-mile replacement of cast iron pipe is not possible because of permitting problems. The earliest date that completion of this pipe could be expected is 2026; however, permits can be granted on an emergency basis should a crisis occur.

Recognizing the greater disruption this type of construction will bring to local municipalities, ETG began coordination and planning efforts with permitting jurisdictions more than two years in advance of the start of construction to ensure that the replacement schedule was maintained. Due to the depth of the coordination and planning efforts by ETG, there have not been any permit denials for this work type.

If a permit were to be denied, ETG, including ETG's Government Affairs team, would engage the respective permitting jurisdiction to understand the reason for the denial and collaborate with the jurisdiction to resolve their concern(s) and achieve a successful outcome.

XVIII-23 The extraordinary reliance on construction contractors is reasonable and should remain in place through 2026.

An accelerated program to replace 250 miles of cast iron pipe is underway with an anticipated completion date of 2026. A change in the workforce is not advisable prior to 2026. The issue of extraordinary reliance on contractors, as contrasted with doing some or most of the work in-house, could be a concern. The idea of employing 24 inspectors to accompany the construction crews on a daily basis could appear extravagant and reckless. However, the *NJAC 14:7-1.24 - Oversight of Construction Activity* stipulates that a pipeline operator shall ensure that each construction crew performing work on behalf of a pipeline is inspected by the pipeline's inspectors at least once each workday; or as often as the pipeline deems necessary to ensure the quality and safety of the work being performed. This stipulation means that ETG would have to engage inspectors to manage and monitor the construction crews regardless of whether the crews are ETG employees or independent contractors.

If ETG used its own construction crews it would probably experience increases in medical coverage and disability claims, due to the fact that the additional heavy lifting that would

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be required would result in increased spinal, muscle, wrist, knee, ankle, and shoulder injuries.

XVIII-24 ETG uses a relatively small number of construction and pipeline contractors in its geographic territory.

In 2018–2021, ETG spent almost 50% of its contractor expenditures on a single contractor. The following table displays ETG’s contractor expenditures from 2018 through 2021.

ETG Contractor's Percentage of Gross Contractor Expenditures 2018–2021

Contractor	Amount Paid	Percent of Total for Period
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
Totals	\$481,269,492.00	100%

Construction Operations currently has five active pipeline contractors and seven approved contractors to perform gas construction work. Based on the above exhibit, four contractors were active with one contractor receiving almost [redacted] of the revenues, a second received approximately [redacted], and the next two contractors received approximately [redacted] each.

XVIII-25 ETG requires contractors who apply to have familiarity or an established physical presence within the respective utility service territory.

By virtue of this single criterion, ETG has narrowed and confined the marketplace to very few construction companies being able to qualify. The NJBPU does not restrict ETG or dictate in any way which construction vendors ETG should hire.

H. RECOMMENDATIONS

XVIII-1 ETG should investigate sources of data that would reveal alternative fuel burned within ETG’s footprint on a per household and per business basis. (See Finding XVIII-2)

The Marketing function develops sales leads for natural gas conversion. Conversion means that the residential customer or business is burning an alternate fuel. SJIU targets existing customers who burn fuel oil, propane, and wood heat etc. with an eye to converting those customers to natural gas. The concept is to generate interest and educate those potential customers on the features of burning natural gas. The challenging part is to determine who those customers are. ETG should research the methods or databases available that could determine the current customers that are burning alternate fuels. Additionally, marketing also looks for opportunities for new construction and for on-

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main growth and for potential main extension opportunities for "prudent" expansion. This same recommendation applies for new construction and development.

XVIII-2 ETG should invest in a driving simulator for the Technical Training Center. (See Finding XVIII-3)

ETG has the space to house a driving simulator. ETG developed a new driver safety metric that measures and collects seat belt use, speeding, hard braking, and hard turning statistics and processes them into a 1 to 100 score. Negative outcomes could result in counseling, retraining, and/or discipline. Employees report any observed near misses into the HSEQ system. HSEQ is an incident management system for near misses/observations, motor vehicle accidents (MVA), on the job injuries (OJIs), environmental observations, environmental inspections, and security incidents.

Initial driving instruction may not have been provided by a professional and may not have been comprehensive. A good driver training program can provide defensive driving instruction and discussions of accident types and can reduce the likelihood of an accident occurring. Additionally, having knowledge of road safety can prevent many of the dangers of the road and make the roads safer for everyone. ETG's actions speak to the importance that they place on good driving skills because they developed a driver safety program that has consequences associated with failure. Retraining is required to correct and improve the skill set of the failed driver. Additionally, ETG invested in a fleet of vehicles; accidents due to poor driving skills can be expensive not to mention damage and or loss of life. A driving simulator is a good investment.

XVIII-3 Independent contractors should be compelled to provide trained staff that can perform their duties with accuracy. (See Finding XVIII-6)

ETG should maintain audit records with the identity of the contractor's staff members. Staff members that demonstrate careless or incompetent work should be replaced. ETG should not pay for poor performance; contractors would be more exacting in supervising their staff if there were consequences for poor performance. Penalties are in place, but these penalties alone do not guarantee that trained and meticulous contractor staff members are provided. ETG should have the right to request that certain contractor staff be replaced.

XVIII-4 The number of mark-out audits performed by ETG on an annual basis must be increased substantially. (See Finding XVIII-7)

The Business Operations Department's goal going forward is to complete approximately 150 mark-out audits per month on average or 1,800 on an annual basis. [Redacted].

Mark-out audits specialize in locating specific points of interest which results in safer excavations, reduced damages, and reduced costs. ETG must be confident that before any excavation begins, the underground search produced the location with 100% accuracy.

A significant number of audits must be performed on a consistent basis. The structure of locate audits should be under professional guidelines that can support scrutiny. Job performance and employee performance should be based on the results of these audits.

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XVIII-5 ETG staff members performing locate audits should be held to the same standard that locate contractors are held to. (See Finding XVIII-8)

Locate audits were managed in the Union region by an independent contractor. Locate audits were managed in the Northwest region by ETG staff members reporting through the Regional Operations group. The records should be maintained separately so that the independent groups can be tracked. If performance is an issue in the Northwest region, training should be provided, and, if necessary, replacement of ETG staff should follow.

XVIII-6 Locate contractors should be replaced when their work product is of poor quality. (See Finding XVIII-9)

Based on the records provided, the period from 2016 through 2019 had a significant number of failed audits. This contractor was replaced. However, the contractor was not replaced until the contract expired, and an RFP was issued for other contractors to bid. When poor performance is evident, corrective action should immediately ensue.

XVIII-7 ETG should add one new mechanic now in anticipation of retirement in the Fleet Management Group. (See Finding XVIII-15)

Full training, together with shadowing master mechanics, is expected to take at least two years and to become as qualified as the other staff mechanics may take up to five years. Vehicles are equipped with electrical/electronic systems that are complicated and require special skills. If the mechanical service teams fall behind schedule, vehicles will be replaced with rental equipment which increases costs. The fleet of vehicles is aging and more maintenance is required; it is not practical to have a shortage of fully trained mechanics.

XVIII-8 ETG should add new mechanics two years prior to every anticipated retirement in the Fleet Management Group. (See Finding XVIII-16)

The two-year training through mentorship does not complete the training requirement. An additional three years of hands-on job experience may be required to earn the title of a master mechanic. As a practical matter, five mechanics to maintain an ageing fleet of 345 vehicles of different types is a very lean staffing level. Therefore, all five new mechanics must be qualified and not in training mode. In order to replace five mechanics over the next 10 years with trained master mechanics, an investment in adding staff in anticipation of retiring current mechanics should be put in place.

XVIII-9 ETG should develop and implement guidelines for the replacement of vehicles within their fleet. (See Finding XVIII-17)

Given the underlying cost of tradeoffs involved, the issue is determining the optimal time for vehicle replacement. It is recognized that cost is the fundamental element that guides this decision. It should be realized that for the five staff members in charge of vehicle repair and maintenance, it is already challenging to keep vehicles operating. More frequent repairs make it difficult for those staff members to keep up. It should also be recognized that there is a risk involved; Field Operations may be called to an emergency and not have the transportation to get them to the crisis or could break down in route. Field Operations are permitted to rent vehicles if necessary. ETG is in contract negotiations with a Fleet Management Company. This group will not only help ETG collect

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new data but organize old data to provide a total cost of ownership for each vehicle and in turn create a replacement plan that is reflective of the trends affecting ETG's specific fleet.

XVIII-10 ETG should equip their bill collectors with the ability to accept credit cards and print receipts. (See Finding XVIII-18)

Visiting the customer in order to collect money owed is a time-consuming effort. The debt collector must explain the state assistance program that could assist with their utility bill and then explain ETG's payment plan. The ETG debt collector assists the customer in calling the Bill Pay number or assists the customer to pay online or make a credit card payment. Time can be saved if ETG debt collectors had the ability to process credit card payments and issue a receipt. This measure is not expensive and does not require a capital investment.

XVIII-11 The field office should acquire access to GIS with route mapping functions to support the collections process. (See Finding XVIII-19)

ETG already has a GIS System that is innovative and has advanced features. The Utility Pipeline Data Model, as currently constructed, comports with Environments Science Resource Institute (ESRI) standards and is among the leading applications of GIS software in the world. The enhancements implemented by ETG are respected in the industry as other gas companies are consulting with ETG for recommendations. Based on the features that ETG's GIS has, it makes sense to provide GIS mapping abilities to the monthly collection effort in Field Operations. ETG uses Itron mobile for other purposes and Itron mobile can synchronize route data from any location. Perhaps the Itron mobile can be used. Regardless of which system is more compatible for collections, the Field Revenue and Collections group would greatly benefit from a geographic mapping connection.

XVIII-12 The field office should make greater collection efforts prior to sending employees to knock on doors. (See Finding XVIII-20)

In 2022 the average success rate was 35% among field collections. The goal would be to collect that percentage of money before investing in shoe leather. Currently, several hundred collection transactions are transferred to the field office for collection. Credit and Collection interprets the policy to mean that the field office has 45 days to complete the list and is expected to collect money or shut the meter off. The field office does not interpret the policy to mean that shut-off takes place at this stage. ETG should implement a stronger, firmer approach. One recommendation is as follows:

- Day 1 of the collection process should have a soft approach. A collection alert should be added to the invoice and forwarded to the customer. The alert on the invoice should be in red or be highlighted in some way.
- On Day 15, a final notice should be sent that the severance process has begun. At this time, the customer is 45 days or 75 days past due depending on the size of the invoice. The letter should provide guidance in regard to public assistance (i.e., the website where they can download forms and instructions). The letter should offer assistance from ETG to complete applications for assistance by calling an ETG number to fill out the applications. Concurrently, if ETG has an email address,

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this should be used as well as a letter and the appropriate application forms for assistance should be attached.

- On Day 17, an automated phone call that mirrors the information provided in the disconnection letter should be made. The customer should be informed that a resident does not have to be at the poverty level to qualify for assistance. Again, the customer should be encouraged to call ETG for assistance.
- Day 45 a letter should be mailed via two-day United States Postal Service with a strong, firm tone. This letter should be mailed ten days prior to the data being transferred to the field office. This mailer should be noticeable and clearly marked as a final collection effort. This letter should inform the customer that ETG forwards delinquent accounts to their field office to shut off the meter and provide the date that the transfer to the field office is going to occur. The customer should be informed that to get the meter turned back on, a deposit will be required. This same information should be explained to the customer via a telephone call.
- On Day 50, an automated call should be made repeating exactly what the earlier call outlined.
- The field office visit to the customer should attempt to collect. Regardless of whether the customer is home or not, the debt collector should have the authority and the necessary equipment to turn off the meter.

XVIII-13 ETG should promote budget billing in order to avoid the bill collection process. (See Finding XVIII-20)

Budget billing makes customers' utility bills more predictable. Budget billing provides a set figure to work into your budget each month instead of waiting to find out what the charges are based on actual usage. It can also reduce the possibility of late payment penalties or possible disconnection since the customer is able to more easily budget payments. The basic premise is that the utility will summarize the previous 12 months of usage and average that number over the next 12 months. The customer is paying a set amount of money each month to alleviate the high usage in the cold winter months.

XVIII-14 GIS should be enhanced to provide a track and trace automated process. (See Finding XVIII-21)

Planned upcoming GIS enhancements include the Tracking and Traceability Programing, Outage Management, Emergency Preparedness, and ad hoc applications requested or required by the business. The ad hoc requests should include the location of leaks in the pipelines with additional flagging for leaks within a certain diameter or circumference of one another. This feature would greatly assist the engineering group with its decision making by flagging individual segments of pipe with the number of leaks identified. Replacing a segment of pipe may be the best option as opposed to fixing individual leaks within that segment of pipe.

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XVIII-15 Reliance on independent construction contractors, as contrasted with doing some or most of the work in-house should be subject to ongoing analysis by ETG. (See Finding XVIII-23)

As ETG's aging infrastructure is replaced and new business initiatives add customers, and as below-ground work shifts to above-ground work, future analysis by ETG could yield a different picture than the snapshot available today. Sage recommends revisiting the future beyond the year 2026 with an eye toward bringing the construction efforts in-house, or, at least, managing the smaller projects in-house.

XVIII-16 ETG should add more Construction Contractors to their short list. (See Finding XVIII-24)

Lack of competition could be viewed as a monopoly. Basic economic theory demonstrates that when firms have to compete for customers, it leads to lower prices, better service, and more innovation. ETG should solicit more construction contractors to become an approved bidder. There are a variety of methods to advertise and solicit such vendors. ETG's website is one tool that could be used effectively. Research should be able to provide lists of construction companies that specialize in natural gas pipelines.

Current vendors do not have a patent or sole ownership of current services being provided. Construction contractors do not necessarily need to live in the area or somehow be familiar with the geography. ETG's GIS mapping system can provide the outline of the earth area for the pipeline installation, and the construction management inspectors can accompany the out-of-territory or out-of-state vendors to the location. Sage is familiar with out-of-state pipeline installation companies who completed projects for Baltimore Gas & Electric, Dominion Energy, and Pepco successfully.

- Independent contractors currently provide the equipment (i.e., excavators, backhoe loaders, bulldozers, trenchers, hand tools, and protective gear). All such equipment can be rented locally in New Jersey. There is excavation equipment for rent that is sourced by companies that serve the entire Northeast Region.
- The independent contractors currently purchase all materials. Assembly is completed in the field and assembly of pipe calls for many different techniques. ETG pays for the materials as an embedded cost in the vendor's contract. It does not matter whether ETG makes the purchase or the vendor makes the purchase from a cost point of view. Out-of-area vendors can purchase materials locally in the same manner that current vendors do.
- Warehouses and storage to house equipment and materials are provided by independent contractors. ETG is paying for the rental of the storage space because, again, the cost is embedded in the vendor's contracted price. Storage and warehouse space can be rented locally for out of area bidders.

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XIX. Purchasing and Procurement of Goods, Services, and Bidding Processes

XIX. PURCHASING AND PROCUREMENT OF GOODS, SERVICES, AND BIDDING PROCESSES

A. BACKGROUND

South Jersey Industries' (SJI's) purchasing and procurement group is responsible for all non-gas procurement for Elizabethtown Gas (ETG).

The number of purchase orders (POs), contracts and direct purchases and the associated values for the years 2018 through 2021 are shown in the following exhibit.

Procurement Quantities and Values (2018-2021)

Year	Purchase Orders		Contracts		Direct Invoice Payments		Number Totals	Value Totals
	Number	Value	Number	Value	Number	Value		
2018	-	-	22	\$2,852,336	30	\$77,912	52	\$2,930,248
2019	310	\$11,232,470	69	\$23,288,984	5,381	\$88,613,103	5,760	\$123,134,557
2020	487	\$14,313,367	68	\$30,922,022	8,469	\$172,717,307	9,024	\$217,952,696
2021	594	\$10,852,875	82	\$156,119,953	9,286	\$175,225,664	9,962	\$342,198,492

The origins of the supplier diversity movement—an important issue in this audit—are rooted in the Civil Rights era of the 1960s. Then-President Richard Nixon recognized the need to enable minority-owned businesses to earn a bigger piece of the economic pie and doing so would develop greater commitment to the capitalist system and help calm the unrest that swept the nation during the mid- to late 1960s, as presented in the History of the National Minority Supplier Development Council.

On March 5, 1969, the Supplier Diversity Development Council (SDDC) was formed to forge effective working relationships amongst minority, women, veteran and service-disabled veteran owned businesses (M/W/SDVBEs) and New Jersey public utilities and the New Jersey Board of Public Utilities (NJBPU) on matters relating to methods of reporting, measuring, and assessing the development of these relationships.

The SDDC serves as a resource to identify “best practices” and to promote related support activities and seminars for both companies and M/W/SDVBEs. In order to enhance the advancement of mutual goals, the SDDC promotes the adoption of “best practices” and processes that provide equal access for M/W/SDVBEs to companies. The SDDC’s commitment to its mission will enhance supplier diversity amongst New Jersey companies, resulting in the development of a strong economy and a productive environment for the growth of business throughout the state.

The ten Best Practices promoted by SDDC are:

- Establish corporate management support
- Develop a supplier development plan
- Create an internal and external communications plan
- Mentor current and prospective suppliers
- Institute a Workplace Diversity Steering Committee

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- Track the Management of the company's Supplier Diversity Program
- Establish Accountability and Transparency
- Nurture Second-Tier Suppliers
- Conduct Frequent Seminars for MWBEs
- Active Involvement in Diverse Communities

SJI's commitment to diversity starts with the Board of Directors where 30% are women, 90% independent (i.e., non-executive) directors, 30% racially/ethnically diverse and with an average tenure of 7.6 years. The Senior Business Analyst in the Environment and Procurement group works to increase the number of identified and qualified diverse suppliers and assists with the filings to NJBPU. The best practices noted above are incorporated in SJI's actions to promote supplier diversity.

- The creation of organizational elements and the hiring of skilled and experienced diversity, equity, and inclusion (DEI) experts shows executive management's commitment to DEI.
- There is a formal supplier development plan as outlined in the company's Environmental, Social, and Governance (ESG) Report, the actions of the DEI specialists in reaching out to minority-owned suppliers are an important step forward.
 - ◆ In 2021, SJI purchased about \$100 million in goods and services from minority, veteran, service-disabled veteran, and woman-owned businesses.
 - ◆ These were for both utilities, ETG and SJG.
- Communications are an active element of SJI's approach.
- Mentoring is another key element in SJI's approach to supplier diversity.
- A Workplace Diversity Steering Committee is in place at the Board level.
- Tracking the performance of minority vendors is in a formative stage.
- Accountability and transparency are emphasized.
- Nurturing second-tier suppliers could be strengthened.
- SJI meets frequently with vendors and prospective vendors and those activities should be expanded.
- SJI is active in diverse communities but those activities should be expanded.

Founded in 1972, the National Minority Supplier Development Council Inc. (NMSDC) is the longest-operating business growth engine for the broadest group of systematically excluded communities of color (Asian-Indian, Asian-Pacific, Black, Hispanic, and Native American). NMSDC's impact is focused on upward mobility, providing an equal shot at participating in the American experiment of free-market capitalism and entrepreneurship. NMSDC'S work is about correcting unequal access to wealth-building opportunities. Its mission is to serve as a growth engine for NMSDC to certified minority businesses and enable members to advance economic equity.

SJI's Mission Statement states:

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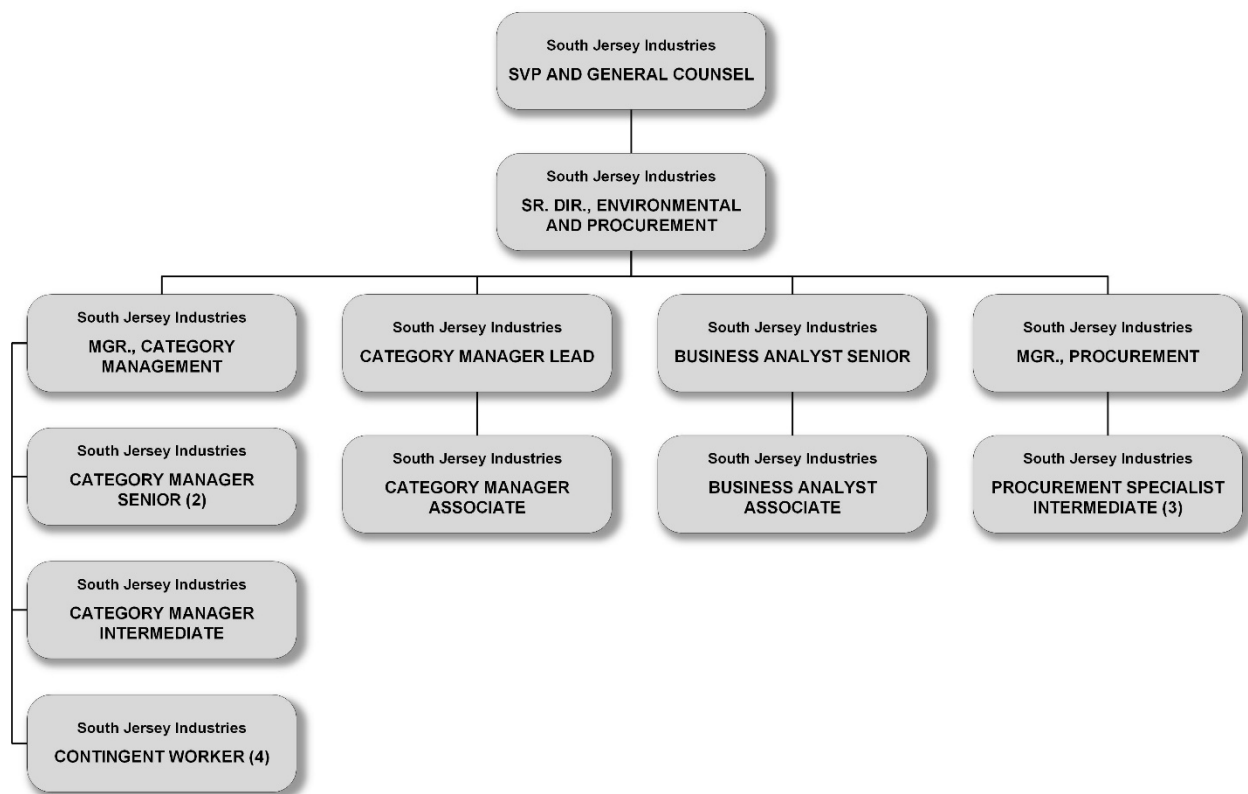
“At SJI, we are committed to a supplier diversity program that provides opportunity to diverse suppliers, measurable results, and aligns with industry objectives. Our focus on driving inclusion of diversity across the business as an important part of the overall business effort. By utilizing and building relationships with the suppliers in the communities in which we serve, SJI is part of an inclusive environment in which we do business.”

SJI's and ETG's commitment to diversity and inclusion are documented in SJI's “ESG 2021 Annual Report” which includes a chapter on social issues with a sub-section on supplier diversity. This sub-section enumerates the points advocated by NMSDC. Also, SJI's presentation, “Supplier Diversity: History, Purpose, and Strategy” outlines the same history as in NMSDC's presentation and lists NMSDC as a third-party certifier. The presentation also identifies EMSDC (Eastern Minority Supplier Development Council, an affiliate of NMSDC), as an SJI partner in its diversity development efforts.

ORGANIZATION AND OVERVIEW

The organization chart for the Procurement group is shown below:

Procurement Group Organization Chart



The Procurement and Environmental group is part of the Legal Affairs group and reports to the Senior Vice President (SVP) and General Counsel along with other legal positions as well as the Internal Audit group. Having the Environmental and Procurement group report to the SVP and General Counsel is an unconventional organizational design, based on Sage experience.

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The Procurement Group is one of the groups that reports to the Senior Director, Environmental and Procurement who had extensive experience in environmental before assuming management responsibility for procurement as well. The other two groups are Category Management (i.e., Vendor Management) headed by the most experienced manager in the group and a Senior Business Analyst, who manages the company's vendor diversity program.

The three Intermediate Procurement Specialists all have internal business partners for their specialty area. Their responsibilities are:

- Procurement Specialist Intermediate – is responsible for environmental, facilities, security, and energy efficiency.
- Procurement Specialist Intermediate – This specialist is currently on loan to MRC Global, Inc. (MRC) to help clear up a backlog of work, at the conclusion of which, she will return to her normal work assignment processing high-value material procurement (e.g., in-ground piping).
- Procurement Specialist Intermediate – This person is a specialist in the Workday system.

The procurement group—as with some other functions at SJL—relies on outsourcing for part of its work. MRC handles some of these procurement functions, including the procurement, management, and delivery to construction sites of pipes, valves, and fittings. The outsourcing of much of the materials management function to MRC reduces the workload on the procurement function. This also provides significant savings to the benefit of ratepayers as well as an efficient operation that enhances quality.

PROCUREMENT PROCESS

The procurement process begins with vendor selection and qualification which is managed by the Manager, Category Management. The Manager, Procurement, is responsible for maintaining the Vendor Master File.

An internal audit completed in October 2020 concluded that the controls surrounding the procurement process were adequate. Under the company's taxonomy, an assessment that the controls are 'Adequate' is the second highest of four categories. The audit also noted that ETG used a different and newer application (Workday) than SJG (Lawson) and that caused some difficulties. Although the ETG system is likely to have better controls, it would be helpful to update the audit to ensure that all appropriate controls are in place and to address the other weaknesses noted.

Periodically, the system prompts a review of a vendor. Alternatively, a user may prompt a review based on unsatisfactory performance.

End of year Form 1099s are completed by the Accounting Department for vendors that are paid over \$600 or more in a year.

There are procedures in place to guard against a user breaking a procurement into smaller batches to classify individual requests into a lower approval limit.

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Change Orders

The Procurement group includes specialists who focus on updating the Workday system, but the IT group is responsible for maintaining the system. No Procurement Change Orders may be issued after a Purchase Order or Contract is issued. The Change Order process is initiated by Procurement but Change Orders must be re-routed through the requestor for validation.

Approval

The approval process is documented in the Workday system and begins with the originator (the user) and proceeds up the chain of command in the business unit and then through Procurement. Changes to the Approval Tables are subject to financial controls and further approvals.

B. FINDINGS

XIX-1 SJI is in broad compliance with the New Jersey Supplier Diversity Development Council's directive on conducting business with minority owned businesses.

ETG's work on Supplier Diversity issues began in late 2020 with the completion of a report to the NJBPU on supplier diversity. SJI's *ESG 2021 Annual Report* provides a broad overview of the company's commitment to ESG issues. After the company acquired ETG, the scope of work on supplier diversity was expanded to include supplier audits. The categories of supplier diversity that SJI encourages include:

- Minority-owned businesses
- Women-owned businesses
- Veterans and Veteran-owned businesses
- Disabled Vets and Disabled Veteran-owned businesses
- Lesbian, gay, bisexual, transgender, and queer (LGBTQ)-owned businesses

SJI's diversity program includes outreach through the Eastern Minority Supplier Development Council (EMSDC), a regional organization covering Southern New Jersey, Delaware and Pennsylvania. SJI also holds match-making events to promote business opportunities with SJI.

SJI's efforts to encourage minority-owned business has produced 172 certified minority-owned firms, including four new vendors since the end of 2017. One impediment to increasing the pool of vendors is that some potential candidate companies are already doing business with SJI through another qualified minority-owned vendor or a regular vendor. If a company is reluctant to go around that supplier to do business directly with SJI, that eliminates a possible candidate.

However, the Veterans' Administration (VA) has an active program that seeks out veteran-owned firms and promotes business opportunities for them. Currently, SJI does not link-in to the VA's programs, nor to those sponsored by consultants who specialize in promoting Federal contracts (including the VA) for veteran-owned firms. It is a logical

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expectation that working with the VA would also help promote business opportunities with targeted groups that would help meet SJI's diversity goals.

One technique often used to promote the use of minority-owned vendors is the use of a set-aside. Under that approach, a percentage of (certain) procurements (e.g., five percent) is set aside for the exclusive use of qualified minority-owned vendors. SJI does not currently make use of set-asides for minority-owned vendors.

On a quarterly basis, the company asks all vendors to report on their work with SJI. This information is incorporated into an annual report to the NJBPU. The Senior Business Analyst in the Environment and Procurement group also assists with the preparation of these filings to the NJBPU.

