Schumaker & Company

Jersey Central Power and Light

Phase I Review of Affiliates Transactions, Planning, Operations, and Maintenance Practices

June 2011

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II. Review of Procurement Activities (ENPRO)

This chapter addresses the Jersey Central Power & Light (JCP&L) procurement and disposition of electric energy outside the New Jersey basic generation service (BGS) process. Electric commodity supply has been restructured in New Jersey and JCP&L no longer provides vertically integrated electric commodity supply services directly to customers. Electric commodity supply is provided to shopping customers[1] by the third-party supplier (TPS) each of those customers selects. Non-shopping customers receive the default BGS electric commodity supply. Basic generation service is a New Jersey–wide structure and process that includes all four electric-distribution, investor-owned companies. It provides default electric commodity supply to non-shopping customers. There are only a few remaining legacy situations in which JCP&L directly owns or procures electric commodity supply.

Schumaker & Company consultants reviewed and determined if the pricing of JCP&L's goods and services to and from FirstEnergy (FE) and its affiliates is non-discriminatory and does not exceed market rates. Schumaker & Company identified and evaluated JCP&L's performance with regard to the designated matters and:

1. Defined, documented, and supported JCP&L's electric procurement activities outside the BGS auction process to the extent such activities exist.
2. Determined if JCP&L's purchases are and have been allocated across customer classes according to industry practices.

A. Background & Perspective

JCP&L Capacity and Energy Sources

JCP&L's demand and energy requirements within its service territory provided through the BGS process over the last five years is shown in *Exhibit II-1*.

[1] In New Jersey, customers may elect to "shop" and purchase their electric commodity supply from a TPS or not "shop" and receive the default BGS service.

Exhibit II-1
JCP&L BGS Demand and Energy Requirements
2005 to 2009

Year	Demand (kW)	Total Energy (kWh)
2005	6,278,534	25,095,491,692
2006	6,701,668	24,245,739,550
2007	6,151,683	25,341,527,654
2008	6,298,638	24,502,811,437
2009	5,738,385	23,189,745,314

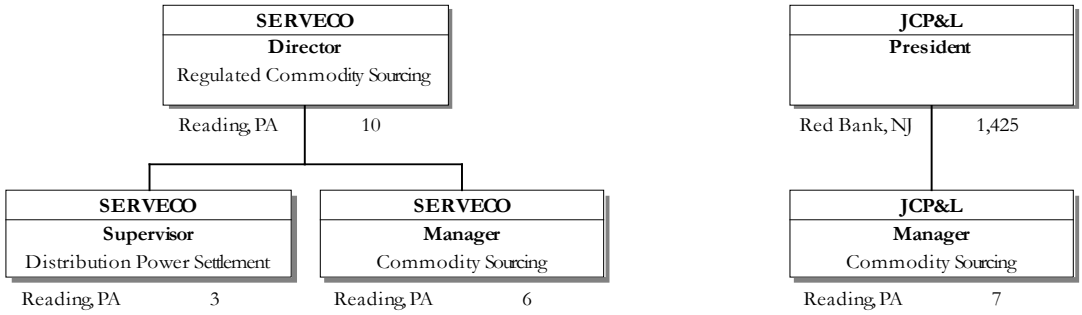
Source: Information Response 740

As can be seen from *Exhibit II-1*, overall demand in 2009 has dropped by approximately 14% from a high of 6,701,668 in 2006 while overall energy has decreased by approximately 8.5% in 2009 from a high of 25.3 billion kilowatt hours (kWhs) in 2007.

Regulated Commodity Sourcing (RCS) Organization

The Regulated Commodity Sourcing (RCS) organization provides procurement decision-making for all remaining (outside the BGS) commodity-related activities of the FirstEnergy Pennsylvania-, Ohio-, and New Jersey–regulated operating companies. This organization is located in Reading, Pennsylvania and is organized as shown in *Exhibit II-2*.

Exhibit II-2
Regulated Commodity Sourcing Organization
as of June 30, 2010



Source: Information Response 54

The RCS organization is staffed by both FirstEnergy Service Company (SERVECO) and JCP&L employees. FirstEnergy SERVECO employee costs are borne by the Pennsylvania and Ohio companies and JCP&L employee costs are borne by JCP&L.

Front-desk 24/7-operations staff members are responsible for both Pennsylvania and New Jersey generation assets. Their primary responsibilities include the real-time dispatch of the Pennsylvania- and New Jersey–regulated generation assets, encompassing both corporate-owned (Yards Creek) and NUG facilities. These individuals also interface with the PJM return to operations dispatchers on operation-related matters. Organizationally, there are three FirstEnergy Service Company regulated energy resource operators and three JCP&L regulated energy resource operators.

With respect to mid- and back-office activities, the RCS organization includes analysts who are FirstEnergy Service Company employees as well as those who are JCP&L employees. Staff-level analysts perform more of the complex analysis related to budgeting, RTO requirements, regulatory compliance, contract interpretation, and demand response programs. The senior analysts complete daily forecasting and load bidding responsibilities in addition to supporting the front desk operators with natural gas purchases. To the extent that an analyst supports efforts in the other group, labor hours are charged to the appropriate cost collector for the state being supported.

Basic Generation Service (BGS) Process

Beginning in July 2002, JCP&L has participated in a statewide auction process that was established by the Board of Public Utilities (BPU) to serve its basic generation service customers. The statewide auction occurs in February of each year and encompasses a fixed-price (FP) auction and an hourly-priced commercial industrial energy pricing (CIEP) auction. The BGS-FP auction is intended to serve residential and smaller commercial customers while the BGS-CIEP auction serves the needs of larger commercial and industrial customers (1,000 kW) who are required to be on hourly service. JCP&L is obligated to file a company-specific addendum regarding this process annually to the BPU for its approval. This addendum addresses elements specific to JCP&L and any proposed changes to those elements from the previous year.

In July of each succeeding year, JCP&L and the other New Jersey Electric Distribution Companies jointly file a proposal with the BPU to procure supply to meet their BGS load requirements. Since 2002, all four of the state's electric utilities have proposed a statewide auction and the BPU has accepted the proposals. After a comment period, the BPU approves the individual utility's plans. The next step in the process involves bidder qualification and registration that begins in mid-December and ends in mid-January. Qualifying bidders can then participate in the auction, which is held during the first week of February. After the auction concludes, the BPU has two business days to approve the results. Because the supply year is synchronized with the PJM planning year, supply flows from June 1 through May 31 of the following year.

A simultaneous multiple-round, descending-clock auction format is used. One tranche represents a given fixed percentage of JCP&L load. A tranche in the BGS-FP auction is approximately 100 megawatts (MWs) of peak demand while a tranche in the BGS-CIEP is approximately 75 MWs of peak load. The auction proceeds in rounds and is called a descending-clock auction because prices "tick" down until the supply bid is sufficient to meet the amount of required load.

For the BGS-FP load, New Jersey uses a rolling procurement structure whereby each year one-third of the load is procured for a three-year period as summarized in *Exhibit II-3*. The BGS process does procure two products, a fixed price service (BGS-FP), and a commercial and industrial energy pricing service (BGS-CIEP). The BGS-FP is a fixed-price service that serves the residential and smaller commercial customers of JCP&L. The BGS-CIEP service is an hourly product that serves the larger customers of JCP&L.

Exhibit II-3
BGS Auction Process

BGS-FP – Annual Fixed-Price Auction	1/3 of expected load every February
BGS-CIEP – Annual Commercial & Industrial Energy Pricing Auction	Expected load auction every February

Source: Information Response 1 – Commodity Portfolio Risk Management Policy

Winners of the BGS-FP auction become BGS-FP suppliers and are responsible for fulfilling all the requirements of a PJM load-serving entity, including capacity, energy, ancillary services, transmission, and any other services required by PJM. Accordingly, suppliers assume migration risks and must also satisfy the state's renewable portfolio standards. BGS-FP suppliers receive an all-in payment from JCP&L based on the auction price for JCP&L.

All of JCP&L's energy transactions are executed in accordance with the FE Utilities' Commodity Risk Management Policy. FE Utilities, including JCP&L, has a default service obligation (DSO)[2] to provide the required power supply to non-shopping customers who have elected to receive service under retail tariffs. Power supply consists of energy (adjusted for distribution losses), capacity / aggregate planning resource credit (APRC), transmission, financial transmission rights (FTRs), auction revenue rights (ARRs), contracts for differences (CFDs), ancillaries, and renewable energy requirements. The procurement of power supply necessary to fulfill this obligation is, to the extent possible, achieved using competitive power procurement plans.

FE Utilities maintains a separate portfolio or book of business for the Ohio Utilities, Pennsylvania Utilities, and JCP&L. DSO load is procured through an open, fair, non-discriminatory, and transparent

[2] / DSO is meant to encompass any of the following regulatory requirements: default service obligation, standard service obligation, provider of last resort, and/or basic generation service.

competitive procurement process that is designed to objectively provide no advantage to any potential supplier and to result in minimal, if any, reliance on spot market purchases. With the exception of the Yards Creek facility, JCP&L no longer owns any generation facilities. All electric energy that is provided to JCP&L non-shopping customers is procured through the BGS process, which has been approved by the New Jersey Board of Public Utilities. Bidding processes for energy supply are currently in the process of being established in both Pennsylvania and Ohio as longer-term fixed contracts expire.

Exhibit II-4 provides the last five years of successful supplier history in the BGS auction process for serving JCP&L loads.

Exhibit II-4
JCP&L BGS Results
2008 to 2010

Winning Bidder	2006	2007	2008	2009	2010
BGS-FP Auction Results					
Consolidated Edison Energy, Inc.	4		2		
Constellation Energy Commodities Group, Inc.			2		2
DTE Energy Trading, Inc.					1
Energy America	1	2			
Exelon Generation Company, LLC		2		3	
FirstEnergy Solutions Corp.*					2
J. Aron & Company			1		
J.P. Morgan Ventures Energy Corp.	5				2
Morgan Stanley Capital Group, Inc.				4	
NextEra Energy Power Marketing, LLC					3
NRG Power Marketing, LLC		1			1
PPL EnergyPlus, LLC**	3	3	4	3	
PSEG Energy Resources & Trade, LLC	4	6	3	7	5
Sempra Energy Trading, LLC					1
TransCanada Power Marketing Ltd					1
WPS Energy Services		1			
Total Tranches	**17**	**15**	**12**	**17**	**18**
BGS-CIEP Auction Results					
Consolidated Edison Energy, Inc.		22			
Constellation Energy Commodities Group, Inc.	9		1		
Dominion Retail, Inc.				4	4
DTE Energy Trading, Inc.			1		
FPL Energy Power Marketing	11	2	8	5	
Hess Corporation					1
Morgan Stanley Capital Group, Inc				2	4
NextEra Energy Power Marketing, LLC					2
PSEG Energy Resources & Trade, LLC		5			
Total Tranches	**20**	**29**	**10**	**11**	**11**

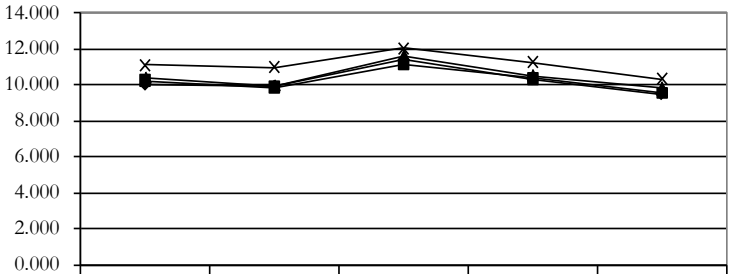
* FirstEnergy Solutions Corp. FP tranches from the 2010 auction were assigned by FirstEnergy Solutions Corp. to NextEra Power Marketing, LLC on April 22, 2010

** PPL Energy Plus FP tranches from the 2008 auction were assigned by PPL Energy Plus to Constellation Energy Commodities Group, Inc. on July 13, 2010

Source: Information Response 440 and 738

The pricing history regarding the BGS-FP process, including other New Jersey utilities, is shown in *Exhibit II-5*.

Exhibit II-5
BGS Pricing Results–FP
2006 to 2010

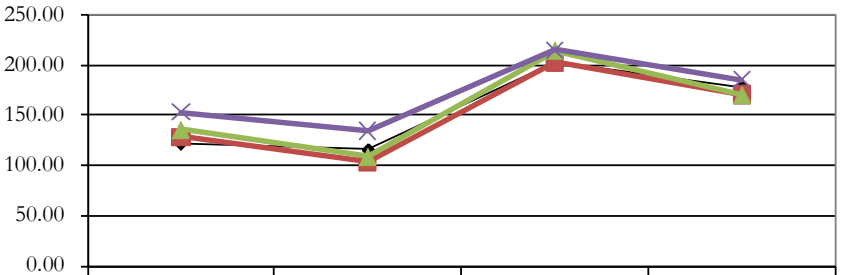


	2006 (cents/kWh)	2007 (cents/kWh)	2008 (cents/kWh)	2009 (cents/kWh)	2010 (cents/kWh)
JCP&L	10.044	9.964	11.409	10.351	9.517
PSEG	10.251	9.888	11.150	10.372	9.577
ACE	10.399	9.959	11.650	10.536	9.856
RECO	11.114	10.999	12.049	11.270	10.332

Source: Information Response 739

The pricing results trend of the BGS-CIEP is shown in *Exhibit II-6*.

Exhibit II-6
BGS Pricing Results–CIEP
2007 to 2010

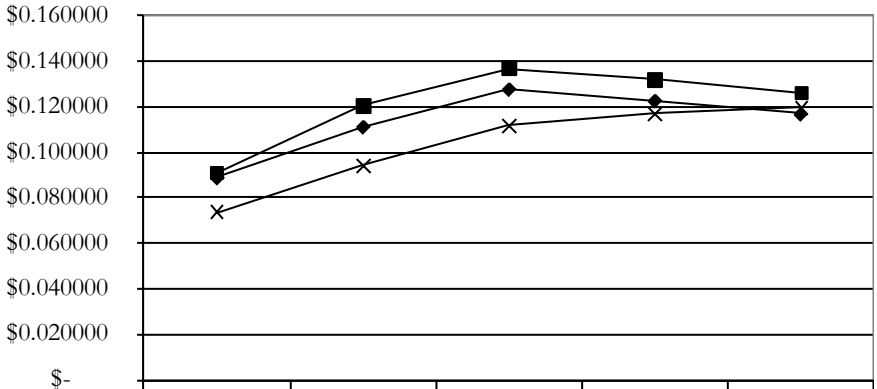


	2007 ($/MW/day)	2008 ($/MW/day)	2009 ($/MW/day)	2010 ($/MW/day)
JCP&L	121.56	115.76	203.92	177.99
PSEG	128.77	103.28	203.25	170.79
ACE	135.61	108.65	215.00	170.54
RECO	153.31	134.38	215.25	185.82

Source: Information Response 739

Exhibit II-7 provides an indication of how the actual prices paid by JCP&L's non-shopping residential customers have changed over the last five years using the residential service (RS) rate as a proxy.

Exhibit II-7
RS Rates Changes
2006 to 2010



	June 2006-May 2007	June 2007-May 2008	June 2008-May 2009	June 2009-May 2010	June 2010-May 2011
For First 600 KWH	$0.089030	$0.111331	$0.127835	$0.122779	$0.116982
For All Over 600 KWH	$0.090820	$0.120589	$0.137093	$0.132037	$0.126240
October Through May for All KWH	$0.073812	$0.094266	$0.111903	$0.117143	$0.119698

Source: Information Response 739

Yards Creek Pumping Station

The Yards Creek Pumping Station is a pumped storage facility located on the Delaware River. A pumped storage facility both uses and generates electricity. It is a facility that stores energy in a reservoir (a small lake at a higher elevation) by pumping water up into the lake such that at a later time that water can be returned to the river generating electricity through a hydroelectric generator for use at that time. The operational goal of such a facility is to pump water up into the reservoir when electricity costs are lowest and then to generate energy when electric costs are highest. The facility essentially time shifts the actual generation and usage of the electricity to achieve an economic benefit.

This resource is co-owned equally by JCP&L and Public Service Electric & Gas (PSE&G)(400 MW total nominal capacity – 200 MW to JCP&L). It is operated by Jersey Central Power & Light using contracted FirstEnergy Generation personnel. JCP&L's communication with PSE&G consists of providing a daily pumping and generation schedule. JCP&L has been self-scheduling Yards Creek for several years. This alternative approach is seen to be more beneficial than ceding control scheduling to PJM. Yards Creek operation is conducted in accordance with NOP-01 Yards Creek Operating Instructions and NOP-06 Yards Creek Unit Generation Bid.

Yards Creek is a taker of PJM day-ahead spot energy price, with the overall focus on maximizing the off-peak (pumping) to on-peak (generating) price differential opportunities. "Price taking" is used during the hours of desired operation to ensure this facility will be scheduled "on" by PJM during those hours to execute the price-differential strategy within the constraints of available water storage. Setting a PJM day-ahead non-zero offer price would incur the risk of not having the facility selected by PJM and therefore not running as desired.

The regulation ancillary service from Yards Creek is approximately 20 to 92 MW, based on the number of units in operation and the water level of the reservoir, and remains in the JCP&L portfolio. The regulation is offered into the PJM regulation market, with all revenues received by JCP&L applied to the non-utility generation charge (NGC) deferral. Any profits or losses from the management of JCP&L's Yards Creek Pumped Storage Station are applied to the JCP&L NGC deferral account.

Within the JCP&L system, the Yards Creek facility generates approximately 273,000 to 404,000 MWh of energy. This results in approximately $10 million to $23 million in net benefits being applied to the NGC rider.

St. Lawrence/FDR Project

JCP&L administers the allocation of electric power received by the state of New Jersey via the New York Power Authority (NYPA) from the St. Lawrence/FDR project (essentially Niagara Falls, etc.). A 10 MW tranche is carved out of the BGS Fixed Price auction which JCP&L then serves using the St. Lawrence generation as part of the source. Since the St. Lawrence generation is not always 10 MW around the clock, the difference (over or under) is made up by buying and selling capacity and energy in the PJM market to realize an economic benefit that is computed on a monthly basis. It is then passed through to residential customers through the NGC rider – the St. Lawrence/FDR benefit essentially serving as a credit in the NGC rider. The St. Lawrence/FDR project provides approximately a $1 million to $2 million net benefit to residential customers each year.

JCP&L serves as the scheduling and transmission agent for the St. Lawrence/FDR project's NYPA capacity and associated energy. JCP&L schedules the St. Lawrence/FDR project allocations to the municipal and cooperative utilities in New Jersey. JCP&L arranges the transmission of the St. Lawrence allocation on behalf of the investor-owned electric utilities but is not responsible for the municipal and cooperative systems allocations from the St. Lawrence/FDR project. JCP&L delivers and distributes the St. Lawrence/FDR capacity and energy as basic generation service to residential customers under the authority of the New Jersey Board of Public Utilities.

A 10 MW tranche is created to account for the St. Lawrence/FDR capacity and energy. Although the price for the St. Lawrence/FDR capacity and energy is very attractive, it amounts to less than 0.2% (10 MW tranche/5,525 MW total tranches) of the total BGS capacity and energy requirements, as shown in *Exhibit II-8*.

Exhibit II-8
Capacity and Energy Perspective
as of June 30, 2010

Tranches	Approximate Number of Tranches	Nominal MW per Tranche	Nominal Total MW
BGS-FP	47	100	4,700
BGS-CIEP	11	75	825
St. Lawrence/FDR	1	10	10

Source: Schumaker & Company Analysis

Non-Utility Generators (NUGs)

JCP&L also has an additional obligation of managing non-utility generator (NUG) activities. The JCP&L Restructuring Settlement dated May 24, 1999 approved unbundled retail electric rates for JCP&L customers with a rate structure that included components for BGS and market transition charge (MTC). On September 1, 2004, the MTC was renamed the non-utility generation charge (NGC) by order of the BPU for customer billing purposes. The NGC provides recovery of BPU-approved costs that are associated with committed supply energy, capacity, and ancillary services, net of all revenues from the sale of committed supply in the PJM market.

The rules set by the New Jersey Board of Public Utilities (NJBPU), as part of the BGS auction, allow JCP&L to retain ownership of all energy-, capacity-, and generator-related ancillary services from what the BPU refers to as JCP&L's "committed resources." Committed resources are owned generating units, contracted (NUG) generating capacity, or other power/energy products secured through contracts where some prior arrangement or entitlement is in place. Because of the BGS auction process, these resources do not serve load. Essentially, these rules place JCP&L in a "long" supply position, with no particular regulatory mandate for that supply's disposition other than that which is deemed prudent by the BPU. The measure of prudency assumed by JCP&L is the minimization of the excess-cost deferral account's size through a prudent disposition strategy that manages market risks. However, in the final Company Specific Addendum, which was approved by the BPU, it states that "JCP&L will continue to sell all of the energy, capacity and ancillary services associated with its Committed Supply into the PJM Spot Market unless and until the Board determines that a different sales protocol is appropriate."

JCP&L has a responsibility to manage and minimize its NGC deferral accounts. JCP&L has worked to renegotiate some of its NUG contracts, many of which have been allowed to expire, as shown in *Exhibit II-9*. These legacy NUGs can be divided into three groups as follows:

- *"Must Run" NUGs (originally 771 MW)* – These generators are either fixed-energy delivery power purchase agreements (PPAs) or bilateral purchases arising from renegotiated former PPAs, with predefined pricing schedules over relatively long (i.e., 20-year) periods. All NUG electricity and ancillary service output is technically part of the JCP&L supply portfolio, but because of the

BPU-allowed recovery mechanism, through the deferral account, JCP&L can expect to be "made whole" for any portion of contract cost that exceeds the PJM spot market payments at the applicable generator bus. These units are offered at zero in the PJM day-ahead market and are then paid the Locational Marginal Price (LMP) market charge price at the applicable generator bus.