XIX-2 The South Jersey Industries Utilities, Inc. (SJIU) companies operate under a unique outsourcing program that provides significant benefits over what either ETG or SJG could obtain on their own without MRC.

One of the unique features of SJI's procurement function, which ETG shares with SJG, is its collaboration with MRC, a specialist in the procurement and management of specialized pipes, valves, and equipment for gas utilities. A description of the business relationship with MRC and a cost-benefit analysis justifying the outsourcing agreement with MRC follows.

SJIU's business entities operate mostly on a just-in-time inventory basis supplied by a common vendor—MRC. MRC is the largest distributor of pipes, valves, and fittings and related infrastructure products and services to the energy industry, based on sales from a catalog of more than 230,000 products and parts throughout MRC's global network of service locations. This buying power and inventory level provides a logistics benefit to SJIU because MRC delivers its products directly to SJIU jobsites, contractor yards, and operating divisions.

Notable benefits of this business relationship with MRC include:

- Cost avoidance: Under the MRC contract, SJIU incurs no additional internal shipping or logistics costs. Examples of costs avoided because of its contract with MRC include:
 - ◆ Driver/Stock person salary per position - \$93,000 annually based on union contract.
 - ◆ Approximately \$170,000 of capital investment for a minimum of two delivery trucks that would need to be replaced on average every five to six years.
 - ◆ Based on the average location of the utilities' facilities and the location of the current MRC Hub in Glassboro, the two trucks would travel roughly 70,000 miles each annually. If the vehicles averaged 6.5 miles per gallon the fuel cost annually would be \$70,000–\$90,000.
 - ◆ Regular maintenance on these vehicles is estimated to be \$3,500-\$5,000 annually.
 - ◆ The trucks would cost an estimated \$500–\$1,500 each per year to insure. Total of \$1,000 to \$3,000 annually for insurance.

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- Warehousing and storage logistics — The business relationship with MRC allows the SJIU business entities to avoid the large overhead costs associated with the storage and movement of the large inventory required by the utilities. Under SJIU's current agreement with MRC, the costs of warehouse space, staff, and equipment are spread across the many customers served by MRC and not borne solely by SJIU. The value of this arrangement is amplified by the fact that MRC stocks nearly \$300M in inventory across the United States which storage and logistics support is also available to SJIU.
- Cash flow availability – Based on MRC's just-in-time inventory approach, the cost of material does not transfer to the SJIU business entity until (1) for consignment material held on hand at SJI facilities when the material is removed from inventory for use, or (2) for Purchase Order material when the supplies are delivered for installation on a job. MRC maintains roughly \$21.3M in inventory available for SJIU business entity use at the Glassboro HUB and consignment locations. If SJIU were required to maintain that value of inventory, ETG/SJG would need to recover a return on their average inventory rates.
- Single supplier economy of scale -- In addition to cost savings that are achieved by MRC buying in bulk from manufacturers and then passing those savings on to SJIU, additional savings are realized by single sourcing to MRC because shipping and logistics support costs are not incurred from multiple vendors — rather they are consolidated and effectively reduced.
 - ◆ For example, freight billed to SJIU entities by MRC through April totaled roughly \$7,300. If the materials that SJIU transported as part of the freight billed were split among multiple suppliers—and shipped and handled separately—there would be an apportioned increase in the cost of handling and moving the same materials. If 50% of the materials moved as part of the \$7,300 above were moved on other trucks by a separate vendor, there could have been an incremental \$7,300 in freight charges if all transportation rates were the same.
- Choices and flexibility – MRC's large footprint and volume buying power allows for quick pivoting to new manufacturers. As an example, ETG may only need to purchase 20 units of a particular item either as a test case or as an alternative to an out-of-stock primary part. Many manufacturers will only sell in volume and the 20 units needed would not meet the minimum order quantity. MRC, with its large volume purchasing, not only can place a larger order but may already have a desired alternate in stock in one of its many locations.
- Short lead times — The volume of inventory managed by MRC provides for delivery to operating facilities within 24–48 hours for in stock material.
- Ease of use and consistent process — By utilizing a common distributor for all material, there is one consistent procurement flow for all utility material. The level of effort and internal resources needed to manage the supplier are minimized by this consolidation resulting in reduced internal labor costs.
 - ◆ The volume of transactions handled by the Procurement group is relatively modest. For the period 2009 through 2021, the value of all procurements made was \$228,913,561.

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- ◆ The data shown in DN 983 suggests that the value of procurements for services and equipment is significant for ETG. These include a wide variety of different procurements, including engineering services, legal services, insurance, accounting (excluding the cost of the annual audit) and the purchase of many different types of materials and equipment.
- On its own, ETG's procurement would not provide the same purchasing leverage (volume discounts, etc.) as when combined with the procurements for other gas utilities. By combining procurements for SJI (including ETG and SJG) as part of MRC's total procurement, which includes many other gas utilities in the U.S., it should enable a reduction in cost as well as improved efficiency.
- This is an innovative approach that should provide significant practical benefits to the company and its ratepayers. In this case, the question is whether SJI is getting the full practical economic benefits to justify the business relationship and the potential loss of a "feel" for the supplier marketplace.
- One possible source of performance metrics might be found on the NJBPU's website. Other regulated utilities may have similar arrangements and NJBPU may have useful information that SJI could use to improve the quality of service and reduce costs of its outsourced activities.

XIX-3 SJI follows a thorough process for pricing, vendor selection, and the awarding of contracts.

Pricing is obtained through various sources including competitive bidding, market comparisons and historical research.

Vendors are selected based on either prior relationships and work performance or, if a new material or service is required, the assessment and selection of new vendors that can fill the requirement. While the reputation of a new potential vendor plays a part, SJI also undertakes a deeper review to address the viability and sustainability of a potential vendor. In addition, the potential on-boarding of a vendor requires validation of insurance coverages, background, and a credit check.

The negotiation of contracts occurs primarily in the Procurement group. Where appropriate, other experts or groups may be brought into the process to assist with negotiation and validation of the offerings. The process can entail various levels of communications with the vendor and their management team as well as within the SJI team as the final offering is developed.

The award of a purchase order is the culmination of a process that follows the execution of an agreement. It is not finalized until final approvals are obtained, and there is a clear statement of what is being secured. A purchase order is linked back to a statement of work that was agreed on by SJI and the vendor and signed off by the appropriate signatories.

Complaints are handled as appropriate by the personnel most closely involved with the situation. As needed, the issue can be escalated but, in all cases, should be driven to closure and not left as an open issue.

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XIX. Purchasing and Procurement of Goods, Services, and Bidding Processes

XIX-4 An internal audit of the procurement process concluded that internal controls over processing transactions were adequate.

An internal audit conducted in 2020 concluded that the controls surrounding the procurement process were adequate. However, the audit also noted that ETG used a different and newer application (Workday) than SJG (Lawson) and that caused some difficulties. Although the ETG system is likely to have better controls, it would be helpful to update the audit to ensure that all appropriate controls are in place.

XIX-5 SJJ provides extensive training opportunities for procurement professionals.

SJJ provides extensive support for continuing education and training. Most employees in the group have made extensive use of the training courses. These include a mix of job-related training [e.g., the Workday system, SharePoint, and Workday Strategic Sourcing (WSS), Workday's procurement module, plus career enhancement (e.g., project management, goal setting for business management, balancing innovation and risk, and code of ethics)] and others. In addition, five of the ten procurement specialists and managers completed certificate programs provided by universities and professional associations [e.g., Certified in Production and Inventory Management (CPIM) in Six Sigma, diversity and Inclusion, Supplier Diversity and Data Analytics].

The target is for SJJ employees to devote 20% of their personal and professional development time to certificate programs or in-person attendance. This is a commendable goal and the actual participation of procurement staff is impressive.

XIX-6 Seven of the ten staff in Procurement have more than ten years' and up to 37 years' experience in procurement, but only one has been with SJJ for more than four years.

Of the ten managers and specialists in the group, six have bachelor's degrees and three also have MBAs. One has an associate degree, and one (the Procurement Manager) no college degree. In terms of experience, four have 20–37 years of relevant work experience in procurement and the others have an average of eight. As for time with SJJ, their experience ranges from one to six years. Overall, the Procurement group has a high caliber of professionals; but the fact that only one has been with SJJ more than five years suggests there has been a relatively high turnover of procurement staff in recent years.

XIX-7 SJJ/ETG conduct value analysis to ensure the best value is received in procurements.

Specific parts and materials are evaluated to ensure they conform to SJJ/ETG standards, they satisfy their required function in utility operations, and they're readily available in the marketplace at a competitive price.

Generally, services are valued by the thoroughness and experience offered by the service provider. Services are evaluated based on the relative cost of the service compared to the competitive price in the marketplace. This assessment can take on a formal approach (e.g., as part of an RFP) or be a subset of a service yet to be provided under an existing multi-faceted agreement currently in place with the provider.

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An example of value-based analysis is the effort to bid out and contract the mark-out and leak survey tasks for ETG. These efforts required the development of a scope and needs document, the issuance of an RFP to potential bidders, and assessment of responses to the RFP as to how well they align with the needs expressed by the business unit. There is an interactive exchange with bidders to allow them to demonstrate their capabilities according to a matrix-based scoring for key criteria.

The value analysis includes the proposed cost of the offering from each bidder, the absolute cost per specific effort provided by each bidder, the expected level of time to deliver, each bidder's reputation in the marketplace and an assessment of their current customer base and the references provided to attest to their performance.

XIX-8 SJl may be able to add performance indicators for SJl's outsourcing through MRC.

SJl relies to a significant extent on the just-in-time principles of procurement which are embodied in MRC's way of doing business. As discussed previously, these provide significant benefits to the company and ratepayers. Nonetheless, a Senior Category Manager believes that further improvements should be pursued. The company could search for performance indicators that might be applied to outsourcing on the NJBPU's website.

XIX-9 ETG's procurement processes and the criteria used to select vendors providing services to ETG are satisfactory and serve the best interests of ratepayers.

- The procurement process appears to be conducted in a fair and equitable manner resulting in safe, adequate, and proper service to ratepayers at reasonable rates.
- ETG's process for evaluating the performance of contractors and vendors is consistent with procurement best practices.
- There is a feedback loop to provide contractor performance information in future procurements.

XIX-10 During the course of the audit, the United States Supreme Court issued a landmark ruling that restricted the use of race-based criteria in college admissions that may have implications for corporate DEI and minority vendor programs.

While the implications for the NJBPU's minority vendor program are unclear, a number of Republican states' attorneys general wrote a letter to CEOs of Fortune 100 companies, urging them against using affirmative action in hiring and promotion decisions. The letter included a statement that:

The Supreme Court's recent decision should place every employer and contractor on notice of the illegality of racial quotas and race-based preferences in employment and contracting practices.

Although this issue is beyond the scope of this audit, it could have a significant impact on one of the special issues enumerated by the NJBPU for this audit. SAGE does not take a position on this matter but includes it because of its potential impact.

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XIX. Purchasing and Procurement of Goods, Services, and Bidding Processes

C. RECOMMENDATIONS

XIX-1 Establish a task team to address ways to support the efforts of the Senior Business Analyst to increase the number of diverse suppliers identified and qualified. (See Finding XIX-1)

This is a high priority for SJI and NJBPU. Given the extensive experience in procurement, inventory management, and mentorship of minority-owned vendors leading to qualification as vendors, it would make sense to nurture a collaboration between the Senior Business Analyst and the practical inventory management and procurement experts, including the Senior Category Manager, to improve the odds of finding and qualifying more minority-owned vendors. This might include reaching out to the Veterans Administration to find ways to tap into their network which, in addition to Veteran-Owned businesses, would likely also include many women- and minority-owned businesses.

SAGE determined that one of the Senior Category Managers has prior experience with another company in mentoring small minority-owned businesses to help them become qualified vendors with the appropriate certifications relevant to their service area.

SJI has increased its efforts to increase the number of minority-owned vendors, but with limited success. Admittedly, this is not such an easy task for a variety of reasons, including the fact that some minority-owned vendors do not want to risk antagonizing an existing vendor (i.e., to which they are a sub-contractor) or because the process of qualifying and, perhaps obtaining a required certification, is a daunting task for a (very) small business. Mentoring and providing expertise can be invaluable to a candidate business.

XIX-2 Explore the pros and cons of establishing a set-aside for minority businesses similar to the practice used under Federal procurements. (See Finding XIX-1)

SJI has a firm commitment to supplier diversity. One technique that could be used to attract more minority-owned vendors to bid would be the use of set-asides wherein a specific percentage of work or contracts was set aside exclusively for qualified minority vendors. Although SJI does not have such a program, SJI's contracts encourage the use of minority firms. The use of set-asides should be explored, with feedback from other utilities regulated by the NJBPU and taking advice from the NJBPU itself along with other knowledgeable sources.

XIX-3 Expand the company's commitment to the best practices promoted by the SDDC. (See Finding XIX-1)

SDDC has a list of ten best practices. To better meet the intent of the last three, SJI should consider the following:

- Nurturing second-tier suppliers. These activities could be strengthened.
- SJI meets frequently with vendors and prospective vendors. While SJI meets with vendors and prospective vendors, those activities should be expanded, especially through collaboration with the Veterans Administration.

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- SJI is active in diverse communities. Communication with the target audience is a key ingredient to developing a more diverse group of suppliers and those activities should be expanded.

XIX-4 ETG should review the outsourcing relationship with MRC and determine whether there are ways to improve the quality of service and reduce costs. (See Finding XIX-2)

SAGE is impressed with the outsourcing arrangement SJI has established with MRC. By combining procurements for SJI (including ETG and SJG) as part of MRC's total procurement, which includes many other gas utilities in the U.S., it should enable a reduction in cost as well as improved efficiency.

SJI has indicated, based on experience, that when a supplier is satisfied with a business relationship, it is a good indication that process improvements could be achieved and SJI should start looking closer at performance indicators and opportunities to improve support and increase the benefits to SJI. Sage fully supports this.

A practical reality is that MRC is the largest supplier of pipes, valves, and fittings to the gas industry and it does not have strong competitors. Thus, SJI should seek out other possible providers and perhaps even seek out other companies that SJI might partner with to establish a collaboration and create or find another supplier.

XIX-5 Update the internal audit of the procurement process to resolve the questions raised in the audit of 2020. (See Findings XIX-3 and XIX-4)

While the 2020 audit concluded that the internal controls surrounding the procurement process were adequate, it raised several questions about the interaction of ETG's Workday system with that of SJG's Lawlor application to ensure that the inefficiencies noted have been resolved. .

XIX-6 Check the NJBPU's website for information that might be helpful in establishing performance standards and ideas on other ways to improve the cost/quality relationship of outsourcing. (See Finding XIX-7)

The NJBPU's website includes performance indicators that may be relevant to SJI/ETG. SJI and ETG should review them to determine if they are fully reflected in existing performance indicators.

Another way to expand knowledge of performance indicators would be to poll other utilities to discuss what performance indicators they use. In prior years, some utilities established joint teams or programs to study issues of interest (e.g., costs) to all member utilities. It might not be possible to establish an ongoing initiative in today's more competitive environment although a one-off study might provide useful insights that could be shared by all members of the study group.

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XIX. Purchasing and Procurement of Goods, Services, and Bidding Processes

XIX-7 Solicit advice from the company’s legal counsel, the NJBPU, and the Attorney General for the State of New Jersey on the implications of the Supreme Court’s recent decision on affirmative action in college admissions and how it may impact the company’s DEI and minority vendor program (See Finding XIX-9).

This issue is both thorny and momentous and it is premature to hazard a guess as to what might be an appropriate response to this recent development. Nonetheless, it is clear that a “business as usual” approach may not be viable. SJI should research its options and take counsel as a first step to framing a response.

XX. CLEAN ENERGY

A. BACKGROUND

The Clean Energy Act of 2018 (CEA) plays a key role in achieving the State of New Jersey's goal of 100% clean energy before 2050 by establishing aggressive energy reduction requirements, which include Clean Energy strategies. The CEA calls for a significant overhaul of New Jersey's energy systems while growing the State's economy, building sustainable infrastructure, creating well-paying local jobs, reducing carbon emissions, and improving public health to ensure a cleaner environment for current and future residents.

The CEA requires each utility in the State to reduce the use of electricity and/or natural gas in its service territory. Specifically, the CEA directs the New Jersey Board of Public Utilities (NJBPU) to require that "each natural gas public utility to achieve, within its territory by its customers, annual reductions in the use of natural gas of at least 0.75% of the average annual natural gas usage in the prior three years within five years of implementation of its gas energy efficiency program."

In September of 2020, a year after the inception of its Energy Efficiency Program (EEP), ETG filed for a new, more comprehensive EEP which would expand its initiative, eliminate a link between usage and margin, and include a weather component. ETG obtained authorization from the NJBPU to offer the EEP through June 30, 2024, with a total budget of approximately \$83.4 million, allowing ETG to recover incremental operating and maintenance expenses and a return of its investment over a ten-year amortization period.

In April 2021, the NJBPU approved the stipulation for ETG's expanded program, approving a total budget of \$83.4 million, which would initially increase annual revenues by \$2.8 million. This program, which commenced July 1, 2021, replaced the previous one that was in effect beginning January 2019.

In response to the Clean Energy Initiative, an SJIU Energy Efficiency (EE) Organization has been established whose primary mission is development and implementation of ETG's and SJG's dual Energy Efficiency programs, directed to their collective customer base. ETG also has a Conservation Incentive Program.

The Clean Energy Order requires that:

- Energy consumption within ETG's service area be reduced by 1.1% over the next five years, of which 0.75% is ETG's responsibility and 0.35 percent is under NJBPU Systems Program Control, with targets to be achieved by the 2026 Energy Year.
- No penalties or incentives are to be incurred during that formative period as procedures are to be formulated, issues resolved, and initiatives ramped up during that time.
- The schedule for the initial year and four successive years is shown in the exhibit below, including increments for the transitioning to the 0.75% energy saving objective in the fifth year.

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Energy Reduction Schedule

Program Year	Overall Utility – Specific Annual Energy Use Reduction Target	Utility Program Energy Savings Target
PY1: July 1, 2021–June 30, 2022	No energy use reduction targets	
PY1: July 1, 2022–June 30, 2023	0.50%	0.34%
PY1: July 1, 2023–June 30, 2024	0.75%	0.51%
PY1: July 1, 2024–June 30, 2025	0.95%	0.65%
PY1: July 1, 2025–June 30, 2026	1.10%	0.75%

- The overall objective is reduction of utility-specific energy use by 1.10% during that period that includes 0.75% from the utility and 0.35% from NJBPU programs.

The Company initially compiled a comprehensive set of prospective programs. Pursuant to review, the Company's focused response has been to estimate energy saving that would accrue, scope out program costs, identify and file for specialty/core programs, and subsequently focus on utility-led programs. These initiatives were approved by the NJBPU in April of 2021.

This structure is in place for the "2nd energy year." In due course, multiple contractors have been engaged to work in concert with ETG to expedite the various energy efficiency programs. The "opening salvo" is going well, with the launching of programs having an upside potential of \$83 million in total. This represents a marked transition from the \$4 million in embedded programs in effect prior to the State mandated initiative.

During the first year it was necessary to develop "contractor driven" programs, which needed to be coordinated with an electric utility such as Jersey Central Power & Light to appropriately bifurcate and identify "electric company driven savings," distinct from "gas company driven savings." This has entailed building a system with third parties -- necessitating a statewide coordination effort, which has culminated in a cohesive program structure and agreed-upon procedures.

ENERGY EFFICIENT PROGRAM FORMULATION

The elements of a comprehensive Clean Energy Program include marketing, structuring rebates, providing incentives, evaluating program viability, quality control, and training. For example, the HVAC program involves offering rebates, replacing an existing/obsolete unit, working with trade allies – the HVAC specialists, working with installers, and assessing customer satisfaction.

The initial phases of the Clean Energy Program will provide incentives for customers to reduce energy consumption by offering rebates and discounts for energy-saving products and services. ETG will subsequently file for new energy efficiency programs in November 2023 for the next triennium which starts July 2024.

ETG's customer base has 300,000 services. To this point, only a small percentage of customers have participated in the Clean Energy initiative. In the long term, there is substantial opportunity for growth, although it may be harder to reach customers as benefit/cost tradeoffs become less attractive.

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XX. Clean Energy

Clean Energy efforts naturally fit into Residence, Business and Multifamily silos. The business model takes into consideration appropriate delivery channels, rebate structures, and vendor billing for services. Success of the program hinges on joint efforts with third parties involved with varied facets of processes to raise awareness, motivate, and induce customers (i.e., end users) to action, whether—for example—by purchasing high efficiency products, or by increasing the amount of insulation in homes or offices.

The program's initial focus has been to provide residential program incentives and financing arrangements, such as HVAC system upgrades and appliance rebates. Energy-saving products have also been featured, including shower aeration, smart thermostats, etc.

The Clean Energy program is “still in the learning phase; assessing the customer journey,” and striving to improve communications and evaluating new applications. Possible customer program improvements and outreach initiatives are continuously being explored.

Efforts have been made to influence consumer behavior, whereby Home Energy Report programs compare/contrast “efficient” versus “traditional” houses in an “Energy Usage Report,” which is prepared by an outside vendor. Experiments using a control group—to which reports were submitted—have demonstrated customer responsiveness to the purported savings. Based on these indicators, consumer response to Home Energy reports has been deemed significant, and providing customer feedback to homeowners is considered a worthwhile endeavor.

The overall funding of ETG Energy Efficiency programs is \$83.6 million, of which \$8.3 million has been allocated for operations and maintenance. This is to be a “Utility-Led Program” driven by incentives to promote energy savings through reduced costs to the consumer. As such, the intent is that dollars incurred up-front will be more than offset by dollar savings over the long term through reduced energy use.

Contractor partners, as points of contact with gas company customers, play a key role in Energy Efficiency Program implementation. At present, arrangements have been made with over 50 contractors, incenting gas customers to modernize their systems by offering rebates through “on bill” financing, where “energy improvement projects and products” can be recouped over time, which can be spread over as long as seven years via reduced gas bills. The ETG Marketing department also assists with its “Trade Allies” program, educating HVAC contractors as to ETG energy efficiency programs that can be of benefit to their customers, thereby creating a win-win situation.

The Company is half-way through the startup phase. There has been a steady stream of gas use reduction at this time, but fluctuations in this trend may occur as the program matures.

The company believes they have formulated a good business model, with “value added,” even if the program had not been mandated. Prospects for the future may be more challenging with respect to meeting objectives as “low hanging fruit” is being harvested.

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ETG will be filing for a new program to fulfil targets for 2026. NJBPU will be issuing a new Board Order driving change with further incentives and motivation. As such, Clean Energy will continue to be an incentive-driven program.

Downstream, the target will be to reach more customers. The Company intends to continue to build out “the contractor network” and to raise customer awareness as to cost savings and societal benefits. Regardless of evolving requirements, ETG is confident that downstream objectives will be met. A team has been established to support and implement all facets of the forward-looking Clean Energy program.

ETG is actively managing Clean Energy Program Compliance Reporting. Financial Planning and Analysis staff generate status reports and budgets. Quarterly reports document expenses, energy savings, and customer participation. These include:

- Reports provided to the NJBPU, from 2019 to the present time.
- Quarterly reports, which contrast projected versus actual costs.
- A breakdown of expenses, which constitute 18–20% of the Clean Energy program budget.

Anticipated program changes and improvement include:

- Expanded scope, featuring an online portal component that emphasizes “Not only HVAC.”
- Continuing program development, focusing on increased customer/penetration market opportunities.
- Program administration, monitored in depth, including payroll, program development, and implemented costs.
- Marketing initiatives to continue to generate awareness, establish credibility, provide additional home-specific information, capture “special situation opportunities,” and promote rebate incentives.
- Increased customer education initiatives, including expanded outreach to commercial/industrial customers, delineating projected energy savings and payback period (whereby the customer fills out an application and the Energy Efficiency Department expedites the necessary screening.)

Additional incentive mechanisms have been built into the April 2020/2021 program to: promote conservation and energy efficiency; along with opportunities for reduced rates to further motivate customers.

An “On Bill Reporting System” has been approved, to enable the billing system to provide actual “on-bill financing status.”

It is recognized that all business partners, which support, motivate, sell, and implement processes that ultimately result in reduced energy consumption, will be rewarded for their efforts. In this regard, an accounting construct has evolved that strives to take into consideration “the impact and level of effort that each party contributing to the sale deserves.”

The process includes, for example, marketing to elevate customer awareness; sales to engage the customer; and a contractor to enroll the customer and implement the project.

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(Flow charts might provide a useful adjunct in visualizing the impact of intertwining roles in delineating the end-to-end process.)

To be equitable, all costs associated with project implementation need to be recognized and apportioned and ultimately invoiced back to the participants in an appropriate fashion. This requires taking into consideration end-to-end time commitments, the quality and impact of service measures, and ultimately the “value of service.” This idealized construct, must be “brought down to earth” and quantified to assess and verify each contributor’s role.

ETG has been encouraged to pursue Clean Energy Investments in non-traditional, unregulated business ventures. Current business initiatives include solar, fuel cells, renewable natural gas, and “green hydrogen.” Recognition is given to “offsets” that reduce carbon reduction requirements from regulated businesses.

The “grand design” is as follows:

Decarbonization Goals

- Achieve a 70% carbon reduction of operational emissions and consumption by the year 2030.
- Achieve 100% net carbon reduction by 2040.
- Commit at least 25% of annual capital expenditures to sustainability projects.

Initiatives

- Energy efficiency and conservation.
- Infrastructure enhancements.
- Clean energy investments.

B. FINDINGS

XX-1 The ETG Clean Energy Program offers a comprehensive suite of initiatives to raise customer awareness of energy use, together with product offerings as incentives for customers to reduce gas consumption.

- The Home Energy Report program provides “a reference framework” with data and information about actual home energy consumption through personalized reports.
- The Quick Home Energy Check-Up program provides residential customers with an understanding of opportunities to save energy that can be realized immediately at no additional cost.
- The Moderate-Income Weatherization subprogram enables qualifying customers to receive energy efficiency measures and upgrades at no additional cost.
- Tailored energy efficiency assistance is available to public service entities, such as municipalities, universities, schools, hospitals, healthcare facilities, and non-profit entities.
- Energy solutions for existing commercial and industrial facilities provides a holistic approach to improving building energy performance.

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XX-2 The Clean Energy program budget is formulated in a rigorous fashion, by means of a “bottoms up” approach, whereby forecasts are made at detailed levels of granularity and “rolled up” to develop a composite perspective.

The clean energy program features a wide range of service offerings that are in exploratory phases. The market response to rebates and pricing incentives will be ascertained over the course of time. A bottoms up budgeting construct will enable “forecasts” and “actuals” to be more closely correlated and market strategies shaped accordingly.

XX-3 The formative stages of the Clean Energy Program appear promising, and considerations are being given to longer-term prospects.

- The Clean Energy Program has been building momentum. Prospective customers are becoming familiar with the benefits afforded by the program. Good results have been achieved to this point.
- Targets were set in the current NJBPU Order for Energy Saving. These had been predicated on studies conducted by the NJBPU and third parties to assess what was feasible. The 2021 program was pegged at 20% of the initial target. A steady-state condition has now been achieved. The Program is on more solid ground, and “meeting the initial target” is no longer an issue. The smart thermostat program is doing especially well, and contractors “are delivering on best practices.”
- When “the low hanging fruit” is gone, things will become more challenging, and it may be necessary to cull some programs.

XX-4 The process required for ETG’s rebate allowance and verification is inherently complex.

The Efficient Products/HVAC program illustrates the process that is applied to all such rebates/offerings.

Once the sale is made, which may in and of itself involve several sub-processes, the following sequence of events ensues:

1. A customer (or the customer’s HVAC contractor) submits a rebate form for qualifying HVAC equipment along with the appropriate documentation.
2. ETG’s implementation vendor receives the rebate form through an online portal, email, or mail.
3. The implementation vendor verifies that the HVAC equipment is on the ETG approved NJBPU list and that the appropriate documentation is provided.
4. Once the equipment is verified, the implementation vendor sends the customer a rebate check.
5. The implementation vendor, in turn, sends ETG a monthly invoice for HVAC rebate activity.
6. The monthly invoice is received, reviewed, and verified to reconcile invoices with rebate activity by the Energy Efficiency Financial Analysts.

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7. The financial analysts provide these invoices to the Program Management team for verification that the “installed energy efficiency measures” qualify for a rebate or incentive.
8. With verification, a financial analyst codes these invoices to the Energy Efficiency programs, allocating costs to the appropriate NJBPU approved program (Efficient Products) and to the defined NJBPU category (Rebates, Grants, Loans, and Other Direct Incentives).
9. Then the invoice is submitted for manager approval, then sent to executive leadership for final approval.
10. The program participation and budgets are reported to the NJBPU on a quarterly and annual basis.
11. ETG submits an annual reconciliation filing to account for the Energy Efficiency expenditures.

XX-5 Unregulated businesses that afford reductions in greenhouse gases are being pursued in conjunction with the Clean Energy Program.

As such, these initiatives may require establishing “arms-length relationships” with the Company’s core regulated businesses to preclude cross subsidies.

The clean energy program features a wide range of service offerings that are in exploratory phases. The market response to rebates and pricing incentives will be ascertained over the course of time. A bottoms up budgeting construct will enable “forecasts” and “actuals” to be more closely correlated and market strategies shaped accordingly.

C. RECOMMENDATIONS

XX-1 Streamline the end-to-end process for Clean Energy rebate allowance and verification, which appears unwieldy and complex. Consider formulation of a “rebate systems approach” to rationalize the process, consistent with rebate value (high, medium, low). (See Finding XX-4)

The wide range of Clean Energy products and incentives presents a conundrum, in that unwieldy end-to-end administration of rebates, as currently structured, may be impractical. A more pragmatic approach should be considered that achieves the underlying customer incentives without undue administrative complexity.

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XX-2 Ensure that provisions are in place to preclude cross subsidy between regulated and deregulated clean energy endeavors. (See Finding XX-5)

As ETG pursues Clean Energy Investments in non-traditional, unregulated business ventures, inherent risks are entailed. Appropriate arms-length relationships and cost allocation mechanisms should be established to preclude cross subsidy between the core business and unregulated Green Energy ventures.

XXI. SUPPORT SERVICES

This Chapter is presented in eleven sections:

- A. Insurance and Claims
- B. Legal
- C. Facilities Management
- D. Materials Management
- E. Transportation
- F. Real Estate and Land Management
- G. Computer Systems and Services
- H. Records Management
- I. Security of Infrastructure
- J. Findings
- K. Recommendations

A. INSURANCE AND CLAIMS

BACKGROUND

Insurance is purchased for a wide range of Elizabethtown Gas Company (ETG) policies, with coverage provided for the following categories: General Liability, Automobile, Workmen's Compensation, Property, Builders, Risk, Cyber, Crime, Fiduciary, and Directors and Officers. At present, 48 policies are in force.

The Insurance Department, in consultation with the Risk Management Department, reaches a consensus as to what level of insurance coverage is appropriate in each of these categories. These levels are predicated on benchmarks that have been established over time, which take into consideration comparative analysis developed in conjunction with industry peer groups.

In this context, Insurance Department responsibilities encompass:

- Establishing ETG insurance and claims policies and procedures
- Procurement of ETG insurance policies
- Interface with insurance brokers representing ETG's interests
- Processing ETG insurance claims
- Decisions to settle or deny ETG claims

Insurance policy purchases are made through a licensed insurance broker, who participates in negotiations and strives to obtain the best coverage at the best premium rates available. The broker is Conner, Strong and Buckelew, which provides end-to-end brokerage services. These functions include purchasing insurance coverage, benchmarking, and analysis. The brokerage firm has various groups in specialized areas, such as Workman's Compensation, for the purposes of reviewing and providing guidance regarding loss limits and safety requirements. Evaluative criteria have been established for selection of the insurance broker including:

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- Experience and expertise in servicing Utility clients.
- Core and ancillary services provided.
- Proposed insurance program structure and supporting analysis.
- Fees detailing service costs.

The broker had a three-year contract, which expired at the end of 2022. The contract was renewed for one year and now expires at the end of 2023. ETG pays an annual brokerage fee of \$352,500, which was a negotiated price. However, this was predicated on a competitive bid process, with five or more brokers bidding to provide broker services. As such, the brokerage firm was hired based on past performance together with price competitiveness. Moreover, the price was the same as it had been for the past three years. (The renewal fee had not changed for the past three years, in accordance with the past contract arrangement. There was one lower bid, by the firm that was not deemed to be service-competitive.)

The purchase of insurance entails obtaining an application from a preferred carrier, acquiring and inputting business line information and requirements, receiving inputs, and any additional requirements from appropriate committees and the office of General Council.

The types of policies currently in effect include:

- General liability
- Automobile liability and damage
- Employment practices liability
- Employed lawyers (errors and omission)
- Excess liability coverage
- Fiduciary
- Directors and officers
- Workman's compensation
- Property
- Terrorism
- Flood
- Crime
- Environmental pollution
- Contractor pollution
- Cyber crime
- Professional
- Underground Storage Tank
- Builder's risk

Total annual premium costs are approximately \$3 million annually, as shown in the following exhibit:

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Total Annual Premium Costs 2018–2022 (\$ million)

Premium Period	Cost
2018–2019	2.95
2019–2020	2.68
2020–2021	3.27
2021–2022	3.39
Total	12.28

Contractors are required to provide insurance coverage for their own employees as a contractual obligation.

Benchmarking studies are performed to provide input for gauging the level of appropriate coverage. Expenditures are captured and assessed by premium and policy type. All policies, by policy type, are subsequently aggregated; these costs are in turn rolled-up to determine costs by category of insurance, and ultimately, overall insurance costs. As such, total costs specific to each type of insurance are determined. In that context: premium changes are mainly driven by market conditions. “Price movement” depends on the type of coverage and market conditions at that time.

SELF-INSURANCE

The Company self-insures for the first \$500,000. General Liability “sits on top of” the \$500,000 position. If the insurance claim at issue falls below that threshold, there is no need to notify the insurance carrier. There is no need to modify the self-insurance level currently, as the \$500,000 threshold is “a comfortable level” to work with.

CURRENT STATUS

There were no significant claims outstanding at the end of 2021.

The insurance coverage is “transparent to the insured population.” Internal stakeholders are not involved, unless questions and/or issues arise that cannot be addressed otherwise.

Economy of scale was achieved with the ETG acquisition, leveraging lower premium costs on a “unit cost basis,” but recognizing that a larger insurance program was involved.

The idea of “doing more in-house” was explored. However, the broker has a “comprehensive capability” team. SJG has a functional limit “in doing it ourselves” and that option was not deemed cost effective.

CLAIMS

Claims are “an everyday occurrence.” Citing an example of “an indemnification claim involving a contractor damaging a sewer during the course of construction,” the process would entail contacting a third-party adjuster (Nagle and Associates, at the time) to represent ETG. The adjuster would contact the contractor to advise the contractor of their contractual indemnification responsibility to ETG’ and would request the contractor assess the extent of damage to the sewer and work with the contractor’s insurance

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company to settle the claim with the claimant. If the contractor fails to do so, Nagle and Associates would directly contact the contractor's insurance company and submit the claim on behalf of the claimant and ETG.

If ETG was responsible for damaging another party while performing work, the process would involve contacting a third party adjuster Broadspire (at the time).

The table below shows insurance claim information from 2018 through 2021:

Insurance Claims 2018–2021

Claims	2018	2019	2020	2021	Total	Average
Claim Count	31	60	47	36	174	44
Claims Paid	28	34	31	21	114	29
Percent of Claims Paid	90%	57%	66%	58%	66%	66%
Amount Paid	\$22,349	\$34,069	\$60,307	\$9,306	\$126,031	\$31,507
Payout per Claim Paid	\$721	\$2,703	\$1,945	\$443	\$31,508	\$1,086

In the case of an automobile accident involving an ETG Fleet-owned vehicle, a report is made to the responsible party's insurance carrier. The Fleet organization implements repairs to the damaged vehicle and costs are recovered in accordance with the settlement. From time to time, insurance premium rates are adjusted to reflect the number of incidences with Fleet involvement.

B. LEGAL

BACKGROUND

Legal services are provided to ETG by the Legal Department and the Corporate Secretary in the South Jersey Industries (SJI) General Counsel's office and by the SJI Utilities (SJIU) Rates and Regulatory Affairs Vice President and that department's Regulatory Affairs Counsel.

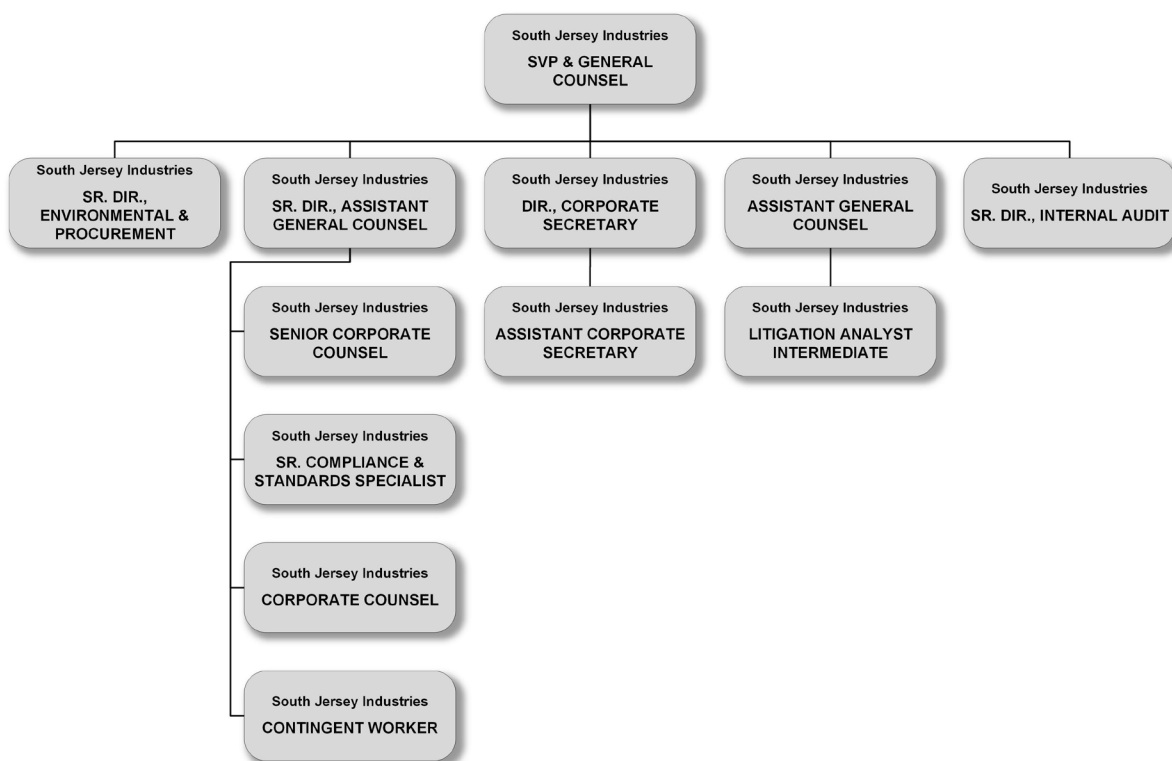
SJI General Counsel's Office

The SJI Legal Department and other functions are managed by the SJI Senior Vice President and General Counsel (General Counsel). This organization serves all SJI including ETG and the non-utility subsidiaries. The organizational structure for the General Counsel is shown in the following exhibit.

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General Counsel Organizational Structure



The Environmental and Procurement functions are covered in Chapter XXIII, Remediation Costs, and Chapter XIX, Purchasing and Procurement of Goods, Services, and Bidding Processes, respectively.

Internal Audit is an administrative report to the General Counsel. The Internal Audit Director also has a dotted line relationship to the Board of Directors Audit Committee Chair. However, the General Counsel has significant input on the structure and audit plan of Internal Audit. The Internal Audit function is covered in Chapter XV, Accounting and Property Records.

Corporate Secretary

The Corporate Secretary is a practicing attorney specializing in corporate governance and compliance. She reports to the General Counsel. She has one direct report, an Assistant Corporate Secretary who assists in most Corporate Secretary work.

The Corporate Secretary facilitates the quarterly SJI Board of Directors' meetings, including:

- Drafts the initial agenda for review and finalization by others
- Attends the full Board meeting
- Attends three of the committee meetings (the General Counsel and Assistant Corporate Secretary attend the others because two committee meetings run concurrently)
- Documents the attendees and makes notes on the slide decks

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- Prepares the minutes for review by others

The Corporate Secretary serves similar roles for the quarterly virtual SJIU Board meetings. The SJI executives and board members use a commercial software platform for governance coordination. All Board and related documents are managed through the platform.

The Corporate Secretary works closely with the SJI Board Governance Committee Chair on potential governance improvements and assists in scheduling governance expert speakers for Board meetings.

The Corporate Secretary's budget includes the Board fees, stock awards, and meeting expenses including guest speakers and outside counsel. The SJI Chief Executive Officer's (SJI CEO) assistant acts as the event planner for Board meetings.

The Corporate Secretary facilitates the required ETG annual meeting of shareholders which appoints new officers and directors (selected by the SJI CEO) and files the required paperwork with the state.

Additional Corporate Secretary duties include:

- Manages the SJI subsidiaries required documentation for each state; that is, filings with the Secretaries of State.
- Leads the development and filing of the annual proxy statement, including the executive compensation section, and the SEC Form 8-K following the annual shareholders meeting.
- Leads the annual report to the New Jersey Secretary of State.
- Facilitates federal and state filings and is the keeper of all government compliance documents.

The Corporate Secretary meets one-on-one with the General Counsel monthly.

SJI Legal Department

The General Counsel has two direct report Assistant General Counsels. One is a Senior Director and serves the SJI shared services. The other is a Director and serves the utilities, SJIU, SJG, and ETG.

There are monthly Legal team meetings with a review of a key performance indicator (KPI) slide deck. KPIs include:

- Number of contracts approved
- Number of litigation cases
- Number of easements
- List of subpoenas

The Assistant General Counsels also meet monthly one-on-one individually with the General Counsel. Performance reviews are largely qualitative. The overriding annual goal is to be a proactive business partner with the internal clients.

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The Legal Department participates in a SJI contract management system to approve and manage contracts in conjunction with Procurement and other departments involved in contracts.

Assistant General Counsel for Utilities

This Assistant General Counsel and Director reports to the General Counsel. He has one direct report, a Litigation Analyst, who is a paralegal with the following example duties:

- Outside counsel litigation work support
- Outside counsel invoices and payments
- Maintains the litigation log which is updated as events occur
- Prepares SOX litigation quarterly report for Internal Audit
- Coordinates the outside counsel expense estimates and potential liability for Accounting's quarterly calculation of reserves
- Tracking Legal key performance indicators
- Secretary for the Compliance committee
- Responding to subpoenas
- Legal Department budgeting (the General Counsel's Executive Assistant tracks the budget)

This Assistant General Counsel is the Lead Counsel for ETG, SJG, and SJIU. The work is mostly contract reviews and dispute resolutions with vendors and contractors and managing litigation. Employment law issues are referred to the other Assistant General Counsel. Work with ETG includes:

- Construction contracts, both blankets and larger project bids
- Working with Government Affairs on local government paving issues
- Easements for development projects and line extensions
- Engineering contracts
- Safety contracts
- Incident response and after-action coordination with the investigator and insurance provider
- In-house attorney representation for escalated BPU complaints
- Sovereign citizen non-payment issues
- Gas Supply asset management agreement, ETG gas purchase agreements, and FERC cost of service groups
- Assist Rates and Regulatory with rate cases
- Remediation issues

He also assists SJI Environmental with non-utility issues.

This Assistant General Counsel also works on franchise renewals with the External Affairs local government liaison, Sales, and Rates and Regulatory. Renewals typically occur every 50 years. The local government passes an ordinance; then there is a NJBPU

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petition, discovery, a hearing, and then the order. Franchise renewals have not been contested.

This Assistant General Counsel assisted with the Byron Township ETG franchise expansion in 2021. Franchise expansions are negotiated among the local government, any other natural gas local distribution company (LDC) involved, and the NJBPU. Basically, the LDC that can reach the territory most economically gets the franchise. Some franchises are switched from one LDC to the other for economic reasons.

This Assistant General Counsel also assists the utilities with complying with Transportation Safety administration rules for Cybersecurity for LDCs. SJI uses an outside counsel specializing in this field.

This Assistant General Counsel does not routinely attend the ETG monthly Operating Results meeting or the ETG monthly management meeting. However, he visits ETG approximately two times per month and works to be a proactive business partner as part of the ETG family.

Assistant General Counsel for Shared Services

This Assistant General Counsel and Senior Director reports to the General Counsel. This Assistant General Counsel's principle internal clients are the SJI shared services, such as Human Resources; Information Technology; Procurement; and Finance, Tax, and Accounting; and the SJI non-utility subsidiaries. Most of the work involves employment issues and contracts. The Assistant General Counsel oversees outside counsel engaged for specific matters in her areas. Additional duties include:

- Assistant Compliance Officer – the General Counsel is the Compliance Officer. The Compliance and Standards Specialist assists with this function.
- Receives Employee Hotline calls – coordinates with Human Resources
- Coordinated the SJI outside counsel for the IIF acquisition of SJI
- Assists the Tax Department in obtaining the Economic Development Authority tax credits for the Atlantic City headquarters building

The Assistant General Counsel has three direct reports:

- Corporate Counsel
- Compliance and Standards Specialist Senior
- Senior Corporate Counsel

The Corporate Counsel joined SJI in 2020 and assists the Assistant General Counsel with the SJI shared services, such as with employment issues and contracts, and does special projects, such as the SJG Vineland Liquid Natural Gas (LNG) plant. She also assists the other Assistant General Counsel with the SJIU Customer Experience function.

The Senior Corporate Counsel focuses on the non-utility SJI effort in developing the renewable natural gas business primarily on the contracts with dairy farms.

This Assistant General Counsel has been the Chair of the SJI Compliance Committee since 2020. The committee membership includes:

- General Counsel

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- Compliance and Standards Specialist
- Litigation Paralegal
- ETG President
- Human Resources
- Utility Shared Services
- Natural Gas Trading
- Internal Audit
- Operations
- Customer Experience
- SJIU President
- Risk Management

The Committee has recently refreshed the Code of Conduct and a number of policies, including:

- Human Resources
- Discrimination
- Gifts and Entertainment
- Ethical Behavior
- Company Information
- Outside Employment
- Contractor Background Checks

This Assistant General Counsel also sits on the Trust 401K committee.

This Assistant General Counsel does not attend the management meetings of her clients. She does attend project management meetings for projects to which she is assigned.

Regulatory Affairs Counsel

The Regulatory Affairs Counsel reports to the SJIU Vice President of Rates and Regulatory. The Vice President of Rates and Regulatory is also a practicing attorney who represents ETG and SJG on regulatory matters. The Regulatory Affairs Counsel function is a single attorney currently, but a junior attorney is being recruited. This attorney assists the Vice President of Rates and Regulatory with regulatory proceedings for both ETG and SJG. See Chapter X, Organizational Structure, for more information on the Rates and Regulatory function.

C. FACILITIES MANAGEMENT

BACKGROUND

The Facilities Management Organization is responsible for managing buildings and facilities within SJI, including ETG and SJG. This entails:

- Day-to-day operations and maintenance (O&M), involving a total of 16 entities – 9 of which are ETG-owned or leased sites.

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- Oversight of capital improvements and planning for space additions and major renovations, such as roof replacements, managing contingencies, and space transition planning.

In this capacity, Facilities Management addresses long-term and short-term needs for space and workplace configuration planning. Functional requirements also encompass Real Estate portfolio management, emergency response preparedness, pandemic response, provisions for deliveries and logistics, and mailroom and courier services.

The Manager, Facilities/Building Services, reports to the Vice President of Risk Management and Security. There are two direct reports, both Facilities Specialists, one located at Green Lane focusing on ETG, and the other at Folsom/Corporate Headquarters focusing on SJG.

The mission of Facilities Management is to:

- Provide a healthy, safe, pleasant, and functional environment for SJI's workforce – striking a balance between preventative maintenance programs and long-term capital improvement plans to accommodate future Facility needs.
- Incorporate increasingly efficient processes to keep buildings operating at their full potential, enabling staff to operate effectively, without distraction.

Improvements are implemented when normal, useful life has been reached for systems and components. Plans are also formulated for facilities upgrades commensurate with Leadership's wants and needs. Tradeoffs, for example, would be considered when establishing training facilities regarding construction of new facilities versus making enhancements to existing facilities.

Preferences and priorities for facilities improvements are established through:

- Meetings with Leadership.
- Assessing program requirements and priorities.
- Gauging overall impact as to facilities "additions and/or subtractions."

The annual budget formulation process involves:

- Establishment of a capital improvement baseline.
- Scheduling for implementation of approved capital improvements.
- Accommodating "Specials," which constitute "one-of-a-kind situations."

Project priorities are categorized as to "needs" and "wants." Needs are generally approved, whereas the wants are often deferred, depending on overall systems requirements and budgetary constraints. Once an overall program construct is agreed upon, a preliminary budget is prepared, competitive bids are subsequently obtained from contractors, pricing estimates are firmed up, and a final budget is established. Leadership is apprised of the proposed go-ahead scenario, feedback is obtained, and final changes are factored into the planning process.

ETG facilities encompass approximately 100,000 square feet of office and operations space for 268 employees as shown in the following exhibit.

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ETG Real Estate Holdings as of 2022

Location	Total Square Feet	Owned / Leased	Office / Workstation Staff
Green Lane Office (ETG Headquarters)	58,782	Own	207
Green Lane Garage (Fleet Service)	5,000	Own	1
Green Lane Training/Warehouse	5,000	Own	7
Elizabeth Pay Center (Walk-In)	1,500	Lease	4
Perth Amboy Pay Center (Walk-In)	1,500	Lease	4
Erie St (LNG Facility)	10,000	Own	10
Flemington (Operations)	4,380	Own	6
New Village (Operations, Dispatch Back-Up)	11,200	Own	27
Andover (Operations)	3,000	Lease	2
Total	100,362		268

The Green Lane Office Headquarters constitutes approximately 58,800 square feet and houses 207 out of a total of 268 employees. Other facilities with an excess of 10,000 square feet are the LNG facility at Erie Street and Operations and Dispatch Back-up at New Village.

The annual Facilities budget is designed to fulfill construction program requirements. In this regard:

- ETG's current (2023) facilities budget is in the order of \$5 million. This includes provisions for a new \$3.2 million facility in Lafayette, New Jersey -- in the Northwest Region, which will be replacing facilities that are currently being leased.
- Major projects of similar scale are undertaken annually, with a budget typically in the \$4–5million range.

Facilities Management relies on contactors for O&M and capital improvements. Contractor relationships with respect to ongoing O & M are highly structured, whereas, in contrast, capital projects vary from year to year. In the latter, decisions are made on a case-by-case basis predicated upon construction program requirements. In all cases "aggressive pricing is received in bids from contractors;" and bids are verified retrospectively, based on comparisons with multiple bids and benchmarking checkpoints.

The Facilities Management budget is structured to accommodate anticipated Capital Projects, together with O&M expenditures. Good vender relationships, with respect to the scale and scope of O&M processes, have been established, which provides flexibility in freeing up in-house resources for large scale, priority projects.

Apart from the budgetary framework, which entails a formal submittal and approval process, unanticipated events are dealt with by means of special requests. These must first be substantiated and then justified for consideration, especially if such requests are organization-impacting and affect project priority ordering.

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There is a “purposefully aggressive” capital program, as project implementation is accompanied by lower energy use and reduced maintenance and repairs. In that context, comparative analysis is performed to determine tradeoffs for costs of new construction versus “maintaining the status quo” – which can entail significant ongoing repairs. In due course, if a “go-ahead” is warranted, project specifications are established by the facilities organization. Contractor interfaces are in accordance with each organization’s needs.

Annual budgets are submitted in the August timeframe for the following year. A bottoms-up list of projects is prepared, and cost estimates are obtained. Facilities that have reached an “end of useful life,” are identified. There have not been issues due to budgetary constraints, as the increasing customer base in Northern New Jersey has been a driver for facility expansion. This is a growing area, with long-term requirements that will need to be accommodated. “Build versus buy” studies are done as a matter of course, with “building a facility in a preferred location” usually being the most viable option.

Facilities Management formulates a proposed Business Plan in the baseline planning context. A “Five-Year Projection” is prepared that looks ahead to assess program development, and formulation of a roadmap with most probable scenarios. Facilities Management leadership and personnel have extensive deliberations to assess the various tradeoffs. Future projects under consideration include a business case for development of an ETG facility in the City of Elizabeth and construction of a new building on an existing ETG site, such as the one currently being constructed in Lafayette. Prices for these major capital projects tend to be in the \$3 million range.

Looking to the future, the challenge is to anticipate how projects will evolve during the next five years. “Ground rules are changing for the way things are done.” For example:

- Advanced design concepts will afford enhanced open office space.
- Back-up facilities may not be required since work can now be performed at home.
- Parameters will shift and new evaluative criteria will emerge, with an emphasis on renewable energy efforts in conjunction with facility design, driving down O&M costs.
- Provisions for enabling employees to drive electric vehicles will be provided. (Chargers are now located in garages in Atlantic City, solar arrays have been installed at Folsom, and conduits are being installed to facilitate distributed access to charging stations.)
- Enhanced technology will continue to reduce greenhouse gases.

The range of these facilities options is being explored, considering lifetime costs and break-even analysis. Current key projects include construction of the ETG Northwest Operating Division Headquarters at Lafayette; improved Customer Walk-In Center upgrades; upgrades and replacements of HVAC systems; roof replacements; upgrades to gate stations, regulator stations, and pipeline locations; assisting with solar array installations at ETG sites; and LED lighting upgrades at all ETG locations.

In addition, “return to office” initiatives are being explored with regard to reduced space requirements and shared-space scenarios for employees who can work from outside the office, work flexible hours, or who don’t need a specific desk by nature of their jobs.

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Facilities Management also has primary responsibility for emergency preparedness for the protection of ETG employees and overseeing key processes across the organization should workplace emergencies occur. In such cases, a prescribed Emergency Response Emergency Action Plan is initiated in conformance with OSHA's Emergency Action Plan requirements.

D. MATERIALS MANAGEMENT

BACKGROUND

The Procurement Department is responsible for purchasing Materials and Services on behalf of the SJI business entities. Procurement Specialists within the Department focus on fulfilling materials management requirements for ETG's business units.

The scope of responsibilities of Materials Management encompasses:

- Processes to approve the specific materials used in the operation of the utility.
- Ordering, distribution, and validation of materials delivery.
- Management of the "bill of materials."
- Rightful payment for materials that are procured.
- Identification and inclusion of related processes and entities that enable the utility to operate.
- Timely dissemination of materials to contractors.
- Timely dissemination of materials to responsible parties within the utility.

In addition, the Procurement Department certifies venders that provide materials and services to ETG, which entails:

- Assessing supplier and vender qualifications and requirements.
- Generating Requests for Proposals (RFPs) to approved suppliers and vendors with the objective of fulfilling ETG's materials requirements at minimum cost.
- Negotiating contracts with suppliers and venders that have been selected through the RFP process.
- Expediting a Bill of Materials, formulated by Engineering, which accompanies each materials order request.

Procurement is comprised of three functional areas:

- Vendor Management –focuses on the accuracy of supplier records, including supplier contracts and purchase orders.
- Category Management –focuses on the end-to-end procurement process for selection of goods and services.
- Data Analytics –focuses on data analytics to support Procurement initiatives and is responsible for managing SJI's Diverse Supplier Initiative.

Data Analytics is also responsible for management of SJI's Diverse Supplier Initiative.

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Procurement's paramount objective is to avoid supply chain shocks and their impact so that an insufficient supply of materials will not pose problems or adversely affect construction program implementation or other time-sensitive priority projects.

Procurement works in conjunction with engineers and construction supervisors, as well as other company departments including accounts payable and quality standards groups to fulfill end-to-end material management requirements.

Materials Acquisition

Vendors that supply materials are initially selected to receive RFPs predicated on prior relationships performance. Assessment and selection of new vendors that may be qualified to supply materials and related services is an ongoing process. In all cases the reputation of a prospective vendor is considered. A "diversity model," is under consideration, with an objective of expanding opportunities for the non-traditional supplier base.

An in-depth review of prospective vendors is performed utilizing a vetting service which assesses the financial viability and sustainability of potential vendor firms. In addition, validation of insurance coverage and appropriate background checks are performed.