- *Lakewood Dispatchable NUG* (*nominal 222 MW*) – JCP&L dispatches this facility according to PJM market opportunities. Natural gas fuel is provided by JCP&L, so the marginal cost of operation is managed through the acquisition of natural gas. Oil alternative fuel, which is supplied by Lakewood cogeneration, will be substituted when it becomes more economical than gas. Therefore, these units are offered into the PJM market at pricing that is largely based on the daily cost of natural gas versus being offered at zero, as discussed above.
- *Green Power Sources* – There is a requirement in New Jersey for "green power," referred to alternatively as "renewables," to support a BPU-established specific portion of JCP&L zonal load. This obligation is, in turn, passed onto load-serving entities serving JCP&L load. For JCP&L BGS suppliers, JCP&L allocates, without charge on a pro rata basis, its committed resources' renewable attributes after first allocating resources to fulfill its own obligations based on load served. JCP&L retains the actual electrical products delivered from these same committed resources.

By May 5, 2011, there will be only seven remaining NUG contracts, specifically Lakewood, Warren, Gloucester, Manchester, South River, Newark BoxBoard, and Parlin as shown in *Exhibit II-9* with two of those contracts expiring before the end of that year. Thus, as of the end of 2011, JCP&L will have only 316.5 MW of NUG capacity out of an original 960 MW.

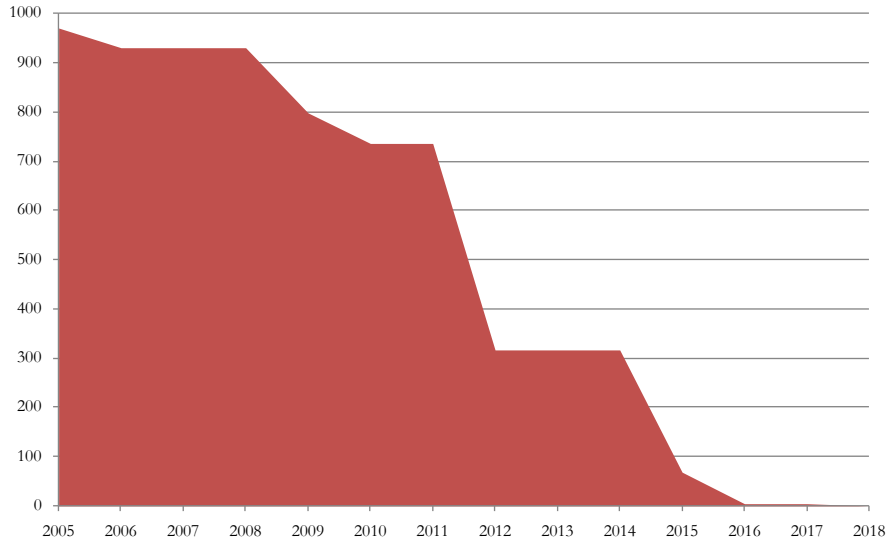
Exhibit II-9
JCP&L NUG Resources
as of June 30, 2010

NUG Contract	Commercial Operation Date	PPA Termination Date	Nameplate Rating (MW)	Negotiation Status
Bayonne	11/1/1988	11/1/2008	125.0	Terminated
Kenilworth	6/1/1989	6/1/2009	15.0	Terminated
Marcal	7/1/1989	7/1/2009	47.0	Terminated
Monmouth (MCRC)	1/1/1998	12/31/2008	7.2	Terminated
Roche Vitamins	4/1/1998	9/30/2005	40.0	Terminated
		Terminated	**234.2**	
South River	8/14/1991	8/13/2011	282.0	1st Restructuring Completed. Continuing
Newark Boxboard	11/1/1990	11/30/2015	52.0	Completed
Parlin	6/18/1991	6/17/2011	114.0	Completed
		Completed	**166.0**	
Camden	5/6/1991	5/5/2011	23.0	Continuing
Lakewood	11/1/1994	11/1/2014	238.0	Continuing
Warren	4/17/1989	4/30/2014	10.0	Continuing
		Continuing	**271.0**	
Gloucester	2/2/1990	2/1/2015	12.0	No Progress
Manchester (MRPC)	2/8/1997	2/8/2017	4.5	No Progress
		No Progress	**16.5**	
Original Total			**960.7**	

Source: Information Response 26

This remaining capacity is set to expire as shown in *Exhibit II-10*.

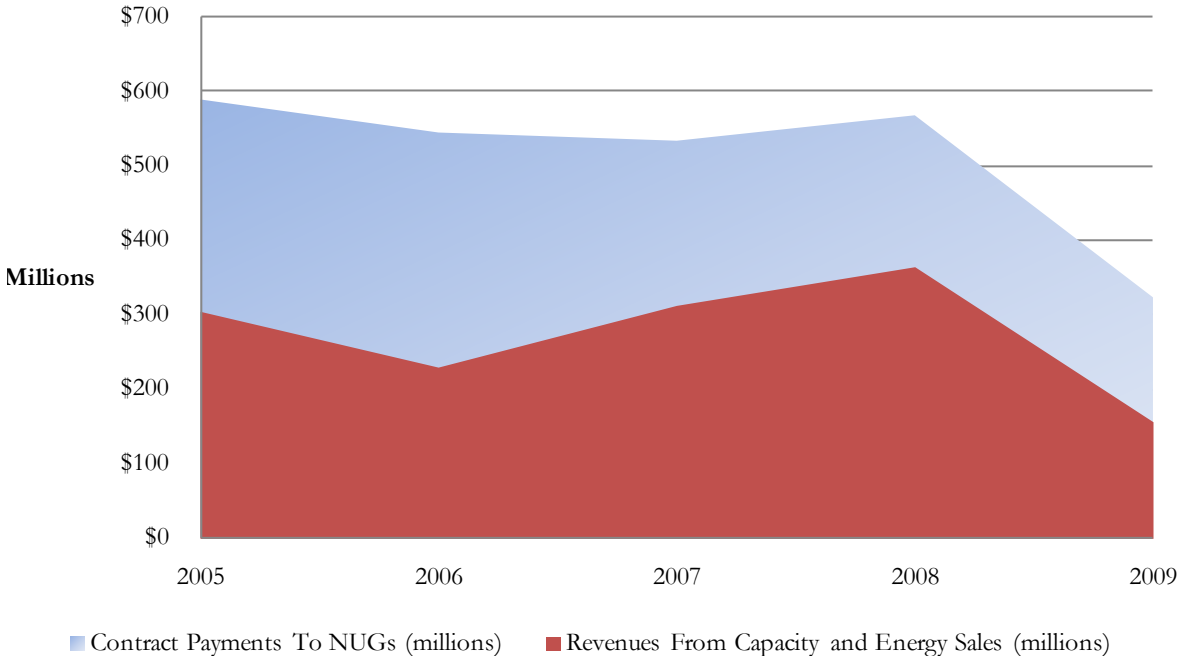
Exhibit II-10
NUG MW Commitment
as of June 30, 2010



Source: Information Response 26

The approximate costs associated with the NUGs over the last five years are shown in *Exhibit II-11*.

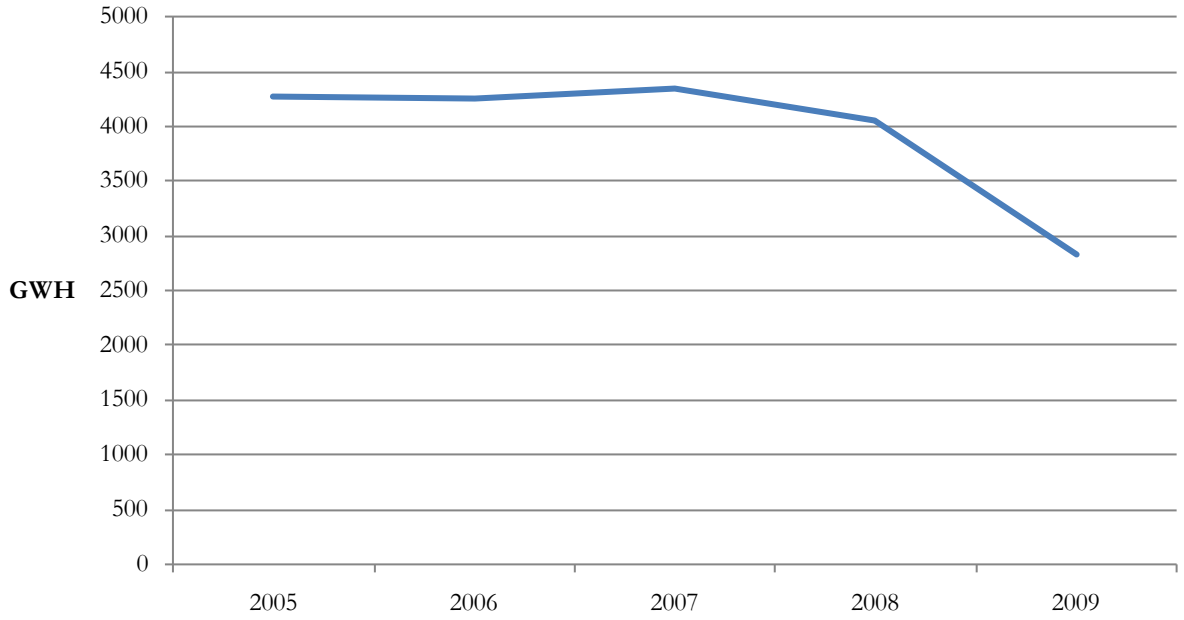
Exhibit II-11
NUG Costs
2006 to 2009



Source: Information Response 767

NUG energy is shown in *Exhibit II-12*.

Exhibit II-12
NUG Energy
2006 to 2009



Note: GWH - Gigawatt Hours
Source: Information Response 767

B. Findings & Conclusions

Finding II-1 **The only energy procured outside the BGS process is associated with the St. Lawrence/FDR project, non-utility generators (NUGs), and JCP&L's portion of the Yards Creek Pumped Storage Station.**

The only energy JCP&L procures outside the basic generation service is related to commitments that existed prior to the creation of the BGS process. With respect to the St. Lawrence/FDR project and NUGs, JCP&L takes the price offered in the PJM markets for this capacity and energy. For Yards Creek, JCP&L is a taker of PJM day-ahead spot-energy price, with the overall focus on maximizing the off-peak (pumping) to on-peak (generating) price differential opportunities.

Finding II-2 **FirstEnergy (JCP&L) has developed a clear Commodity Risk Management Policy that guides energy procurement within all of FirstEnergy.**

The FE Commodity Risk Management Policy defines the various roles and responsibilities for managing the risks associated with energy procurement as follows:

- Risk Policy Committee – The FirstEnergy Risk Policy Committee (RPC) was established by the Audit Committee of the FirstEnergy Board of Directors. The roles and responsibilities of the RPC are defined in the FirstEnergy Corporate Risk Management Policy.
- FE Utilities – Senior Management – The Senior Vice President – Energy Delivery & Customer Services, the Vice President – Customer Service & Energy Efficiency, and the various state and regional presidents are responsible for understanding the risks being undertaken by the RCS group and shall monitor and review periodic activity and risk reports.
- The Director, Regulated Commodity Sourcing is responsible for the effective implementation and administration of this policy.
  - The Director, RCS has primary responsibility for managing FE Utilities' total commodity risk exposures that are created through transactions in energy, capacity/APRCs, transmission, FTRs, ARRs, CFDs, ancillaries, and renewable energy requirements as related to the supply of power.
  - In the event of a supplier default or insufficient bids, the Director, RCS is responsible for the implementation of state regulatory commission– or Risk Policy Committee–approved contingency plans.
  - The Director, RCS develops commodity portfolio risk management strategies and enables the organization to execute these strategies. The Director, RCS will monitor the results of the commodity portfolio risk management strategies and the organization's effectiveness in achieving the objectives of these strategies. FE Service Company personnel will assist the RCS group in the performance of its duties.
  - The Director, RCS has responsibility for managing Metropolitan Edison Company, Pennsylvania Electric Company, and JCP&L NUG activities.
- Enterprise-wide risk management (EWRM) provides technical support to enable proper monitoring of performance and risk objectives. EWRM provides the independent risk management function for FE Utilities' commodity portfolio risk management.
  - EWRM is responsible for preparing and obtaining approval of this policy.
  - EWRM's credit risk management (CRM) and risk control provides daily monitoring of DSO master supplier agreements. It also works with RCS personnel to mitigate price risk associated with mark-to-market exposure through the contract's margining provisions.

- CRM provides independent auction managers with support by processing supplier credit requirements as stated by the applicable bidding rules and/or in the master supply agreement.

The policies are documented and well-written.

Finding II-3 **The Regulated Commodity Sourcing unit is responsible for managing the risks associated with the Yards Creek Pumped Storage Station and the NUGs.**

JCP&L's Regulated Commodity Sourcing unit develops the risk management programs associated with its generation and NUG responsibilities.

- RCS procures the appropriate natural gas supply and associated hedges required to meet the needs of the Lakewood NUG commitments.
- RCS bids and schedules the pumping and generation for the Yards Creek Pumped Storage Station.

Finding II-4 **Two internal audits of various aspects of JCP&L's energy procurement activities have been conducted by FE's Internal Audit organization.**

JCP&L has conducted two internal audits of Regulated Commodity Sourcing. The first internal audit resulted in the identification of a need to perform a mock drill that would simulate a BGS supplier default. JCP&L has procured several billion dollars of electric supply to serve its basic generation service customers through a statewide auction process, which is conducted by an independent auction manager. In the event of a BGS supplier default prior to or during the tenure of the agreement, JCP&L must ultimately ensure supply is available for those customers who are not shopping. Therefore, JCP&L has conducted a mock drill to ensure appropriate readiness. The other internal audit recommended various procedural and document improvements, which were subsequently implemented.

Finding II-5 **A significant number of dollars are associated with the remaining NUG contracts, although these will be expiring over the next five years.**

Although many of the NUG contracts have expired, JCP&L still has approximately 255 MW of NUG capacity to handle. The remaining contracts after May 5, 2011 will be Lakewood, Warren, Gloucester, Manchester, South River, Newark BoxBoard, and Parlin. The financial impact of these remaining contracts is shown in *Exhibit II-13*. *Exhibit II-13* shows the total contract payments by NUG and the revenue earned by sales within the PJM market. The difference between those amounts is the revenue deficiency that flows through the NGC rider. With the expiration of the South River contract (which accounted for $73 million of the $168 million deficiency) in 2011, the Lakewood NUG will account for the largest portion of the remaining deficiency. More specifically, in 2009 it accounted for approximately $31 million, as shown in *Exhibit II-13*. The remaining facilities, Warren, Gloucester, and

Manchester, are trash-to-energy facilities accounting for approximately $4.2 million. These facilities are offered into the PJM market to take the available price.

Exhibit II-13
NUG Payments and Revenue
as of December 31, 2009

NUG	Total KWH Generation	Contract Payments to NUG	Revenue Earned on Sales in PJM	Revenue Deficiency	Percent of Deficiency	Deficiency Mills/KWH
Camden	153,982,307	$13,774,849.63	$7,544,218.46	$6,230,631.17	3.71%	40.5
Composite NUG	21,714,718	$1,038,398.97	$1,112,925.06	-$74,526.09	-0.04%	(3.4)
Gloucester	91,753,328	$7,179,840.82	$4,490,043.07	$2,689,797.75	1.60%	29.3
Kenilworth	33,118	$2,233.94	$15,208.89	-$12,974.95	-0.01%	(391.8)
Lakewood	72,890,000	$48,896,123.23	$17,980,240.06	$30,915,883.17	18.39%	424.1
Manchester	35,768,990	$2,007,582.45	$1,770,746.80	$236,835.65	0.14%	6.6
Monmouth	32,535,706	$1,521,963.36	$1,650,616.27	-$128,652.91	-0.08%	(4.0)
Warren	84,697,980	$5,365,707.65	$3,922,460.24	$1,443,247.41	0.86%	17.0
	493,376,147	$79,786,700.05	$38,486,458.85	$41,300,241.20	24.57%	83.7
CES (Newark/Parlin)	0	$39,298,384.90	$0.00	$39,298,384.90	23.38%	
NJEA(South River)	2,043,550,000	$176,032,117.35	$103,102,092.39	$72,930,024.96	43.39%	35.7
Prime(Marcal)	287,940,000	$29,009,922.99	$14,468,889.60	$14,541,033.39	8.65%	50.5
	2,331,490,000	$244,340,425.24	$117,570,981.99	$126,769,443.25	75.43%	54.4
GRAND TOTAL	2,824,866,147	$324,127,125.29	$156,057,440.84	$168,069,684.45	100.00%	59.5

Source: Information Response 767

The Lakewood facility burns natural gas and/or fuel oil. JCP&L exercises its rights under the PPA to purchase natural gas for use at the facility. Natural gas price estimates are received from New Jersey Natural Gas (NJNG) for Lakewood on a pre-scheduled and intra-day basis. Intra-day natural gas has the most flexibility in scheduling so it is generally priced higher than pre-scheduled natural gas. Regulated Commodity Sourcing uses market pricing to develop all PJM day-ahead market offers for the Lakewood facility. The use of intra-day natural gas pricing for PJM offers ties the natural gas price to the timing of the "gas day" relative to the timing of the "PJM market day." This procedure attempts to mitigate the financial impact to JCP&L from offering on a pre-scheduled (cheaper natural gas) basis, having PJM take more or less hours than pre-scheduled, and then having to make up the difference at intra-day prices (more expensive).

Finding II-6 JCP&L has been reasonable in its management of the NUGs.

Although it would be ideal to have the ability to renegotiate some of the contracts such that ratepayers would not have to incur the remaining cost, it is unlikely that much renegotiation could be done given that these contracts will be expiring shortly. Furthermore, several of the contracts are tied to trash-to-energy facilities, which would further complicate these renegotiations.

The Lakewood NUG contract requires JCP&L to make a monthly payment of slightly over $3.5 million to the owner of the facility. Therefore, there is a fixed cost of approximately $42 million that would need to be overcome via the margin on the PJM market sales. With energy sales and prices decreasing in the last several years (even with natural gas prices declining), there is probably little incentive on the part of the project owner to renegotiate this contract versus allowing it to expire in 2014.

Finding II-7 **The Yards Creek Pumping Station is appropriately managed by the JCP&L Commodity Resourcing organization.**

Schumaker & Company consultants requested the pumping and generating schedules for the Yards Creek facility and compared those schedules to the hourly prices in the PJM market. Generally, the Yards Creek facility is pumping between 12:00 midnight and 6:00 am when energy prices are from approximately $25 to $45 per mWh and generating during the afternoon when energy prices are from $45 to $280 per mWh. JCP&L had developed a reasonable estimate for taking power during the lowest time period and for generating during periods of peak energy costs.

Finding II-8 **JCP&L energy purchases have been appropriately allocated to customer classes.**

The costs and sales associated with Yards Creek, St. Lawrence/FDR and the NUGS are accumulated in various general ledger accounts. On either a monthly or annual basis, balances within these accounts are reconciled to a deferral account which forms the basis for adjusting the NGC rider, if necessary, to account for major changes in economics such as the expiration of NUG contracts or other changes. Schumaker & Company consultants reviewed the work papers that are developed in making these calculations for a sample month (December 2010) and verified the reasonableness of the calculations.

Schumaker & Company reviewed the allocations of the cost and benefits associated with the Yards Creek, St. Lawrence/FDR, and NUG contract purchases. All of these costs and benefits flow through the NGC rider as follows:

- The NUG costs in excess of the sales realized into the PJM market are contained in the NGC rider. This rider is charged to all customer classes on a kWh basis.
- The Yards Creek benefits (the excess of sales into PJM over the costs of the generation) are assigned to the NGC rider. This assignment essentially lowers the overall NGC costs.
- The St. Lawrence/FDR benefits are also assigned to the NGC rider, although the rider is applicable to only the residential rate classes.

C. Recommendations

None

III. Affiliated Relationships and Affiliate Allocation Methodologies

This chapter addresses the affiliate relationships of Jersey Central Power & Light Company (JCP&L) within the FirstEnergy (FE) organization. It also focuses on the direct charging/cost allocation methodologies used for affiliate transactions between FE entities.