Materials acquisition begins with assessment of a requested need. Once addressed, legal documents are prepared and reviewed by various stakeholders, including Procurement, and departments that are responsible for ensuring compliance with SJL policies and procedures. These include Insurance, Risk management, Operations, and Legal. Upon internal approval, a final contract is presented to the vendor for execution and then countersigned by an officer of ETG. The delivery of the services or goods can commence once a full contract is in place.

Construction Materials Management

Construction materials are obtained from several suppliers, the principal supplier being McJunkin Red Man Company (MRC Global, Inc.), a worldwide distributor of pipe, valve, and fitting products for energy and industrial markets.

- MRC Global, Inc (MRC) is perceived as a "uniquely qualified vendor" that can accommodate ETG's materials and services specifications and requirements. A Procurement Team, at the SJL level, has negotiated a contract with MRC to provide essential, mission-critical materials, thereby ensuring that supply chain/material issues do not impede fulfillment of Capital Program objectives. This is a long-standing agreement, which complies with guidelines for specific items, subjected to a vetting process.
- MRC has also assumed responsibility for the provisioning of materials from other equipment manufacturers and various distributors, ensuring the availability of such goods to ETG as needed.

MRC also provides inventory management, with SJL Category Management group oversight in conjunction with ETG employees situated at MRC's warehouse locations. MRC maintains ETG's inventory within their warehouse at prescribed levels and delivers required materials to ETG's operating divisions according to either a consignment process, where items are replenished within the stock rooms to prescribed limits, or they

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are shipped directly to an ETG contractor job site in accordance with a prespecified arrangement.

Category Management

ETG'S operating approach for Category Management is to utilize multiple year contracts when this approach affords cost efficiencies, enables a technology to be secured, provides advantages that are time sensitive, or when it makes sense "to lock into an arrangement" for a number of years.

Questions that help shape the demand profile for structuring contract provisions include:

- Can the agreement span multiple years and, if so, what are the advantages?
- Can the needed goods or services be combined with other goods and services with the same provider to leverage terms/conditions and prices or to mitigate risk.
- Will a multiple year agreement preclude a technology upgrade, or in contrast increase functionality afforded by technological evolution?
- Are we purposefully seeking a stable technology platform, or should we be at "the cutting edge"?

Category Management has specific functional areas of responsibility and focuses on particular business units as follows:

- Category Management Group manager – Responsible for all administrative functions, workflow management, involvement in larger complex undertakings, and strategic efforts requiring senior level advisory services and guidance.
- Materials Category Manager – Responsible for the materials procurement and inventory management of goods secured through MRC, as well as other providers in the marketplace, and for billing and returns processes.
- Technology Category Manager – Focuses on technology related undertakings and operational support for finance and contracting services and maintains contractor interfaces.
- Business Category Manager – Provides services that facilitate contractual and procurement functions such as RFPs, non-disclosure agreements (NDA), and project undertakings. Focuses on business-related efforts and provides guidance and support as needed. The Supplier Contract Management process is contained in the Workday System's Strategic Sourcing subsection.

Operational aspects of procurement include the following tasks: legal document submission, onboarding of vendors, securing certificates of insurance and W9s, and coordinating with the Category Managers to ensure efficient document flow.

Complaints related to materials, when they arise, are handled by personnel that are most directly involved. If warranted, an issue can be escalated, but generally issues are resolved, and the case is closed out.

Materials that are not provided by the primary materials contractor, such as personal protective equipment (PPE), paint, pipe fittings, etc., are directly sourced to alternate suppliers based on need and market availability.

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For some material requests, an RFP is prepared, and selection made through a competitive bid evaluation process.

Consignment item levels are checked at the operating divisions by ETG supervisors during routine storeroom checks. SJI Category Managers provide back-office support for inventory levels by providing oversight of the invoice process and management of out-of-stock situations when they occur. There have been no known incidents where materials management issues have affected the critical path of a project

Purchasing

Purchases are classified as catalog and non-catalog orders. The process for both Catalog and Non-Catalog orders is initially the same.

- Procurement receives a request to expedite an order.
- Procurement forwards the request to MRC and follows-up with a phone call.
- MRC confirms the order and provides expected delivery arrangements.
- Procurement relays information to the party that placed the order

Catalog Orders are subsequently processed using the Workday System, which provides:

- Flowcharts that describe end-to-end procurement processes
- Procurement expenditures by category of purchase
- Procurement expenditures by source-of-supply entity
- Processes and examples of expediting Catalog and Non-catalog orders
- Processes for Order Review
- Incidences of Materials Management issues affecting critical path requirements
- Procurement organization budgeting

The negotiation of contracts occurs primarily in the Procurement group. Procurement is brought into the early stages of a contract negotiation process and assumes a lead role in reaching a mutually satisfactory arrangement with the vendor. The process can entail various levels of communication with the vendor's management teams before reaching a mutually satisfactory agreement.

All suppliers are vetted and validated through XPRO, a software program linked directly to Workday. XPRO is used to verify new suppliers. This enables SJI to vet a network of potential suppliers, verifying supplier information with enhanced efficiency and security, as opposed to a manual process. Verification is done to mitigate the risk of doing business with a vendor that is fraudulent, not compliant with regulations, has recorded violations, or is not adequately insured or is not in good standing.

Individual departments within ETG can evaluate suppliers they utilize based on their specific requirements for supplies or services. During the review/onboarding process Procurement also reviews and collects W-9s and Certificates of Insurance as required. Once the verification is complete, the supplier becomes active in the system. This eliminates the need to manually input vendor information.

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Pricing information is obtained through competitive bidding, market comparisons, and data gathering from various sources pertaining to the historical use of similar or identical products.

ETG currently utilizes the application Workday Strategic Sourcing (WSS) for contract review and retention. The review process is facilitated through the application's systematic application workflow.

The formal awarding of purchase orders follows final approvals, execution, and a definitive description of what's being secured. In all cases, a purchase order is subject to an agreement or statement of work that was agreed upon and signed off by the appropriate authorities. Materials Management's order review policy has a \$50,000 threshold.

Sampling

ETG has authorized the use of sampling to expedite construction materials supply. The construction team, with the assistance of the quality control team, samples alternative materials for approval and inclusion in the Approved Materials list. Specifications are shared with MRC. Deviations that are uncovered in the field are then highlighted and addressed.

For example, each pallet of meters brought into MRC's Glassboro warehouse is sampled and subsequently routed to an ETG facility, where they are calibrated and tested for accuracy. Meters that are successfully evaluated are then shipped back to the MRC warehouse and placed and wrapped in the original pallet. The pallet is then marked as "tested and ready for shipment" as directed by ETG personnel.

E. TRANSPORTATION

BACKGROUND

Transportation is responsible for determining vehicle requirements, vehicle acquisition in conjunction with Purchasing, transportation-related support systems procurement, and expediting vehicle maintenance processes.

Fleet Management

ETG currently maintains a fleet of over 340 vehicles, including cars and trucks. Vehicle types encompass:

- Heavy trucks, which are required for installation services, meter replacement, and first-responder services.
- Light trucks, which are suitable for inspections and supervisory roles.
- Passenger cars, appropriate for meter reading and use by supervisory personnel and sales representatives.

ETG's fleet of vehicles is housed at the Green Lane facilities. Fleet Management is comprised of a supervisor, five auto mechanics, and a warehouse clerk, all of whom are Union employees. Most vehicle maintenance work is performed at the site. Exceptions include vehicles under warrantee or when expediting backlogged repair work. Vehicles

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are assigned to staff in accordance with job requirements such as home base reporting and extended site visitation. Larger vehicles are only taken home on an exception basis.

Annual Fleet Management budgets are predicated on cost-of-service history and vehicle replacement/service growth forecasts. Typically, 10 to 30 vehicles are replaced during the year. Capital expenditures for vehicle replacements are generally in the \$1.7 to \$3 million dollar range. Purchasing is involved in vehicle procurement and “adds significant value through volume purchasing arrangements.” As such, Fleet Management is coordinated with SJI for vehicle purchasing, together with fleet rotation and determining vehicle replacement priorities. Supply chain disruptions have impacted the vehicle replacement schedule.

Although ETG’s and SJGs fleets are currently segmented, plans call for full fleet integration. Fleet management is currently being coordinated across SJI, with standard practices, schedules, and operational readiness procedures. The current criterion is that 98% of the fleet is to be operational and ready to use at any given time.

Oversite of both garages and common fleet management software has been prescribed. Underlying differences in the structure of SJG’s and ETG’s Transportation organizations affect the fleet integration timetable, as for example, integrating Union and non-Union shops.

The scope of each job requirement determines the type of vehicle best suited to the task. Opportunities to downsize in fulfilling requirements are always explored. The fleet composition is driven by personnel requirements on a case-by-case basis. Age, mileage, and previous costs incurred impact vehicle repair/retirement decisions. Broad gauge replacement guidelines are shown below:

Vehicle Replacement Guidelines

Vehicle Class	Replacement Cycle (Years)
Cars/Light trucks	5
Service trucks	7
CNG Vehicles	10
Large trucks	10
Excavation	10
Trailers	10
Forklifts	20

There is currently no specific mileage identified as a decision point for replacement, but replacements generally occur at approximately 100,000 miles. Lifetime repair costs are also a factor in the decision process.

Fleet management policy addresses repair, replace, and modify criteria. Responsibilities include providing as needed and preventive maintenance, such as oil, filter and tire changing, and basic repairs which essentially include everything but major body work. The Fleet Department, which employs mechanics with Automotive Service Excellence (ASE) certification, assists with vehicle customization. Support from the IT Department is provided for systems installation and wiring.

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The Transportation organization is in a support role with respect to ETG's vehicle procurement/ replacement program, working in conjunction with the SJG Procurement organization to assess Green Lane Division vehicle requirements. The current focus is on implementing pro forma procedures, such as fuel purchasing and risk management.

Preventive maintenance for ETG vehicles is conducted in accordance with a prescribed schedule. Currently, there is no formal quality assurance/quality control program. These matters are handled by periodic meetings to discuss fleet matters such as safety concerns, timing of equipment orders, shop needs, and ad hoc contact with ETG Operations personnel, as needed.

Fleet management software upgrades are being pursued. At present, an in-house database generates work orders for ongoing vehicle repairs and stores information regarding maintenance and repair costs throughout a vehicle's history.

Vehicle technology advances have not had significant near-term benefit, and maintenance and repair work are relatively unchanged. An occasional new piece of equipment is integrated into the fleet, but the impact has been minor.

Quotes are obtained from a dealership for vehicle acquisition. Once approved, a requisition is generated within "Workday" and a completed purchase order is sent to the dealership. In the case of trucks, which require customization, a quote from an "upfitter" is obtained. Upon approval, the vehicle is delivered to the upfitter for body installations and modifications. The completed truck is then delivered to ETG, and all related invoices for payment and purchase order close out are managed in Workday. License plates, registration, and inspection stickers are then secured, and arrangements made for fuel cards and vehicle insurance.

Fleet Management Initiatives

SJI has requested proposals from fleet management vendors and is currently in contract negotiations with a company that can provide Fleet Management services, including garage management software, fuel card management, telematics, and replacement scheduling. The scope of this work also provides for comparative data from other companies that utilize the same Fleet Management services. These comparisons will help develop policies and procedures that are effectively aligned with industry standards. SJI is requesting data to assess the "Total Cost of Vehicle Ownership," which is needed for comparative analysis to provide a basis for further observations and conclusions, and establishment of best practices.

CNG Facilities

When SJI purchased ETG in 2018, an operating CNG station was in service at Green Lane. The business opportunities associated with this station are linked to the growth of CNG for other businesses in the area, as the site is used by regional Industries, including Waste Management, Inc. and Amazon.

ETG' mechanics have been trained to work on CNG vehicles, several of which are part of ETG's fleet. CNG vehicle fueling capabilities are maintained on site at Green Lane and in Stewartsville in Warren County. As CNG has been designated a clean fuel source, CNG and electric "fuels" are being considered for next generation fleet applications.

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The use of natural gas can reduce hydrocarbons, carbon dioxide, nitrous oxide, and other greenhouse gas emissions. Moreover, the average yearly price of CNG (diesel gallon equivalent) versus diesel is significantly less expensive. In 2022 it was the equivalent of \$2.60 as compared to \$5.11 per gallon of gasoline.

However, despite these considerations, the near-term prospects of leveraging capability to provide CNG are not promising. Although the main component is natural gas, the fueling capability is limited, and operational constraints overshadow possible benefits.

F. REAL ESTATE AND LAND MANAGEMENT

ETG's Real Estate holdings are comprised of three Service Centers in Union, New Village, and Flemington; a LNG Plant on Erie Street; and over a score of gate and regulator stations located throughout its service territory. Sites with retired facilities and vacant lots account for the remainder of its properties. The assessed valuation of ETG's real estate is approximately \$9.2 million, with the following valuation breakdown:

ETG Assessed Real Estate Value

Property Use	Assessed Valuation (\$)	Percent
Service Centers	3,992,600	43.43
Union	1,403,000	
New Village	1,419,000	
Flemington	1,419,000	
Erie Street LNG Plant	1,486,300	16.17
Gate and Regulator Stations (16)	2,063,000	22.43
Retired Plant Sites	1,174,000	12.77
Vacant Properties (7)	362,000	3.94
Radio Tower Site	29,500	0.32
Total	\$9,194,200	100.00

Real Estate and land management functions are performed within the SJI Business Support Department, which reports to the SVP of Corporate Risk and Security.

Records of Real Estate property are maintained by county, municipality, block/lot numbers, assessed values, address, size (acreage), and use or purpose. All property has been recorded in accordance with FERC 101.0 and is included in the Rate Base.

Business Support has been authorized to buy and sell property on behalf of ETG. In making the decision, the following parameters are taken into consideration: timing, length of the need, cash outflows, recurring costs, tax implications, and property value. A recommended business equity strategy is formulated from relevant metrics.

Real estate assets have not been purchased or sold since ETG's integration with SJI, in 2018, through the duration of 2021. None of these properties are for sale. There have not been any recurring revenues for use of land, right-of-way, or shared facility agreements during that period.

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The Erie St. LNG Facility is currently undergoing a Vaporization Upgrade that includes demolition of an obsolete Vaporizer building, soil remediation, grading, foundations, installing a pump canopy, and equipment needed to pump and vaporize LNG.

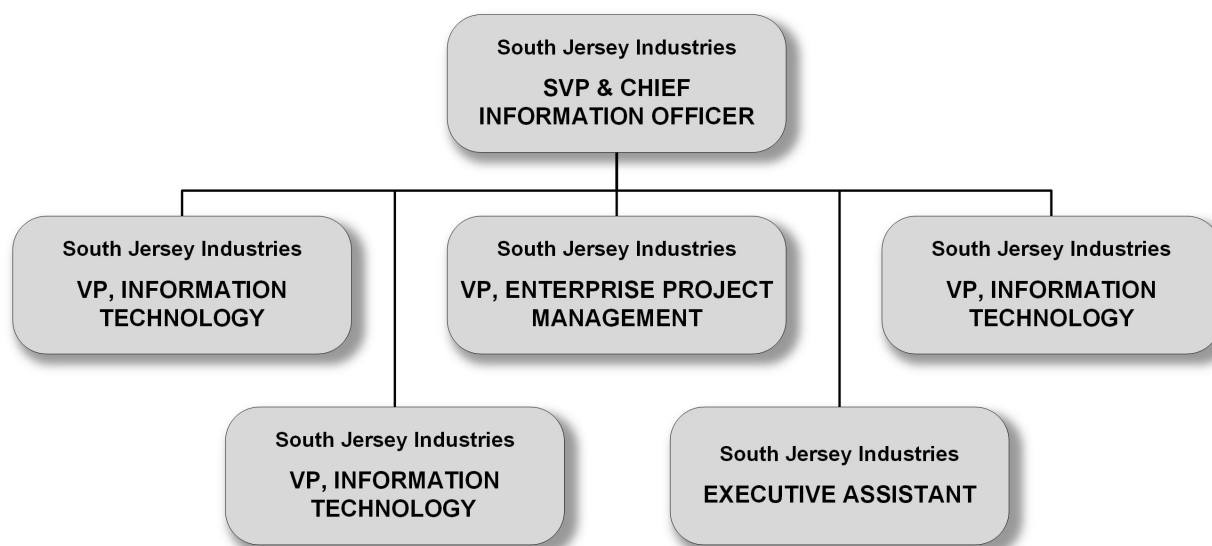
ETG takes a structured planning approach, which considers appropriate tradeoffs, evaluative criteria, and parameters when strategizing for near- and long-term capital improvements. The portfolio of property assets is optimized by ensuring that manufacturer recommended preventive maintenance and repairs are performed in a timely manner.

The Corporate Facilities Department currently has no further development projects planned at 56 East Main St, 520 Green Lane or 148 Edison Road. However functional improvements will be implemented at each site. These include interior renovations such as lay out changes, HVAC System upgrades and roof replacements.

G. COMPUTER SYSTEMS AND SERVICES

Computer systems and computer services that support the operations of ETG are the responsibility of SJI Information Technology Department, headed by SJI's Senior Vice President and Chief Information Officer (CIO). This department is responsible for all the information systems and services that involve information systems on which ETG and the other SJI subsidiaries and entities rely. The organization chart for SJI's Information Technology (IT) Department is shown in the following exhibit.

SJI's Information Technology Department Organization



The IT Department reports directly to the President and CEO of SJI and is organized into four functional areas:

- Application and Project Governance
- Enterprise Project Management
- Service Delivery
- Security and Technology Architecture

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APPLICATION AND PROJECT GOVERNANCE

This work group is headed by a Vice President, staffed with 33 information technology professionals (seven of which are contractors), and encompasses the plan and build IT functions. This group is responsible for planning or budgeting for IT expenditures, including both operations and maintenance (O&M) and Capital budgets. This group also manages vendors and the projects on which they are working. The Capital budget and actual expenditures are split among the business functions based on the capital project activities. This group is responsible for managing the IT projects. Contractors manage the Capital projects and some of the O&M projects. The business groups initiate the need for new or changed systems, all of which must have a Business Case. This business group is also responsible for presenting or selling proposed IT projects to the SJI Project Management Council. IT policies and procedures are also the responsibility of this group, and the CIO must sign off on all changes to policies or procedures, including cybersecurity policies. There is a "Change Advisory Board (CAB)" that reviews all system changes prior to implementation. CAB approval for changes must be at the Director or above level. Business impacting changes must be approved by the impacted area, and test evidence must be provided prior to approval/implementation.

Formal agreements have been made with vendors to provide back-up support for SJI's IT functions. A current list of vendor partners that have formal agreements with SJI to provide back-up support to the Application and Governance and Service Delivery functions is shown in the following table.

Vendor Partners Providing Back-up Application Support

Vendor	Type
TierPoint	Service
AT&T	Service, Support and Maintenance
Comcast	Service, Support and Maintenance
Crown Castle	Service, Support and Maintenance
Rackspace	Service, Support and Maintenance
Telesystems	Service, Support and Maintenance
T-Mobile	Service, Support and Maintenance
Verizon	Service, Support and Maintenance
Applied Control Engineering (ACE)	Statement of Work (SOW)
Arraya	SOW
Automated Control Concepts (ACC)	SOW
Bluewave	SOW
ePlus	SOW
Hemmingway	SOW
iMedia	SOW
Meridian	SOW
Meridian Integration	SOW
Millennium	SOW

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Vendor	Type
Netrix	SOW
Sound Systems Unlimited	SOW
TRM	SOW
ICS	SOW, Staff Augmentation (Aug)
Mott MacDonald	SOW, Staff Aug
Object Technology Solutions, Inc. (OTSI)	SOW, Staff Aug
Origin	SOW, Staff Aug
Partners	SOW, Staff Aug
PricewaterhouseCoopers LLP	SOW, Staff Aug
Prosperix	SOW, Staff Aug
Statusphere	SOW, Staff Aug
Tata Consulting Services (TCS)	SOW, Staff Aug
Worlco	SOW, Staff Aug
CDW	SOW, Support
CHI	SOW, Support and Maintenance
MCA Connect	Staff Aug
SalesForce	Subscription, Support and Maintenance
Asolute Software	Support and Maintenance
atomic scheduler	Support and Maintenance
Autodesk	Support and Maintenance
Aveva	Support and Maintenance
Aveva	Support and Maintenance
Bill2Pay	Support and Maintenance
Bradley B Bean PE	Support and Maintenance
Broadcom	Support and Maintenance
CACI	Support and Maintenance
Calabrio	Support and Maintenance
Cameo Global	Support and Maintenance
CDW	Support and Maintenance
Cisco	Support and Maintenance
DNV	Support and Maintenance
Endur	Support and Maintenance
ESRI	Support and Maintenance
Experian	Support and Maintenance
FME	Support and Maintenance
Fortinet	Support and Maintenance
Geonexus	Support and Maintenance
GMI	Support and Maintenance
Honeywell	Support and Maintenance

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Vendor	Type
Hyperion	Support and Maintenance
IBM	Support and Maintenance
Informatica	Support and Maintenance
Ittron	Support and Maintenance
Kentico	Support and Maintenance
Kubra	Support and Maintenance
Laserfiche	Support and Maintenance
Microfocus	Support and Maintenance
Microsoft	Support and Maintenance
Mott MacDonald	Support and Maintenance
MyCelium	Support and Maintenance
OpenLink/Ion	Support and Maintenance
Oracle	Support and Maintenance
Origina	Support and Maintenance
PowerPlan	Support and Maintenance
ServiceNow	Support and Maintenance
SHI	Support and Maintenance
Snare	Support and Maintenance
Snowflake	Support and Maintenance
Technical Toolboxes	Support and Maintenance
Trend Micro	Support and Maintenance
VHT	Support and Maintenance
Waterfall	Support and Maintenance
Wonderware	Support and Maintenance
WORKDAY	Support and Maintenance

Budgeting

This work group is responsible for O&M budgeting for the IT Department and for the IT portion of SJI's Capital Budget.

- O&M Budget – this budget starts from a zero base each year and work is augmented by contractors as project managers. This budget will include the software licenses for applications used by SJI.
- Capital Budget – capital project requests come from business leaders in SJI. For system enhancements, IT management will submit all budget requests. Any part of the SJI Capital Budget that includes IT expenditures is included in the IT Capital Budget. Capital projects will have a contingency, but variances of ten percent or greater require an explanation and a revision.

Project Management

This work group will be involved in developing the request for proposals (RFP) for contracted work and the contractor selection process. Currently, there are 15 contractor

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Project Managers. Over the past four years, there have been an average of 20 contractors engaged in ETG project work at some point during the year.

Staffing of contractors comes through a third-party company that is responsible for providing IT professionals with adequate experience and training and background checks. This work group will interview and approve potential contractors and will provide an onboarding information packet for all new contractors.

The ServiceNow ITBM module is used to control the progress of projects. ServiceNow is a cloud-based platform that provides a range of tools for IT service management (ITSM), IT operations management (ITOM), Human Resources Service Delivery (HRSD), IT Business Management (ITBM), Safe Workplace, Custom Application Development, and Integration Hub.

ServiceNow's ITBM module helps IT teams manage their portfolio of projects, resources, and budgets. It includes tools for project management, resource management, budgeting/forecasting, RAID management, status updates, dashboards/reporting and demand management.

User Access Review

Annually, this work group is responsible for reviewing user roles and user changes for systems and applications; this is now mostly an automated process. The annual user access review is facilitated through the Solve It Now system for the following applications:

- Workday
- PowerPlan ETG/SJG
- Maximo ETG/SJG
- Endur
- Hyperion
- Kyriba
- Utilities Customer Care and Billing (CC&B) ETG/SJG
- Mobile Workforce Management (MWM)
- ORS

User applications for the following applications were confirmed manually:

- Intercontinental Exchange (ICE) Trading Application
- Application Service Accounts

Business Cases

The development of business cases to support proposed IT projects is a joint effort between the Business Relationship Managers of this work group and the business units. The Business Relationship Managers will attend meetings to understand what the business units need. They will help to identify needs and high-level requirements, help put together Business Cases, chart strategies, and help to perform analysis that would support the needs of both ETG and SJG. They also will oversee the process as a liaison between the business unit and IT.

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Business cases are submitted through an application called “ImpactSJI” from Qmarkets, an enterprise innovation management software company. The template is essentially a web form that is filled out.

ENTERPRISE PROJECT MANAGEMENT

The role of the Enterprise Project Management Office (EPMO), headed by a VP with a staff of three, is to direct discretionary capital dollars to projects that will most help the operations of SJI.

Goals of the EPMO include:

- Providing support and the enablement of corporate goals regarding overall strategy, business process and practices, streamlining, and improvements to stay competitive.
- Creating a model that prioritizes projects and programs across the organization and considers strategic value, economic impact, and resource needs.
- Creating standard success trackers to evaluate all enterprise projects with consistent metrics.
- Developing business acumen amongst the EPMO team to provide the support needed to further business objectives.
- Ensuring strategic EPMO projects are progressing according to individual project plan timelines and budgets.

The types of projects managed include:

- Capital projects, other than routine Operational Capital or IT specific projects, which span multiple business units (BU) and require cross functional teams to execute.
- Business line acquisition or divestiture (not including negotiation of the acquisition or divestiture).

Strategic and tactical functions include:

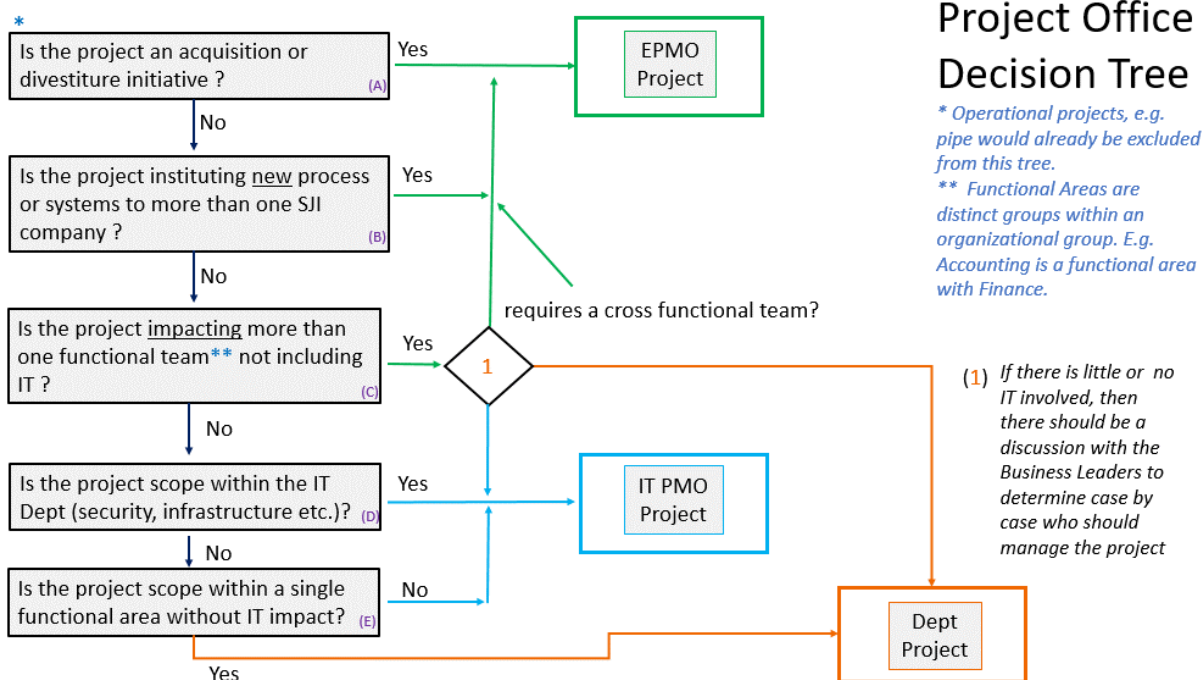
- Prioritizing projects and programs across the enterprise
- Facilitating timely delivery of projects to align with strategic and business priorities
- Driving accountability for tasks and milestones
- Managing project priorities
- Balancing resources

The decision process concerning whether a proposed project should be the responsibility of the EPMO, the IT Project Management Office (PMO), or a business department is shown in the following diagram.

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Project Decision Matrix Flow



A list of the portfolios of projects included in EPMO's responsibilities include:

- ETG Utility Operations
- SJG Utility Operations
- SJIU
- Corporate Development
- Non-Utility Operations
- Finance
- Facilities/Security/Fleet
- CIO
- Human Resources
- Office of General Counsel
- External Affairs

Portfolio analysis considers the financial impact, compliance and legal requirements, safety, etc. and a software program, Impact SJI, is used to route project information through the required review and authorization process. Business cases are now required for all projects. There is a Monthly Portfolio Meeting for each of the project portfolios.

Projects are routed to the Project Management Counsel, which includes the senior leadership of SJI, for final approval. If approval is given, then the project goes to the Project Sponsor to sign off on the project before the Project Kick-off. The project is also entered in the Capital Budget. At the beginning of the year there will be a general understanding of the amount of capital needed or targeted for specific activities.

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Elements of each business case include:

- Legal/Compliance (mandated by NJBPU)
- Safety concerns – employees and public safety
- Financial impact – cost savings, etc.; there can also be a hurdle rate, usually on merger and acquisition types of projects.

SERVICE DELIVERY

This work group, headed by a VP and supported by 34 employees and eleven contractors, is responsible for application support, data and analytics, SJI's enterprise systems, systems architecture, and systems and infrastructure delivery.

Application Support

This section provides support to SJI and all of its subsidiary companies for the Microsoft 365 platform email (Outlook), SharePoint, and Teams, as well as the PowerApps that allow users to design, develop, and deploy systems and processes through Microsoft 365.

The Microsoft Power Platform is a set of applications within Microsoft 365 used to automate processes, build solutions, and analyze data. The three major components utilized by ETG are:

- Power Apps – low code / no code application development. This is a suite of applications, services, and connectors, as well as a data platform, which provides a rapid development environment to build custom applications. These can be accessed on any device and connected to data to integrate multiple on-premises and cloud systems.
- Power BI – business analytics. This is a collection of software services, applications, and connectors that work together to turn unrelated sources of data into coherent, visually immersive, and interactive insights.
- Power Automate – process automation. This is a workflow automation tool that connects different systems together to automate business processes.

The use of the Microsoft 365 platform has been critical to ETG's operations during the Covid 19 pandemic period, allowing employees to work remotely. This moved ETG faster in this direction than they probably would have absent the health pandemic, and so helped to make the company more effective by being the catalyst in the use of modern software and hardware in remote settings.

Data and Analytics

This section designs, develops, and manages the databases (Oracle and SQL) and ensures that all data have appropriate governance. This is for all domains and sub-domains and the data life cycles. Different applications are in different application towers. [Redacted]

Segregation of duties is enforced based on the TSA security directives; this includes with the business product owners and IT product owners. The quarterly release structure is

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used for all applications, with issues handled and changes made, if necessary, and rolled out quarterly.

SJI's software development lifecycle includes the development environment; testing environment – technical testing, user acceptance testing, and regression testing; and change management – looking at all environments.

Enterprise Systems

The Enterprise Systems section provides support for all enterprise applications. The ServiceNow software system is used to manage the incident management process, service requests, and service categories (ticketing systems). This group also runs a Help Desk with ticket management for new services, tracking enhancements and updates, tracking outages, and serves as an asset management inventory. The Enterprise Management group is responsible for deploying code (development, testing, and production) and ensuring that the code is managed.

A list of all IT systems used by ETG, or SJI in support of ETG activities, is shown in the following table.

IT Systems Supporting ETG Activities

No.	[Redacted]	[Redacted]	Description
1	[Redacted]	[Redacted]	Enterprise Scheduler (Scheduling CC&B batch jobs, FTP, Reports)
2	[Redacted]	[Redacted]	Computer-Aided Design
3	[Redacted]	[Redacted]	Application that works in conjunction with KeepTrack portal to process customer payments that are made through the Keeptrack portal
4	[Redacted]	[Redacted]	Agent Call Recording and Workforce Management
5	[Redacted]	[Redacted]	Outbound dialer user for Collections and Surveys
6	[Redacted]	[Redacted]	Customer Care and Billing Application
7	[Redacted]	[Redacted]	Script to check worker status change, to reflect how long leak survey tech waited for relief on Grade 1
8	[Redacted]	[Redacted]	Unified Communications Manager (core telephony)
9	[Redacted]	[Redacted]	Allows an agent to see incoming calls from the IVR.
10	[Redacted]	[Redacted]	Unified Contact Center Express (call management, routing, etc.)

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No.	[Redacted]	[Redacted]	Description
11	[Redacted]	[Redacted]	Voice Mail system
12	[Redacted]	[Redacted]	SCADA logging, asset discovery, and network visibility tool
13	[Redacted]	[Redacted]	Mobile application to update Test Points for CP System
14	[Redacted]	[Redacted]	Web application to view and update Test Points for CP system
15	[Redacted]	[Redacted]	Elizabethtown Gas company website
16	[Redacted]	[Redacted]	Energy Trading Risk Management Application
17	[Redacted]	[Redacted]	Application to show all assets within a Flood Zone
18	[Redacted]	[Redacted]	Website app that provided user if gas in within a distance
19	[Redacted]	[Redacted]	Website app that provided user if gas in within a distance
20	[Redacted]	[Redacted]	Gas Sizing and Calculation Software
21	[Redacted]	[Redacted]	The application which is used to locate addresses
22	[Redacted]	[Redacted]	Vehicle's locations
23	[Redacted]	[Redacted]	A geographic information system is a framework for gathering, managing, and analyzing data.
24	[Redacted]	[Redacted]	Field app to identify buildings and script runs results for transmission.
25	[Redacted]	[Redacted]	Meter Data Management for Industrial and Commercial Meters
26	[Redacted]	[Redacted]	IBM Integration Bus
27	[Redacted]	[Redacted]	InfoSphere Information Server
28	[Redacted]	[Redacted]	Leak Survey: Get list of WO in Workforce
29	[Redacted]	[Redacted]	Routes and Meter Reads - ETG
30	[Redacted]	[Redacted]	Contact Center Server for Call Flows and Agents
31	[Redacted]	[Redacted]	External Vendor for Bill Print
32	[Redacted]	[Redacted]	Doc Mgmt Platform

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No.	[Redacted]	[Redacted]	Description
33	[Redacted]	[Redacted]	Leak Survey: Assign work to survey tech app
34	[Redacted]	[Redacted]	Dashboard to show Leak Survey Progress
35	[Redacted]	[Redacted]	15 individual maps for Each Leak Survey Tech to show only their work orders
36	[Redacted]	[Redacted]	Portal for marketers to review reports and also nominate gas across customers and submit for Gas Supply's approval. The production site is public facing
37	[Redacted]	[Redacted]	Asset and Work Management System
38	[Redacted]	[Redacted]	MQ Explorer
39	[Redacted]	[Redacted]	Meter Read files - Part of CC&B that creates and reads meter reading files that are sent back and forth from ITRON
40	[Redacted]	[Redacted]	Mobile Worker Management / Realtime Scheduler
41	[Redacted]	[Redacted]	Enterprise data mgmt suite - data staging and CI/CD solution
42	[Redacted]	[Redacted]	VPN Connectivity
43	[Redacted]	[Redacted]	Used by Payment locator for text to speech
44	[Redacted]	[Redacted]	Utilities tool at ETG
45	[Redacted]	[Redacted]	Capital Fixed Assets Accounting and Tax Depreciation
46	[Redacted]	[Redacted]	script to get database synced with Maximo
47	[Redacted]	[Redacted]	Gas purchase and Pricing repository
48	[Redacted]	[Redacted]	Address Validation application used by CC&B and Salesforce
49	[Redacted]	[Redacted]	Ability for business to inform GIS team of edits needed to spatial or tabular data
50	[Redacted]	[Redacted]	Sales team application to manage and create leads along with dashboard for reporting

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No.	[Redacted]	[Redacted]	Description
51	[Redacted]	[Redacted]	Sales and marketing teams to view prospects for future work
52	[Redacted]	[Redacted]	Lead and Sales Management Solution
53	[Redacted]	[Redacted]	Marketing Email tool
54	[Redacted]	[Redacted]	Supervisory Control and Data Acquisition software for system monitoring
55	[Redacted]	[Redacted]	McKee and Erie LNG
56	[Redacted]	[Redacted]	Portal for allocators to log daily btu, sendout volumes
57	[Redacted]	[Redacted]	Script to move service tap to parent main
58	[Redacted]	[Redacted]	GIS, records document management system
59	[Redacted]	[Redacted]	Logging tool used for all OT Systems
60	[Redacted]	[Redacted]	Daily sync of Mobile Leak Investigations from Leak Survey Tecs into Maximo
61	[Redacted]	[Redacted]	MS BI Platform for Reporting and Integration
62	[Redacted]	[Redacted]	Portal for Gas Supply to manage Suppliers and Marketers and their portals. This portal is leveraged for approval/rejection of nom sheets.
63	[Redacted]	[Redacted]	Portal for suppliers to review reports and also nominate gas on pipelines and submit for Gas Supply's approval. The production site is public facing
64	[Redacted]	[Redacted]	Survey of Gas Availability tool
65	[Redacted]	[Redacted]	Pipeline Engineering Calculation Software
66	[Redacted]	[Redacted]	Endpoint Protection Tool - Field SCADA, LNG, and compressor station
67	[Redacted]	[Redacted]	Customer call back
68	[Redacted]	[Redacted]	Unidirectional Firewall (Field SCADA, LNG, Compressor)
69	[Redacted]	[Redacted]	ERP system for financials and HR

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No.	[Redacted]	[Redacted]	Description
70	[Redacted]	[Redacted]	Leak Survey breadcrumb trail creation
71	[Redacted]	[Redacted]	Used to store gas detection unit calibration records
72	[Redacted]	[Redacted]	Hydraulic analysis tool for tracking gas flows, pressures, etc. through a pipe network based on existing GIS and customer data

Systems Architecture

This section is responsible for the Windows operating systems, connectivity of systems, remote access capabilities (internal and external), and patch management.

Systems and Infrastructure Delivery

This section is responsible for network related firewalls, all IT infrastructure, maintaining connectivity, and active directory. This group designs, implements, tests, and operates systems. There are two data centers – the primary in Valley Forge and the backup in Philadelphia. They are completely redundant and remotely staffed. On-site management is the responsibility of the owner, TierPoint, with whom SJI has a three-year service contract.

SECURITY AND TECHNOLOGY ARCHITECTURE

The Security and Technology Architecture group is responsible for cyber security and mitigation for all the SJI entities. It is headed by a VP and supported by a staff of four security specialists. The operations of this group are covered in Chapter XXIV, Cyber Risk Mitigation/Cyber Security.

INFORMATION TECHNOLOGY POLICIES AND PROCEDURES

There are a number of policies and procedures governing the functions of the Information Technology Department as shown in the following table.

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Information Technology Policies and Procedures
1. Change Management Policy
2. Change Management Procedure
3. Configuration Management Policy
4. Data Backup Policy and Procedure
5. Database Security Configuration Standards
6. Default Vendor Account Management Policy
7. Disaster Recovery Planning and Testing Procedures
8. Guidelines for Appropriate Use of Administrator Access
9. Information Technology User Account Management Policy
10. Intrusion Prevention and Network security Policy
11. Intrusion Prevention and Network Security Procedure
12. IT Asset Management Policy and Procedure
13. Master Information Security Policy
14. Operating System and Server Configuration Standards
15. Patch Management Process
16. Policy and Procedure for Password Management and Complexity
17. Procedure for Appropriate Use of Administrator Access
18. SCADA Security Policy and Procedures
19. Server Modification Procedure
20. Server Security Audit Procedure
21. SJI Cyber Security Incident Response Plan
22. SJI Cyber Security Incident Response Policy
23. Standards for Server Naming Conventions

All documents contain, at a minimum, revision history, scope, purpose, objective, responsibilities, and approval authority for the policy.

H. RECORDS MANAGEMENT

BACKGROUND

A record is a document or dataset created or maintained by ETG that holds operational, legal, historical, or other data. Records can encompass all forms of information, communications, or data, including electronic media and hard copy. Recourse is made to physical storage of documents when electronic storage is not viable.

Records Management oversees the submission and indexing processes for new, incoming records and incorporation of updates and corrections to previously indexed or legacy records. The Department also assists end users with stored records access and

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data-related inquiries and incorporates processes to improve record retrieval efficiency. Timeframes for record retention are established in accordance with authorized schedules.

The preference is to store electronic records on each Department's SharePoint site, as prescribed by Records Management's manager, and in accordance with Record Retention requirements. Records Management ensures that all necessary information is correct prior to being accepted as an official record, working collaboratively with affected departments. Filing of company records on private/personal computers or other storage devices is strictly prohibited.

Records management for non-physical assets includes Human Resources (HR), Financial Planning and Analysis (FP&A) and Customer Experience (CX) Departments.

Records associated with physical assets such as distribution and transmission pipelines are managed for Engineering and Operations, and for Financial Planning organizations, which, in part, are enumerated below.

Customer Experience Records Management

The customer experience record database, Customer Contact and Billing, (CC&B), is used to record customer contact and account information, including bills, payments, correspondence, work orders, energy assistance, and premise information. Information contained within the system serves as the foundation for reporting related to customer accounts, including usage, payment, and billing information. For example, the Customer Service Quality Assurance team employs the database as a tool to provide coaching and feedback to Customer Service representatives as to their interactions with customers and recording information to enhance efforts to serve the customer.

The CC&B system is a comprehensive billing and customer care application for serving residential, commercial, and industrial customers. With CC&B, employees can:

- Research a customer's account
- Assist with billing inquiries
- Process field/work orders and payments
- Support budgeting and forecasting requirements

For purposes of business development, the CC&B system is used to cross reference existing customers with lists of non-customers obtained through a third party, to market ETG products and services, ranging from initiating natural gas service to identifying energy efficiency sales and financial assistance opportunities.

Financial Planning and Analysis Records Management

The Financial Planning and Analysis (FP&A) team prepares Budget Reports and Financial Operating results, adhering to data retention policies outlined in SJL's Records Retention Guidelines: In addition to following the Company's policies related to records management and retention, the FP&A team has access to salary information to support the budgeting process and forecasting payroll expenses. This access is limited to certain individuals within FP&A who are required to sign a NDA.

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Distribution and Operational Records Management

Records maintained within the Geographic Information Systems (GIS) platform have evolved into “a mission-critical resource,” which enables the Organization to “get its arms around the end-to-end physical gas line network infrastructure.” This functionality is changing the complexion of construction operations as well as other facets of the business.

The record base is being maintained with “as-built” construction records generated daily. This has provided a near real-time view of the embedded gas line infrastructure and provides a baseline for Systems Planning and evaluation of new construction costs.

Once created, a record is updated on an as-needed basis. Records are never deleted but are maintained in perpetuity. When Special Studies are required, assistance is provided in gathering appropriate records data. The relevant records are gathered at a suitable level of aggregation, such as: named street, a specific location, a particular main, etc. The Record Base can be referenced on an as-needed basis, such as for damage prevention purposes.

The database provides a comprehensive framework as a basis for statistical analysis. For example, a study of “Inside Meters” could be formulated to assess assets in the Embedded Base, including type of meter, actual meter costs, and inside/outside location. This could provide a definitive point of departure for forecasting and/or general analysis to support Operations requirements.

Records are created regardless of project size, and checks are invoked accordingly. Records are received from both contractors and in-house crews.

There are currently 149,000 “Mains” records and 842,000 “Services” records in the Record System. These include installs, abandonment, and maintenance records. The Records System is robust and can perform data analysis upon request. Queries could, for example, include:

- How many inside meters are in service?
- How many low-pressure systems versus high pressure systems are in service?
- What is the average meter cost, based on a sample of 150 meters?

Data requests could be coordinated with the Billing Departments, which would have appropriate meter cost data.

Other ETG organizations supported by Records Management include Field Operations, Construction Operations, Engineering, and Sales. Special studies requiring Records Management support are done on an as-needed basis.

As-built records are created by field personnel and submitted via a work management system and subsequently integrated within a document repository system. Records are indexed with information that includes project number, address, and municipality, and are accessible from various information systems.

Key components include:

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- Asset and location hierarchies organize data to ensure consistency and integrity. They also enable accurate cost calculations, clearer data segregation, creation of preventative maintenance orders, and establishment of parent and child relationships.
- Job codes indicate the type of work required on a work order and standardize and organize work types and accounts across sites.
- Work Type identifies the type of work that is performed in the work order, such as compliance, new business, and retirement.
- A Work Order flows through a lifecycle process starting with initiation, planning and design (if needed), permitting, execution, and finally closeout.

For leak survey purposes, specific leak survey work orders are created. An application, called Field Maps, serves as the user interface for accessing work orders on a map and entering data specific to the leak survey. Once data for the leak survey is collected in the field by the end user, the information is stored for data retrieval purposes.

Record Storage Protocols

Electronic Storage. All electronic or digital records are stored on each Department's SharePoint site, in a manner organized and maintained by that Department's manager, and consistent with a prescribed Record Retention Schedule. An organized filing system may become relevant if the Company is requested to produce records in governmental investigations or litigation. The failure to produce records in such proceedings can expose the Company to significant penalties and the search for records which are not systematically filed can be very costly in terms of time and money. Therefore, it is important that Records are filed in an organized manner.

The filing of records on private/personal computers or other storage devices is strictly prohibited. Employees should have no expectation of privacy for records stored on private computers, subject to relevant local laws.

Physical Storage. Physical records that are no longer immediately needed or are not anticipated to be subject to frequent retrieval are placed in long-term storage facilities off-site storage. Specific directions about long term record storage and retrieval will be provided by the Facilities Department and the record storage vendor. Records stored off-site should include a destruction date as set forth in the Record Retention Schedule. Costs associated with storage, retrieval and destruction of physical records are charged directly to the department identified as the owner of the records.

Paper Documents. Physical records are required to be destroyed when they are no longer needed or after the expiration of the retention period set forth in the Record Retention Schedule (whichever is later). Records containing confidential or sensitive information are shredded. Small shredders are located around the office for use with small volume and limited-sized documents. The Facilities Department is contacted if more frequent shredding is needed.

Electronic Media. Electronic records are required to be scrubbed or destroyed using current industry standards when no longer needed or after the expiration of the retention period set forth in the Record Retention Schedule (whichever is later).

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Each manager is responsible for preserving records which were created or held solely by departed employees. Emails of departed employees are disposed of in accordance with the Email Retention Policy. All other Records of departed employees are handled in accordance with the Company Record Retention Schedule. Records of departed employees subject to Litigation Hold are preserved until the Litigation Hold is lifted.

Security Considerations. Servers are behind a firewall with Intrusion Prevention Systems and Denial of Service protection. To access the application, an individual is required to be local on SJI's network or utilize Multi Factor Authentication for remote access. Logs are monitored 24 hours a day, 365 days a year by SJI's managed service security operations center.

I. SECURITY OF INFRASTRUCTURE

BACKGROUND

The mission of Security is to safeguard people and assets, with emphasis on affording protection to employees and keeping them safe.

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Corporate Security relies on a Security Contractor for an on-site presence. The Prime Contractor has a security staff of 40 to 50 employees, of which a core group of 4 or 5 employees is assigned to ETG. These security personnel are qualified to manage access control, camera systems, and alarm systems. In addition, Security Officers are dedicated to both Green Lane and the Erie Street LNG Plant, the latter being on site 24/7, an arrangement that is enumerated as a special provision in the ETG Security Plan.

The Security Manager is a member of ETG's Physical Security Committee. Formal policies and procedures formulated by the Committee are delineated in a Physical Security Plan, which designates responsibilities to "First Responders." Physical Security Committee meetings are held quarterly, along with special sessions that are arranged on an as-needed basis.

Security's responsibilities encompass:

- Vulnerability assessment of critical facilities.
- Installation, testing, repair, and maintenance of security equipment designed to mitigate security risks.
- Conduct of internal security drills and establishing procedures to improve corporate preparedness for possible security threats.
- Establishing procedures that are warranted in response to specific security incidents and emergency situations.
- Coordinating ETG Physical Security and Emergency Response Plans.
- Liaison with federal, state, and local law enforcement offices (e.g., Department of Homeland Security, TSA, FBI, and local police agencies) to process threat information. Coordination with federal, state, and local law enforcement offices to participate in security exercises.

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- Participation in pipeline industry associations and forums to remain current with respect to existing and evolving security threats.
- Participation in NJBPU-hosted monthly calls on security issues and items of concern.
- Participation in American Gas Association forums that address trends and provide threat updates.

Ongoing initiatives to enhance security and increase security awareness include:

- Seamless coordination with state and federal authorities including Homeland Security
- Promotion of a “See Something/Say Something” awareness campaign

Security evaluations are conducted on an ongoing basis, records of security dispatches are maintained, and security inspections are performed at Regulator Stations.

There are no formalized metrics related to evaluation of security issues. An Incident Support Team addresses issues related to crisis management and the escalation of “field incidences.” These are reviewed for consideration by the Crisis Management Team for subsequent implementation and formulation of action plans. “Evaluative criteria are more qualitative than quantitative.”

Security Incident Monitoring

Specific incidents are reported through a formalized notification process. Added security is provided on a case-by-case basis if an event warrants consideration. The Senior Leadership Team is apprised accordingly.

SJI has no physical security incident records prior to July 1, 2018, ETG’s acquisition date. Seventy-nine incidents were recorded between then and December 1, 2021, corresponding to approximately two incidences per month.

- Events included: criminal mischief; missing or damaged property; suspicious person, item, or vehicle; employee assistance; security breach; terminated employee threat, etc.
- Incident reports are gathered on a spreadsheet. Incidents are generally reported via e-mail correspondence, which identify the date and time, name of person/entity involved, and the nature of the incident. Information of this nature is shared with the Physical Security Committee, as appropriate.
- Security is apprised of “high risk terminations” and takes appropriate safeguards.

Security Preparedness

Virtual companywide training sessions have been conducted, with programs involving:

- Active attacker training
- Emergency preparedness drills, including security related scenarios.

Emerging trends that will warrant intervention and enhanced technology include:

- Dealing with drones flying over facilities.
- Unauthorized intrusions by outside parties involving photography and videotaping.

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Special Situations

LNG operators at Erie Street are trained annually on location. Proper operation and maintenance of mechanical and locked gates throughout the Erie Street facility is verified. The location and maintenance of security cameras, security practices, emergency response, and security awareness are reviewed and updated.

Other training/exercises include awareness training, emergency tabletop exercises (terrorist attack), pipeline security awareness, and tour of facility (first responders).

Capital Program

Security is responsible for developing a capital program which, for example, includes provisions for security camera upgrades. In this context, requests are structured on a project-by-project basis.

Security's capital budget for SJL is approximately \$750,000 including ETG, SJG, and common costs. The capital budget for ETG "dedicated security" is \$250,000 annually. Special requests for unanticipated capital expenditures can be approved within a project's framework.

Security Operations Center Considerations: Planning and Analysis

It has been recognized there is merit to an SJL-level "Security Operation Center" with respect to:

- Access control
- Receipt of alarms
- Off hours response and monitoring
- Camera operations and maintenance
- Providing an interface with first responders

As such, creation of a Security Operations Center is being explored and is currently in the research phase. Visits to other companies are in process to assess prospective requirements as to employees and contractors.

It has been surmised that a Security Control Center could free up time with respect to overall security operations and enhance Security's effectiveness.

As information has been gathered, Senior Leadership is kept informed. A comprehensive package is taking shape, which will probably be implemented in some form. The underlying issue currently being explored is the benefit/cost tradeoff.

J. FINDINGS

XXI-1 The ETG Insurance Department effectively fulfills the Company's Insurance and Claims requirements.

The Insurance Department plans to undertake the following enhancements to further its capabilities:

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- Establishment of a “Claim Management System,” utilizing Salesforce, to expedite insurance claim processing and to apprise applicants of requirements for submission of insurance claims.
- Creation of a “Corporate Insurance” website featuring a learning section, with access to training documents and videos, to facilitate claim submissions and enhance user interfaces.

XXI-2 ETG is well supported by the SJI Legal Department.

There is an Assistant General Counsel assigned to ETG and the other utility operations. This attorney stays in regular contact with ETG management and visits the headquarters regularly. He provides advice as asked, supervises all outside counsel, and handles most contract review and dispute matters in house.

XXI-3 The Legal Department has appropriate key performance indicators.

The 2021 key performance indicators (KPI) included:

- Outside counsel legal department spend by SJI company, practice area, and law firm
- Disputed outside counsel bills, their resolution, and savings
- Lawsuits and claims – new, active, and resolved by SJI company and matter type
- Status of current projects by attorney
- Key accomplishments by attorney

Legal services are, by nature, more qualitative than quantitative. However, the Legal Department does track relevant metrics that are available.

XXI-4 The Legal Department has recent, relevant benchmarking information.

The SJI Legal Department has utilized the following benchmarking services:

- 2021 Thompson Reuters Legal Department Operations Index
- 2021 Association of Corporate Counsel Law Department Management Benchmarking Report
- 2021 HBR Consulting LLC Law Department Survey
- 2023 Association of Corporate Counsel Chief Legal Officers Survey

These types of surveys and reports are useful in guiding the management and direction of the Legal Department.

XXI-5 SJI outside counsel expenditures and the Legal Department charges to ETG for outside counsel have been decreasing.

The total SJI expenditures for outside counsel and the Legal Department outside services charges to ETG are shown in the following exhibit.

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SJI Outside Counsel Expenditures and Legal Department Outside Services Charges to ETG

Year	SJI Outside Counsel Expenditures (\$ million)	Legal Department Outside Services Charges to ETG (\$ thousand)
2018 (the year ETG was acquired)	7.2	359
2019	3.9	703
2020	4.5	509
2021	3.1	301

SJI total outside counsel expenditures decreased from \$7.2 million in 2018 to \$3.1 million in 2021. Outside counsel expenditures charged to ETG decreased from \$703 thousand in 2019 (the first full year SJI owned ETG) to \$301 thousand in 2021.

SJI has a master list of 30 outside counsel firms and individuals. Of these, ten are utilized for ETG work and five of those are utilized exclusively for ETG work. Practice areas for ETG outside counsel include environmental, litigation, real estate, government affairs, rates and regulatory, and labor relations. The largest practice areas of use for outside counsel in 2021 were: finance, litigation, environmental, and construction. Most contract review and dispute resolution are done by in-house counsel; however, some complex or specialized contract reviews or disputes are assigned to outside counsel.

In 2021, SJI utilized 37 different law firms or outside attorneys. However, only five had fees of over \$200 thousand.

SJI only issues formal requests for proposals (RFPs) to prospective outside counsel for projects that involve a new area of law, or the cost of the project is expected to exceed \$500 thousand. Otherwise, SJI engages outside counsel from its established master list. No RFPs have been issued for ETG cases.

XXI-6 The SJI Legal Department utilizes the good practices of having master engagement letters with each outside counsel, outside counsel guidelines, and matter-specific statements of work for each outside counsel assignment.

There are signed master engagement letters with each outside law firm that require adherence to the SJI Guidelines for outside counsel, minimum insurance coverage, and commitment to financial disclosures as required by the Sarbanes-Oxley Act and SJI's outside auditor. The Guidelines include:

- Tax and insurance documentation requirements
- Communication points of contact
- Billing rates and bill content
- Non-refundable expenses
- Diversity reporting
- Maximum legal research time

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- Maximum staffing at case events

The Matter-Specific Statements of Work cover:

- The SJI lead counsel
- Outside counsel assigned
- The matter and scope
- Hourly rates or alternative fee structure

The Legal Department also reviews all outside counsel invoices and disputes any questionable charges. In 2021, the billing on six matters with three different firms was disputed with savings of \$11 thousand.

The Legal Department also utilizes the SJI contract management system to track the master services agreements and statements of work, and to facilitate payment of invoices. In addition to managing its own master services agreements, the Legal Department reviews all contracts entered into the contract management system. The contracts must be approved by the Legal Department to be active.

XXI-7 The Legal Department has an active compliance program.

The General Counsel is the SJI Chief Compliance Officer and one of the Assistant General Counsels acts as the Assistant Compliance Officer and the head of the Compliance Committee. This function and committee review and approve all corporate policies and oversee compliance with them. The Compliance Committee has a formal charter designating the purpose of the committee; how committee members are chosen and approved; the committee's responsibilities; minimum meeting schedule; and reporting responsibility to the SJI Board of Directors.