A. Affiliate Relationships

Background & Perspective

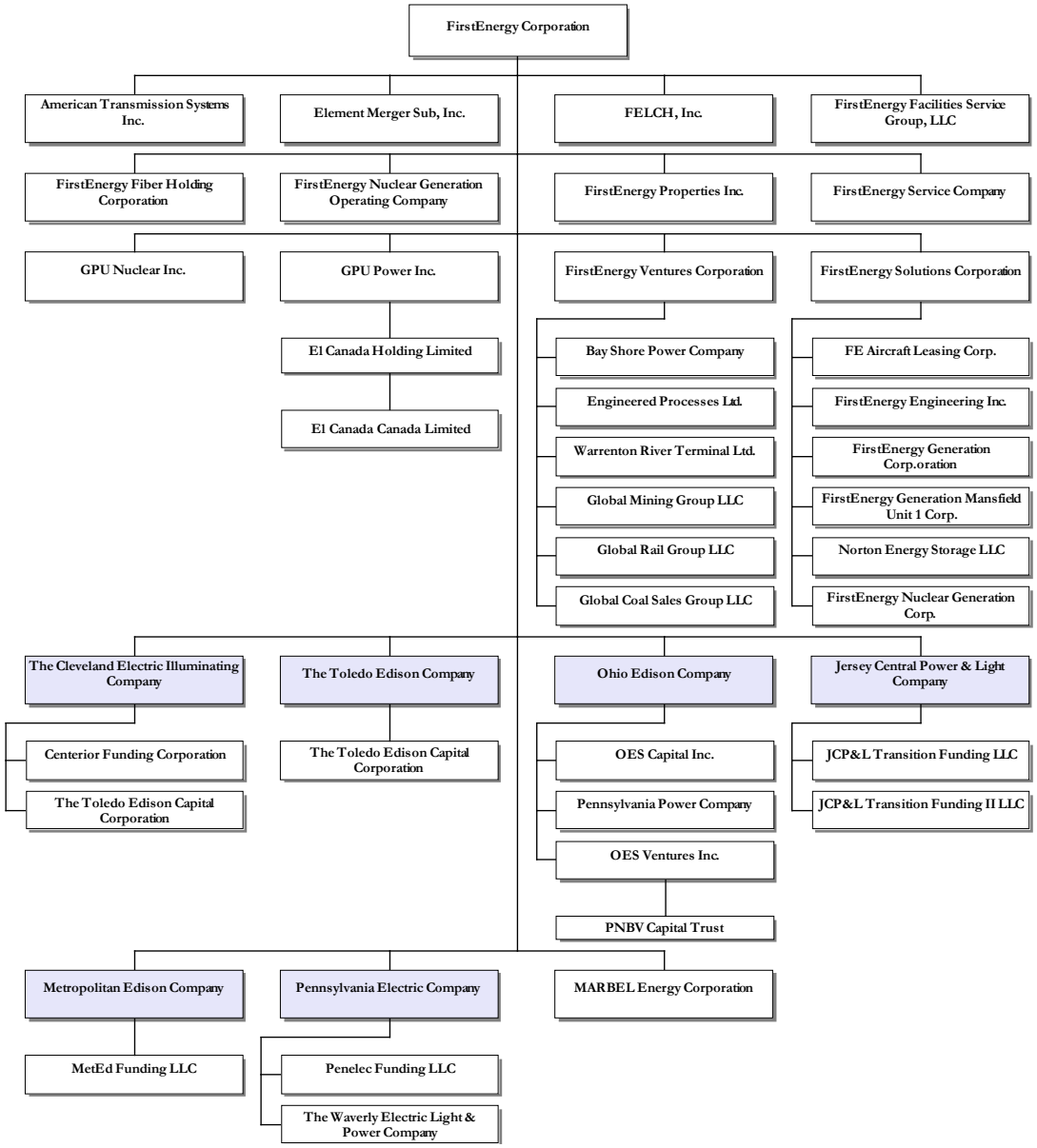
Organizational Structure

Exhibit III-1 (on the following page) displays the FE organization in which the JCP&L entity and other regulated entities are highlighted in gray. Additionally, JCP&L has two special-purpose financing entities that are wholly owned by JCP&L (i.e., JCP&L Transition Funding, LLC and JCP&L Transition Funding II, LLC) as follows:

- JCP&L Transition Funding, a Delaware limited liability company, was formed on February 24, 2000 and is a wholly-owned subsidiary of JCP&L. On February 6, 2002 in Docket No.EF99080615, JCP&L received a bondable stranded-costs rate order (financing order) from the New Jersey Board of Public Utilities (NJBPU). This order authorized the issuance of $320 million of transition bonds to securitize the recovery of bondable stranded costs associated with the previously divested Oyster Creek Nuclear Generating Station, plus upfront transaction costs. The financing order was issued in accordance with the Electric Discount and Energy Competition Act, which was enacted by the state of New Jersey in February 1999. JCP&L Transition Funding sold $320 million of transition bonds in June 2002.
- JCP&L Transition Funding II, a Delaware limited liability company, was formed on March 29, 2004 and is a wholly-owned subsidiary of JCP&L. On June 8, 2006 in Docket No.ER03020133, JCP&L received a bondable stranded-costs rate order from the NJBPU. This order authorized the issuance of transition bonds to securitize the recovery of bondable stranded costs associated with JCP&L's deferred basic generation service (BGS) net of tax account balance at July 31, 2003 plus upfront transaction costs. In August 2006, JCP&L Transition Funding II sold $182 million of transition bonds to securitize the recovery of deferred costs associated with JCP&L's supply of BGS.

JCP&L did not purchase and does not own any of the transition bonds, which are included as long-term debt on FirstEnergy's and JCP&L's consolidated balance sheets. The transition bonds are the sole obligations of JCP&L Transition Funding and JCP&L Transition Funding II and are collateralized by each company's assets, which consist primarily of bondable transition property.

Exhibit III-1
FirstEnergy Organization
as of June 30, 2010



Source: Information Response 8

JCP&L sold its bondable transition property to JCP&L Transition Funding and JCP&L Transition Funding II. As servicer, JCP&L manages and administers the bondable transition property, including the billing, collection, and remittance of the transition bond charge (TBC), pursuant to separate servicing agreements with JCP&L Transition Funding and JCP&L Transition Funding II. For the two

series of transition bonds, JCP&L is entitled to aggregate annual servicing fees of up to $628,000 that are payable from TBC collections.

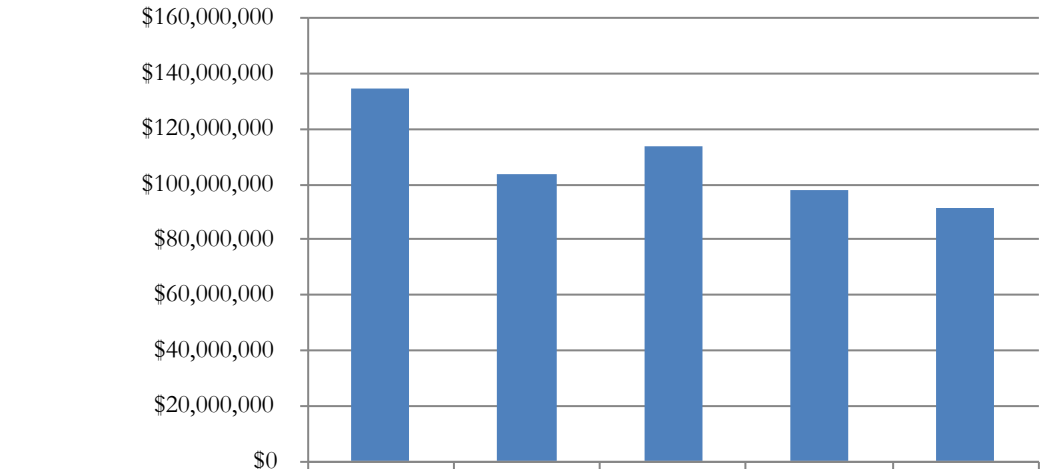
Both JCP&L Transition Funding and JCP&L Transition Funding II were established as Delaware limited liability companies and are subject to annual report filing fees of $250 each. They are single-member limited liability companies, which are treated as "disregarded entities" (JCP&L divisions) for federal and state income tax purposes. Accordingly they are therefore not subject to federal, New Jersey or Delaware income or franchise taxes.

Affiliate Transactions from/to JCP&L

Service Transactions

Exhibit III-2 illustrates yearly service charges from FE affiliates to JCP&L.

Exhibit III-2
Service Transactions from Affiliates to JCP&L
2005 to 2009



	2005	2006	2007	2008	2009
From Affiliates to JCP&L	$134,657,749	$103,477,613	$113,445,684	$97,855,121	$91,316,856

Source: Information Response 10

Exhibit III-3 illustrates the type of affiliate billings to JCP&L by billing company for the period spanning 2005 through 2009.

Exhibit III-3
Service Transactions from Affiliates to JCP&L
by Company and by Billing Type
2005 to 2009

Billing (Home) Company	What Was Billed	2005	2006	2007	2008	2009
Cleveland Electric	Mutual Assistance	$3,588,790	$89,135	$151,857	$2,093	$113
Cleveland Electric	Planning for ED A&G	$0	$0	$170,473	$11,402	$0
FE Generation	Environmental Support	$340,836	$0	$0	$0	$0
FE Generation	Forked River	$3,496,646	$1,417,199	$973,544	$350,592	$227,127
FE Generation	Forked River Fuel	$5,705,347	$3,060,670	$2,324,334	$808,870	$0
FE Generation	Merrill Creek Suport	$0	$3,609	$0	$0	$0
FE Generation	Yards Creek	$6,057,021	$3,025,886	$6,353,254	$4,320,868	$3,644,283
FE Nudear Co.	Activity Allocations	$46	$42	$0	$61	$184,040
FE Nudear Co.	Assessments	$230,639	$147,728	$145,106	$158,740	$0
FE Properties	Ghent Road Bldg. & West Akron Bldg	$0	$0	$4,972	$81,267	$100,711
FE Service Co.	Activity Allocations	$8,002,132	$4,795,691	$4,925,711	$4,286,194	$3,219,220
FE Service Co.	Assessments	$79,683,569	$84,256,291	$92,806,378	$81,166,066	$76,893,498
FE Service Co.	Misc	$1,005,818	($406,242)	$283,432	$187,340	$339,264
FE Service Co.	Settlement Activity Allocations	$4,113,057	$4,310,383	$2,527,922	$3,625,399	$4,703,160
FE Service Co.	Year End PUHCA Adjustment	$9,474,167	$0	$0	$0	$0
FE Solutions	Commodity Risk Management	$46,562	$9,680	$0	$0	$0
GPU Nudear	Assessments	$2,114,147	$247,938	$402,546	$677,045	$686,708
Met-Ed	Airport Building	$93,485	$210	$0	$0	$0
Met-Ed	GPU Nudear Building	$0	($57,293)	$47,523	($27,327)	$0
Met-Ed	Mutual Assistance	$1,166,736	$67,405	$246,830	$202,066	$21,599
Ohio Edison	Meter Testing	$1,377	$342	$124	$289	$44
Ohio Edison	Mutual Assistance	$4,321,202	$162,907	$64,558	$249,581	$0
Penelec	Broad Street Building	$208,913	$304,583	$285,415	$222,997	$0
Penelec	Mutual Assistance	$1,181,653	$177,244	$199,250	$115,598	$368
Penn Power	Mutual Assistance	$475,285	$117,385	$66,646	$0	$0
Toledo Edison	Mutual Assistance	$1,654,951	$88,946	$0	$11,190	$0
FE Service Co.	Activity Allocations	$0	$8,871	$16,836	$16,061	$11,902
		$132,962,377	$101,828,610	$111,996,712	$96,466,392	$90,032,038

Source: Information Response 10
*Transactions to JCP&L Transition Funding
ED=Energy Delivery
A&G=Administrative & General
PUHCA=Public Utility Holding Company Act

The affiliate providing the majority of services and, thus, the largest costs to JCP&L is FirstEnergy Service Company (SERVECO), which provides corporate/governance and transactional services to FirstEnergy Corporation subsidiaries. The costs charged by affiliates other than SERVECO to JCP&L include the following:

- Ghent Road/Summit Park facilities benefiting JCP&L that are billed by FE Properties
- The Broad Street building in Johnstown benefiting JCP&L that is billed by Penelec
- Beta Lab benefiting JCP&L that is billed by FirstEnergy Nuclear Operating Company (FENOC)

- Forked River operations and maintenance (O&M) expenses billed by FirstEnergy Generation Corporation (Forked River generating station was sold to an unrelated third party in April 2008)
- Yards Creek O&M expenses billed by FirstEnergy Generation Corporation (Yards Creek pump storage station is jointly-owned by JCP&L and PSE&G, although JCP&L operates through the plant through FirstEnergy Generation Corporation)
- Mutual assistance work by utility affiliates on various NJ storms

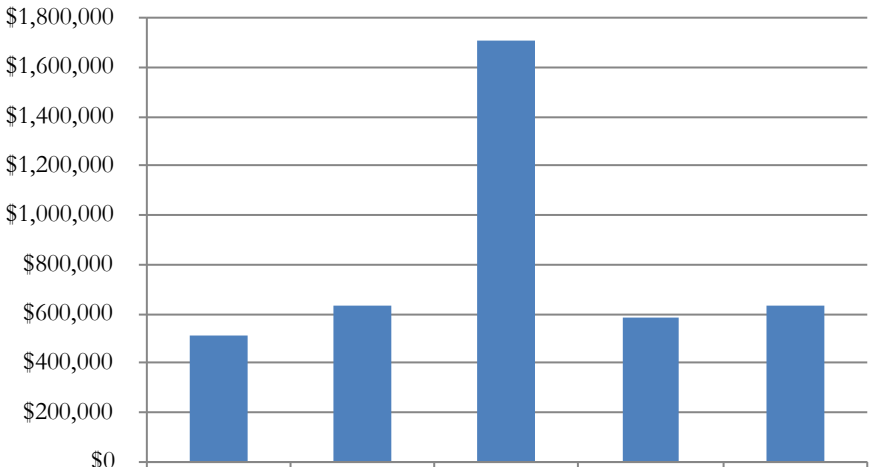
Excluded from *Exhibit III-2* and *Exhibit III-3* is interest expense on intercompany debt (money pool) from FirstEnergy Corporation, as this interest expense is an item covered by a separate NJBPU order and reflected directly on JCP&L's income statement. Although Schumaker & Company still characterizes this expense as an affiliate cost, our discussion of this item can be found in *Chapter VIII – Finance & Accounting* of Schumaker & Company's audit report.

Some "affiliate charges" that were paid to First Communications, which is 15% owned by FirstEnergy, were also excluded from *Exhibit III-2* and *Exhibit III-3*, because they are services provided on an aggregate basis, with the costs similarly paid on an aggregate basis by SERVECO and allocated to the associated companies. As part of the infrastructure used for the FE Information Technology (IT) function, First Communications, Inc. (an affiliate entity by virtue of FE's approximately 15% interest in First Communications) procures some special circuits (voice, data, and SCADA circuits) that are provided by AT&T and Qwest as well as other carriers (e.g., Verizon, AT&T, and MCI). These circuits provide IT/data processing within the FE system. In addition, FirstEnergy uses First Communications to provide long-distance services, limited local services, limited cellular services, and some special circuits in its three-state (OH, PA, and NJ) service area. The long-distance services provided by First Communications include outgoing intrastate and interstate long-distance services and incoming toll-free service. For some long-distance services, First Communications is the actual provider/carrier provider. For others, First Communications resells the services of AT&T and Qwest. In the Akron, OH area, First Communications provides limited local telephone service to some Akron locations (such as the West Akron Campus and the Fairlawn Service Center). Also, Verizon and Nextel cellular services are provided through First Communications, which also administers these cellular accounts for FirstEnergy. As part of the infrastructure used for the FE IT function, First Telecom Services, LLC (FTS), a subsidiary of First Communications, Inc., is used for the construction of external and affiliated fiber projects, the administration of "dark fiber" leases and agreements with other external carriers, and the coordination of external and affiliated fiber construction and repairs projects across FirstEnergy's three-state area.

Also excluded from *Exhibit III-2* and *Exhibit III-3* are charges associated with the FERC-filed Restated Composite Power Pooling Agreement among Met-Ed, Penelec, and JCP&L pertaining to Met-Ed's ownership interest in certain transmission lines (including the Susquehanna East line) built to transmit power from Three Mile Island (TMI), the costs for which are shared by the former GPU operating companies in accordance with the FERC-filed Restated Composite Power Pooling Agreement reflecting their respective former and current former joint ownership interests in the TMI facilities (i.e., Met-Ed-50%, JCP&L-25%, Penelec-25%).

Exhibit III-4 illustrates yearly service charges from JCP&L to FE affiliates.

Exhibit III-4
Service Transactions from JCP&L to Affiliates
2005 to 2009



	2005	2006	2007	2008	2009
From JCP&L to Affiliates	$515,850	$632,429	$1,706,185	$583,663	$635,515

Source: Information Response 10

Exhibit III-5 illustrates the type of billings by company for the period spanning 2005 through 2009.

Exhibit III-5
Service Transactions from JCP&L to Affiliates
by Company and by Billing Type
2005 to 2009

Billed (Receiving) Company	What Was Billed	2005	2006	2007	2008	2009
American Transmission Systems, Inc	Lease/Rental Building - MGO	$16,392	$14,894	$14,528	$13,631	$14,572
American Transmission Systems, Inc	Work Trucks	$0	$1,877	$356	$315	$42
Cleveland Electric	Lease/Rental Building - MGO	$51,135	$46,112	$43,072	$34,820	$35,488
Cleveland Electric	Mutual Assistance	$26,296	$42,403	$52,259	$170,417	$35,565
FE Corporation	Lease/Rental Building - MGO	$31,000	$24,253	$15,148	$15,179	$15,179
FE Corporation	Public Affairs Lobbyist Office	$63,685	$67,704	$67,162	$69,485	$69,212
FE Facilities	Lease/Rental Building - MGO	$415	$104	$0	$0	$0
FE Fiber Holdings	Lease/Rental Building - MGO	$145	$199	$156	$46	$0
FE Fiber Holdings	Mutual Assistance	$0	$177	$2,961	$0	$0
FE Generation Corporation	Forked River/Yards Creek Support	$31,415	$3,040	$0	$0	$57,265
FE Generation Corporation	Lease/Rental Building - MGO	$20,039	$17,790	$13,876	$28,265	$29,819
FE Nuclear	Lease/Rental Building - MGO	$98	$118	$161	$455	$425
FE Nuclear Generation Corporation	Lease/Rental Building - MGO	$0	$16,891	$17,374	$34,380	$31,200
FE Properties	Lease/Rental Building - MGO	$38	$63	$54	$105	$174
FE Solutions	Commodity Operations	$0	$0	$1,219	$0	$0
FE Solutions	Lease/Rental Building - MGO	$1,485	$2,769	$5,660	$2,735	$1,093
FE Ventures	Lease/Rental Building - MGO	$867	$1,287	$337	$1,117	$820
GPU Diversified Holdings	Lease/Rental Building - MGO	$25	$36	$19	$17	$17
Marbel	Lease/Rental Building - MGO	$112	$121	$66	$121	$74
Met-Ed	Lease/Rental Building - MGO	$27,754	$26,063	$28,020	$30,479	$31,359
Met-Ed	Mutual Assistance	$3,443	$140,476	$1,213,457	$41,142	$0
Ohio Edison	Lease/Rental Building - MGO	$63,853	$56,415	$52,206	$43,199	$44,413
Ohio Edison	Mutual Assistance	$20,501	$35,899	$37,634	$47,878	$24,846
Penelec	Lease/Rental Building - MGO	$28,826	$27,055	$27,679	$25,773	$25,956
Penelec	Mutual Assistance	$87,852	$55,015	$80,489	$0	$195,318
Penn Power	Lease/Rental Building - MGO	$10,870	$10,014	$7,734	$4,887	$4,432
Penn Power	Mutual Assistance	$0	$4,658	$1,489	$0	$0
Toledo Edison	Lease/Rental Building - MGO	$29,154	$25,904	$23,068	$19,216	$18,245
Toledo Edison	Mutual Assistance	$449	$11,091	$0	$0	$0
		$515,850	**$632,429**	**$1,706,185**	**$583,663**	**$635,515**

Source: Information Response 10
MGO = Morristown General Office

Costs charged by JCP&L to affiliates other than SERVECO, but which are allocated directly to such affiliates through SERVECO, include the following:

- Forked River fuel cost that is billed to FirstEnergy Generation Corporation
- Morristown building space benefiting the affiliates that is charged directly to affiliates
- Public affairs lobbyist office in Trenton that is billed to FirstEnergy Corporation

Employee Transfers

Exhibit III-6 illustrates the number of employees transferring in and out of JCP&L and its affiliates. The net change since 2005 has been three employees from JCP&L to its affiliates. In only one year (2008) has there been a large net decrease from JCP&L to its affiliates. One of the drivers of such shifts between JCP&L and affiliates is movement of engineers between JCP&L and SERVECO, which may depend on the construction projects being undertaken at a given time. Another contributing cause may of employee shifts is JCP&L employees going out on long-term disability (LTD), as employees on LTD are moved to a SERVECO cost center and stay there unless or until they return to their position.

Exhibit III-6
Employee Transfers between JCP&L and Affiliates by Year
2005 to 2010 (Through August 31, 2010)

Transferring from	Transferring to	2005	2006	2007	2008	2009	2010	Grand Total
JCP&L	ATSI	1						1
JCP&L	Cleveland Electric	1			1			2
JCP&L	FE GENCO	1	2					3
JCP&L	Met-Ed	1		7	3	1	1	13
JCP&L	Ohio Edison	1						1
JCP&L	Pennelec	2			1			3
JCP&L	SERVECO	8	9	11	15	9	5	57
	From JCP&L	**15**	**11**	**18**	**20**	**10**	**6**	**80**
ATSI	JCP&L		1					1
Cleveland Electric	JCP&L		1					1
FE GENCO	JCP&L						2	2
Met-Ed	JCP&L	1		3	1		1	6
Ohio Edison	JCP&L						1	1
SERVECO	JCP&L	11	12	18	6	8	10	65
Toledo Edison	JCP&L		1					1
	To JCP&L	**12**	**15**	**21**	**7**	**8**	**14**	**77**
	Net	**(3)**	**4**	**3**	**(13)**	**(2)**	**8**	**(3)**
	Grand Total	**27**	**26**	**39**	**27**	**18**	**20**	**157**

Source: Information Response 677

Charges related to personnel transfers (such as moving expenses) between companies (for example, an employee transferring from JCP&L to Metropolitan Edison (Met-Ed)) are not billed from one company to another. Rather, such expenses are charged directly to the company to which the employee is transferred. In this example, the moving expenses would be charged directly to Met-Ed, thereby precluding the need for an affiliated transaction regarding moving expenses. Then, on the effective date of the employee transfer, the salary and benefits of the employee transferring from JCP&L to Met-Ed

are charged to the cost center of his or her new Met-Ed organization/department, not to his or her former JCP&L organization/department.

Asset Transfers

No assets transferred between JCP&L and its FE affiliates during 2005 and 2006; however, there were assets transferred from JCP&L to its affiliates between 2007 and 2010. The majority of these asset transfers were associated with corrections of previously transferred assets from SERVECO to FE operating companies that resulted in a transfer of assets with a net book value of $820,177.66 from JCP&L to SERVECO, Cleveland Electric Illuminating (CEI), and Ohio Edison Company (OE). Additionally, there were substation assets (transformers and circuit breakers) with a net book value of $119,706.04 that were transferred from JCP&L to Met-Ed. According to FE management, the majority of these transactions that occurred in 2007 to 2009 were uncommon and driven by issues resulting from SERVECO's ownership of assets used by the operating companies, as mentioned above. As a 2007 example of a correction of previously transferred assets from SERVECO, SERVECO transferred to the operating companies, including JCP&L, assets associated with certain buildings in Ohio that were used to support energy delivery activities throughout the FE territories**.** The asset values of these buildings, which included the Main Avenue customer center, the employee training center, and the FE call center, were allocated to all the operating companies. It was later determined that the asset values of the buildings that are located in Ohio should remain with companies in Ohio and not be allocated to other companies outside Ohio. This decision also included equipment housed in these buildings, such as office furniture and computer equipment. Consequently, these assets were transferred to either the Ohio operating company in whose territory the building resided or back to SERVECO in early 2008.