The current Approved Policies, their last refreshment date, and the corporate owner of the policy are:

- Anti-Harassment Policy 7/1/21 – Human Resources
- Anti-Violence Policy 7/1/21 – Corporate Security
- Company Information Policy 8/16/21 – Compliance
- Conflicts of Interest Policy 11/10/21 – Compliance
- EEO/Affirmative Action/Non-Discrimination Policy 7/1/21 – Human Resources
- Intellectual Property Policy 7/1/21 – Office of General Counsel
- Compliance with Law and Interaction with Government Officials Policy 7/1/21 – Compliance
- Outside Inquiries Policy 7/1/21 – Compliance
- Flexibility Policy 9/21/21 – Human Resources
- Corporate Card Use Policy 3/1/22 – Shared Services
- Corporate Security ID Badge and Building Access Policy 5/20/22 – Corporate Security
- Outside Employment Policy 1/30/23 – Human Resources
- Signing Authority Policy 2/1/23 – Office of General Counsel

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- Electronic Communications Retention Policy 3/28/23 – Information Technology
- Gifts and Entertainment Policy 3/15/23 – Compliance
- Record Retention Policy 5/12/22 – Office of General Counsel

All of the policies have been refreshed since 2021.

A Corporate Compliance Specialist in the Legal Department assists the Compliance Officer with all day-to-day compliance activities.

XXI-8 The ETG lawsuits brought before the NJBPU from 2009 through 2021 have all been resolved.

Six lawsuits against ETG were filed by customers before the NJBPU between 2009 and 2021. They all involved billing disputes. All have been resolved and the cases closed.

XXI-9 ETG has personal injury and motor vehicle lawsuits typical of a local distribution company.

From 2018 through 2021, ETG was served with ten personal injury and motor vehicle accident lawsuits. None are catastrophic. Most are active cases that take years to resolve. There were no significant lawsuits against SJIU or SJI that were relevant to ETG.

In addition, in 2018, before SJI acquired ETG, ETG was sued for involvement with a gas explosion. That case was settled for a token amount.

For litigation defense, SJI Legal typically either engages an outside counsel or turns the case over to either the involved insurance company or to a contractor through an indemnification clause.

XXI-10 SJI has an admirable pro bono legal support initiative.

The Government Affairs Director leads the SJI pro bono legal program assisting indigent clients have their criminal records expunged. In late 2020, SJI and South Jersey Legal Services began working together to train SJI attorneys on expungement law, and to assign cases. The pro bono initiative at SJI involves SJI attorneys representing indigent clients with criminal and/or juvenile records to clear those records from public disclosure. The clients of SJI's attorneys seek these expungement orders to more easily obtain employment, secure housing, or other benefits, or simply to clear their name and move on from their past.

Four SJI attorneys from the General Counsel's office, Rates and Regulatory, and External affairs participate in the pro bono work. Six expungement cases are in process or have been completed so far. This work also addresses the New Jersey law licensure requirement to perform pro bono work.

Much of the pro bono work is done on personal time. To the extent any such work is performed on company time, it is not charged to ETG or SJI.

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XXI-11 Legal Department Management Service Fee charges to ETG have been decreasing but the Corporate Secretary charges have been increasing.

The following exhibit shows the Office of General Counsel's Legal Department and Corporate Secretary total Management Service Fee (MSF) costs and the portion charged to ETG.

Legal Department and Corporate Secretary MSF Charges to ETG (\$000)

Year	Legal MSF	Corp Secretary	ETG MSF Percent	Legal	Corp Secretary
				MSF billed to ETG	MSF billed to ETG
2018	\$2,535	\$ -	27.88%	\$707	\$ -
2019	\$2,505	\$2,641	30.41%	\$762	\$803
2020	\$1,645	\$3,260	35.03%	\$576	\$1,141
2021	\$1,387	\$3,140	39.35%	\$545	\$1,236

The total Legal MSF costs have been decreasing but the total Corporate Secretary MSF costs have been increasing.

Further, the ETG MSF allocation percentage has been increasing. See Chapter VI, Affiliate Cost Allocation Methodologies, for more information on the MSF costs and their allocations to ETG.

XXI-12 The Regulatory Affairs Counsel position is not part of the General Counsel's office, and the Regulatory Affairs use of outside counsel is not integrated into the General Counsel's good management practices for outside counsel.

The General Counsel's Legal Department model is for its practicing attorneys to be assigned to specific clientele to be their legal "business partners." The clients, in effect, have their own "general counsels" who learn their business and personnel and can offer well-informed, timely, and expert advice on legal matters. This model aids in preventing or mitigating problems by involving the attorney early in any legal situation.

These attorney business partners also manage all Legal Department outside counsel usage on behalf of their clients. This is a good model for providing targeted legal support to a diverse clientele and seems to function well. It provides good client service while assuring that all General Counsel policies and procedures are followed. It also provides staffing flexibility in that if an attorney's business partner clients do not require all of their time for a period, the attorney can be assigned to help out in other areas by the General Counsel.

The Regulatory Affairs Counsel is assigned directly to the Rates and Regulatory Department and not to the General Counsel. This does not fit the General Counsel's good practice organizational model. While the Regulatory Affairs Counsel reports to an executive who is also a practicing attorney, the Counsel is not under the direct control of the General Counsel as is the case with the other SJL practicing attorneys. This means

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the Rates and Regulatory department legal work is not under the direct control of the General Counsel and there is no assurance the General Counsel's legal policies and procedures will be followed.

Rates and Regulatory engages outside counsel independent of the General Counsel. The use of outside counsel by Rates and Regulatory has not been fully integrated into the General Counsel's policies and practices. Only one of the two regular regulatory outside counsels has a master engagement letter. Rates and Regulatory does not ordinarily use statements of work with outside counsels.

As an example of the lack of integration and coordination between the General Counsel and regulatory counsel, Rates and Regulatory engaged outside counsel for this management audit and the General Counsel was unaware of this initiative. Further, there is no statement of work for the assistance provided in connection with this management audit. One of the outside counsel's attorneys acted as a note taker for an interview of an Assistant General Counsel. The Assistant General Counsel was also not aware of this arrangement and was surprised by the outside counsel's participation in the interview. The cost for the outside counsel's participation was billed at an hourly rate that is substantially higher than the cost of an existing SJI or SJIU employee. Most interview note takers for this management audit were SJI or SJIU employees.

When SJI was asked for a list of outside counsel spend by firm, SJI responded with only outside counsel engaged by the General Counsel's Legal Department. Outside counsels engaged by Rates and Regulatory were excluded. In 2021, \$261 thousand was spent on two outside regulatory counsels. This is further evidence that the regulatory counsel is not integrated and coordinated with the General Counsel's office.

XXI-13 SJI employs 17 licensed and insured attorneys, but it is reported that only nine practice law on behalf of SJI.

Licensed and insured attorneys who do not practice law for SJI serve in executive, management, and professional roles in SJI. These include the:

- SJI CFO
- SJI SVP and SJIU President
- External Affairs Vice President
- Government Affairs Director
- Senior Director, ESG and Risk
- Director, Long-Term Renewable Operations
- Labor Relations Business Partner
- Labor Relations Specialist Lead

There are seven practicing attorneys in the General Counsel's office including the Corporate Secretary and two in the Rates and Regulatory department.

The Rates and Regulatory department in SJIU is led by a practicing attorney. This Vice President has five non-attorney direct reports indicating a primarily managerial role for the position. However, one of the Rates and Regulatory direct reports is a practicing attorney, the Regulatory Affairs Counsel.

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XXI-14 SJl pays for the errors and omissions insurance for employee attorneys who do not practice law for SJl; this does not benefit ETG.

SJl pays for the professional liability errors and omissions (E&O) insurance for eight attorney employees who do not practice law for SJl. These employees are in managerial and professional roles that do not require a law license. These individuals choose to maintain their law licenses for personal reasons. Having these individuals as licensed and insured attorneys does not benefit ETG and any costs paid by SJl for them to be licensed or insured should not be charged to ETG. The cost for the E&O insurance in 2021 was \$21 thousand, or about \$1,100 per insured attorney.

XXI-15 Wide-ranging future facilities scenarios are being explored which take into consideration unprecedented changes in office use and space requirements.

A paradigm shift in space use and facilities requirements, pursuant to the Covid Crisis, has created opportunities for significant facilities cost savings. These include reduced space requirements and shared-space scenarios for employees who can work from outside the office, work flexible hours, or who don't need a specific desk by nature of their jobs.

XXI-16 Currently, Facilities-related work requests and capital projects are tracked manually through e-mail communication, spreadsheets, and the Facilities Department "SharePoint" site.

The Facilities Department is planning to utilize Work Management systems to streamline and track work orders, inspections, and preventative maintenance programs. This is projected to be implemented by the end of 2024.

XXI-17 The Procurement Department has an effective structure for purchasing materials and services on behalf of ETG's operations organizations; however, the Company is reliant on a single entity for mission-critical resources.

Arrangements with MRC fulfill ETG's multifaceted requirements for storing, supplying, and delivering material to fulfill operations requirements. However, ETG is highly reliant on MRC, which essentially maintains ETG's construction materials inventory, with responsibility for related quality control and materials delivery functions.

XXI-18 Full integration of ETG's and SJG's fleets is being pursued, which is anticipated to afford significant reductions in vehicle unit costs.

Although ETG and SJG are physically separate, significant economies of scale can be realized through vehicle procurement, fleet management technology, and shared fleet preventative maintenance.

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XXI-19 ETG Vehicle Fleet's end-to-end average operating cost of 70 cents per mile in 2021 was approximately 41 percent of the Fleet Industry average of \$1.70 cents per mile.

When all factors are considered, unit costs of ETG's fleet operations are less than half of the Fleet Industry average. As such, it can be inferred that current practices have been effective in managing ETG's end-to-end Fleet costs.

XXI-20 The near-term prospects of leveraging capability to provide CNG vehicles and operations are not promising, absent an adequate fleet make up and fueling station infrastructure.

Under some circumstances the economics of CNG vehicles can be significant. However, ETG's small scale of operations and disparate service areas make transition to CNG vehicles currently unattractive.

XXI-21 Fleet management software upgrades are being acquired which could further systematize fleet operations and provide for cost and unit costs for operations benchmarking.

ETG has not availed itself of state-of-the-art Fleet Management software and systems. The benefits of increased Fleet Management systemization are being explored, and opportunities are being pursued.

XXI-22 ETG has 17% of the assessed value of its Real Estate assets in retired plant sites and vacant properties.

Underutilized Real Estate land and building assets are "lying fallow" because of changing operations facilities requirements. These facilities are "available for future use," but plans for improvement or disposal have been formulated.

XXI-23 The SJI IT Department has been reorganized in the last few years.

In 2018, the IT Department was organized into five work groups or sections that were named and represented the functions of Plan, Build, Run, Protect, and Report. Each of these was headed by a director-level manager. These have been replaced with four work groups: Application and Project Governance, Enterprise Project Management, Service Delivery, and Security and Technology Architecture, each headed by a Vice President. The reorganization was made to reflect the increased maturity of this department. This new organization appears to be a more efficient arrangement and more closely mirrors the IT departments in comparable utility companies.

XXI-24 The IT Department relies heavily on contractors.

IT contractors make up a significant portion of the IT workforce. Contractors, shown on the organization chart as "Contingent Worker" comprise 15% of the total IT filled positions on the organization chart. Over the past four years (2018–2021) SJI has employed an average of 20 contractors in project management roles on IT projects. Additionally, individual contractors and contracted companies are heavily involved in IT project development, especially for capital projects.

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XXI-25 SJI uses an outside vendor to provide contractors.

A third-party external company is used to provide IT professionals as prospective contractors. The outside vendor is responsible for ensuring that contractor prospects have adequate training, experience, and have been vetted for credit and security.

XXI-26 Outside vendors provide back-up support for SJI's IT functions.

Formal agreements have been made with some of SJI's IT vendors to provide back-up support to the Application and Governance and Service Delivery work groups. There are 79 vendors that have agreed to provide back-up support consisting of support and maintenance, service, staff augmentation, and SOW to be determined by project management.

XXI-27 SJI's business units initiate IT capital budget requests.

Any part of the SJI Capital Budget that includes IT expenditures is included in the IT Capital Budget. Proposals for capital investments in IT are initiated by SJI's business units. The technology IT management will submit all budget requests for system enhancements. IT's Application and Project Governance work group will develop the RFPs and be involved in the contractor selection process.

XXI-28 Access to SJI systems is appropriately controlled by IT.

IT's Application and Project Governance work group is responsible for reviewing user roles and user changes for systems and applications. The annual user access review is facilitated through the Solve It Now system for most of the applications, with relatively few being confirmed manually. Key SOX controls in place ensure that appropriate confirmations are made.

XXI-29 Business cases are utilized to quantify, justify, and prioritize proposed capital IT projects.

The development of business cases for IT projects is the joint responsibility of IT and the business units. Sponsors must complete a uniform business case template for all proposed projects. Business cases include the appropriate data necessary to make a value judgement as to the worth of the project including the cost, timing, problems to be resolved, risks involved, and the relative priority of the project.

XXI-30 SJI's Information Security Policies are comprehensive and appropriate.

SJI has a number of policies and procedures that prescribe responsibilities and actions to be taken in safeguarding information technology. While all policies and procedures speak to managing risk associated with information and information systems, several specifically address information security, including the following:

- Database Security Configuration Standards
- Intrusion Prevention and Network Security Policy
- Intrusion Prevention and Network Security Procedure
- Master Information Security Policy
- SCADA Security Policy and Procedure

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These policies describe the framework and the accountability needed to protect information assets in a regulated utility company.

XXI-31 Comprehensive Records Management systems and capabilities have been established. Except for historic paper records, records are intertwined with Operations Systems.

Comprehensive electronic records are maintained but are embedded in multifaceted Operations Systems. There is no central clearinghouse that provides an overview or directory for accessing disparate record databases.

XXI-32 The Security Organization has a multifaceted Security Plan that addresses current and future challenges in a comprehensive manner.

A Security Plan is evolving that takes wide-ranging current threats and prospective future threat scenarios into consideration.

XXI-33 Issues related to a Security Operations Center have yet to be resolved.

The tradeoffs underlying establishment of a Security Operations Center that would address the security requirements of ETG and SJI are being explored. As a focal point for Security Operations, this could have a significant impact on security operations and capabilities. Benefit/cost tradeoffs are being evaluated.

K. RECOMMENDATIONS

XXI-1 Expedite Insurance Department mechanization to further streamline current processes and reduce insurance administration costs. (See Finding XXI-1)

Assess establishment of a Corporate Insurance Site featuring a learning section, training documents and videos, to facilitate claim submissions and enhance user interfaces.

XXI-2 Explore commercial off-the-shelf options for a Claims Management System, and other “user-friendly” software that may be suitable for accelerating Insurance Program systemization. (See Finding XXI-1)

Low cost, standardized solutions, common to other utilities and corporate entities, may be available that fulfill Insurance Department requirements and achieve time and expense savings. An action plan should be developed to establish a Claims Management application in conjunction with Recommendation XXI-1.

XXI-3 Transfer the Regulatory Affairs Counsel to the General Counsel’s office and require that Rates and Regulatory Affairs follow all General Counsel policies and procedures for legal work. (See Finding XXI-12)

The Regulatory Affairs Counsel should be integrated into the regular legal department organization structure. While Rates and Regulatory Affairs could be the attorney’s principal internal client assignment, the attorney could also be available for other assignments if the Rates and Regulatory Affairs work was not full-time, such as periods between rate cases or other proceedings.

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Also, all Rates and Regulatory Affairs legal work should follow the General Counsel's policies, procedures, and reporting. All outside counsel engagements should be made through the General Counsel's office and each matter should be managed by a General Counsel attorney.

XXI-4 Do not charge ETG for any portion of the professional liability errors and omissions insurance premium for attorney employees who do not practice law for SJL. (See Findings XXI-12 and XXI-13)

Having licensed and insured attorneys who are in SJL managerial and professional roles does not benefit ETG. Their prior background as attorneys may be helpful in their current roles but there is no ongoing need for them to be licensed and insured. Any cost for their licensure or insurance should not be charged to ETG.

XXI-5 Accelerate implementation of the Facilities Work Management System to realize potential productivity improvements and ongoing expense savings. (See Finding XXI-15)

The Facilities Management System is currently "out of sync" with other aspects of ETGs operations, in terms of records management and information flows. Work Management programs to streamline and track work orders, inspections, and preventative maintenance programs should be accelerated to the extent practical.

XXI-6 Establish clear-cut evaluative criteria for future Facilities scenarios which afford significant cost savings in view of evolving office use and space requirements. (See Finding XXI-16)

The dramatic shift in workspace requirements in the wake of Covid has created uncertainties as well as opportunities with respect to reconsidering "office space solutions." New "ground rules" and policies should be established, with the support of executive management, to proceed with confidence in uncertain times.

XXI-7 Perform a comparative analysis to ascertain if the economies derived from its relationship with MRC provide a minimum cost solution. (See Finding XXI-17)

MRC Global "is easy to do business with" and fulfills ETG's materials requirements. However, this may not provide an optimal, low-cost solution. ETG should explore opportunities to reduce dependency on a single supplier, with the goals of cost reduction and increasing supplier diversity.

XXI-8 Explore alternative scenarios for materials supply once the current contract with MRC terminates and strive to reduce the cost of construction materials supply and inventory management accordingly. (See Finding XXI-17)

Establish evaluative criteria for materials supply and explore opportunities well in advance of the "contract renewal timeframe" to qualify vendors that can provide material supply alternatives, in whole or in part. Assess price comparisons and support services, and "value added" differentials.

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XXI-9 Hone Fleet Management policies and procedures utilizing enhanced fleet management software. (See Finding XXI-18)

Assess functional changes associated with modern fleet management practices and systems and ascertain the cost benefit tradeoff to make informed decisions regarding what is warranted for ETG, including benefit/cost tradeoffs.

XXI-10 Fully integrate ETG and SJG fleets to the greatest extent practical. (See Finding XXI-21)

ETG and SGJ are geographically separated, limiting some opportunities for fleet integration. Moreover, differences in Union practices and policies may preclude certain joint operations. A comprehensive review of opportunities for fleet integration should be explored from fleet procurement and fleet operations perspectives.

XXI-11 Develop a Real Estate Plan that delineates each property's status and an appropriate scenario for future use or development. (See Finding XXI-22)

A subset of ETG's Real Estate holding appear to be "lying fallow." Absent a prescribed use. All property inventory should be assigned a purpose (e.g., property available for future use," or disposed of to the extent practical.

XXI-12 The mix of IT personnel and contractors should be subject to a cost benefit evaluation for on-going operations. (See Finding XXI-24).

Contractors make up 15% of the current IT positions shown on the organization chart. Additionally, contractors are utilized as project managers and are heavily involved in the development of capital projects. There are numerous incidents where contractors are needed; however, generally, the cost of using contractors is greater than the cost of employees. SJG should initiate a cost benefit study to establish the appropriate mix of IT employees and contractors.

XXI-13 Develop a comprehensive record indexing process that facilitates records access and ensures that all record-keeping requirements are fulfilled. (See Finding XXI-31)

Establish a centralized records clearinghouse that provides a "one stop shop" for accessing records within disparate databases.

XXI-14 Perform a complete analysis of Security Operations Center and implement the preferred scenario, mindful of future technological challenges. (See Finding XXI-32)

Develop a definitive construct for a Corporate Security Center and assess functional capabilities that could be afforded (e.g., high tech requirements, such as drone tracking) and secure satellite communications surveillance.

XXII. CONTRACTOR PERFORMANCE

A. BACKGROUND

OVERVIEW

ETG's Capital Construction Program is implemented by means of contractors. Two principal categories of construction are involved:

- Planned Capital Construction Program projects, with firm funding commitments. Fixed costs are established through a rigorous competitive bidding process, with formal evaluative criteria employed in the selection of a preferred contractor. These criteria include Quality, Safety, Price, Diversity and Schedules. Weighting factors influencing selection are determined based on past contractor performance in each of these categories. By way of example, "Damage Prevention Metrics" reflect the contractor's past performance in that area, and would, accordingly, influence the contractor's "weighting factor," in the competitive scoring process.
- Compliance construction programs that are implemented by Field Operations crews and subject to resource constraints.

Bids are solicited from a minimum of four principal contractors. In due course, a rigorous competitive bidding process has been established for contractor selection in building the infrastructure. A "Performance Management" program has been established, predicated on results determined through an extensive sampling system. Evaluative criteria include:

- Construction oversight in the field.
- Construction support encompassing all administrative functions related to work orders, invoices, schedules, forecasts, etc.
- Integrated program management as to schedules and financials, as well as compliance with program stipulations.
- Contractor observations and feedback.

When a construction company enters a contractual arrangement with ETG, its management understands the company is effectively "in partnership" with ETG to ensure its full commitment to maintain infrastructure quality. The construction workload, involving in-house and contractor resources, is predicated on determination of "what needs to be replaced" and is sized accordingly. This is established by the computerized gas Distribution Integrity Management Program (DIMP) system. This process evaluates integrated infrastructure requirements, specifying what portion of the infrastructure needs to be replaced so that Engineering may be apprised and proceed accordingly. Criteria for replacement include breaks, leaks, and pressure issues that are collectively modeled within DIMP. The Engineering organization formulates an asset management program and determines the workload that comports with replacement/modernization requirements.

Infrastructure replacement program prioritization takes into consideration pipe vintage and types, encompassing cast iron, steel, ductile, and plastic, as each pipe infrastructure requires special treatments. Cast iron is the highest replacement priority.

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CONSTRUCTION CONTRACTOR ROLES

The scope of field operations typically includes:

- Installing new gas mains.
- Transferring/replacing services
- Relocating meters to the outside

Contractors are responsible for installation of new gas mains and services, main replacement projects inclusive of service replacements, and relocation of meters in connection with service replacements. Contractors are also utilized by the Field Operations department for restoration pursuant to leak repair, road repair; and backfill/repair.

New Jersey Law requires that “a pipeline operator shall ensure that each contractor crew performing work on behalf of the operator is inspected by the operator's inspectors at least once each workday; or as often as the operator deems necessary to ensure the quality and safety of the work being performed.”

In that context, the Construction Inspector's Operations role is to:

- Conduct visual inspections.
- Conduct field audits to confirm that proper procedures are adhered to.

Contractor Quality Assurance is tracked by recording and analyzing results of inspections for subsequent verification. Exceptions are noted and a “score” is generated. Follow-on meetings are arranged to formulate “next steps” as circumstances may warrant to maintain quality standards.

In this manner, rigorous inspection standards are adhered to. A “Monthly Performance Scorecard” incorporating performance measures is evaluated, noting, for example, exception rates per mile and miles installed. Contractors are graded monthly. “As all contractors can do all projects,” there is an incentive to perform to high standards.

Metrics are aggregated monthly in a manner to be able to “drill down” to assess the number of inspections as well as potential faults identified during the course of the inspection process. Issues are highlighted and corrective action plans (CAPs) are assigned to mitigate future problems.

NETWORK INFRASTRUCTURE DATABASE

The Company's Geographic Information System (GIS) platform has evolved into “a mission-critical resource” that enables ETG to “get its arms around the end-to-end network infrastructure.” This functionality is changing the complexion of construction operations, and other facets of the business as well.

The GIS database encompasses all system elements that comprise ETG's gas network infrastructure, including mains, services, transmission lines, valves, and other hardware contained in the inventory. There are now approximately 300,000 records that delineate “the embedded base,” together with all retirement records and miles of main “as-builts.”

The comprehensive infrastructure database hosted within GIS has enabled creation of a “one-stop-shop” to expedite systems studies, trouble shooting, and issue resolution.

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Within this construct, ETG's Construction Operations and Quality Assurance Personnel perform daily measurements to certify the performance quality of field inspection contractors. Field Operations does frequent inspections of existing systems, including leak surveys, pro forma systems repairs and emergency break repairs, all of which are documented in the Maximo System.

GIS dovetails with the Maximo System to generate cost estimates from design plans. Moreover, "as-builts" are recorded downstream -- and physical assets are delineated,

As such, a sophisticated "model of the entire network" has evolved. In that context, the following data construct has been established:

- Physical address: a local map of the address is generated; the infrastructure that has been installed is positioned on the site map, with dimensions of "as-builts" added.
- An ability to "telescope down" to provide "actuals" as needed to proceed, with confirmation that a full data set has been acquired.
- The physical address is added, and a local map of the address is generated.
- The infrastructure that has been installed is positioned on the site map.
- Dimensions of "as-builts" are added.
- Predictions are compared "side-by-side" with "actuals" together with physical dimension measurements.

Once established, there is the ability to "telescope down" to any desired level of aggregation. This provides a capability to regenerate "actuals," as may be needed to proceed -- with confirmation that the full data set has been acquired.

There are currently 149,000 Mains records and 842,000 Services records in the Record System. These include installs, abandonment, and maintenance records. Within the System, "Lines" are delineated from the "Main Distribution Line" to the "Termination" in the riser.

Four principal types of records are maintained:

- "As-builts" drawings
- Service laterals
- Transmission lines
- Regulators and gate stations

Records are created regardless of project size, and checks are invoked accordingly. Records are received from both contractors and in-house crews. Provisions have been made for importing pictures to capture the local environment -- capabilities which are being enhanced.

In the context of the infrastructure database, Maximo tracks monthly mains and services installed. Monthly scorecard meetings are held to review levels of contractor performance. When shortcomings are evidenced, the work "can be taken back" and reassigned to other contractors.

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MONITORING CONTRACTOR PERFORMANCE

The roles of outside contractors and field operations workforces are closely intertwined, which are primarily governed by Union Labor Collective Bargaining agreements and mutual understandings.

Daily operations for leak remediation involve an internal labor agreement with Utility Workers Union of America, UWUA Local 424, requiring use of internal resources in the field. The Union has the purview for maintenance work involving leak detection, infrastructure maintenance, and system repair.

Over time, roles of union/contractor and non-union company workforce personnel and levels of involvement “have evolved into a comfortable arrangement with extensive coordination involved.” For example:

- ETG and contracted employees are responsible for setting most of the meters for new gas company customers.
- When contractors need help, “what can and cannot be done” is driven by these collective bargaining agreements.

The quality of work performed by union employees in the field is extensively evaluated. According to ETG, “below ground” work performed by contractors tends to be excellent, and rarely poses problems. On rare occasions when standards are not fulfilled, Construction Operations is apprised of the situation and dispatched to appropriate parties for resolution.

Field inspections are facilitated by access to databases utilizing “Mobil GIS” and Laserfiche platforms. By this means, all active projects can be linked to the appropriate records.

Leak detection via leak survey is primarily performed by contractors. Employees are responsible for an appropriate response once a leak is detected. Conversely, contractors are not charged with leak repair, as it is ETG’s responsibility. Leaks are classified as Grades 1, 2 and 3. Grade 1 leaks generate an emergency response.

For classified or graded leaks, every six months a comprehensive “repair/evaluate” pipeline integrity review is performed. Consideration is given to operational interfaces as to leak discovery and leak repair. The scale of the leak repair operations is “every day, year-round.” There are numerous employees in the service territory performing service testing to identify leaks, grounding problems, and service interference issues. With 310,000 customers, a comprehensive service assessment is done every three years, and annually in areas defined as “business districts”.

Contractor interfaces with Operations are critical with respect to mains, service lines, and inside and outside meter sets. Contractors are requalified at appropriate intervals, with a passing grade required.

There is an ongoing drive to eliminate the backlog of leaks over the next few years. Currently there are approximately less than 250 Grade 2 leaks throughout the service area. To put things in perspective, this is down from 900 leaks since program inception.

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CONTRACTOR ROLE IN INFRASTRUCTURE DESIGN

The Engineering Organization has overall responsibility for the performance of both ETG employees and contractors with respect to infrastructure design. ETG engineers oversee in-house design projects, whereas contractors assume primary roles in pipeline design.

Due to the large volume of projects associated with ETG's accelerated pipeline replacement initiatives, ETG elected to utilize outside design support from qualified engineering consultants as opposed to staffing up within the internal department.

As such, contractors were brought on board and trained to accommodate these requirements. End-to-end supervision from ETG staff engineers was entailed, regarding approval and sign-off on the final designs.

What ETG deems to be a highly successful arrangement enabled an ambitious pipeline replacement program to be pursued, while a level workload was maintained with respect to ETG's in-house Engineering staff. The alternative to contractor use would have been to hire additional engineers. When costs were considered, it was ascertained that contractors could be employed at discounted, cost-effective rates -- without ETG foregoing necessary oversight and approval responsibilities.