Additionally, during this same period, SERVECO transferred assets to JCP&L with a total value of $11,877,779.71, which consisted primarily of general plant items, such as office furniture, data processing equipment, and software. Among the assets transferred from SERVECO to JCP&L were buildings (training sites) that were constructed for Energy Delivery (ED) using SERVECO project designations. The department, which had the responsibility to create these sites (lineman training facilities), was a SERVECO department working for ED. The asset values of these projects were transferred to the appropriate operating company during their closeout analysis. For example, the Phillipsburg training site was constructed using a SERVECO project designation. When the project was placed in service, a SERVECO asset was created. This asset was then transferred to JCP&L because this facility is used to train JCP&L employees and the building is located in New Jersey.

Findings & Conclusions

Finding III-1 **FirstEnergy and JCP&L generally met compliance with competitive service statutes and sections of the New Jersey Administrative Code, with the exception of any Phase I findings identified in this report.**

Specifically with regard to affiliate relationships, we examined and determined whether the holding company structure, affiliates, and their diversified activities have had or may have any detrimental effects on JCP&L. We reviewed and evaluated JCP&L's interactions with its affiliates, including but not limited to:

- A review of JCP&L's contracts and transactions with FE and with JCP&L's other affiliates
- An evaluation of the independence of purchasing on behalf of JCP&L on all staff levels and an assessment of such purchasing's performance in acting in the best interest of JCP&L and its ratepayers
- An evaluation of JCP&L's relationship with FE and its affiliates and the ability of JCP&L's internal controls and structure to allow them to make purchases on behalf of JCP&L that are in the best interest of JCP&L and its ratepayers
- An examination and determination of whether JCP&L has an internal system to provide assurance that its goals and objectives are accomplished at the lowest possible cost and the maximum benefit to its ratepayers – This should give a true and accurate account of the transactions of JCP&L and its affiliates and show that they have been carried out with integrity and according to standards consistent with regulatory and legal requirements.
- An examination and determination of whether JCP&L has internal controls that protect against irregular, illegal, and/or improper transactions, including accounting and financial activities that could result in trading irregularities, market price manipulation, false price information, or unfair cost allocations from FE or any of its affiliates to JCP&L
- A review of the following communication areas, including:
  - Evaluation of the internal controls and flow of information among JCP&L, FE, and JCP&L's other affiliates
  - Evaluation of the correspondence between directors and officers to determine if discussions were conducted at arms' length, in a way that ensured compliance with affiliate relationships and fair competition standards and in the best interest of JCP&L's ratepayers.

With regard to cost allocation methodologies, we reviewed the following:

- Identification of the accounting and allocation procedures for separating the costs of JCP&L intercompany transactions from affiliates

- Evaluation of the accuracy of allocations when allocating joint/common costs between JCP&L and FE/its affiliates by providing direct cost allocations when possible and explanations where the costs cannot be directly allocated
- Review of the timesheet reporting practices of employees with shared JCP&L and FE responsibilities to determine allocations and whether the duties of employees who bill time for JCP&L and FE and/or its affiliates create the potential for cross-subsidy
- Review and assessment of the pricing policies between affiliate interests (e.g., the market price of electricity compared to the cost of electricity purchased by JCP&L)
- Evaluation of competitive and noncompetitive bidding procedures
- Identification of all of JCP&L's lease arrangements with FE and its affiliates to determine if: 1) their terms are consistent with lease arrangements in competing local markets; 2) they have recommended cost allocations; and 3) they are set at arms' length
- Review of affiliate charges and cost allocation methodologies among JCP&L, FE, and its affiliates for adherence to applicable legal, regulatory, and contractual requirements

See *Phase I* findings where Schumaker & Company has identified areas in need of improvement.

Finding III-2 All affiliate arrangements involving JCP&L do not have agreements currently in place.

A *service agreement*, which includes a detailed description of services and allocation methodologies, was dated June 1, 2003 and was executed effective June 30, 2003 between FirstEnergy Service Company (SERVECO) and its client companies (Ohio Edison Company, Cleveland Electric Illuminating Company, Toledo Edison Company (TE), Pennsylvania Power Company (Penn Power), American Transmission Systems, Inc. (ATSI), Pennsylvania Electric Company (Penelec), Metropolitan Edison Company, JCP&L, Waverly Electric Power & Light Company, and York Haven Power Company). According to FE management, this agreement, which prescribes how transactions between SERVECO and affiliates are to be handled and includes a listing of allocation factors, has been approved by the Federal Energy Regulatory Commission (FERC) and state regulatory commissions, including the NJBPU. Any new allocation factors, as well as any major changes in the application of these allocation factors, require FERC and NJBPU approval; however, no changes have occurred since the agreement was initially approved in 2003. FirstEnergy's cost allocation manual (CAM) is not required to be submitted to the FERC or the NJBPU for approval.

In Section 5 of the SERVECO/JCP&L agreement, it states that JCP&L and SERVECO are to prepare a service request on or before September 30th of each year that lists the services to be provided to JCP&L by SERVECO and any special arrangements related to the provision of such services for the coming year. Such specifics are based on services provided during the preceding year. The section also indicates that JCP&L and SERVECO may supplement the service request during the year to reflect any additional or special services JCP&L wishes to obtain from SERVECO and the arrangements relating thereto. Rather than preparing formal service requests each year, centralized services provided by

SERVECO to affiliate companies are reviewed in connection with the annual review of cost allocation methods used and affiliate companies billed. FirstEnergy management then, as needed, modifies the existing centralized services. The services provided are also reviewed in connection with the annual budgeting process, which is based on the continuation of existing centralized services as well as additional centralized services required to meet the needs of affiliate companies.

Other affiliate agreements involving JCP&L include:

- A *mutual assistance agreement* was executed on October 28, 1993 among JCP&L, Met-Ed, Penelec, GPU Service Corporation (GPUSC), and GPU Nuclear (GPUN) Corporation, when JCP&L was part of the General Public Utilities (GPU) organization. It does not include FE's OH-based regulated utilities (i.e., OE, CEI, and TE). This agreement is a legacy agreement and there is no updated agreement that includes all of FE's operating companies. However, a proposed amended and restated mutual assistance agreement (ARMAA), which would include these FE Ohio-based utility companies, has been submitted to the Pennsylvania Public Utilities Commission (PaPUC). This agreement was pending review and approval by the PaPUC at the time of Schumaker & Company's fieldwork, but has since been approved by the PaPUC. No up-to-date ARMAA has been filed with the NJBPU or the Public Utilities Commission of Ohio (PUCO), although JCP&L had indicated that (a) it has executed the ARMAA that was recently approved in PA, and (b) Section 9 of the ARMAA reflects the need for JCP&L to obtain NJBPU approval with respect to transactions involving management, advisory, construction, or engineering services under the ARMAA in accordance with statutory requirements but not for all transactions. JCP&L has also indicated that it is not aware of any regulatory requirements relative to the filing of the ARMAA in Ohio.
- A *BGS master supply agreement* dated February 27, 2010 between JCP&L and FirstEnergy Solutions (FES) was executed. (Dollar figures are not included in either *Exhibit III-3* or *Exhibit III-5* because this contract reflects FES as a BGS supplier to JCP&L, not service transactions as generally included in these exhibits.)
- A *communications protocol document*, dated February 1, 2008, between the FE Regulated Commodity Sourcing Group (part of the JCP&L organization) and FE Generation Company (GENCO), for the Yards Creek station (a pumped storage facility) and the Forked River generating station was executed. This document delineates the relative responsibilities between Regulated Commodity Sourcing, which dispatches the plant and owns 50% of the output, and FirstEnergy Generation Corporation, whose employees physically operate the plant. It is not really an affiliate agreement.
- A *capacity use and service agreement*, a *facilities lease and indefeasible right-of-use agreement*, and an *agency agreement*, respectively, were entered into in 1998 pursuant to the NJBPU Order in Docket No.EE97050350 between JCP&L (and certain other FirstEnergy utilities) and a counterparty then known as GPU Telcom Services, Inc. (GPU Telecom). Since 1998, there have been several transactions that have impacted the identity of the counterparty to those agreements, including internal re-organizations following the 2001 merger of GPU and FirstEnergy and the

subsequent sale of portions of the business previously carried on by GPU Telcom. Transactions performed include the following:

- Subsequent to the GPU/FirstEnergy merger in late 2001, GPU Telcom Services, Inc. was merged into FirstEnergy Telecom Services, Inc. By virtue of that merger, FirstEnergy Telecom Services, Inc. succeeded GPU Telcom Services, Inc. as the counterparty to the 1998 agreements.
- Effective March 8, 2008, substantially all of the assets of FirstEnergy Telecom Services, Inc. were sold to First Telecom Services, LLC, a subsidiary of First Communications, Inc. (FirstEnergy Corporation currently owns an approximately 15% interest in First Communications), and the 1998 agreements were assigned to FTS. (As part of this transaction, FirstEnergy Telecom Services, Inc. changed its name to FirstEnergy Fiber Holdings Corporation.)
- On August 20, 2009, FTS transferred and assigned the wireless portion of its interests in the 1998 agreements to Diamond, a subsidiary of Diamond Communications, LLC. This transfer and assignment divided the lines of business covered by the agreements into two separate businesses: (i) the land-based fiber optic business, which remains with FTS; and (ii) the wireless business, which operates, leases, and develops structures for wireless equipment and facilities, both of which have been transferred to Diamond. According to JCP&L management, there were no changes in the financial implications for JCP&L and its customers under the 1998 agreements as a result of this transaction.

The annual revenue received by JCP&L under the three agreements for the years 2005 through 2009 and year-to-date through November 2010 from (i) FirstEnergy Telecom Services, Inc. (now FirstEnergy Fiber Holdings Corp.) for 2005 through March 8, 2008, (ii) FTS from March 8, 2008 through August 20, 2009, and (iii) FTS and Diamond from August 20, 2009 through December 31, 2010 is summarized in *Exhibit III-7*.

Exhibit III-7
FTS/Diamond Revenues Paid to JCP&L
2005 to 2009

REVENUES PAID TO JCP&L	2005	2006	2007	2008	2009
5% Gross Revenue	$ 385,003.65	$ 369,096.55	$ 369,480.03	$ 436,221.56	$ 465,540.69
Wireless Fees	773,476.45	943,745.64	893,445.44	972,114.79	981,297.72
Right of Way (ROW) Fees	816,235.36	799,247.38	776,645.55	776,649.61	776,709.55
Building Rental/Lease/Other	145.20	199.26	156.43	45.54	454.93
TOTAL	**$ 1,974,860.66**	**$ 2,112,288.83**	**$ 2,039,727.45**	**$ 2,185,031.50**	**$ 2,224,002.89**

Source: Information Response 877

Some of the affiliate relationships involving JCP&L do not currently have up-to-date agreements in place, with identified issues including:

- The mutual assistance agreement with FE's OH-based utilities (OH, CEI, and TE) is in effect for PA, but not NJ or OH; an ARMAA has been approved by the PaPUC, but has not been filed in NJ where JCP&L has indicated (as discussed above) that a filing is not necessary except for designated transactions and OH.
- FE Properties charges JCP&L for space provided to SERVECO technology employees at the Ghent Road Building and the West Akron Building. JCP&L indicates that these arrangements are put in place by SERVECO under the JCP&L/SERVECO service agreement, but as a matter of convenience and efficiency are directly charged in the SAP system to JCP&L.
- FE Nuclear services associated with use of the Beta Lab to JCP&L; however, mutual assistance agreement filed in NJ refers to GPUSC and GPUN, not FENOC. JCP&L also indicates that arrangements are put in place SERVECO under the JCP&L/SERVECO service agreement, but as a matter of convenience and efficiency are directly charged in the SAP system from FENOC to JCP&L.
- JCP&L services involving lease/rental building and work trucks for SERVECO employees located at the Morristown General Office (MGO) to ATSI. JCP&L indicates that these arrangements are put in place by SERVECO under the JCP&L/SERVECO service agreement, but as a matter of convenience and efficiency are directly charged in the SAP system from JCP&L, not SERVECO.
- JCP&L lease/rental building services for SERVECO employees located at the Morristown General Office (MGO) to FE Corporation, FE Facilities, FE Generation Corporation, FE Nuclear, FE Nuclear Generation Corporation, FE Solutions, and GPU Diversified Holdings. JCP&L indicates that these arrangements are put in place by SERVECO under the JCP&L/SERVECO service agreement, but as a matter of convenience and efficiency are directly charged in the SAP system from JCP&L, not SERVECO.

However, these multiple-tiered transactions through SERVECO to affiliates, included in the last four bulleted items above, are not appropriately discussed within the JCP&L/SERVECO agreement.

Although signed by the various parties, the JCP&L/FE Generation Corporation communications protocol for Yards Creek and Forked River is merely a communications protocol; it is not an affiliate agreement.

Finding III-3 **FirstEnergy does not routinely perform studies to determine the cost-competitiveness of corporate functions as compared to outsourcing these functions.**

No studies have been performed by or for JCP&L regarding the effectiveness and efficiency of the centralized functions performed by SERVECO. (JCP&L's parent (FirstEnergy Corporation) does not

have any employees; therefore it does not provide any services.) Moreover, it has not been assessed whether the SERVECO functions are provided most effectively and efficiently on a centralized rather than decentralized basis or whether the function could be provided at a lower cost by an outside party. Furthermore, JCP&L is not currently using any benchmarking reports involving cost and service competitiveness in either corporate/governance or transactional areas. This oversight ignores a 2005 internal audit report that recommended such activities be formally controlled and coordinated by the Strategic Planning and Operations Finance group (SP&O Finance) to ensure that periodic benchmarking activities are performed. It was also agreed to formalize service-level standards by July 31, 2005 to describe the scope of services to be performed by SERVECO employees, for whom they would be performed, and the cost allocation methodologies to be employed. These standards were to identify a few key performance measures to manage the effectiveness and efficiency of the services rendered. They were also to detail the benchmarking activities the shared services organizations planned to perform. While cost allocation methodologies have been defined, no benchmarking is centrally controlled and routinely performed, nor are service-level agreements generally used.

Finding III-4 **Although the management of affiliate costs is appropriately located within various groups of the SERVECO financial management function, Sarbanes-Oxley tests in 2008 and 2009 indicated that no formal written process or procedures documentation exists regarding the allocation factor review process.**

The SERVECO Assistant Controller conducts an annual review of the cost allocation factors used for all of the service company's cost centers. This review consists of a communications package to those who are responsible for each of the cost centers to determine if the default cost allocation factor used (one allocation factor for each cost center) and companies listed as benefiting from the services provided are appropriate. Through this communications package, the Assistant Controller is able to assess the need for any changes. The General Accounting group in Reading (PA) then makes any identified changes to the allocation factors or companies charged based on these reviews. These changes are generally made in October and November of each year so that the budget for the following year will reflect the desired allocation methodologies.

The allocation factor review process is considered a Sarbanes-Oxley (SOX) Section 404 control and the performance of this control is tested each year after the review has been performed. Interviews with FE representatives, as well as SOX 2008 and 2009 test results, indicated that there is no written process or procedure explaining the allocation factor review process. Affiliate training, however, is conducted when a SERVECO employee first joins the company and every two years thereafter.

On an ongoing basis, cost allocations are managed by the same General Accounting group in Reading (PA). FE's policy is to direct charge as much as possible from SERVECO with everything else being allocated. Charges between other affiliates are to be directly charged. (An example involving JCP&L is Yard's Creek, which is managed by FE Generation.) Affiliate charges are brought about by the coding of transactions in SAP. Whatever is left over every month, after direct charges, is allocated using

allocation factors (discussed later in *Finding III-9* and *Finding III-10*). The SERVECO costs are cleared out each month to either an affiliate or the parent company.

Finding III-5 Employee transfers among JCP&L and its affiliates have generally netted to roughly zero in the last six years.

As shown previously in *Exhibit III-6*, transfers of employees among JCP&L and its affiliates have in some years been net positive and others net negative. Overall in the last six years, however, the transfers of employees have been a negative three (3) employees.

Finding III-6 Asset transfers in 2007 to 2010 were generally made to correct asset balances and reserves that had been incorrectly recorded on JCP&L's books.

In late 2007, an analysis of assets assigned to SERVECO was completed by FE in connection with then-pending Ohio rate cases. This analysis identified assets sitting on SERVECO's books that were in-service and supporting only the energy delivery companies (EDCs), although FirstEnergy's practice is to assign to the SERVECO only those assets that are shared by all of the FE affiliate companies in the energy delivery, generation, and shared services areas. Because the identified assets were specifically supporting only the EDCs, they were reallocated from SERVECO to all EDCs, including JCP&L. In early 2008, the Tax Department recognized that this reallocation had inadvertently resulted in certain assets located in Ohio—primarily buildings and the equipment in those buildings—sitting on JCP&L's books. Because no Ohio assets should have been assigned to JCP&L, these assets were subsequently moved back (i.e., reassigned) to SERVECO or to an Ohio operating company, as appropriate, based on the use and/or location of the building or other assets.

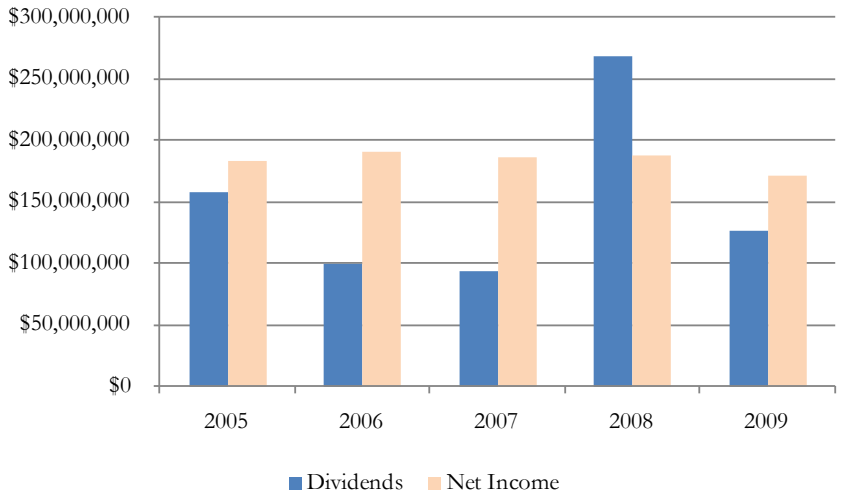
The assets that were incorrectly assigned to JCP&L, and subsequently reassigned back from JCP&L to a more appropriate FE entity, were transferred along with the accumulated reserve balances. The depreciation expense, however, was not transferred because the associated impact was not considered significant based on PricewaterhouseCoopers' materiality thresholds established for profit and loss (P&L) accounts. As an example, the third quarter 2010 pre-tax-income monthly threshold was $2.4 million.

Finding III-7 The JCP&L organization does not maintain a formal written dividend policy.

There is no formal written documentation related to dividend policies for JCP&L and its parent, FirstEnergy, or for any of FE's other subsidiaries. The payment of dividends by FE's subsidiaries, including JCP&L, to FE is reviewed on an ongoing basis by management and is in compliance with the applicable articles of incorporation, indentures, and various other agreements relating to the long-term debt of the subsidiaries. Net income, cash generation, capital structure, and regulatory restrictions on borrowings for each corporate entity are reviewed prior to a dividend recommendation.

Yearly dividend payments (2005 to 2009) by JCP&L to FE are illustrated in *Exhibit III-8*.

Exhibit III-8
Yearly JCP&L Dividend Payments to FE
2005 to 2009



Source: Information Responses 16, 83, and 511

Many regulated utilities have set a maximum of dividends to net income in the range of 75% to 85%. The percentage of dividends to net income at JCP&L for the five years spanning 2005 through 2009 was 86%, 52%, 51%, 143%, and 74% respectively. (Other FE operating companies also experienced significant variability over this same five-year period.) Regarding 2008's dividend being approximately 143% of net income (($268 million in dividends versus $187 million of net income), corporate management indicates that annual net income is only one of the items considered in the analysis of the dividend recommendation as JCP&L's capital structure is another factor in the determination of dividend payments. FE/JCP&L management also indicates that to better align JCP&L's capital structure with its approved regulatory capital structure, equity as a percent of its capital has been adjusted through the use of certain proceeds of recent new debt issuances, the payment of dividends, and the repurchase of equity. Other considerations in the determination of dividend payments include cash, retained earnings, covenants, etc. All of these factors were reviewed while determining the 2008 dividend payment.

Recommendations

Recommendation III-1 **Establish affiliate agreements for all missing affiliate relationships, as appropriate, and provide them, as necessary, to the applicable state regulatory commissions for review and approval. (Refer to Finding III-2)**

JCP&L should establish affiliate agreements, as appropriate, so that all existing relationships are covered. (Once the FE/Allegheny Power merger has been completed, the Allegheny Power entities should also be included.) Subject to, and to the extent consistent with NJAC 14:4-3 et al., for those situations (a) where JCP&L is providing services to non-regulated affiliates, transactions should be priced at no less than fair market value, and (b) when the reverse happens (i.e. non-regulated affiliates are providing services to JCP&L), transactions should be priced at no more than fair market value.

If and when developed, these affiliate agreements should be provided to all appropriate state regulatory commissions, including the NJBPU, as necessary, for review and approval.

Recommendation III-2 **Perform periodic studies to determine the cost-competitiveness of centralized functions, consistent with regulatory requirements, and develop plans to address the results of these studies. (Refer to Finding III-3)**

The FE organization should establish processes and procedures for periodically evaluating the cost of services provided to JCP&L (and other regulated operating companies) by its affiliates (or vice versa) so as to ensure that JCP&L is provided high-quality, cost-competitive services. New Jersey Administrative Code (NJAC) Section §14:4A.5 (Service Agreements) requires that JCP&L review such services (except for corporate governance or other activities, such as senior management services, treasury/finance functions, legal, system security, shareholder, and external relations services) every three years after April 6, 2009. As a means to incorporate better business practices, Schumaker & Company believes that FE should develop a formal program for implementing such reviews, which would every three years routinely compare the cost of shared services against not only peer groups but also other outsourcing options.

Recommendation III-3 **Develop documentation regarding SERVECO's allocation factor review process. (Refer to Finding III-4)**

Although the allocation factor review process has been included in SOX tests in prior years, SERVECO should still have formal written documentation describing how its allocation factor review process is performed.

Recommendation III-4 Evaluate and implement formal accounting and human resources policies and procedures to address situations in which an employee might leave JCP&L to go to affiliates. (Refer to Finding III-5)

Schumaker & Company understands that talent moves both ways among JCP&L and its affiliates; however, in such cases where a regulated utility is regularly losing employees to its affiliates, that entity may be financially impacted by having to train new employees to maintain its operations. Such a brain drain can occur when substantial staff is leaving JCP&L to go to other companies within the FE organization, especially in situations that are not attributable to changes in organizational structure and/or the consolidation of functions. While not a large issue for JCP&L at this time, it could potentially become significant in future years. Therefore, it might be worthwhile to adopt formal policies and procedures to prevent any excessive loss of employees to other affiliate organizations or to compensate the utility for the loss of its employees. This is particularly true in those situations where such losses are not attributable to changes in organizational structure and/or the consolidation of functions.

Recommendation III-5 Establish a formal written JCP&L dividend policy. (Refer to Finding III-7)

Not having a formal written JCP&L dividend policy, especially given the variability shown in *Exhibit III-8*, means that no expressed representation exists as to what to expect with regard to use of funds for dividend payments in the future. A formal written dividend policy providing the framework for determination of dividends, which is consistent with good regulatory practices, should be established and formally documented. JCP&L's policy should include policy and procedural guidelines for determining dividend amounts as well as a target range. It should also incorporate any steps required to deviate from this range.

B. Cost Allocation Methodologies

Background & Perspective

SERVECO and its affiliate companies, including JCP&L, use the SAP financial system, an integrated accounting system in which costs are accumulated using a work order management process. FE management indicates that the SAP system is set up to ensure that:

- Separation of costs between regulated and non-regulated affiliates is maintained
- Intercompany transactions and related billings are structured so that non-regulated activities are not subsidized by regulated affiliates
- Adequate audit trails exist on the books and records

SAP is set up such that each company's general ledger is separate and distinct. All of the companies use common general ledger (G/L) accounts (also referred to as cost elements) to record transactions. Affiliate separation and distinction, however, is accomplished with unique company codes (CC) and company-specific cost centers in combination with these G/L accounts. Intercompany cost flows within the SAP system are summarized as follows:

- *Direct Charges (or Activity Allocations Using FE Terminology)* – FE's SAP system used fully-loaded costing (called activity allocation) to charge labor costs from an employee's home cost center to capital work, billable work, orders, specific O&M projects, or another cost center. Included in the calculation of the fully-loaded labor rate are the employee's base salary, unproductive time (vacation, holidays, sick time, etc.), benefits, short-term incentive compensation, and payroll taxes. SERVECO charges represent labor charged to orders at SERVECO and billed to affiliates, such as JCP&L. Intercompany activity allocations between JCP&L and other affiliates represent labor for services (e.g., mutual assistance) between FE utilities.
- *Allocations (or Assessments Using FE Terminology)* – Intercompany assessments from SERVECO represent the allocation to JCP&L of its allocable share of SERVECO costs that cannot be directly charged. SERVECO allocates such costs among the affiliates through a cost allocation factor that distributes the product or service costs. Services are provided at fully allocated cost under the provisions of Public Utility Holding Company Act (PUHCA) 2005 and are consistent with the service agreements between SERVECO and affiliates. Examples of support services provided by SERVECO to JCP&L are customer service, utility operations, information technologies, rates and regulatory affairs, and financial, human resources, and legal-related services. Intercompany assessments between JCP&L and affiliates other than SERVECO are for services such as mutual assistance.
- *Overheads* – These charges represent stores and construction overheads related to the orders discussed above.

- *Settlements* – These transactions represent the settlement of utility orders to the appropriate affiliates by SERVECO based on the settlement rule assigned to the order. The associated costs include activity allocations from JCP&L timesheets, activity allocation of transportation, construction overheads, and stores handling overheads (described above under intercompany allocations and intercompany overheads). There are also settlements of projects (e.g., IT and Energy Delivery projects) established on SERVECO that benefit one or more of the affiliates and that settle to the projects set up on those affiliates' books. Technically, because they are utility orders, these are not affiliate charges with SERVECO. Rather, they are posted on SAP as SERVECO charges and must be backed out when summarizing SERVECO charges.

Any costs associated with capital expenditures and O&M expenses are settled to balance sheet and income statement accounts based on the settlement of cost collectors. The cost center cost collector uses assessments to clear costs from the cost centers to capital and expense accounts on a monthly basis. The percentage split to capital and expense accounts from cost centers is determined by assessment rules that are updated annually (summer to summer) based on the direct charge history of the cost center's labor, the service provided by the cost center, and input from cost center management.

A summary of the approximately 180 steps in the FE monthly financial close process is as follows:

- Accruals are booked.
- Settling orders are performed.
- Application of overheads is done.
- SERVECO assessments are performed to take SERVECO expenses to zero (first workday).
- FENOC/GENCO assessments are performed (second workday).
- Pretax income is determine (third workday).
- Close is performed (fourth workday).

Part of the controls to ensure SERVECO expenses are zero (after running six jobs; first one to apply engineering overheads and the other five to run as small jobs with various cost centers in the monthly assessment process) includes verifying SAP reports to see that no expenses are left, which includes running the trial balance. There are over 900 cost centers that must be assessed each month. Through trial and error, FE employees have determined that running assessments in one large batch might take several hours, while dividing the assessment process into smaller batches (run simultaneously) might take only ten minutes. Running four jobs simultaneously is the optimum process. Reasons why expenses might NOT be zero include late entries or a cost center not being set up in the assessment job. In such circumstances, these controls are used to detect and correct the situation.

When a true-up is required, the following steps need to be taken:

- A cost center's use of an allocation factor is updated in SAP.
  - An end date for the current allocation factor is entered so that factor will not be used on this cost center during any future processing.

  - A start date for when the current month's closing will be processed using the cost center's new allocation factor is also entered into SAP.

- A journal entry is made to correct all prior months' assessments of this cost center. A report is run to determine where costs have been allocated in the prior months. This report is also used as backup support for the journal entry. The journal entry reverses the original allocation and posts the prior month's allocated costs, in accordance with the revised allocation factor, to the proper cost centers.

The SERVECO allocation factors contain the cost elements (with associated rates) that the service company uses to bill out its costs on a monthly basis through the assessment process during the monthly closing process. Informal desktop procedural documentation exists for updating allocation factors each year. The allocation factors are based on the 12 months ending June 20XX or the balances as of June 20XX. For example, July 1, 2008 to June 30, 2009 data would be used for 2010 allocation factors. As long as the methods do not change, the cost elements do not have to be presented to the Federal Energy Regulatory Commission (FERC) for approval. If a new method, including a new allocation factor, is developed, however, it needs to be approved by the FERC and should be presented to the state for approval. These allocation factor changes are generally started mid-July and completed by early August.

To develop the allocation factors, the General Accounting group sends out for raw data from various financial, rates, and payroll groups, including (but not necessarily limited to):

- Assets
- Revenues
- Customers
- Headcount
- Equity investments
- O&M expenses

FirstEnergy is using SAP version R3 and is expected to upgrade its G/L in 2012. The biggest change is that one of the steps in the monthly financial close will no longer be required because it will automatically be performed (keeping modules in balance).

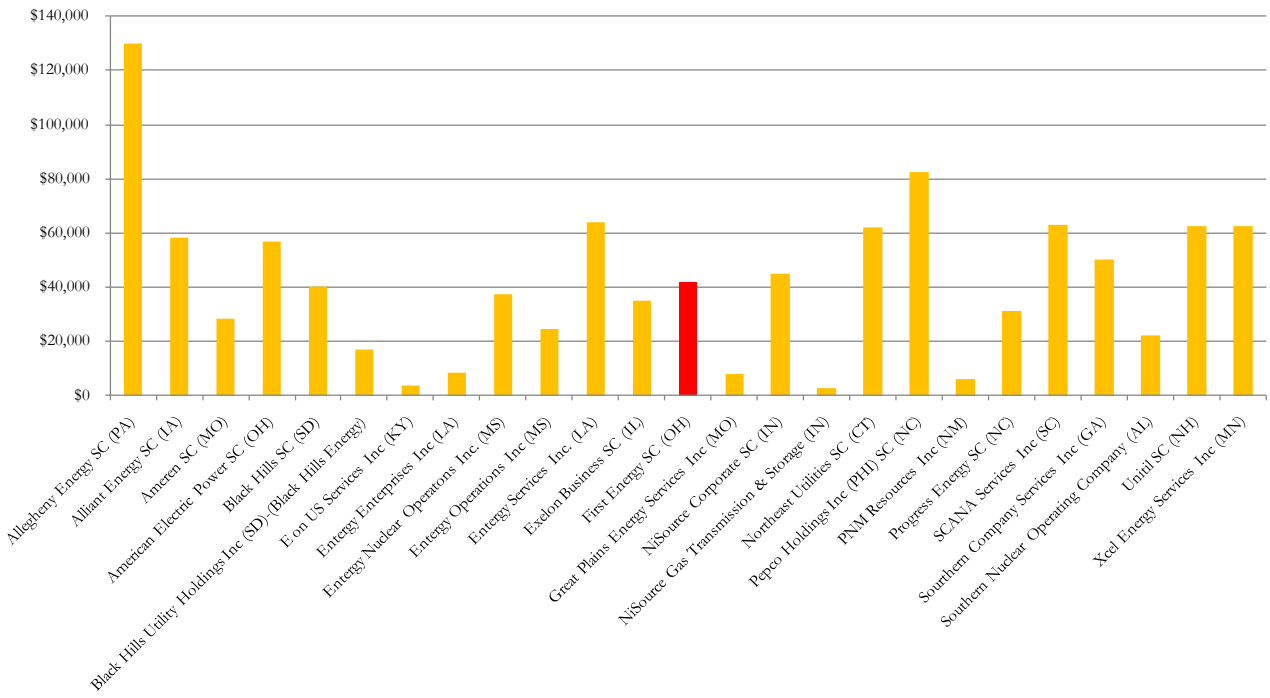
Findings & Conclusions

Finding III-8 **Recent comparisons of FERC Form 60 data indicate that SERVECO's costs are in the middle of the pack with regard to companies submitting such data.**

Schumaker & Company reviewed certain service company operating expense performance measures of SERVECO against other electric and gas service company organizations using FERC Form 60 data, as this was the most recent publicly-available data.

Exhibit III-9 illustrates FE's service company's operating expenses per employee (based on total number of corporate employees). The SERVECO organization's expenses are roughly $41,800 per employee, which is below many of the other service company organizations shown.

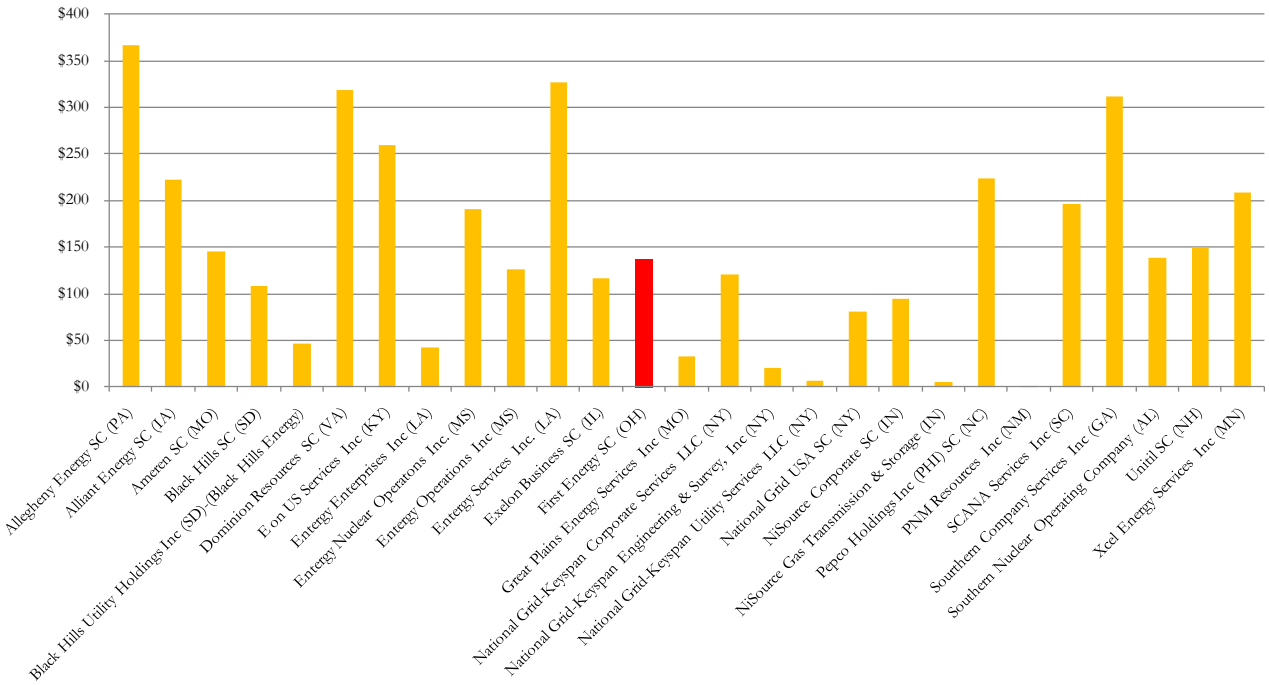
Exhibit III-9
Service Company Operating Expenses per Employee
FE Compared to Other Utility Service Company Organizations
2008



Source: Schumaker & Company Analysis of FERC Form 60 Data

Exhibit III-10 illustrates FE's service company's operating expenses per customer (based on total number of corporate customers). The SERVECO organization's expenses are roughly $136.60 per customer, which is below many of the other service company organizations shown.

Exhibit III-10
Service Company Operating Expenses per Customer
FE Compared to Other Utility Service Company Organizations
2008



Source: Schumaker & Company Analysis of FERC Form 60 Data

Finding III-9 A limited set of allocation factors has been established and is available for use by the SERVECO organization.

SERVECO cost allocation factors currently in use include the following:

1.	**Multiple Factor – All**

A. FirstEnergy will bear 5% of these indirect allocations.

B. A subsequent allocation step will then occur. Among the utility subsidiaries, allocations will be based upon the "Multiple Factor – Utility" method. Among the non-utility subsidiaries, allocations will be based upon the "Multiple Factor – Non-Utility" method.

2.	**Multiple Factor – Utility**

Based on the sum of the weighted averages of the following factors:

A. Gross transmission and/or distribution plant

B. Operations and maintenance expense excluding, purchase power and fuel costs

C. Transmission and/or distribution revenues, excluding transactions with affiliates

Each of the above factors will be weighted equally so that no one facet of the utility operations inordinately influences the distribution.

3.	**Multiple Factor – Non-Utility**

Based upon the total assets of each non-utility subsidiary, including the generating assets under operating leases from the utility subsidiaries

4.	**Multiple Factor – Utility and Non-Utility**

A. First, assign a distribution ratio that is in proportion to the indirect costs based on FirstEnergy's equity investment in the respective groups.

B. Among the utility subsidiaries, allocations will be based upon the "Multiple Factor – Utility" method. Among the non-utility subsidiaries, allocations will be based upon the "Multiple Factor – Non-Utility" method.

5	**Direct Charge Ratio**

The ratio of direct charges for a particular product or service to an individual subsidiary as a percentage of the total direct charges for a particular product or service to all subsidiaries benefiting from such services; indirect costs are then allocated to each subsidiary based on the calculated ratios.

6.	**Total Customer Ratio**

Based on the number of utility customers for the respective utility subsidiary that is receiving the product or service divided by the total number of utility customers

7.	**Number of Shopping Customers Ratio**

Based on the number of shopping customers for the respective utility subsidiary that is receiving the product or service divided by the total number of shopping customers

8.	**Number of Participating Employees – General**

Based on the number of participating employees for the respective subsidiary that is receiving the product or service divided by the total number of participating employees

9.	**Number of Participating Employees – Utility and Non-Utility**

A. First, assign a distribution ratio that is in proportion to the indirect costs based on FirstEnergy's equity investment in the respective groups.

B. Costs are further allocated by using the number of participating employees for the respective subsidiary divided by the total number of participating FirstEnergy employees.

10.	**Gigabytes Used Ratio**

Based on the number of gigabytes used by a subsidiary that is receiving the product or services divided by the total number of gigabytes used by the FirstEnergy system companies that are applicable to that respective product or services

11.	**Number of Computer Workstations Ratio**

Based on the number of computer workstations used by a subsidiary that is receiving the product or services divided by the total number of computer workstations in use by the FirstEnergy system companies that are applicable to that respective product or service

12.	**Number of Billing Inserts Ratio**

Based on the number of billing inserts performed for a subsidiary that is receiving the product or service divided by the total number of billing inserts performed for the FirstEnergy system companies that are applicable to that respective product or service

13.	**Number of Invoices Ratio**

Based on the number of invoices processed for a subsidiary that is receiving the product or service divided by the total number of invoices processed for the FirstEnergy system companies that are applicable to that respective product or service

14.	**Number of Payments Ratio**

Based on the number of monthly payments processed for a subsidiary divided by the total monthly number of payments processed for the FirstEnergy system companies that are applicable to that respective product or service

15.	**Daily Print Volume**

Based on the average daily print volume performed for a subsidiary that is receiving the service divided by the total average daily print volume performed for the entire FirstEnergy system

16.	**Number of Intel Servers**

Based on the number of Intel servers used by a subsidiary that is receiving the product or service divided by the total number of Intel servers used by the FirstEnergy system

17.	**Application Development Ratio**

Based on the number of application development hours budgeted for a subsidiary that is receiving the service divided by the total number of budgeted application development hours for the year

18.	**Server Support Composite**

Based on the average ratio of Unix gigabytes, SAP gigabytes, and Intel number of servers for a subsidiary that is receiving the service

Although sub-factors exist, they simply reflect different combinations of entities to which the primary factor is allocated. Of these 18 primary factors, however, four are non-cost-causative general allocation factors (1, 2, 3, and 4) and seven (10, 11, 12, 15, 16, 17, and 18) are associated primarily with IT functions. Therefore, only seven other primary factors are currently used, a number that is smaller than that often found in other utility organizations.

Additionally, of SERVECO's allocations, many cost centers (approximately 666 of 1,791 cost centers, or 37.2%) use one of the general allocation factors. Their use can produce results that do not reflect the

underlying causes for allocating costs. A good example is the Flight Operations cost centers, which use the multiple-all factor for charging costs that are not directly charged. (See *Finding III-18*)

Finding III-10 SERVECO relies upon a reasonable combination of direct charges and allocations for charging affiliates.

The costs of services provided by SERVECO are directly charged or allocated by activity, project, program, work order, or other basis. According to FE management, wherever practical, direct charges are made whereby costs can be identified and related to a particular transaction so long as excessive effort or expense is not required. The costs of products and services provided by SERVECO that cannot be specifically assigned to an FE subsidiary receiving the product or service are allocated among the associated companies through a cost allocation factor (varying by cost center) that FE management believes most accurately distributes the costs.

SERVECO uses fully allocated costs (an accounting method to distribute all of its costs through affiliate charges), which include, as applicable, wages and salaries of employees and related fringe benefit expenses (such as health care, life insurance, payroll taxes, pensions, and other employee welfare expenses), equipment, materials, subcontractor costs, overheads, cost of capital, and taxes. Other elements of cost include taxes, interest, other overhead, and compensation for the use of capital.

Exhibit III-11 displays the relative mix of direct charges versus allocations (other than direct charges) from SERVECO to JCP&L by year for 2005 to 2009. The allocations that are assessed 100% to JCP&L have been shown separately, as they are much like direct charges in effect.

Exhibit III-11
SERVECO to JCP&L Charges
Direct Charges versus Allocations
2005 to 2009

	2005	2006	2007	2008	2009
From SERVECO to JCP&L	$103,974,114	$94,605,127	$101,992,415	$90,653,728	$86,439,961
Direct Charge $	$8,002,132	$4,795,691	$4,925,711	$4,286,194	$3,219,220
Allocations 100% to JCP&L	$25,164,868	$21,159,781	$22,104,138	$18,322,822	$14,755,739
Other Allocation $	$70,807,114	$68,649,654	$74,962,566	$68,044,712	$68,465,002
% of Direct Charge + Allocations 100% to JCP&L	32%	27%	27%	25%	21%
% Other Allocations	68%	73%	73%	75%	79%

Source: Information Response 10

As shown, the percentage of direct charges plus allocations 100% to JCP&L relative to total SERVECO costs charged to JCP&L has decreased slightly from 32% to 21% over the past five years. Over this period, while the percentages of direct charges are relatively low, its usage of allocations 100% to JCP&L makes the total percentage of both a reasonable figure.

Finding III-11 Some of SERVECO's charges are not charged to FE subsidiaries but remain at the parent company.