Management of contractors is a designated responsibility in the organizational construct, affording full client oversight of contract designers, who are subject to supervisor review. Feedback and constructive criticism are provided. There is no "formalized inspection" according to any checklist; however, plan/work product verification and local iterations to true-up designs are done as a matter of course.

ETG's risk of not having internal staff is the need to hire contract engineers "capable of running on all cylinders." In that construct, contract engineers require access to all tools needed for design and are treated as "internal employees" --- with access to what is used to build the information base, including the materials inventory and all "as-built" records (subject to read-only capability). Engineering design mechanisms afford consistent real-time oversight. Design issues are discussed as they occur. No formal authentication processes are required.

ETG uses three vendors for contract design work of this nature. Typically, from 10 to 20 designers are employed, with little turnover. All contractor designs must be certified, which is the responsibility of ETG. This process is facilitated by inputting designs into the Maxima Project Management System.

CONTRACTOR ROLE IN MARK-OUT OF FACILITIES

Operators of underground facilities, including ETG, are required to participate in the NJ One-call system in accordance with NJAC § 14:2-1.1. The NJ One-call system, which receives information from excavators that plan to perform excavation or demolition, relays relevant information to operators that own or operate underground facilities within the scope of the excavation work.

Following notification of a plan to perform excavation or demolition through 811, One-call sends the excavation notifications and/or tickets to ETG. ETG has three business days to mark-out facilities and satisfy the ticket. ETG and One-call work together to establish a grid of ETG's impacted territory.

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Mark-outs of facilities are documented within a ticket management system. This system is used to receive incoming notices of intent to excavate. ETG initially establishes whether it is involved, and if a “dig” is required. GIS is used to map the area in question and provides historic records regarding the location. It is subsequently determined which utilities are involved at the site. A response is provided to NJ One-call, and the site excavator is apprised as to when mark-outs are completed through a process called “positive response.”

Audits of mark-outs are performed to assess opportunities for more rigorous damage prevention, so that internal construction crews are able to reduce excavation damage risks in the field. The Damage Prevention Supervisor has three full-time, non-union, damage prevention technicians.

ETG’s Damage Prevention department is provided access to the locate contractor’s ticket management system. Location contractors are afforded a ticket management system which provides increased visibility as to how contractor functions are aligned to address challenging mark-out locations/areas.

CONTRACTOR ROLE IN LEAK SURVEYS

Leak Survey Contractors perform leak detection and identification on mains, services, and meters. When a meter is not accessible, instructions are left with the customer and an appointment is requested. A Work Order is generated, and responsibility is assumed by Field Operations.

When leaks are identified, all relevant information is uploaded to the Maximo Work Order System via a mobile GIS. The customer is apprised of the work order and an appointment is arranged by Customer Service. When the leak is repaired, the work order is closed out and the customer is apprised accordingly.

The Union Division has 47 “above ground” employees in the Responder department. In addition, contractor crews, who are responsible for initial leak survey inspections, constitute the equivalent of 14 full-time staff. Field Operations responsibilities encompass “above and below ground” activities, meter reading, First Responder initiatives, compliance, and leak surveys. Field personnel are organized into three departments: Meter Reading, Distribution (streets), and Responders.

A Supervisor and a full-time staff of 21 Contractors are involved with leak surveys, who in turn receive handoffs from contractors in Union and Northwest Divisions

ETG hired Heath Consultants Inc., with 14 contracted employees, as the Leak Survey Contractor to identify potential leaks on the system. Contracting determines whether the leak survey process is fulfilling objectives, and if there is a need to reassess the program or evaluate an alternate approach.

The last time a “leak survey” comparison was conducted to contrast performance of contractors and in-house crews was in 2014. A pilot test study indicated that using in-house crews to supplant contractors “did not make sense,” all things being considered. A comprehensive review of program performance, compliance, and financial analysis did not favor in-house crews, and it was preferable to use contractors. This took rules and regulations into consideration, such as compliance with leak survey program and Union

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requirements. Performance tracking has been adequate and there are no issues with process. Moreover, ETG Operations is comfortable that the contractor's crew management controls are suitable.

There are additional criteria regarding guidelines for contractors. Performance is closely monitored and a scorecard of "performance measures" is maintained. Relevant information is uploaded for purposes of tracking performance -- as "performance improvement or decline" impacts subsequent bidding opportunities. All criteria are evaluated, and ensuing contracts are structured accordingly.

ETG is required to perform inspections as to corrosion and meter protection, while establishing good practices and checking for safety issues. Future efforts will emphasize technology and expanded customer usage data to enhance efficiency.

CONTRACTOR ROLE IN CONSTRUCTION

ETG has approved and vetted contractors that receive RFPs from ETG; Construction Operations has five pipeline contractors currently performing gas construction work:

- Lantier Construction
- Henkels & McCoy
- Penn Bower, Inc.
- Skoda Contracting
- J.F. Kiely Construction

ETG Construction Operations currently has a total of 24 construction inspectors (known as Project Coordinators) that provide field oversight of pipeline contractors -- 17 of these construction inspectors are ETG employees, and 7 are contractor inspectors. The inspectors shadow the contractors in the field every day. The main responsibility of the position is to oversee and manage pipeline contractor resources on construction projects/programs to the gas systems for ETG.

The construction inspector drives quality, safety, and compliance expectations while ensuring those standards are met in the field. Construction Inspectors working for ETG ensure compliance with applicable federal, state, local, and company standards, specifically the ETG Operations Procedure Manual (OPM) and Operator Qualifications (OQ).

The Project Coordinator's responsibility is to supervise the independent contractors engaged by the ETG Construction Operations Group. They shadow the contractors to ensure the highest level of service and craftsmanship to every project. The coordinator manages and plans work assignments that meet deadlines.

ETG, as a pipeline operator, must provide for the inspection of all pipes during their installation, and prior to backfilling, to ensure that the pipe installed is free of nicks, gouges or other forms of damage which would tend to reduce the strength of the pipe. Such inspections must be performed by the operator or by a qualified inspection contractor.

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B. FINDINGS

XXII-1 ETG's method of reviewing the effectiveness of its contracted service to comply with its obligation to locate and temporarily mark its underground gas lines in accordance with the requirements of the NJ One Call Law is appropriate.

When ETG receives a notice of intent to excavate, all available records, including ETG's "GIS system," are reviewed to identify underground facilities within the scope of the excavation work. Facilities are then located and marked accordingly. Photographs of the mark-out are taken to document the completion of the mark-out.

As a result of the investigation, it is determined if other utilities are involved at that site.

Mark-outs of ETG facilities are documented within the ticket management system. This system is used to receive incoming notices of intent to excavate (commonly referred to as "tickets") and document the completion of the mark-out.

Response is provided to NJ One-call and the excavator when mark-outs are completed through a process called "positive response."

XXII-2 ETG does not perform random field audits; however, rigorous daily field audits and inspections are performed, which, in conjunction with the comprehensive record-keeping system, make such audits unnecessary.

New Jersey Law states that "a pipeline operator shall ensure that each contractor crew performing work on behalf of the operator is inspected by the operator's inspectors at least once each workday; or as often as the operator deems necessary to ensure the quality and safety of the work being performed. As such, daily inspections and Operator Qualification (OQ) evaluations are extensively documented within ETG's Construction Quality Assurance (CQA) system.

SJI's Damage Prevention Team conducts comprehensive field audits, which are completed and recorded within SJI QA system. The objective is to have approximately 150 mark-out audits completed per month on average. Audit records are available from 2012 through 2021.

XXII-3 Procedures for reviewing the accuracy and detail of mark-outs are appropriate and fulfill requirements.

The procedures utilized for reviewing the accuracy and detail of mark-out audits are as follows:

1. Review the excavation mark-out ticket to determine the scope of work that is being described.
2. Review ETG records for all facilities within the scope of the ticket.
3. Use a locating device to tone the gas line.
4. Ensure the gas-line "tones out" where the "locate technician" has indicated with appropriate gas markings in accordance with requirements.
5. Ensure all markings and flags used to complete the mark-out ticket are in accordance with the BPU-NJAC 14:2.

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6. Ensure the full scope of the work area as indicated in the description of the mark-out request was fully marked.
7. Ensure that appropriate photos have been uploaded by the “locate technician” and are attached to the ticket to confirm the accuracy of the completed mark-out.
8. Failed field audits are reviewed with the “locate” technician’s supervisor for appropriate corrective actions.

XXII-4 Audits have not been performed at contractor’s facilities.

There is no record of audits being performed at construction contractor facilities.

XXII-5 ETG has established processes for determining the need to modify procedures when deficiencies affecting overall performance are discovered.

Mismarks are documented during damage investigations or “as a failed audit.” All tickets that were marked past their due dates between 2009 and 2021 have been recorded. This has provided an in-depth capability for patterning possible systemic issues and weak spots.

XXII-6 ETG has effective procedures for inspecting the work of contractors it has engaged to install new and replacement lines and services.

Four principal construction contractors are utilized under ETG’s capital construction program: Penn Bower Construction, Inc., Skoda Contracting, Henkels & McCoy, Inc., and Lantier Construction. Each of the four contractors is responsible for a “different silo,” so overlapping assignments rarely occur. The scope of construction operations typically includes installing new gas mains and services; main and service renewals; and relocating gas meters to the outside in connection with renewal projects.

Contractor “Quality Assurance” is tracked by recording and analyzing results of inspections for subsequent verification. Exceptions are noted and a “score” is generated. Follow-on meetings are arranged to formulate “next steps” as circumstances may warrant to maintain quality standards. In this manner, rigorous inspection standards are adhered to. A “Monthly Performance Scorecard” incorporating performance measures is evaluated, noting, for example, exception rates per mile and miles installed. Contractors are graded monthly. “As all contractors can do all projects,” there is an incentive to perform to high standards.

XXII-7 ETG’s process for reviewing the performance of its contracted services in installing new and replacement lines and services is comprehensive.

Metrics are aggregated monthly in a manner to be able to “drill down” to assess the number of inspections and potential faults identified during the course the of the inspection process. Issues are highlighted and specific tasks are assigned to mitigate future problems.

Mains and services installed are tracked and monthly scorecard meetings are held to review levels of Contractor performance. When shortcomings are evidenced, the work “can be taken back” and reassigned to other contractors. Issues can arise in congested areas as to timing and priorities. The Committee for Quality Assurance reviews what’s

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being inspected and prescribes preferred inspection times to avoid bumping up against critical tasks.

XXII-8 ETG assesses procedures, percentages, and areas of jobs that are inspected daily.

ETG's Project Coordinators' responsibility is to supervise the independent contractors engaged by the ETG Construction Operations Group. They shadow the contractors to ensure the highest level of service and craftsmanship with respect to every project. The coordinator manages and plans work assignments to ensure that deadlines are met.

XXII-9 ETG has appropriate procedures for inspecting the work of contractors that have been engaged to install new and replacement lines and services.

Assignments to contractors are generated in Maximo. For example, a pipeline replacement plan input to Maximo would assess requirements such as the amount of main, material quantities, fittings needed, and specifications as to where pipe would need to be fused. Service lists are subsequently generated; and each service is associated with a Work Order. This would include the location of fuses, thereby establishing which party is charged with fusing pipe.

Comprehensive service lists are, in due course, generated in Maximo. Each service is linked to a work order. Meter relocates are identified along with determination of feet of main to be installed. A work order number is created for tracking purposes.

XXII-10 Inspection forms used to assess contractor work enable comprehensive evaluation of end-to-end contractor performance.

Daily Inspections and Operator Qualification Evaluations are compiled within the ETG's Construction Quality Assurance (CQA) system, which include:

- Inspections folder for 2014-2021 inspection data.
- Inspection Forms folder for the inspection forms.
- Qualifications Checks folder for 2015–2021 Contractor OQ Audit data.
- Quality Assurance Field Audits folder for 2021 QA Field Audit data.
- Contractor Quality Assurance Dashboard Reports folder for 2021.

These provide a compendium of records that enable a Quality Assurance team to conduct audits and perform trouble patterning at varying levels of aggregation.

XXII-11 ETG is comfortable with the mix of Contractor Crews and its employees in implementing its Construction Program.

All aspects of ETG Management believe that the Company has achieved the right mix of contractor/employee staff to fulfill construction program requirements. One consideration has been the impact of Union Contracts on changing the status quo.

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C. RECOMMENDATIONS

XXII-1 Ascertain benefits of a contractor site visitation program to further assess contractor qualifications. (See Finding XXII-4)

Contractor sites have not been audited. First-hand knowledge of a contractor's "base of operations" could provide added insight to a contractor's performance potential.

XXII-2 Leverage the information database to further enhance operation's capabilities and efficiencies. (See Finding XXII-9)

A virtual model of the infrastructure has evolved. Additional applications should be explored to further enhance contractor operations and identify prospective problems through trouble patterning (e.g., clusters of inspection failures during time).

XXII-3 Exact further cost savings from the systemization process. (See Finding XXII-9)

Opportunities for cost savings and productivity improvements should be aggressively pursued. By way of example, the ability to store high resolution pictures creates prospects for reliable "virtual site visits" to reduce mark-out visitation times and expedite downstream field work.

XXII-4 Aggressively explore ETG Construction Versus Contractor Construction Cost Tradeoffs. (See Finding XXII-11)

ETG should proactively assess contractor versus employee tradeoffs, given the long lead times involved for implementing organizational change. Extensive horizon times are required, and external pressures on growth trajectories need to be factored into the equation.

XXIII. REMEDIATION COSTS

A. BACKGROUND

ETG has sites which require remediation. Such sites are generally former gas manufacturing plants that have been closed for many years as the company stopped manufacturing gas in the 1950's and there is no plan by the company to enter this line of business again. However, several of the sites (Erie Street and Newton) are currently an integral part of the operations of ETG.

ETG is reimbursed by its ratepayers for environmental liabilities associated with its obligations to remediate the former manufactured gas plant (MGP) sites under SJG's Societal Benefit Clause.

Remediation work is performed primarily by consultants and contractors. There has been a litany of consulting companies which have been involved with all facets of remediation planning, site plan approval, and implementation starting before ETG was acquired by SJI.

Environmental/remediation processes have been heavily regulated since their inception; all facets of work performed by consultants and contractors rigorously adhered to State regulations, and nothing was found to be out of compliance.

As a consequence of the merger, SJI has assumed responsibility for six preexisting ETG remediation sites.

- By far, the largest and most complex site is Erie Street, which entailed a cost of approximately \$70 million. Erie Street is also an LNG co-location facility, which was a confounding factor related to soil and groundwater contamination, persistent sediment impact, and depth of intrusion. Conducting remediation work in a heavily urban environment introduced additional complexity.
- South Street, in Elizabeth, the second most complex and costly site, entailed a liability of approximately \$7 million. This involved a substantial "groundwater issue," which will require ongoing monitoring.
- Newton and Flemington remediation sites are small by comparison but involve a special class of "soil impact" problems. Moreover, costs and responsibility are shared between ETG and Jersey Central Power & Light (JCP&L) on a 60%/40% basis, respectively, which has reduced the impact on ETG accordingly.
- The "action phases" of the Rahway and Remora sites are complete. The Flemington site is currently in a "monitoring" phase.

Costs incurred for remediation work "can best be considered in the context of the duration of time involved and the extent of investigation and reports that were required." The program's inception was in 1983, and significant work began at the conclusion of the investigative phase in 1990 with a horizon time of between 20 to 30 years. In some instances, the remediation sites were equivalent to superfund sites in complexity. As such, it was necessary to gather extensive amounts of data for making informed decisions. The extensive consulting fees reflect the protracted analysis and considerations that were necessary in addressing these complexities.

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At the end of 2023, additional remediation costs will be incurred for five sites: Erie Street, South Street, Flemington, Newton, and Perth Amboy. The remaining liability was estimated to be \$85 million at that time. The Company is entitled to be compensated for these costs through the appropriate rate recovery mechanism.

Annual remediation costs that have been incurred for each site and offsetting payments are shown in the following exhibit.

Annual Remediation Costs with Offsetting Payments (\$ 000)

Remediation Site	7/1/2008 through 6/20/2018	Fiscal Year Ended June 30				7/1/2008 through 6/30/2022	Percent of Total Company Outlay
		2019	2020	2021	2022		
Erie Street	54,994	1,737	1,157	10,430	10,173	78,491	60.92%
South Street	19,306	72	154	97	88	19,717	15.30%
Rahway	4,693	0	0	0	0	4,693	3.64%
Perth Amboy	10,190	2,655	158	156	55	13,214	10.26%
Flemington	3,881	68	0	39	70	4,058	3.15%
Newton	737	75	47	51	46	956	0.74%
Renora (Erie Street)	3	0	0	0	0	3	0.00%
Internal	494	76	63	68	131	832	0.65%
Miscellaneous	1,826	557	261	202	208	3,055	2.37%
Ins. Litigation/Third Party Claims	3,180	0	440	95	115	3,830	2.97%
Total Expenses	99,305	5,240	2,280	11,138	10,886	128,849	100.00%
Total Recoveries	11,433	(5,983)	1,894	6,393	(1,787)	11,950	
Net Expenses	110,738	(743)	4,175	17,531	9,099	140,799	

Extensive controls have been in place to verify expenditures which entail:

- Project management review of project costs.
- Further verification based on reconciliation with timesheets.
- Compliance verification by checking all vendor invoices.
- Involvement of the Internal Audit Department for expense verification and process review.
- Other internal audits as to how liabilities were calculated and their reasonableness.
- Retrospective analysis of services rendered vis-à-vis rates charged.

Historical costs are provided in a Remediation Action Report, with text and accompanying tables and figures providing comprehensive information about each site.

As to gauging the reasonableness of incurred remediation costs, everything has been market based: Mitigating factors include:

- The long history of sustained review and analysis.
- The wide range of consultant services that were entailed.
- The use of rigorous, competitive bid processes.
- Long term commitments by consultants after contracts were awarded – with involvement of five to seven years in many instances.

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- Uniform billing rates that prevailed, with the pricing structure “tested on an ongoing basis.”

Before work began on a site, a Remediation Action Workplan compiled a summary of contaminants, delineating “What needs to be cleared up.” A “simple site” involved a single stage of remediation, such as Perth Amboy, which was an “excavation-based remedy.” By contrast, complex sites such as Erie Street required a “segmented approach.” Regardless of the degree of complexity, a formalized Site Remediation Plan was prepared for each property, with a recommended remedial action plan – complete with text, tables, and figures. The scope of work proposal addressed each site’s unique soil properties (as there are thousands of types of soil), which were identified in strata through depths of up to 30 feet. By way of example, the report on Perth Amboy is an extensive document with final site photographs.

“Easy sites” are put back to use. This requires the level of cleanliness to have been verified as being compliant with NJDEP standards, with no deed restrictions. Overviews of the six remediation sites depict both current site status and the nature of site restoration.

B. FINDINGS

XXIII-1 Total Remediation Program costs are estimated to be \$204.4 million, of which \$121.2 million (59.3%) have been incurred, with estimated additional costs of \$83.3 million (40.7%) to be incurred in the future.

Of the six sites for which ETG is responsible, three sites. Rahway, Perth Amboy, and Flemington are virtually complete. The other three sites, Erie Street, South Street, and Newton require substantial remedial work for completion. Estimated costs for completion of these sites are approximately \$83 million, corresponding to 40% of total expected remediation costs. The cost breakdown is as follows:

- Erie Street – \$69.9 million. This is an operating facility that is undergoing extensive remediation. On-site work is two-thirds complete. Off-site residential/commercial properties and an adjoining river area are currently undergoing investigation.
- South Street – \$7.4 million cost. On-site soil remediation is complete. It is undergoing remedial investigation to ascertain a suitable groundwater remedy.
- Newton – \$5.7 million cost with JCP&L-shared liability. Soil on the site of an ETG owned regulator station is currently undergoing remediation,

The projected finishing date for these sites is 2032 -- nine years from the present time.

XXIII-2 ETG has processed approximately \$114 million in total remediation program costs or 94% of the \$121 million costs that were incurred. Approximately \$93.4 million, or 82.1%, of the \$114 million costs, which were processed, has been recovered, leaving approximately \$20.6 million or 18% in unrecovered costs.

Unrecovered remediation costs of over \$20.4 million are predominantly attributable to Erie Street. Recent activity at ETG’s other sites has been minor by comparison. There

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tends to be significant time lags between the time that costs are incurred to recovery of these costs.

XXIII-3 Comprehensive assessments of ETG's remediation projects have been made on a site-by-site basis.

Procedures are performed to determine the reasonableness of estimates of environmental remediation liabilities. Reviews of remediation sites take into consideration: when started, when finished or projected to finish, consulting costs incurred (pre and post ETG acquisition), construction costs, estimated costs to completion, and status of property pursuant to project completion.

Ongoing remediation processes include:

- Projecting future environmental liabilities for the known remediation sites, with the largest cost associated with Erie Street.
- Obtaining bids for environmental services as needed.
- Reviewing project status to determine if changes to accrued environmental liabilities are warranted and adjusting environmental liabilities accordingly.
- Revising cost projections and reconciling actual and projected expenditures to establish variances.
- Performing field audits of facilities, conducted by outside consultants, for compliance with existing environmental regulations.
- Reviews of invoices from vendors for environmental services.

Annual cost projections are revisited on an annual basis predicated on:

- Changes to site understanding
- Revisions to remedial strategy
- Changes to unit cost inputs to the costing model
- Revised technical assumptions for cost model Input

Resources for the upcoming year are identified and assigned. The status of each Project is reviewed to determine if changes to the site model are warranted. The impact of anticipated conceptual remedial strategy revisions is evaluated accordingly.

XXIII-4 Outside contractors have been employed in virtually all facets of remediation work.

Outside contractors performed extensive remediation work at ETG sites during the period from July 2010 through July 2022. Lists of contractors and designated responsibilities were compiled on a year-by-year basis with respect to specific vendor remediation services that were provided and remediation sites where the work was done. During the period from 2010 through 2021, from 14 to 22 contractors and governmental entities were involved with ETG remediation projects annually, an average of 17 separate entities. Some contractors were extensively employed throughout the duration of the program. For example, the firm of Creamer Consultants provided remediation services during 11 of the 12 years. Contractors who have received among the largest remediation payments are shown below.

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Contractors with Large Remediation Payments

Entity	Total Payments
Creamer Environmental	\$56.1 million (12 years)
Charter Contractors	\$25.5 million (2 years)
GEI Consultants	\$14.9 million (12 years)
Langdon Engineering	\$4.7 million (12 years)
Covington & Burling	\$3.7 million (12 years)
JCP&L (Utilities)	\$3.5 million (12 years)

Payments to these six contractors total approximately \$108 million over a 12-year period.

XXIII-5 ETG has formal procedures to determine the reasonableness of the estimates of environmental remediation liabilities.

An audit of remediation programs was performed by SJI's Internal Audit staff, which encompassed the period from July 1, 2016, through June 30, 2019. Review procedures included sampling of invoices to determine if they were:

- Accurate and in accordance with vendor agreements
- Allocated to appropriate accounts and properly approved
- Adequately supported with documentation

The audit of the ETG's Environmental Expense Review Process determined "there were no material observations or recommendations to present to management."

XXIII-6 ETG and the New Jersey Department of Environmental Protection effectively resolved several substantive issues during calendar years 2009–2021.

Negotiations with The New Jersey Department of Environmental protection (NJDEP) have been highly effective:

- On July 14, 2015, NJDEP was involved with adjudication of a remediation issue pertaining to Erie Street, a former MGP site. The viability of a proposed solidification/stabilization solution was addressed. It was concluded that the affected area of the site met regulatory criteria for using In-situ Stabilization/Solidification (ISS) as part of the remediation process, and regulations for moving forward with the proposed remedy were discussed and concurred with. It was also concluded that the planned remedial approach would improve the environmental condition of the site, and, moreover, enable the site to remain in use by the utility. This outcome resulted in significant cost savings in contrast to complete removal/treatment/disposal and backfill of the area.
- In cases where ecological receptors are present, cleanup standards are based on low concentrations of contaminants and the existence of a pathway to given ecological receptors. These standards are largely based on site specific calculated risk, often requiring extensive remediation at a high cost. During the period under review, ETG's input to this process, which was concurred with by NJDEP, reduced the amount of remediation required at the Flemington site while maintaining an

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acceptable ecological risk. This reduced the amount of active remediation and associated cost with this site.

C. RECOMMENDATIONS

XXIII-1 SJG should aggressively pursue implementation of outstanding Remediation program obligations that have been subsumed with the acquisition of ETG. (See Finding XXIII-1)

ETG's remediation program is approximately 59.3 percent complete, with estimated additional costs of \$83.3 million (40.7%) to be incurred in the future. With the exception of Erie Street, other sites have been quiescent. Conditions at these sites have been ascertained and issues affecting each site are understood, with the investigative phase concluding in 1990, over three decades ago. ETG should develop an in-depth implementation plan and complete its remediation program obligation, as ETG is entitled to be reimbursed for remediation program expenditures.

XXIII-2 ETG should provide increased clarity regarding reimbursement mechanisms. (See Finding XXIII-2)

ETG is entitled to be reimbursed by its ratepayers for environmental liabilities associated with its obligations to remediate former manufactured gas plant sites under ETG's Societal Benefit Clause. The processes by which reimbursement is realized is not adequately articulated. ETG should provide increased clarity regarding reimbursement mechanisms.

XXIII-3 ETG should aggressively pursue recovery of outstanding remediation costs. (See Finding XXIII-2)

Significant time lags seem to occur between remediation cost outlays and reimbursement of costs. ETG should aggressively pursue recovery of outstanding remediation costs through insurance and mitigation mechanisms, and all outstanding claims should be settled or resolved in a timely fashion.

XXIII-4 ETG should comprehensively review all remediation charges. (See Finding XXIII-4)

Payments to select contractors have been highly concentrated. Payment to Creamer Consulting, of approximately \$56 million, constitutes 44 percent of total remediation costs. Payments to Creamer Consultants together with GEI Consultants account for well over half, or 56 percent of total Remediation costs. The substantial payments that were incurred over a sustained period prior to the acquisition of ETG may warrant a holistic review of charges from a prudence perspective.

XXIII-5 Internal Audit should audit remediation expenses annually. (See Finding XXIII-5)

SJI's Internal Audit staff conducted an audit of remediation expenses covering the period from July 1, 2016, through June 30, 2019. Due to the high cost of the remediation efforts and the amount of work remaining, an audit of remediation expenses should be conducted every year. The audit should certify the integrity of methods and procedures that have been employed by consultants and the reasonableness of associated costs

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from a retrospective viewpoint. Findings and recommendations should be carried forward with respect to the 41 percent of remediation work that remains to be completed, as cited in Finding XXII-1.

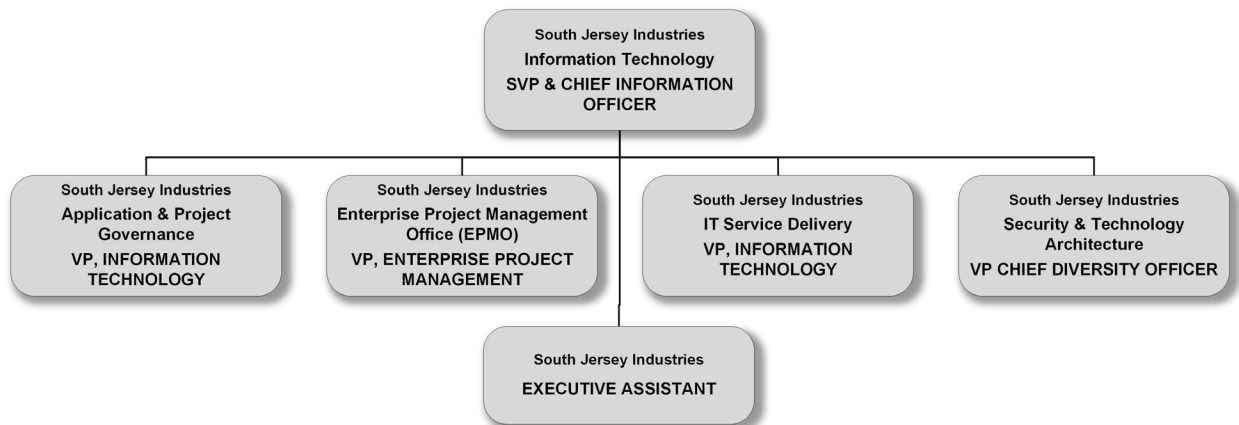
XXIV. CYBER RISK MITIGATION/CYBER SECURITY

A. BACKGROUND

GOVERNANCE

The South Jersey Industries (SJI) Senior Vice President and Chief Information Officer (CIO) is responsible for Cyber Risk Mitigation/Cyber Security at SJI and its subsidiaries, including the Elizabethtown Gas Company (ETG). If there is a cyber security incident, the CIO is responsible for notifying and communicating with SJI's Office of the General Counsel and the Cyber Security Risk Committee. He is also responsible for providing the SJI Board of Directors with a quarterly report which includes cyber security. The organization chart of the CIO is shown in the following exhibit.