The costs charged exclusively to the FE parent company include those from the following cost centers illustrated in *Exhibit III-12*:

Exhibit III-12
Costs Charged Exclusively to FE Parent Company
as of December 31, 2010

Cost Center	Cost Center Description	Types of Transactions
504402	Annual Meeting – FE Holding Co.	Payroll and outside contractor professional legal expenses
502029	Auditing Work – FE Holding Co.	Payroll
504400	Board of Directors – FE Holding Co.	Payroll and outside director costs
506101	Business Development – OH	Labor, payroll allocations, miscellaneous expenses
501005	Chairman of the Board	Labor and expenses
502902	Controller's – FE Holding Co.	Payroll and PricewaterhouseCoopers' (PwC) audit fees
502836	Corporate Affairs – FE Holding Co.	Outside professional legal expenses
502922	Executive Services – FE Holding Co.	Payroll and outside contractor professional legal expenses
506006	Federal Government Affairs – DC	Labor, miscellaneous expenses
506003	Federal Government Affairs – OH	Labor, miscellaneous expenses, outside contractor professional non-legal costs, lease rentals
502641	Federal Government Affairs – Fixed Assets	Depreciation expense
506005	Governmental Affairs – NJ	Labor, miscellaneous expenses
506020	Governmental Affairs – NJBPU	Labor, miscellaneous expenses
506002	Governmental Affairs – OH	Labor, miscellaneous expenses and outside contractor professional non-legal costs
506004	Governmental Affairs – PA	Labor, miscellaneous expenses
502770	HR Billing – FE Holding Co.	Payroll
505004	Investor Relations – OH	Labor, miscellaneous expenses and outside contractor costs
502197	IT Work – FE Holding Co.	IT payroll
502871	Legal and Claims – FE Holding Co.	Payroll and outside professional legal and non-legal expenses
502674	SERVECO Assets Carrying Charge	Carrying charges
502634	Special Items Treasury – SC00	Bank fees, service company investment interest
504401	Stock Administration – FE Holding Co.	Payroll, miscellaneous expenses, and outside contractor professional non-legal expenses
502840	Supply Chain – FE Holding Co.	Outside professional legal expenses

Source: Information Response 393

In other situations, especially those using the multiple factor-all methodology, 5% of charges go to the parent company.

Finding III-12 The Internal Audit organization does not routinely perform cost allocation audits.

In response to one of Schumaker & Company's information requests, the Internal Audit organization indicated that it has completed 31 audits related to affiliated relationships or transactions; however, Schumaker & Company's review indicated that only a few of those audits dealt with similar topics, including:

- *Audit of FirstEnergy's compliance with the Public Utility Holding Company Act – Phase III as of March 25, 2005 (Audit #24516)* – The Phase III review focused on the service company's budgeting process and management's use of budgets and other cost controls to monitor and control expenditures. It also included a review of intercompany tax allocation practices and the policies and practices associated with intercompany receivables and payables.
- *Audit of FirstEnergy's compliance with PUHCA – Phase IV as of March 28, 2005 (Audit #25518)* – The purpose of the Phase IV review was to (1) develop a risk control matrix to identify key control objectives, risks, and activities related to PUHCA; (2) determine if the SERVECO shared services organizations have undertaken benchmarking activities to ensure their cost-competitiveness and quality of services; and (3) determine whether benchmarking costs were fairly allocated to the affiliate companies, including FE Corporation.
- *Audit of the Federal Energy Regulatory Commission Order 2004 Standards of Conduct as of May 4, 2006 (Audit #25300)* – The purpose of this audit was to review FE's compliance with standards of conduct regulations adopted under Order 2004 and, where necessary, to identify additional measures FirstEnergy can take to proactively facilitate employee awareness, enforcement, monitoring, and/or reporting related to the standards of conduct. The audit also helped identify cornerstones for building a comprehensive infrastructure to ensure ongoing compliance with the standards of conduct and other applicable FERC regulatory obligations.

These three audits are fairly old and none of those audits completed by the Internal Audit organization since 2005 have focused on SERVECO affiliate charges to FE or its subsidiaries. (Only a July 2010 cost separation audit regarding FE's Ohio companies has been performed over that period of time, none impacting JCP&L.) Additionally, no external audits of affiliated relationships or transactions have been performed in the last five years.

Finding III-13 A recent review by SERVECO of its cost allocation manual found that several improvements were necessary, but most have not yet been completed.

In June 2010, the SERVECO Business Analytics group provided its preliminary project findings involving a review of SERVECO's cost allocation manual (CAM), which was effective June 1, 2003. In

particular, the following sections pertaining to services provided and allocation methods used were addressed:

- The description of services and transactions with affiliates (Sections III and V)
- Cost allocation methodologies (Section VI)
- Appendix A (service agreement)

In performing its gap analysis, the group:

- Located the service provided from the service agreement that most closely represented the cost center description
- Identified the allocation method stated in the service agreement and compared it to what was being used in SAP for 2010

Of the 867 SERVECO cost centers, the Business Analytics group found that 102 (or 11.8%) did not match. The group also found that of the 18 allocation factors, 108 different sets of sub-factors existed. That is because there are multiple sets of sub-factors within each methodology based on the set of legal entities involved.

As part of this project, the Business Analytics group performed a comparison to two other utilities to gain better understanding and insight into the cost allocation manuals of peer utilities and to determine areas for potential improvement. As part of this review, several recommendations were made, including:

- Keep the CAM introduction concise by focusing on purpose and scope.
- Clearly distinguish utilities from non-utilities on the organizational chart.
- Eliminate redundancy by describing services once in an easy-to-read format; generalize where possible; tie services to allocation methods in CAM instead of in the service agreement.
- Elaborate on FE's affiliate transaction policies in a prominent manner.
- Emphasize the preference for direct charging and explain how indirect costs are handled.

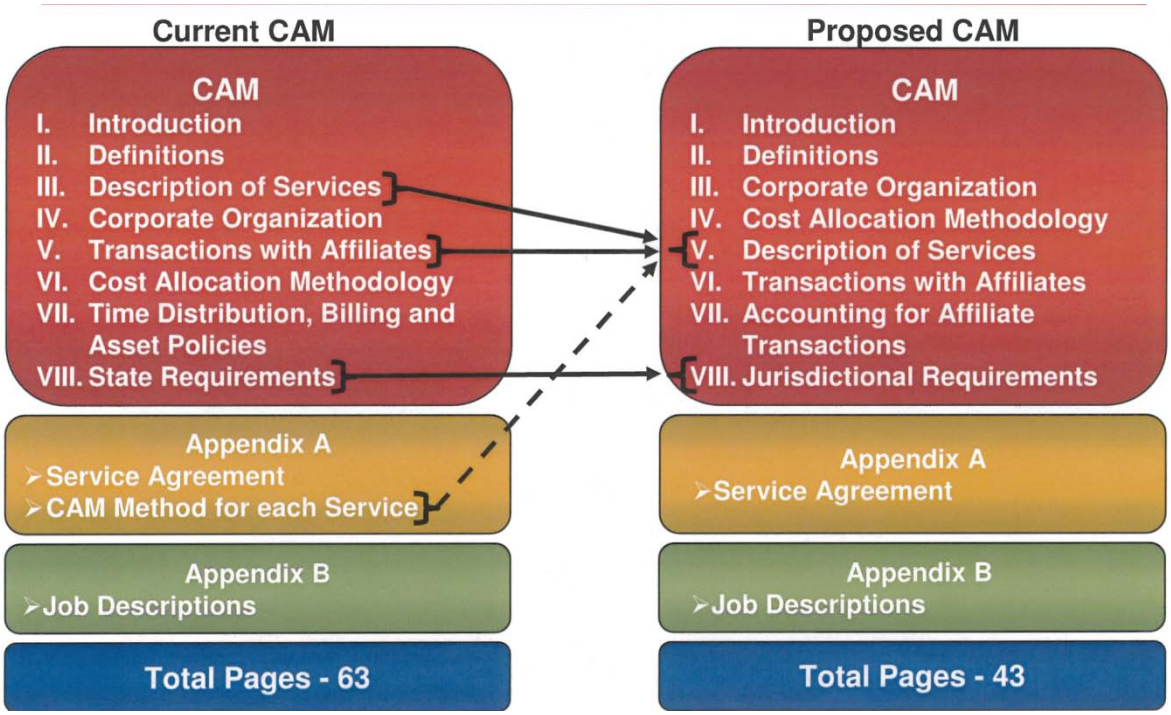
Also found was that FirstEnergy had the fewest number of allocation factors.

The next steps identified included considering peer review observations to:

- Create and review a redline version of the FE 2009 CAM documentation.
- Create a process for updating CAM documentation.
- Write a policy for the CAM update process.

Subsequently, the resulting CAM rearrangement recommendations identified by the Business Analytics group are illustrated in *Exhibit III-13*.

Exhibit III-13
CAM Rearrangement Recommendations Made by Business Analytics Group
as of September 2010



Source: Information Response 703, Attachments 3 and 4

A summary of the recommendations include:

- Implement a CAM update policy and procedure.
- Implement an IT solution vision for a Lotus Notes cost center (CCTr) repository by the first quarter of 2011. The purpose of this repository is to automate a cumbersome manual update and verification process. It would include validation checks to ensure that cost center methods align with the service agreement. It would also contain all cost center information, the service agreement information, and allocation factors for every year. The repository would send out e-mail messages to responsible parties and require a response. The cost centers would be connected to the service agreement so that validation of the responses could be conducted and warnings could appear if information disagreed. Finally, a text file could be created that would contain cost center and allocation factor information, which could be uploaded into SAP. In addition, reports would be created that would include validation with the service agreement as well as year-to-year comparisons of changes.
- Execute a new service agreement post-merger to replace the schedule of services with a reference to the CAM and streamline associated service descriptions.

Based on the gap analysis performed by the Business Analytics group, JCP&L would have received approximately $900,000 in additional allocation costs for the first half of 2010. Among the proposed modifications to allocation methodologies and associated factors were:

- The number of payments ratio was not being used by remittance processing.
- The number of participating employees (utility and non-utility) ratio must first be split by equity ratio and was not being used by investment management.
- The number of participating employees (general) ratio had one new set of factors added based on all utility entities except ATSI.
- The multiple factor-all ratio was modified to include three new sets of factors based on entities chosen.
- The multiple factor-utility (transmission) ratio should be identified separately.
- Review the use of transmission and distribution (T&D) versus transmission OR distribution in multiple-factor calculations, specifically the multiple factory-utility one.

The Business Analytics project was not completed until September 30, 2010; therefore, although the CAM documentation that Schumaker & Company reviewed as part of this audit project was updated as of October 1, 2010, it did not include many of the recommendations identified through the Business Analytics project.

Finding III-14 Merger team activities are being charged to JCP&L.

A merger integration team was established in 2010 regarding the upcoming merger of Allegheny Energy (operations in Pennsylvania, West Virginia, and Maryland) into the FE organization. This team is subdivided into nine teams and a project management office (PMO) of 11 FE employees. The nine teams and the number of FE employees in each team are as follows:

- Corporate (6)
- Utility Operations (7)
- Transmission (3)
- Finance (8)
- Fossil Generation/Environmental (6)
- Fuels (3)
- Human Resources (5)
- Information Technology (4)
- Supply Chain (3)

These teams are composed of team leads and core members from both the FE and Allegheny Energy organizations (with the number of FE employees listed above). In addition, on occasion, the teams have enlisted additional corporate personnel to provide support on project-specific items. Each of the nine teams has been charged with focusing on its jurisdictional area, ultimately providing preliminary

recommendations on organization, best practices, and value creation opportunities. Other than this objective, there is no overarching merger integration team charter.

FirstEnergy has established a cost center and statistical order (stat order) in SAP to track merger-related costs.

- Employees assign time and expenses associated with merger-related activities to their home cost center using the stat order. Costs for these merger team time and expenses are charged to FE organizations based on the default allocation factor for the assigned employees.
- Other incremental expenses, such as employee expenses, outside contractors, public relations, financing fees, and audit fees, are charged to the established merger team cost center (502680) using the same stat order. Costs charged to this merger team cost center are allocated among FE organizations using an allocation factor in which FirstEnergy Corporation bears 5% of the costs and the remaining costs are allocated between the utility and non-utility subsidiaries. Such allocation is based on FirstEnergy's equity investment in the respective groups and is then proportionately divided among the subsidiaries in the utility and non-utility groups using the respective factor for that group. This cost center is allocated to FE affiliates based on the multiple-factor-all factor.

The time and expenses charged to the merger statistical order (January to July 2010) totaled approximately $32.74 million, of which approximately $6.61 million was employee time (charged to each of the employee's default cost centers) and the remaining $26.13 million was incremental expenses charged to the merger team cost center. Of this $32.74-million figure, approximately $4.85 million was charged to JCP&L, or roughly 14.8%.

In other Schumaker & Company audits where a merger team has been formed, we typically find that the parent company, not the regulated entity, is charged the entire cost of the merger team activities. The FE/Allegheny merger costs should not be charged to JCP&L or other affiliates. They should be absorbed primarily by the FE Corporation entity itself, with charges borne by FE's shareholders, not ratepayers. Nevertheless Schumaker & Company understands that JCP&L has entered into a NJBPU-approved stipulation of settlement with respect to the merger and that such stipulation addressed the treatment of merger-related costs.

Finding III-15 The FE tax-sharing agreement is appropriate.

JCP&L, along with FirstEnergy Solutions and the other FE utility companies, is party to an Intercompany Income Tax Allocation Agreement. This agreement is effective for taxable years ending on or after January 1, 2002, with FE and its subsidiaries providing for the allocation of consolidated tax liabilities. In accordance with Code Section 1552(b) and Section 1.1552-1(c)(2) of the Internal Revenue Code of 1986, the consolidated tax liability (other than alternative minimum tax (AMT) and its related credits) is allocated among all the participants of this agreement in the same percentage of the total consolidated tax as if computed for each participant on a separate return basis. Any tax benefits are allocated to participants who had items of deduction, loss, or credit for which the tax benefit amount is

attributable. JCP&L's federal income tax rate has been 35%, the same as for the other FE utilities, FES, and FE, for the past three years. According to the FirstEnergy Tax Department, JCP&L's rate would be no different if it were a standalone utility. JCP&L's taxes are calculated based only on JCP&L's book income.

Recommendations

Recommendation III-6 **Continually review and update, as appropriate, the number of allocation factors available to SERVECO for affiliate charges, which could reduce the reliance on general allocators. (Refer to Finding III-9 and Finding III-10)**

Cost-causative factors are seldom used; instead, the general allocation factors for costs not directly charged are frequently relied upon. Extensive use of a general allocation factor does not appropriately link charges with underlying factors. The FE allocation methodology seems built for expediency as opposed to reflecting underlying factors and associated charges. Another reason for this oversight may be that SERVECO has a limited number of allocation factors available for its use.

Schumaker & Company understands that the 18 primary factors (with sub-factors) currently in use are the only allocation factors approved by the SEC for use at FE under the Public Utility Holding Company Act of 1935 (PUHCA) when the service agreement was initially approved. As FERC now oversees allocation factors (following the repeal of PUHCA), FERC approval is needed for any changes to these factors. Any changes to the allocation factors, if approved by FERC, would subsequently have to be reviewed by all state regulatory commissions. Nevertheless, the SERVECO organization should evaluate the need for an increase in the number of cost-causative allocation factors in use and increase the number of cost centers that rely on cost-causative factors rather than one of the general allocators.

Recommendation III-7 **Routinely perform internal audits of affiliate relationships and associated transactions. (Refer to Finding III-12)**

Given the complexity of FE's affiliate charging mechanisms, the lack of appropriate written documentation, the difficulty in obtaining affiliate data while conducting this audit, and the difficulty in reconciling affiliate data, Schumaker & Company strongly believes an audit of affiliate charges on a regular basis is necessary. FE's Internal Audit function should incorporate periodic audits of affiliate transactions and the associated direct billing/cost allocations in its audit plan/schedule based on its risk-assessment activities. The frequency for this type of audit must be factored into this analysis, although given that JCP&L is in the regulated utility industry, Schumaker & Company would expect that such audits should be performed no less than every two years, or sooner if significant changes occur.

Recommendation III-8 Update the SERVECO CAM documentation. (Refer to Finding III-13)

The SERVECO CAM documentation should be updated not only to reflect many of the findings associated with the Business Analytics group study but also to include modifications that incorporate suggestions made in *Recommendation III-6* of this audit report. That so many of the specific allocation factors changed as a result of FE's gap analysis further exacerbates the extensive usage of general allocators. This issue should not be allowed to continue but should be corrected when addressing *Recommendation III-6*.

Recommendation III-9 Avoid charging JCP&L ratepayers for merger team costs. (Refer to Finding III-14)

The FE/Allegheny merger costs should not be charged to JCP&L or other affiliates. They should be absorbed primarily by the FE Corporation entity itself, with charges borne by FE's shareholders, not ratepayers.

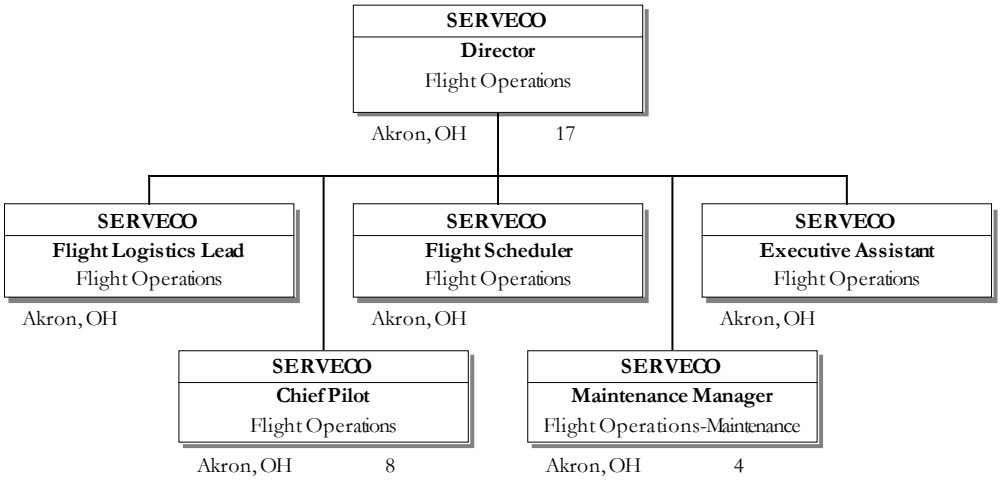
C. Flight Operations

The costs of the Flight Operations Department are primarily the result of cost allocations to JCP&L. Therefore, this organization is covered as a part of the *Affiliated Relationship and Cost Allocation Methodologies* chapter.

Background & Perspective

FirstEnergy created its own internal Flight Operations Department in April 2007, in which the Director of Flight Operations was hired at the end of March 2007 and the full complement of staff on board in July 2007. Prior to the formation of this department, FirstEnergy had contracted with an outside flight support group to operate and maintain its aircraft. Before 2007, FE had managed several aircraft.2 The Flight Operations Department is composed of 18 employees, which are organized as shown in *Exhibit III-14*.

Exhibit III-14
FirstEnergy Flight Operations Department
as of December 31, 2010



Source: Information Response 54

As shown in *Exhibit III-14*, there are eight full-time pilots reporting to the Chief Pilot. In addition, the Chief Pilot and the Director of Flight Operations are also pilots, so a total of ten pilots are available for the four aircraft. All aircraft require two pilots, a captain and a first officer. Pilots are generally qualified in no more than two aircraft. In addition, there are five personnel in the maintenance area, with one of those individuals being a line service technician. These personnel are responsible for the day-to-day maintenance of the aircraft, whereas major items are taken to a particular aircraft's maintenance service facilities, which are operated by the aircraft manufacturer or a facility licensed by the aircraft manufacturer. There are also flight logistics and scheduling personnel in this department that support flight operations.

FirstEnergy operates four jet aircraft as shown in *Exhibit III-15*.

Exhibit III-15
FirstEnergy Aircraft
as of December 31, 2010

Aircraft	Range	Seating Capacity
Citation XL	1,600 nautical miles	8 passengers
Citation XL	1,600 nautical miles	8 passengers
Embraer Legacy 600	3,100 nautical miles	12 passengers
Falcon 2000	3,700 nautical miles	10 passengers

Source: Interview 189

On-demand flights require the approval of the Chief Executive Officer (CEO), either on a trip-by-trip basis or through a blanket approval for a period of time. These flights are charged to users at $2,000/flight hour (split by users as they determine), plus fuel costs and any other associated expenses. Most flights operate in this manner; however, Flight Operations does operate a scheduled shuttle service on the second and last Wednesday of the month. On those dates, the Citation XL is operated between Akron, OH and Reading, PA for two round trips—out to Reading and back to Akron in the morning and out to Reading and back to Akron in the evening—providing the capability of moving eight people each way. The scheduled routes do not actually fly into Morristown, NJ but only Reading, PA. There is a Lotus Notes application for scheduling the shuttle. Individuals using the shuttle are charged a set amount (currently $220 per leg) to their cost center for each segment of the flight.

Findings & Conclusions

Finding III-16 FirstEnergy has a well-organized Flight Operations Department.

As discussed above, the Flight Operations Department has 18 employees and operates four different aircraft. It is located in the Akron Canton Airport at a facility FirstEnergy acquired from a previous fixed base operator (FBO) that was located on the field. The facility is well maintained and operations appear to be well run.

In July 2008, the Internal Audit (IA) organization issued a report, the purpose of which was to document the business processes and associated controls implemented by FE Flight Operations into one process manual to be followed by the department. As part of this project, IA developed an FE Flight Operation Process Manual to document processes and controls used within the department and to aid in the training of future employees. Sections documented as part of this project and included in the manual were:

- Aircraft Maintenance
- Aircraft Operation and Utilization Reporting
- BART Recordkeeping (scheduling system used by the department)
- Budgeting and Forecasting
- Charter Operator Selection
- Dress Code Requirements
- Employee Expense Reporting
- Insurance and Loss Prevention Programs
- Inventory Control
- Invoice Verification and Payment
- Key Performance Indicator (KPI) Development and Reporting
- Monthly Accrual
- Monthly Reporting
- Ordering Supplies/Services
- Personal Use Reporting for Securities Exchange Commission (SEC) and Internal Revenue

Service (IRS)
- Scheduling and Tracking Training
- Shuttle Scheduling and Operation
- Time Reporting

Previously developed in 2006 was a two-page policies and procedures document for use of dedicated/ charted (non-shuttle) aircraft.

Finding III-17 The utilization of corporate aircraft has dropped significantly over the last three years.

Aircraft utilization for the past four years has declined from its peak in 2008, as displayed in *Exhibit III-16*.