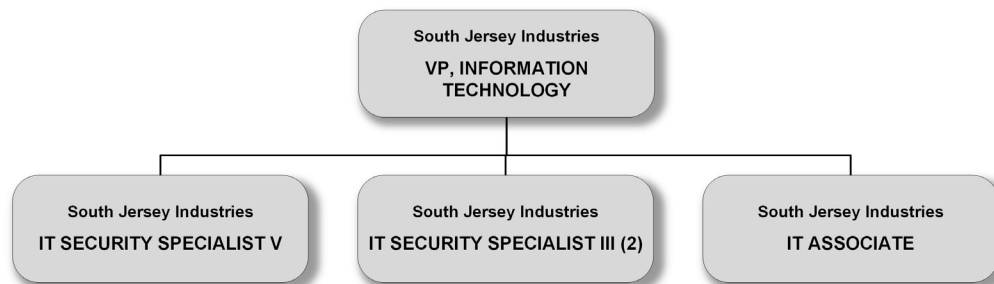
SJI's Information Technology Department Organization



The Vice President (VP), Information Technology for Security and Technology Architecture (Information Security) is responsible for the implementation and execution of the Cyber Security Risk Management Program (Program) as well as ensuring proper escalation to the CIO, when needed. The VP, Information Security is also responsible for documenting all policies and procedures associated with the Program.

The organization chart for the Security and Technology Architecture section is shown below.

Security and Technology Architecture Organization



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IT Security Specialists in the Security and Technology Architecture organization are the Incident Handlers and are tasked with utilizing the Cyber Security Incident Plan to:

- Perform initial triage.
- Coordinate incident response-related activities.
- Manage the incident response process.
- Ensure escalation to the VP, Information Security organization.

The Vice President, Corporate Shared Services is responsible for recognizing when a physical security incident includes a cyber risk and for acting according to the Cyber Security Incident Response Plan for physical security incidents.

Cyber Security Incident Response Team (CSIRT)

This team is responsible for using the Cyber Security Incident Response Plan for assessment, containment, backup and preservation of evidence, analysis, eradication, and recovery activities. Members include:

- SVP, CIO
- VP, Information Security
- IT Security Specialists
- IT subject matter experts (SMEs)
- Functional administrator of the Industrial Control System
- Representatives from other business functions
- External contracted security SMEs (if needed)

Risk Management Committee

Effective in 2020 the Information Security Risk Management Committee was consolidated into the SJL Risk Management Committee.

Members of the Risk Management Committee include:

- Senior Vice President and Chief Financial Officer – Voting member
- Senior Vice President and President, SJL Utilities (SJLU) – Voting member
- Senior Vice President, SJL and President & Chief Operations Officer, SJG – Voting member
- President and Chief Operations Officer, ETG Operations – Voting member
- Vice President, General Counsel – Voting member
- Vice President, Accounting – Voting member
- Vice President, Risk and Assurance – Chair – Voting member
- Vice President, Operations, South Jersey Gas (SJG) – Nonvoting member
- Vice President, Customer Experience – Nonvoting member
- Vice President, Rates, Regulatory Affairs & Sustainability – Nonvoting member
- Vice President, Gas Supply and Allocations – Nonvoting member
- Director, Risk Management – Nonvoting member

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The Management Executive Council is responsible for notifying the SJI Board of Directors and serves as an additional escalation point for designated high-impact or potentially high-impact incidents.

APPROACH

A cyber security incident is defined by ISO 27001:2005 as:

A single or a series of unwanted information security events that have a significant probability of compromising business operations and threatening information security; an act that violates an information security policy and/or causes a disruption to an information service. This includes, but is not limited to, attempts (either failed or successful) to gain unauthorized access to a system or its data; unwanted disruption or denial of service; unauthorized use of an Information Asset for the processing or storage of data; and/or changes to an Information Asset's hardware, firmware, or software characteristics without the owner's knowledge, instruction, or consent. Examples include malware/spyware infection, system failure or abuse, property theft, or a denial-of-service (DoS) attack.

SJI has implemented a means by which all users can report a potential or actual cyber security weakness or incident. Training has been provided so that users are better able to identify a potential cyber security weakness or incident and know how to report it.

The VP, Information Security, was mandated to develop and maintain a Cyber Security Incident Response Plan (Plan) to respond to and act upon cyber security incidents. The Plan includes:

- A phased approach to incident response, including preparation, identification, escalation, assessment, containment, backup, analysis, eradication, recovery, and post-incident analysis.
- Clearly defined roles and responsibilities for all phases of incident response.
- Requirements for maintaining appropriate contacts and relationships with external information security organizations for both general security knowledge and incident-related services, such as forensics.
- Requirements for evidence preservation to ensure proper chain-of-custody and ensure evidence is admissible in court if necessary.
- Detailed monitoring and reporting requirements for recording, tracking, retaining, and periodically reviewing all information related to an incident.
- Relevant training plans for security incident handlers and other individuals as appropriate.

RISK ASSESSMENT

SJI partners with organization stakeholders and monitors alerts from external sources to ensure emerging cyber risks are identified. Sources include the managed Security Operations Center, industry sharing partners, and news outlets.

The following table lists the government agencies, companies, or industry groups with which SJI is involved concerning cyber security.

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Cyber Security Agencies, Companies, or Industry Groups

Organization	Involvement
New Jersey Cybersecurity and Communications Cell (NJCCIC)	• Review weekly bulletin. • Attend industry related webinars.
Downstream Natural Gas Information Sharing and Analysis Center (DNG-ISAC)	• Access portal posts for information related to industry. • Alerts posted for events. • DNG-ISAC exists to improve cybersecurity and physical security of the North American energy infrastructure by providing accurate and timely intelligence on cyber and physical threats, vulnerabilities, and attacks on the natural gas industry and industrial control systems.
Datashield	• Managed Security Operations Center (SOC) – 24/7/365. • Datashield is a third-party company in Arizona that operates the SOC, performing 24/7 monitoring of environments. • Security issues and phishing incidents can be escalated to Datashield.
American Gas Association (AGA)	• Attend industry related meetings/conferences. • Promotes best practices.
Cybersecurity and Infrastructure Security Agency (CISA)	• Architecture design review. • Review vulnerabilities.

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Organization	Involvement
[Redacted]	• Subscribe to [redacted] which provides information on current vulnerabilities. • [Redacted] is an industrial cyber security company dealing with critical infrastructure. • [Redacted] has a software platform that provides customers with critical visibility into Industrial Control System (ICS) and Operational Technology (OT) networks so that threats are identified and can be addressed. • [Redacted] solutions work with numerous industries, including power and water utilities, energy, and manufacturing, and are optimized for emerging applications. • [Redacted] is privately held and headquartered in the Washington, DC area with regional offices in Canada, Australia, New Zealand, Europe, and the Middle East.
Federal Bureau of Investigation (FBI)	• Attend conferences calls.
Information Systems Audit and Control Association (ISACA)	• Global professional association and learning organization with more than 165,000 members who work in digital trust fields.
International Information System Security Certification Consortium (ISC2)	• Access to the World's Leading Cybersecurity Professional Organization.
Gartner	• Chief Information Security Officers (CISOs) utilize Gartner. • Participate in their studies and attend their conferences. • Have access to analysts and research.
Institute of Internal Auditors (IIA)	• Attend educational conferences.
EC-Council	• Attend educational conferences.
Transportation Security Administration (TSA)	• Participate in industry related meetings.
New Jersey Board of Public Utilities (NJBPUP)	• Member of NJBPUP Cyber Security Working Group.

SJI received a Validate Architecture Design and Review (VADR) report concerning OT and distribution environments from the U S Department of Homeland Security and the Idaho National Laboratories. Going forward, in accordance with TSA Security Directive

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requirements, every two years SJI will engage a third party to complete an Architecture Design and Review of critical cyber assets.

To manage cyber risk, SJI has tools and services in place to prevent, detect, and monitor the environment. Examples include encryption, logging, patching, and privileged access management. Networks are monitored for vulnerability. IT projects are reviewed and assessed for cyber security risks. System architecture is evaluated to ensure there is a secure design. For defined systems such as SCADA and OT systems, this includes data classification and data protection. Architecture and roadmaps are developed to accommodate services and projects that have been identified by SJI.

There is a weekly vulnerability scanning of internal and external corporate assets and a biannual vulnerability scanning of the SCADA environment.

If a cyber risk is identified, the risk will be evaluated and addressed with the impacted organization stakeholder(s) to ensure that it is remediated, or mitigating controls are in place to manage the risk.

IT provisions the level of access to SJI systems based on business partner request and the appropriate approvals. The organization vets contractors (companies and individuals) prior to onboarding. Business partners are responsible for ensuring that their contractors maintain current access to SJI systems. Access to systems expires after 90 days unless access permission is renewed.

CYBER PREPAREDNESS AND RESPONSE AUDITS

In 2018, at the time of ETG's acquisition, ETG's processes and systems were integrated in the third-party risk assessment performed by Presidio, a digital services and solutions provider that provides, among other services, security assessments to the utility industry.

The review of SJI's IT and security teams included an evaluation of the overall cybersecurity program state, governance, security assessment, penetration testing, and an internal and external vulnerability assessment. This annual security audit focused on controls and was reviewed with SJI's Internal Audit and the Legal departments. Internal Audit wrote the report that was subsequently submitted to SJI management and Board of Directors.

[Redacted]

There have been five internal audits concerning cyber security conducted during the 2018 through 2021 period. These reports addressed compliance with the NJBPU order concerning cyber security (Docket No. AO16030196) and assessment of the SJI cyber security environment.

PHISHING CAMPAIGNS

Phishing can be defined as:

the practice of tricking Internet users (as through the use of deceptive email messages or websites) into revealing personal or confidential information which can then be used illicitly.

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SJI's Secure Email gateway blocks a large portion of phishing emails prior to getting to an employee. To teach and prepare employees related to recognize cyber security risk, SJI deploys phishing campaigns to all users at SJI.

A third-party company provides templates, along with standard phishing fail rates for comparison with SJI rates. IT reviews each template with Human Resources (HR) first to ensure that the campaign will not lead to misinterpretation by users when they receive the phishing email.

Results from these campaigns can just be statistics or generate additional training. Work groups that are more high risk, based on their jobs and positions, are also identified and provided mandatory training based on the role they are in. Employees that fail the phishing tests receive mandatory training. Over the past three years, since ETG became a part of SJI, the phishing failure rate for SJI employees has been much lower than industry averages.

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

INCIDENT RESPONSE

The CSIRT, comprised of a Central Team and a Decentralized Team in accordance with the Carnegie Mellon standard, is responsible for detecting, responding to, and restoring IT services once a security incident happens. CSIRT standards include:

- NIST 800-61 REV2
- Carnegie Mellon CSIRT Handbook
- Carnegie Mellon Organizational Models
- IETF Guidelines for Evidence Collection and Archiving (RFC 3227)
- SANS incident response documentation

Central Team

The Central Team is comprised of the SVP, CIO; the VP, Information Security; SJI's IT Security Specialists; and contracted security experts. These teams are responsible for security incident triage, security incident coordination, forensic services, security expertise, and publishing of final security incident reports. A centralized team represents trained security experts who will coordinate the documentation and communication of the security incident, offering specific security expertise for security incident response.

Decentralized Team

The Decentralized Team is comprised of technology and business unit SME resources. The Decentralized Team represents technical, business and process experts who are also trained in security incident response and contribute their technical expertise to the CSIRT. Decentralized Team members include network engineers, human resources

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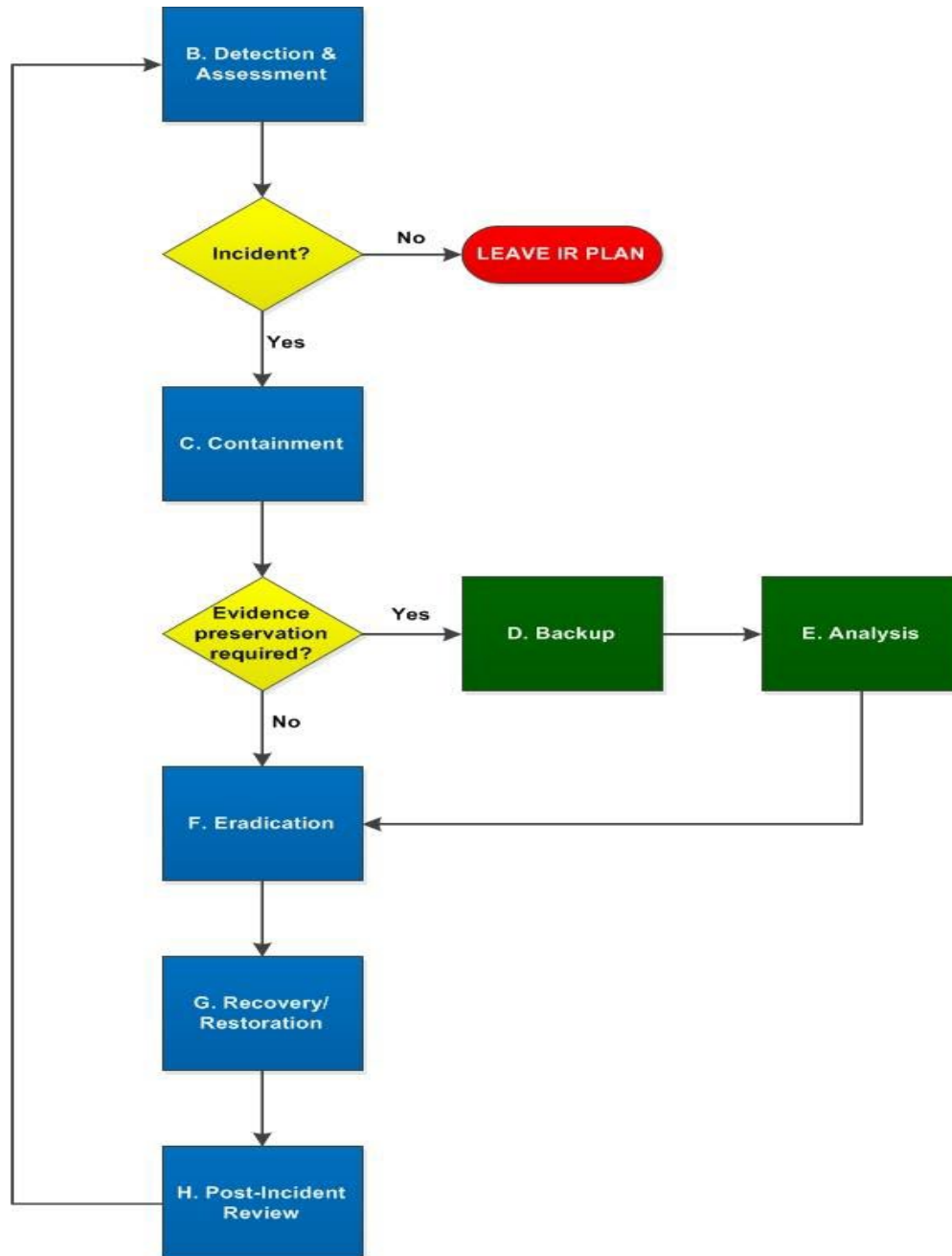
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specialists, IT operations specialists, database administrators, etc. It is important to note that in this model, the entire team may not be mobilized; only those members with the required expertise will be activated when needed.

Additional help can be requested if the Decentralized Team is unable to contain or eliminate the incident.

The incident response methodology is shown in the following exhibit.

Cyber Incident Review Methodology



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CONTRACTORS

A security assessment is performed for third party vendors that are brought on to work with SJI and its affiliates based on risk and business use. Documentation reviewed to perform a security assessment of a third party vendor, if available by the third party vendor, includes:

- Completed SJI security assessment questionnaire
- System and Organization Controls 2 Type 2 Report
- ISO 27001 compliance report
- IT Security Policies
- Any other pieces of documentation the vendor has that can speak to maturity of their IT Security program.

Additionally, the following information is requested from the SJI business unit that is onboarding the vendor:

- A description of what the vendor will be doing for SJI that includes the following:
 - ◆ What SJI data the vendor will be processing, transmitting, or storing
 - ◆ Any SJI applications or systems the vendor will need to integrate with or require access to
- Documentation that outlines the business process that this vendor is a part of
- Timeline for onboarding the vendor

An assessment report is written that includes the following details.

- A description of the business use case
- The overall security posture of the vendor
- The vendor's tier based on SJI's vendor risk classification matrix
- The vendor's Bitsight score
- Risks and mitigating controls for the specific business use case
- The vendor's inherent cyber risk
- The vendor's residual cyber risk
- Data classification of the SJI data for the specific business use case
- Follow up requirements/recommendations for the vendor and project

Once the assessment of the vendor has been completed, the following steps are taken:

- Review the assessment report with SJI business unit to ensure their understanding of the risk level the vendor poses to SJI
- Receive signoff from the business unit that indicates that they understand the assessment report

REPORTING

Cybersecurity updates are presented to SJI management on a regular basis through the monthly Dashboard report. The SJI Risk Management Committee is provided a

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Cybersecurity update at the Risk Management Committee Meetings. The SJI and SJIU Board of Directors are provided Cybersecurity updates during Board Meetings.

The Cybersecurity Posture that is presented to the SJI and SJIU Board of Directors includes the status, change direction, and notes explaining any changes for each Risk Domain and Key Risk Indicator as shown on the following table.

Cybersecurity Posture

Risk Domain	Key Risk Indicator (KRI)
Software Currency	Number of critical systems running legacy
Critical system Outage	Frequency and outcome of DR testing exercises
Risk Management	Implementation of cyber risk management plan
People and Culture	Results of phishing and awareness training
Unauthorized Access	Unauthorized access to systems
Third Party Cyber Risk	Number of third parties tiered
Industry Collaboration	Changes in frequency and quality of collaboration with peers
OS Patching	Indicator of patching effectiveness

NJBPU CYBER ORDER

Upon SJI's acquisition of ETG in 2018, applications and controls relevant to NJBPU's cyber order Docket No. AO16030196 (Board Order) were identified and addressed by performing or continuing to perform the following actions:

Action Plans and Progress Against Plans 2018–2021

Action Item
Identification of Relevant Systems
- In 2018, ETG pipeline functionality was added to the Field SCADA system. - In 2019, implemented ETG Liquid Natural Gas (LNG) SCADA. - In 2020, implemented customer billing system, CC&B, for ETG.
Supporting Systems and Processes
- Security Operations Center (SOC) – Perform 24/7/365 monitoring of Corporate and SCADA environments. - Weekly Vulnerability scanning of internal and external corporate assets. - Biannual Vulnerability scanning of SCADA environment. - Patch Management process – there is an external partner to patch SCADA environments. - Security controls to protect the corporate and/or SCADA environments (for example- unidirectional firewalls, Network Segmentation, Intrusion Prevention System, Denial of Service protection, OT Threat and Asset Visibility Tool).
Cyber Risk Evaluation

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Action Item
An independent third party completed an annual cybersecurity risk assessment in 2018, 2020, and 2021 for SJL's corporate and SCADA environments.
An independent third party completed a Validate Architecture Design and Review (VADR) in 2021 for SJL's corporate and SCADA environments.
Situational Awareness:
Participates in multiple information sharing groups, such as the Downstream Natural Gas Information Sharing and Analysis Center (DNG-ISAC) and the New Jersey Cybersecurity and Communications Cell (NJCCIC).
Maintains Secret level clearance from the TSA.
Organization is an active member of the American Gas Association (AGA); VP, Information Security was the chair of the Natural Gas Security Committee (NGSC).
Incident Reporting, Response and Recovery
Maintains Cyber Incident Response Policy and Plan, including reporting requirements to regulatory agencies.
Annually participates in Tabletop exercises or enactment of the Cyber Incident Response Plan.
If required, has Cybersecurity Insurance Policy, an option to engage forensics partners, and an option to engage Mutual Aid.
Security Awareness and Training:
Performed merger and acquisition awareness training for all users.
Publish cybersecurity bulletins and alerts to all users.
Performs General Cybersecurity and Role Based (Administrator, PII, Industrial Control System) training annually.
Performs phishing campaigns to evaluate the effectiveness of cybersecurity training.
Implementation:
Annually, performs an internal review of the tasks required by the order to ensure adherence.
Submit annual certification letters that attest to ETG's compliance with the Board Order.

TRAINING

Training concerning cyber security included Cyber Security Awareness Training (two modules per year), role-based training for SCADA, and onboarding cyber security training.

Onboarding cybersecurity training is part of New Employee Orientation (NEO) given by the Human Resources Department to all employees when they join SJL or one if its

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affiliates. The cybersecurity training is offered through a course in the Workday Enterprise Resource Planning (ERP). The training course is created by Navex, an industry leader in integrated risk and compliance management software providing services that help organizations manage risk and address complex regulatory compliance requirements. Employees access a link in Workday to complete their compliance training.

All new employees receive NEO and onboarding, including onboarding cyber security training.

The number of employees that have completed Cyber Security Awareness Training over three of the past four years is shown in the following table.

Number of Employees Completing Cyber Security Awareness Training

Year	Nr of Employees
2018	916
2019	1006
2020	*
2021	1166
* Data regarding the completed security awareness training in 2020 not available due to software conversion.	

The number of employees that completed role specific cybersecurity training in the past four years is shown in the following table.

Number of Employees Completing Role-Specific Cyber Security Training

[Redacted]

B. FINDINGS

XXIV-1 SJI's cyber security organization structure is appropriate for identifying and responding to cyber threats.

The CIO is responsible for SJI's cyber security and cyber risk mitigation. One of the IT work groups, Security and Technology Architecture, is tasked with implementation and execution of the Cyber Security Risk Management Program, which includes the responsibility for safeguarding the cyber security of ETG, SJI, and their affiliated companies. This work group is staffed with trained, experienced cyber security professionals. In addition to undergraduate and graduate degrees in information technology the personnel in this work group have earned the following designations and certifications:

- Certified Information System Security Professional (CISSP)
- Certified Information Security Manager (CISM)
- Certified in Risk and Information Control (CRISC)
- Check Point Certified Security Master (CCSM)
- EC-Council Certified Incident Handler (ECIH)

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➤ Global Industrial Cyber Security Professional Certification (GICSP)

The SJI Risk Management Committee and the CSIRT have been established to correctly bring the proper amount of attention to potential cyber incidents and to efficiently respond and perform the necessary remediation steps.

XXIV-2 SJI's overall approach to cyber risk mitigation and overall cyber security is reasonable for a utility company.

ETG's overall approach to cyber security risk and cyber incident response risk includes:

- Planning
- Detection and assessment
- Containment
- Backup
- Analysis
- Eradication
- Recovery/Restoration
- Post-incident review

The approach is based on industry best practice standards. Management overview of the program is in place and practices are governed by documented policies and procedures. There is adequate program review to ensure compliance with federal, New Jersey, and internal requirements.

XXIV-3 SJI's risk assessment concerning cyber security is effective.

Cyber security risk assessment is accomplished through coordination and use of outside expertise and attention to internal policies and procedures. The participation and coordination with external agencies, organizations, and companies provides SJI with information on current and expected risks and potential defense and remediation steps. Annual audits and assessments from outside specialist firms and organizations provide an identification of issues and measurement of the results of actions taken. Internal phishing campaigns provide assessment of potential risks and areas for improvement. The process for identification of risks appears to be effective.

XXIV-4 Cyber security campaigns and training promote awareness within the SJI workforce.

Cyber security is emphasized starting with the onboarding of new employees. Annual required training further emphasizes the importance of cyber security and the risks that can be expected. Both employees and contractors are made aware of cyber security. Compliance with documented policies and procedures is achieved through enforcement of practices, test phishing expeditions, and cyber security training exercises.

XXIV-5 Although the recruitment of experienced cyber security personnel has been effective, there are two important open positions that should be filled.

The Security and Technology Architecture work group within the Information Technology Department contains experienced cyber security personnel with appropriate education

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and advanced training and certifications. However, at the time of the audit there were two open positions – IT Specialist II and OT Security Specialist (SCADA and other operating systems). These are important positions in a critical organization.

XXIV-6 The training of employees related to cyber security identification, mitigation, and response has been effective.

All new employees receive cyber security onboarding training. The majority of SJI employees received Cyber Security Awareness Training [redacted]. All users receive Merger and Acquisition awareness training. Additionally, more specialized personnel (Administrator, Personally Identifiable Information Administrators [PII], Industrial Control System) received role-specific cyber security training. Employees that have fallen for phishing attacks, through the use of internal phishing campaigns, can be required to take additional cyber security training. Training records related to cyber security are maintained by the IT Department.

XXIV-7 There are sufficient cyber security controls concerning third-party vendors, contractors, and consultants.

Third party vendors that have been proposed to provide services to SJI undergo a security assessment. This assessment includes requiring the third party vendor to complete SJI's security assessment questionnaire and a review of the third party vendor's security policies, procedures, and controls. The assessment report for each third party vendor includes the overall security posture of the third party vendor and provides a tiering classification in which the third party vendor is placed based on a risk classification. The third party vendor tier considers risk domain as it applies to business relevance, severity of impact, system access, data access, replacement, and cost.

XXIV-8 SJI cooperates with the appropriate regulatory, industry, and technology entities concerning cyber security and cyber risk mitigation.

SJI receives information and updates from numerous external organizations and state and federal agencies concerning cyber security and risk, including, among others, the New Jersey Cybersecurity and Communications Cell (NJCCIC), Downstream Natural Gas Information Sharing and Analysis Center (DNG-ISAC), the American Gas Association (AGA), the Cybersecurity and Infrastructure Security Agency (CISA), the FBI, the TSA, and the NJBPU. The SJI cyber security professionals attend conferences, meetings, and webinars. SJI participates in studies, calls, and working groups involving identification of risk and the sharing of mitigation efforts and provides information concerning cyber security and cyber risk.

XXIV-9 SJI continues to comply with the NJBPU cyber order.

In response to NJBPU's Reliability and Security Order, Docket No. AO16030196 (Board Order), SJI identified and addressed ETG applications and controls relevant to the requirements of the Board Order. These included identifying relevant systems; monitoring and scanning assets, controls, and environments; bringing in outside professionals to evaluate risk; participating in information sharing groups; complying with reporting requirements; performing awareness training; performing an internal review; and certifying compliance with the Board Order.

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XXIV-10 Findings from cyber security audits are improving.

As of the end of 2021, there have been five audits of SJI's cyber security by an independent 3rd party global risk assessment company. [Redacted]. Audits evaluated the general cyber security program governance, security assessment, penetration testing, and internal and external vulnerability. Results of these audits were reviewed by SJI's Legal and Audit departments and presented to the SJI Board of Directors.

C. RECOMMENDATIONS

XXIV-1 Fill the vacant cyber security positions (see Finding XXIV-5).

There are two vacant cyber security positions in the Security and Technology Architecture work group of the Information Technology Department. These are important positions in a very important department. Cyber security issues and the risks involved for a gas utility will certainly increase over time, and SJI should be prepared for all eventualities. Being fully staffed is a basic minimum requirement for addressing this increasingly important cyber security function.

XXIV-2 Records of Cyber Security Training should be maintained in a centralized training database controlled by Human Resources (see Finding XXIV-6).

Only corporate training records are maintained by the Human Resource Department. Technical training records are maintained by the business units. Cyber security training records are maintained by the Information Technology Department. Although Information Technology, and specifically, the Security and Technology Architecture work group should control and store cyber security training records, a record of this training should also be included in a comprehensive automated Human Resources training record depository where proof of training as well as upcoming cyber training requirements could be assessed by upper management and internal and external audit and review bodies.