Exhibit III-16
FirstEnergy Aircraft Utilization
(Flight Hours)
as of December 31, 2010

	2007 4/1/07-12/31/07	2008 1/1/08-12/31/08	2009 1/1/09-12/31/09	2010 1/1/10-12/31/10
Citation XL	244.0	611.1	115.7	176.1
Citation XL	0.0	278.9	184.2	212.2
Embraer Legacy 600	0.0	112.7	143.7	226.5
Falcon 2000	107.4	203.1	161.5	276.9
Falcon 50	163.0	21.7	0.0	0.0
Total	**514.4**	**1,227.5**	**605.1**	**891.7**

Source: Information Response 868

In 2008, the shuttle schedule included trips to Reading (four days per week) and trips to Morristown (three days per week). In February 2009, shuttle flights to Morristown were removed from the schedule and trips between Akron and Reading were reduced from four to two days per week. In July 2009, the shuttle schedule was cut back further to include only two trips between Akron and Reading each month.

Finding III-18 JCP&L has incurred significant charges for flight operations, although JCP&L's usage has decreased significantly.

Charges to JCP&L for aircraft use since 2007, relative to FE's total costs, are shown in *Exhibit III-17*. The largest portion of aircraft costs are allocated as opposed to being directly charged. As shown in *Exhibit III-17*, the direct charges for use of the corporate aircraft by JCP&L have fallen to $400 in 2010, whereas JCP&L has been assessed approximately $1.2 million in indirect charges.

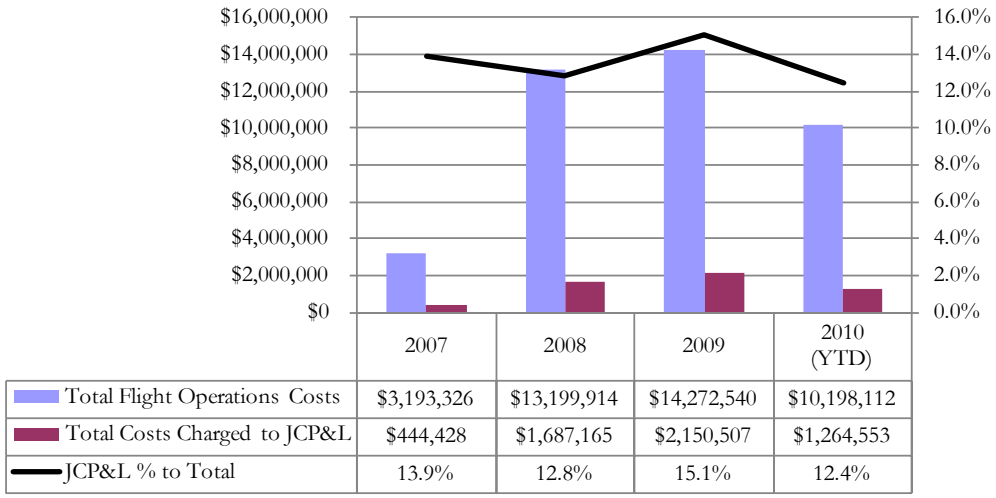
Exhibit III-17
Aircraft Costs
2007 to 2010 (September YTD)

Year	Total Costs	Use Billed Out (Direct)	Net to Assess (Indirect)	Use Billed Out to JCP&L (Direct)	Assessed to JCP&L (Indirect)	Total Costs Charged to JCP&L
2007	$3,193,326	$764,992	$2,428,334	$10,242	$434,186	$444,428
2008	$13,199,914	$3,240,431	$9,959,483	$74,725	$1,612,440	$1,687,165
2009	$14,272,540	$1,646,767	$12,625,773	$1,600	$2,148,907	$2,150,507
YTD Sept 2010	$10,198,112	$2,120,458	$8,077,654	$400	$1,264,153	$1,264,553

Source: Information Response 784
Direct=on demand and shuttle service charges
Indirect=allocated based on multiple factor-all methodology

Despite using the corporate aircraft very little during this timeframe, JCP&L has been charged approximately 13.6% of total FE corporate flight operations costs from 2007 through September 2010. JCP&L's portion of costs relative to FE total flight operations costs are displayed graphically in *Exhibit III-18*.

Exhibit III-18
JCP&L Flight Operations Costs
2007 to 2010 (September YTD)

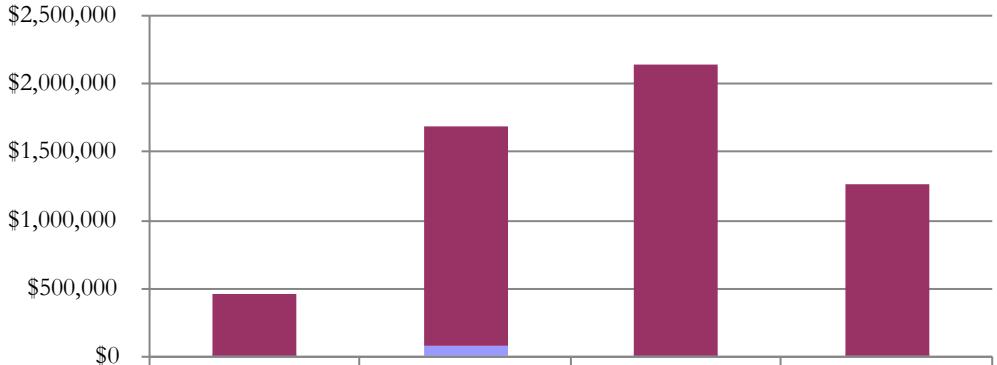


Source: Information Response 784

Exhibit III-19 displays the amount of these JCP&L costs segmented by direct charges and allocated charges. On-demand and shuttle charges to fly on FE's corporate aircraft result in the direct charges

shown in *Exhibit III-19*. A considerably larger amount of allocated charges have also been made to JCP&L, using the multiple-all cost allocation factor, also shown in *Exhibit III-19*.

Exhibit III-19
JCP&L Flight Operations Costs
Direct Versus Allocated Charges
2007 to 2010



	2007	2008	2009	2010 (YTD)
Allocated Charges to JCP&L $	$444,428	$1,612,440	$2,148,907	$1,264,153
Direct Charges to JCP&L $	$10,242	$74,725	$1,600	$400

Direct Charges to JCP&L $ Allocated Charges to JCP&L $

Source: Information Response 784

Finding III-19 **Policies and procedures governing the use of corporate aircraft do not specifically address the economic use of corporate aircraft.**

In 2006, FirstEnergy developed a policy governing the use of corporate aircraft. This policy is an extension of the FirstEnergy travel policy, which addresses all other types of travel (commercial airfare, ground transportation, hotels, meals, etc.). There is little mention in the dedicated/chartered aircraft policy that provides any guidelines on the appropriate use of the corporate aircraft other than "All use of dedicated or chartered aircraft shall be approved by the CEO or COO, as specified by the CEO."

Recommendations

Recommendation III-10 **Study the size of the aircraft fleet to increase overall utilization on the aircraft. (Refer to Finding III-17)**

The FE organization should investigate whether the current mix of aircraft is appropriate given the decreasing flight hours since 2008. Nearly 50% of usage has been with the two Citation XL airplanes, which are primarily used for shuttle services, except for 2008 when it was approximately 72%. The remaining flight hours are spread between the Embraer Legacy 600 and the Falcon 2000, both of which

have over 3,000 miles of range, a distance which is far more than FE's service territory in size or FE's need to interact with other groups, such as the investment and financial or federal regulatory agencies.

Recommendation III-11 **Analyze and modify, as appropriate, aircraft charging mechanisms so that entities such as JCP&L do not excessively pay for services not rendered. (Refer to Finding III-18)**

The charging mechanisms currently in use should be investigated for necessary modifications to more accurately reflect payment for services rendered by the Flight Operations organization. Modified areas should include the following:

- The direct charge amounts should be modified to accurately reflect actual costs of usage.
- The cost allocation factor used for charging indirect costs should be based on actual usage, not the multiple-all factor, so entities not significantly using FE aircraft are not inappropriately charged.

Recommendation III-12 **Modify policies and procedures regarding the use of corporate aircraft to provide economic guidelines on appropriate use. (Refer to Finding III-19)**

FirstEnergy should develop written guidelines regarding the appropriate and economic use for corporate aircraft. These guidelines might include such things as:

- Passenger loading (number of passengers) to a given location for use of corporate aircraft.
- Passenger loading requirements for using one aircraft versus another.
- Days of week aircraft available for on-demand versus scheduled routes, etc.
- Authorization levels for aircraft use below CEO (i.e., if budgeted for in cost center further approval is required).

Recommendation III-13 **Perform a lease versus own analysis and submit it to the BPU Audit Division to justify the benefits and costs of maintaining an in-house FE flight operation showing various lease/own options. (Refer to Finding III-17, Finding III-18, and Finding III-19)**

Given each of the findings on which this recommendation is based, FE should perform and submit a lease versus own analysis to the BPU Audit Division, which details both the benefits and costs of maintaining an in-house FE flight operation, showing various lease/own options. Included among the details should also be included JCP&L's portion of such benefits and costs.

IV. Market Conditions

This chapter addresses the level of customer activity in choosing electric commodity supply from third-party suppliers (TPSs). It addresses JCP&L's administration of the relationships with TPSs and the TPSs' success in penetrating the competitive market in the JCP&L territory. Customers who choose electric commodity supply from TPSs are called "shopping" customers. Customers who receive the default basic generation service (BGS) are called "non-shopping" customers.

A. Background & Perspective

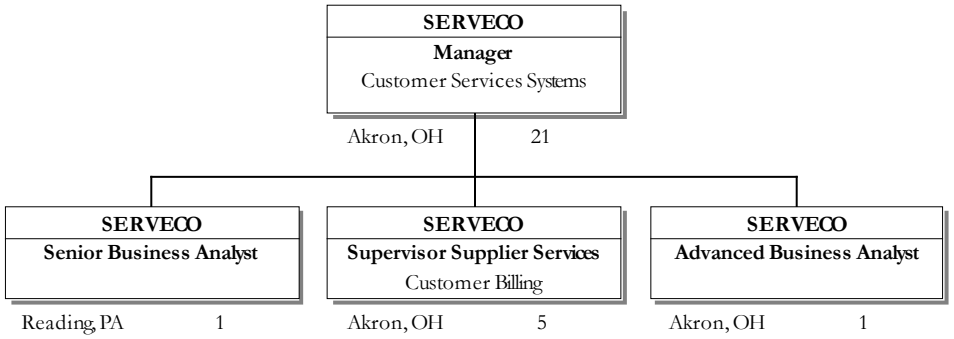
The provisioning of electricity supply to end-use customers has been restructured in New Jersey. JCP&L no longer supplies JCP&L-owned or -procured electric generation commodity service directly to end-use customers as it did in the former vertically integrated model. In New Jersey, customers can now choose electric commodity supply from any licensed and registered TPS, or they can simply accept the default BGS standard offer. There are two types of BGS: hourly and fixed. In general, large customers pay real-time hourly prices as determined in the PJM market. Small customers pay a fixed rate as determined in the BGS auctions. One-third of the fixed-price load is auctioned each year, so the fixed BGS price is a blend of three yearly auctions.

Non-shopping customers in the rate classes labeled residential and street lighting receive Basic Generation Service – Fixed Pricing (BGS-FP). Non-shopping customers in the commercial and industrial rate classes who take service at primary and transmission voltages receive hourly Basic Generation Service – Commercial Industrial Energy Pricing (BGS-CIEP). Non-shopping commercial and industrial customers taking service at secondary voltages receive BGS-FP, unless their peak load share is currently 1,000 kilowatt (kW) and above, or they voluntarily opt in to BGS-CIEP.

JCP&L's roles in electric commodity supply to end-use customers are, in addition to the physical delivery of electricity, to meter use, send bills, and collect payments on behalf of the BGS suppliers and TPSs and to administer the relationships with BGS suppliers and TPSs. JCP&L does not have programs to encourage or discourage customer choice between BGS- and TPS-provided commodity supply. That decision is each customer's choice as influenced by TPS offers and marketing.

The administration of JCP&L's involvement with TPSs is provided as a FirstEnergy (FE) Service Company (SERVECO) affiliate service by the Supplier Services section of the Customer Services Systems unit. This unit is part of the FirstEnergy Utilities (FEU) Customer Services organization. Two of the business analysts from the Customer Services Systems unit are also assigned to work with the Supplier Services section. The organizational structure for the Supplier Services section is shown in *Exhibit IV-1*.

Exhibit IV-1
FEU Supplier Services Organizational Structure
as of July 8, 2010



Source: Information Response 54

The five Supplier Services unit employees and the two assigned analysts are the contact and interface point for TPSs in all three FEU states (New Jersey, Ohio, and Pennsylvania).

Third-party suppliers wishing to do business in the JCP&L territory must first be licensed by the New Jersey Board of Public Utilities (NJBPU). Then they must register with JCP&L through the FEU Supplier Services group to do business. The process for supplier registration includes:

- Credit Risk management updates their credit reviews for suppliers on an annual basis and monitors on a daily basis industry news for events that would have a negative impact on suppliers' credit ratings.
- Posting a bond or cash for possible TPS defaults – JCP&L is the designated provider of last resort (POLR) in its service territories. If JCP&L has to provide power, as determined by the FE SERVECO return to operations (RTO) Settlement Services Department, the bond or cash deposit is used to cover the cost.
- Signing the NJBPU-approved standard master service agreement
- Delivering officer-signed letterhead banking information
- Submitting a W9 vendor form and a supplier communication contacts and billing information form.

Once licensed and registered, electronic data interchange (EDI) is set up and tested with the newly registered TPS. EDI enables electronic communication of usage and billing information with each TPS.

When the registration and EDI setup is complete, the third-party supplier may sign up customers. Each TPS can offer whatever terms and prices it chooses. The TPS offerings are not regulated. The third-party suppliers must notify Supplier Services/JCP&L at least 20 days before the read date for each

customer to make the switch that month, as required in New Jersey. The TPSs typically communicate with Supplier Services by phone and e-mail.

Each third-party supplier may elect to bill its customers directly based on consumption data provided by FEU/JCP&L (including detailed MV90 data), or it can have FEU/JCP&L do the billing on either a "bill ready" or "rate ready" basis. The consumption (and demand, if applicable) data is provided to the TPS. The third-party supplier can calculate the bill for each customer and provide it to FEU as "bill ready." Alternatively, the TPS can provide its contract rate structure for each customer to FEU and FEU will calculate the bill as "rate ready."

FEU Customer Services bills BGS and most TPSs' customers and collects their payments. The costs JCP&L incurs that are associated with the BGS process are recovered through Rider BGS-FP and Rider BGS-CIEP. The pricing is updated on an annual basis to reflect the results of the most recent basic generation service auction. A monthly accounting of BGS revenue billed vs. BGS incurred cost is performed, resulting in the recording of deferred under or over cost recoveries. Carrying cost, calculated on the basis of short-term debt rates, is assessed monthly on under/over-recovered deferred balances. The riders also include a reconciliation component, which is updated quarterly to ensure that JCP&L remains revenue neutral. External administrative costs, including the BGS auction consultant fees and Board of Public Utilities (BPU) staff consultants, are reimbursed through the annual BGS tranche fees, which are paid by the BGS winning bidders.

JCP&L assumes the receivables and pays the TPSs whether or not it receives payment from the customer. All third-party supplier customers are included. After 60 days, if the customer is in arrears, JCP&L switches the customer to dual billing and is no longer responsible for assuming receivables. The customer then has to be current for 12 months before he or she can go back on consolidated billing with JCP&L. JCP&L purchases the TPSs' receivables at 100% and the supplier is paid five days after the invoice's due date.

Costs associated with administering the TPS contracts, billing, and collections and other miscellaneous internal administrative costs (e.g., payroll related to accounting, regulatory filings, and tariff administration) are recovered through JCP&L's base rates. All uncollectible (bad debt) expense is recovered through Rider Uncollectible Costs (UNC), which is a component of Rider SBC.

Exhibit IV-2 shows that there were 19 active (having at least one customer) TPSs in New Jersey with a total of 29,261 shopping customers as of September 28, 2010.

Exhibit IV-2
Active JCP&L Territory Third-Party Suppliers
as of September 28, 2010

	Suppliers	TPS Customers
Commercial	17	16,744
Industrial	17	636
Residential	12	11,685
Street Lights	8	196
Totals (Unique Suppliers)	19	29,261

Source: Information Response 735

JCP&L's affiliate, FirstEnergy Solutions (FES), had 323 commercial and 30 industrial customers in the JCP&L territory as of September 28, 2010.

B. Findings & Conclusions

Finding IV-1 **JCP&L has more active third-party suppliers in its New Jersey territory than it does in its FEU Ohio and Pennsylvania operating company territories and that number has been increasing.**

Exhibit IV-3 shows that the number of active TPSs in JCP&L's territory increased from 12 in 2005 to 19 at the end of August 2010.

Exhibit IV-3
Active Third-Party Suppliers in the FEU Territories in Ohio, Pennsylvania, and New Jersey as of August 31, 2010

2005	Ohio	11
	Pennsylvania	5
	New Jersey	12
2006	Ohio	5
	Pennsylvania	2
	New Jersey	14
2007	Ohio	3
	Pennsylvania	7
	New Jersey	15
2008	Ohio	2
	Pennsylvania	8
	New Jersey	18
2009	Ohio	9
	Pennsylvania	9
	New Jersey	17
2010 (as of August 31)	Ohio	12
	Pennsylvania	12
	New Jersey	19

* Except for 2010, numbers represent totals as of December 31 of that year.

Source: Information Response 734

Furthermore, the number of active third-party suppliers in the JCP&L territory is greater than the number of active TPSs in the Ohio and Pennsylvania FEU territories.

Finding IV-2 **The number of JCP&L shopping customers has increased dramatically in recent years; however, the amount of shopping kilowatt hours has not increased as much.**

Exhibit IV-4 shows that the number of JCP&L shopping customers has increased from 699 to 9,436, or 1,250%, from 2005 to 2009. Almost all of the increase in shopping customers came in the general service (GS) secondary rate class, which increased from 65 shopping customers to 8,666 customers, or a total increase of 8,601. The GS increase in shopping customers is over 98% of the total increase in shopping customers. This pattern continued into 2010 as well.

Exhibit IV-4
FirstEnergy Shopping Statistics by State
2005 to 2010

Year	State	Shopping			Non-Shopping			TOTAL			Shopping Customers as a Percent of Total	Shopping kWh as a Percent of Total
		Customers [1]	kWh [2]	Revenue [3]	Customers [1]	kWh [2]	Revenue [4]	Customers [1]	kWh [2]	Revenue [3]		
2005	OH	446,627	19,961,150,092		1,667,389	36,364,279,040	$1,028,160,754	2,114,016	56,325,429,132		21.1%	35.4%
	PA	1,717	1,465,219,533		1,279,048	31,285,253,864	$1,372,600,136	1,280,765	32,750,473,397		0.1%	4.5%
	NJ	699	4,301,207,866		1,071,529	18,228,073,754	$1,167,630,724	1,072,228	22,529,281,620		0.1%	19.1%
		449,043	25,727,577,491	N/A	4,017,966	85,877,606,658	$3,568,391,614	4,467,009	111,605,184,149	N/A	10.1%	23.1%
2006	OH	298,313	9,112,972,933		1,819,468	46,149,880,869	$1,318,838,367	2,117,781	55,262,853,802		14.1%	16.5%
	PA	224	507,107,587		1,289,393	31,911,231,901	$1,478,686,562	1,289,617	32,418,339,488		0.0%	1.6%
	NJ	417	4,035,428,546		1,081,486	17,809,816,473	$1,329,917,576	1,081,903	21,845,245,019		0.0%	18.5%
		298,954	13,655,509,066	N/A	4,190,347	95,870,929,243	$4,127,442,505	4,489,301	109,526,438,309	N/A	6.7%	12.5%
2007	OH	292,236	8,468,118,143		1,815,583	47,978,007,249	$1,419,234,764	2,107,819	56,446,125,392		13.9%	15.0%
	PA	16,151	2,471,499,247		1,278,519	30,848,265,909	$1,521,707,609	1,294,670	33,319,765,156		1.2%	7.4%
	NJ	598	4,323,014,598		1,086,797	18,270,492,846	$1,684,675,295	1,087,395	22,593,507,444		0.1%	19.1%
		308,985	15,262,631,988	N/A	4,180,899	97,096,766,004	$4,625,617,668	4,489,884	112,359,397,992	N/A	6.9%	13.6%
2008	OH	540	7,999,607,920		2,106,492	46,900,926,069	$1,409,293,437	2,107,032	54,900,533,989		0.0%	14.6%
	PA	20,194	2,942,565,547		1,278,251	30,399,476,682	$1,510,735,669	1,298,445	33,342,042,229		1.6%	8.8%
	NJ	1,303	4,619,155,303		1,091,245	17,754,766,934	$1,912,703,589	1,092,548	22,373,922,237		0.1%	20.6%
		22,037	15,561,328,770	N/A	4,475,988	95,055,169,685	$4,832,732,694	4,498,025	110,616,498,455	N/A	0.5%	14.1%
2009	OH	965,714	7,114,184,921		1,136,101	42,509,063,837	$2,303,423,911	2,101,815	49,623,248,758		45.9%	14.3%
	PA	24,259	2,652,588,704		1,276,576	28,868,833,414	$1,434,718,453	1,300,835	31,521,422,118		1.9%	8.4%
	NJ	9,436	5,594,038,744		1,086,050	15,640,100,996	$1,729,708,362	1,095,486	21,234,139,740		0.9%	26.3%
		999,409	15,360,812,369	N/A	3,498,727	87,017,998,247	$5,467,850,726	4,498,136	102,378,810,616	N/A	22.2%	15.0%
2010 YTD	OH	1,136,231	20,523,672,177		959,685	15,097,557,393	$949,301,742	2,095,916	35,621,229,570		54.2%	57.6%
	PA	25,637	2,003,750,604		1,275,243	19,790,911,695	$1,023,766,534	1,300,880	21,794,662,299		2.0%	9.2%
	NJ	27,237	4,873,346,960		1,070,370	9,985,690,976	$1,117,427,686	1,097,607	14,859,037,936		2.5%	32.8%
		1,189,105	27,400,769,741	N/A	3,305,298	44,874,160,064	$3,090,495,962	4,494,403	72,274,929,805	N/A	26.5%	37.9%

Source: Information Response 734

Exhibit IV-4, however, also shows that the number of shopping kilowatt hours (kWh) of consumption increased from 4.3 billion in 2005 to only 5.6 billion in 2009, an increase of 30%. Like the increase in shopping customers, most of the increased shopping kWhs were in the general service (GS) rate class.

Of the total JCP&L shopping activity in 2009, FirstEnergy Solutions, JCP&L's affiliate and a New Jersey–licensed and –registered TPS, had 186 customers and sold 191,051,706 kilowatt hours for a total revenue of $18,872,408.

In Ohio, the number of shopping customers and the load increased dramatically from 2005 to August 31, 2010. A similar dramatic increase may take place in Pennsylvania when the default option (BGS equivalent) price caps expire on January 1, 2011.

Finding IV-3 **In 2009, JCP&L's percentage of shopping customers was lower, but its percentage of shopping load was higher than it was in FEU's Ohio and Pennsylvania territories.**

Exhibit IV-5 shows that FEU Ohio and Pennsylvania shopping customers represented a greater percentage of total customers.

Exhibit IV-5
2009 FEU States' Shopping Customers and Load
as of December 31, 2009

Year	State	Shopping		Non-Shopping		TOTAL		Customers as a Percent of Total	kWh as a Percent of Total
		Customers [1]	kWh [2]	Customers [1]	kWh [2]	Customers [1]	kWh [2]		
2005	OH	446,627	19,961,150,092	1,667,389	36,364,279,040	2,114,016	56,325,429,132	21.1%	35.4%
	PA	1,717	1,465,219,533	1,279,048	31,285,253,864	1,280,765	32,750,473,397	0.1%	4.5%
	NJ	699	4,301,207,866	1,071,529	18,228,073,754	1,072,228	22,529,281,620	0.1%	19.1%
		449,043	25,727,577,491	4,017,966	85,877,606,658	4,467,009	111,605,184,149	10.1%	23.1%
2006	OH	298,313	9,112,972,933	1,819,468	46,149,880,869	2,117,781	55,262,853,802	14.1%	16.5%
	PA	224	507,107,587	1,289,393	31,911,231,901	1,289,617	32,418,339,488	0.0%	1.6%
	NJ	417	4,035,428,546	1,081,486	17,809,816,473	1,081,903	21,845,245,019	0.0%	18.5%
		298,954	13,655,509,066	4,190,347	95,870,929,243	4,489,301	109,526,438,309	6.7%	12.5%
2007	OH	292,236	8,468,118,143	1,815,583	47,978,007,249	2,107,819	56,446,125,392	13.9%	15.0%
	PA	16,151	2,471,499,247	1,278,519	30,848,265,909	1,294,670	33,319,765,156	1.2%	7.4%
	NJ	598	4,323,014,598	1,086,797	18,270,492,846	1,087,395	22,593,507,444	0.1%	19.1%
		308,985	15,262,631,988	4,180,899	97,096,766,004	4,489,884	112,359,397,992	6.9%	13.6%
2008	OH	540	7,999,607,920	2,106,492	46,900,926,069	2,107,032	54,900,533,989	0.0%	14.6%
	PA	20,194	2,942,565,547	1,278,251	30,399,476,682	1,298,445	33,342,042,229	1.6%	8.8%
	NJ	1,303	4,619,155,303	1,091,245	17,754,766,934	1,092,548	22,373,922,237	0.1%	20.6%
		22,037	15,561,328,770	4,475,988	95,055,169,685	4,498,025	110,616,498,455	0.5%	14.1%
2009	OH	965,714	7,114,184,921	1,136,101	42,509,063,837	2,101,815	49,623,248,758	45.9%	14.3%
	PA	24,259	2,652,588,704	1,276,576	28,868,833,414	1,300,835	31,521,422,118	1.9%	8.4%
	NJ	9,436	5,594,038,744	1,086,050	15,640,100,996	1,095,486	21,234,139,740	0.9%	26.3%
		999,409	15,360,812,369	3,498,727	87,017,998,247	4,498,136	102,378,810,616	22.2%	15.0%
2010 YTD	OH	1,136,231	20,523,672,177	959,685	15,097,557,393	2,095,916	35,621,229,570	54.2%	57.6%
	PA	25,637	2,003,750,604	1,275,243	19,790,911,695	1,300,880	21,794,662,299	2.0%	9.2%
	NJ	27,237	4,873,346,960	1,070,370	9,985,690,976	1,097,607	14,859,037,936	2.5%	32.8%
		1,189,105	27,400,769,741	3,305,298	44,874,160,064	4,494,403	72,274,929,805	26.5%	37.9%

[1] Customer counts for 2005-2009 represent totals as of December 31 of that year. Totals for 2010 are as of August 31.
[2] Annual kWh totals for 2005-2009; totals for 2010 are through August 31. All kWh totals are based on monthly cycle results.
[3] Total commodity revenue paid by shopping customers to Third Party Suppliers is not recorded as revenue by FirstEnergy's utilities.
[4] Total non-shopping generation revenue recorded by FirstEnergy's utilities. All revenue totals are based on monthly cycle results.

Source: Information Response 734

The shopping percentage of total load, however, was greater in the JCP&L New Jersey territory.

C. Recommendations

None

V. Review of Prior Audit Recommendations

This chapter addresses prior audit recommendations.

A. Background & Perspective

Several different investigations of Jersey Central Power & Light (JCP&L) have been performed over the last 10 years, including:

- ***2003 Competitive Services Audit of JCP&L (Docket EA02020096)*** – This periodic review is performed for all electric and gas utilities in the state of New Jersey, as ordered by the New Jersey Board of Public Utilities (NJBPU).
- ***System Reliability Reviews*** – This series of reviews was performed at the request of the New Jersey Board of Public Utilities as a result of perceived system reliability problems being experienced within the JCP&L distribution system. Two major reviews were conducted. They were followed by specific agreements and stipulations regarding JCP&L actions in response to the findings and recommendations of the reviews as follows:
  - ***2004 Focused Audit of JCP&L's Planning, Operations, and Maintenance Practices, Policies, and Procedures (Docket EX02120950)*** – This study was performed by Booth Associates, Inc. It resulted in a draft and final report that contained a series of findings and recommendations. These outcomes were reported in a Draft Report that was issued January 30, 2004 and a Final Report that was issued June 22, 2004. The findings and recommendations were agreed to, in part, by JCP&L through a Memorandum of Understanding and Stipulation of Settlement as discussed below.
  - ***PJ Downes Associates' Review*** – The Board of Public Utilities (BPU) also engaged PJ Downes Associates to act in the capacity of special reliability master (SRM). In this role, the firm made recommendations to the Board to ensure system-wide reliability. This resulted in a separate report issued in 2004 as a result of outages experienced within the JCP&L service territory near the New Jersey shore, among other issues.
  - ***Memorandum of Understanding*** (**MOU**) – This agreement (March 24, 2004) was made between JCP&L and the BPU on the implementation of certain recommendations from the Booth Associates' Draft Report, among other issues.
  - ***Stipulation of Settlement*** (**SOS**) – This agreement (June 8, 2004) was made between JCP&L and the BPU on the implementation of certain recommendations from the Booth Associates' Final Report and all of the recommendation of the PJ Downes Associates' report.

Schumaker & Company consultants reviewed all of the above reports and requested selected documentation to confirm implementation of the recommendations contained within these reports. We

specifically focused on the competitive services audit and the system reliability commitments that were agreed to in the Memorandum of Understanding and Stipulation of Settlement agreements.

2003 Competitive Services Audit of JCP&L (Docket EA02020096)

Exhibit V-1 illustrates the timelines associated with the JCP&L competitive services audit.

Exhibit V-1
Competitive Services Audit History
2002 to 2006

March 20, 2002	Liberty Consulting selected to perform JCP&L competitive services audit.
March 31, 2003	Final audit report issued by Liberty Consulting.
April 22, 2003	BPU acknowledges the receipt of the final competitive services audit report.
May 1, 2003	Board focus shifts to issues at NUI.
November 10, 2005	Board restarts review process on competitive services audit final report.
March 29, 2006	Board issues order accepting competitive services audit final report and ordering implementation of recommendations.
October 27, 2006	After JCP&L files for reconsideration, Board issues order accepting competitive services final audit report and ordering implementation of recommendations.

Source: Information Response 27,786, 833, 834, 892 Schumaker & Company Analysis

Exhibit V-2 displays each of the recommendations from the 2003 competitive services audit of JCP&L (Docket EA02020096) and our comments on the continued viability of these recommendations.

Exhibit V-2
Competitive Services Audit Report Recommendations
as of June 30, 2010
Page 1 of 3

#	Statement Description	Comment
1	Treat General Public Utilities (GPU) Telcom, the MYR Group, and FirstEnergy Facilities Services Group, LLC (FEFSG) as related competitive business segments (RCBSs) of FirstEnergy for the purpose of compliance with NJ standards (page 8).	In 2001, GTE Telecom was merged into FirstEnergy Telecom Services, which subsequently changed its name to FirstEnergy Fiber Holdings Corporation (FEFHC) in 2008, when substantially all of its assets were sold to First Telecom Services, LLC (FTS), a subsidiary of First Communications, Inc. FirstEnergy (FE) currently owns approximately 15% of First Communications. In 2009, FTS transferred the wireless portion of its interests to an outside party, Diamond Communications, LLC, but the land-based fiber optic business remained with FTS. FTS currently remains an RCBS. FE currently owns substantially all of the assets of FEFHC, a land-based fiber business. (See *Chapter III – Affiliated Relationships & Cost Allocation Methodologies* chapter.) The MYR Group was sold in 2006 and, therefore, is no longer an RCBS. FEFSG remains an FE subsidiary structure, but JCP&L management indicates it is no longer an RCBS. In its latest compliance plan, JCP&L management indicates that New Jersey Administrative Code (N.J.A.C.) 14:4-3.3 through 3.5 applies only to FTS and FirstEnergy Solutions (FES); therefore, these two entities are the only entities treated as RCBSs.
2	Refrain from conducting transactions, including but not limited to energy transactions, that violate this section of NJ standards (page 14).	During the 2003 audit period, isolated transactions were found to be in violation of standards, which according to FE management did not reflect a systemic issue. In its latest compliance plan, JCP&L management indicates that such transactions, with certain allowed exceptions, are prohibited. Future competitive service audits should continue to check whether isolated transactions are in violation of New Jersey (NJ) standards.
3	As part of the review of these audit recommendations and their implementation, seek guidance from the Board in interpreting Sections 14:4-5.3(b) and 14:4-5.5(e)(1) of NJ standards in situations in which they appear to be in conflict (page 14).	According to JCP&L management, it has sought guidance from the Board in this respect. (GPU AR is now part of the FirstEnergy Solutions (FES) organization.)

Source: 2003 competitive services audit of JCP&L (Docket EA02020096) final report, Interview 195, and Information Responses 786, 787, 788, 820, and 832

Exhibit V-2
Competitive Services Audit Report Recommendations
as of June 30, 2010
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#	Statement Description	Comment
4	Amend the compliance plan either to prohibit providing advice to customers about any holding company RCBS or to provide guidance to employees on what advice is appropriate and how that advice can be provided with regard to competitors (page 31).	Included in existing compliance plan documentation.
5	Complete efforts to put in place an appropriate contract between JCP&L and SERVECO for services provided between them (page 48).	Affiliate agreement dated June 1, 2003 between SERVECO and JCP&L was finally approved by the NJBPU on September 30, 2005. See *Chapter III – Affiliate Relationships & Cost Allocation Methodologies* for related recommendations.
6	Retain complete work papers supporting cost loaders and other material, calculated cost assignment and allocation factors at least until completion of the Board audit covering the period during which they applied (page 58).	See *Chapter III – Affiliate Relationships & Cost Allocation Methodologies*. (Included in audit work papers.)
7	Immediately after FirstEnergy has completed its shared service reorganization, prepare a detailed and comprehensive cost allocation manual (or equivalent document) that is consistent with NJ standards (page 64).	See *Chapter III – Affiliate Relationships & Cost Allocation Methodologies* for related recommendations. (Included in audit work papers.)
8	Perform a structured analysis of the continuing sufficiency of general allocators to align cost responsibility with cost causation; increase the use of direct charges and more specific allocators where found appropriate (page 67).	Performed; according to JCP&L management it was covered through NJBPU's September 30, 2005 order/stipulation. See *Chapter III – Affiliate Relationships & Cost Allocation Methodologies* for related recommendations. (Included in audit work papers.)
9	Add the required disclosure on at least the first web pages for all FirstEnergy competitive services, especially for FirstEnergy Solutions (page 75).	The phrasing was added and currently appears at the bottom of FES's top web pages.[3]
10	Allocate a share of Electric Power Research Institute (EPRI) membership costs to RCBS members during the audit period and deny them membership and access to any information accruing from membership in the future unless they pay an appropriate share of the EPRI membership fees and dues (page 81).	EPRI membership fees are assessed on a project-by-project basis; therefore, the operating company/ business unit benefiting from the project pays the project fees. Membership in and access to EPRI information through a corporate-wide membership has been limited to those entities, including FES, that pay an appropriate share of the EPRI membership fees.

Source: 2003 competitive services audit of JCP&L (Docket EA02020096) final report, Interview 195, and Information Responses 786, 787, 788, 820, and 832

[3] FirstEnergy Solutions Corp., an unregulated subsidiary of FirstEnergy Corp., is not the same company as FirstEnergy Corp.'s regulated electric utilities: Ohio Edison Company, Cleveland Electric Illuminating Company, Toledo Edison Company, Pennsylvania Power Company, Pennsylvania Electric Company, Metropolitan Edison Company, Jersey Central Power & Light Company, and American Transmission Systems, Incorporated. FirstEnergy Solutions is not regulated by the Public Utilities Commission of Ohio, the Pennsylvania Public Utility Commission, or the New Jersey Board of Public Utilities. The electric utility customers do not have to buy a product or service from FirstEnergy Solutions to continue to receive services from the regulated electric utilities.

Exhibit V-2
Competitive Services Audit Report Recommendations
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#	Statement Description	Comment
11	In the event that the Board decides that clause (1) of Section 14:4-5.5(p) prohibits RCBS employees from also being involved in the provision of noncompetitive utility and safety services, JCP&L should refrain from using utility RCBSs, as demonstrated by the Harlan Electric and Elliot-Lewis examples, to maintain its utility infrastructure (page 83).	No longer an issue as RCBS entities mentioned were part of the MYR Group sale.
12	Reposition the duties of the individuals who serve as a director or an officer for both a utility and a related competitive business segment of the utility's holding company so that JCP&L is in compliance with the standard (page 85).	No longer an issue as no members of JCP&L's Board of Directors (BOD) also sit on the BOD of FirstEnergy Solutions or First Telcom Services, LLC, the two RCBSs indicated in the August 31, 2010 affiliate standards compliance filing.
13	Revise either or both the compliance plan and Accounting Policy P-07-B (or its post-merger equivalent) to provide additional guidance regarding the transfer of assets (page 92).	Completed and included in both the compliance plan and the Accounting Policy documentation.
14	Add to the compliance plan a specific statement regarding how new employees are to be trained on the standards, which should also include a specific timeframe for the "refresher" training offered to employees (page 99).	No longer an issue as included in the existing compliance plan documentation; also, training occurs for impacted employees when they are first employed by FE and every two years thereafter.

Source: 2003 competitive services audit of JCP&L (Docket EA02020096) final report, Interview 195, and Information Responses 786, 787, 788, 820, and 832

System Reliability Reviews

Exhibit V-3 illustrates the timeline associated with the JCP&L system reliability reviews.

Exhibit V-3
System Reliability Audits History
2003 to 2004

August 2, 2002	Severe thunderstorms cause major outage in Jersey Central Power & Light Company (JCP&L) service territory (180,000 customers experience outages). The New Jersey Board of Public Utilities (NJBPU or Board) initiated an investigation into the storm-related outages, establishing Docket No. EX02120950.
February 18, 2003	Board and JCP&L signed a stipulation and agreement of dettlement in Docket No. EX02120950.
July 5, 2003	Severe conditions cause outages in barrier islands areas.
July 16, 2003	Board initiates investigations of barrier islands outages.
August 1, 2003	Board hires PJ Downes Associates to assist in barrier islands investigations.
September 24, 2003	Board retained Booth Associates, Inc. (Booth) to perform a focused audit of the planning, operations, and maintenance
December 16, 2003	PJ Downes Associates interim report submitted for BPU and JCP&L review and comment.
January 30, 2004	Booth draft final report submitted for BPU and JCP&L review and comment.
March 24, 2004	Memorandon of understanding agreement issued to resolve some of the issues identified by the Booth report.
June 7, 2004	PJ Downes Associates final report submitted for BPU and JCP&L review and comment.
June 8, 2004	Stipulation of settlement agreement reached to resolve some additional issues from the Booth and PJ Downes reports.
June 22, 2004	Booth final report issued.
June 23, 2004	JCP&L submits position letter regarding the Booth final report.

Source: Information Responses 833 and 834 and Schumaker & Company Analysis

2004 Focused Audit of JCP&L's Planning, Operations, and Maintenance Practices, Policies, and Procedures (Docket EX02120950)/Booth Report

Only certain findings and recommendations that resulted from the Booth Associates' report were agreed to be implemented by JCP&L through agreements with the NJBPU known as the ***Memorandum of Understanding*** and the ***Stipulation of Settlement***. Although Schumaker & Company consultants reviewed the Draft and Final Reports from Booth Associates, we focused most of our efforts on reviewing JCP&L's implementation of those items agreed to in the aforementioned agreements.

PJ Downes Associates' Review

PJ Downes Associates was hired in response to the Board's Investigation into JCP&L's Outages (specifically at the Barrier Peninsula) on the July 4, 2003 Weekend (BPU Docket EX03070503). The interim report was submitted to the New Jersey Board of Public Utilities (the "Board") on December 16, 2003. The fourteen recommendations contained in that report were accepted by JCP&L and have been completed. The significant areas of those recommendations were training, updating planning criteria, updating communications and computer systems, and constructing new facilities.

Memorandum of Understanding (MOU)

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Memorandum of Understanding Commitments
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#	Statement Description	Comment
1.	JCP&L will conduct a geographical information system (GIS) field audit in New Jersey to improve the accuracy of its outage management system (OMS) connectivity model. JCP&L issued a request for proposal (RFP) for such a field audit (a copy of which will be provided to the Board staff), reviewed bids, and awarded a contract to a GIS audit contractor (Davey Resources) on March 3, 2004, with commencement of the field audit planned for the end of March 2004. JCP&L shall (i) provide a status report to the Board staff and the SRM by January 31, 2005 about the status of the field audit, (ii) complete the field audit by the end of 2005, and (iii) report to the Board staff and the SRM by February 28, 2006 about the results thereof.	Schumaker & Company consultants identified actions that addressed this issue.
2.	JCP&L agrees that proper grounding of substation fences is a significant safety (as opposed to a reliability) issue and agrees to apply to the Institute of Electrical and Electronics Engineers (IEEE) to request a rule interpretation under the National Electrical Safety Code (NESC) regarding whether the method of grounding/bonding of the barbed wire strands present at the JCP&L substations is adequate and/or whether such grounding/bonding method is grandfathered by previous versions of the NESC. JCP&L will submit a draft of the request to the Board staff by June 1, 2004 for review and approval before it is submitted to the IEEE. Upon receipt of the interpretation from IEEE, JCP&L will provide a copy of the interpretation and a report on any actions JCP&L will undertake based on the NESC's interpretation to the Board staff and the SRM. This report shall be signed by a JCP&L corporate officer.	Schumaker & Company consultants identified actions that addressed this issue.
3.	If a pentahead bolt was provided by the manufacturer as part of a pad mount transformer when it was installed, JCP&L will replace any such bolt found to be missing, in accordance with this paragraph 3. JCP&L will replace by June 1, 2004 any missing pentahead bolts on pad mount transformers about which JCP&L has actual knowledge. Furthermore, JCP&L will include the replacement of missing pentahead bolts as a part of its ongoing five-year periodic inspection program for pad mount transformers. JCP&L will continue to use industry-standard locking devices on all pad mount transformers. In addition, when JCP&L personnel open a pad mount transformer, JCP&L will clear vegetation around the pad mount transformer to the extent necessary to provide sufficient clearance for the safety of its employees	Schumaker & Company consultants identified actions that addressed this issue.
4.	JCP&L will continue and complete its accelerated reliability improvement program (the ARIP), as described in Attachment 1 hereto, which, among other things, includes the fusing of certain circuit lateral taps, where necessary and possible, as well as certain main feeder sectionalizing, consistent with JCP&L's circuit protection philosophy.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 833 and Schumaker & Company Analysis, Interview 195, and Information Responses 790 to 796

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#	Statement Description	Comment
5.	JCP&L will continue and complete the ARIP, which, among other things, includes a specified 34.5 kilovolt (kV) telemetry project to establish clear alarm points for voltage, transformers, and lines. Such alarms will be presented to the regional dispatch offices (RDOs) in the energy management system (EMS), so they will provide additional operational decision-making support for planned and unplanned changes in the operating status of energized equipment. JCP&L will also develop a set of written operating procedures in the RDOs governing prescribed reactions to typical or anticipated common alarm conditions. JCP&L will provide a progress report, signed by a JCP&L corporate officer, to the Board staff and the SRM by June 1, 2004 with respect to the status of the actions required by this paragraph 5.	Schumaker & Company consultants identified actions that addressed this issue.
6.	JCP&L will continue and complete its ARIP that, among other things, includes JCP&L's accelerated implementation of FirstEnergy's Vegetation Management Specifications, which include a "danger" (or "priority") tree management program component. Accelerated implementation means that by July 31, 2005, as a result of the completion of this aspect of the ARIP, all JCP&L lines will be on a four-year cycle under the FirstEnergy specifications. JCP&L will thereafter continue to comply with the Board's four-year "inspect and trim as necessary" cycle standard that has been mandated by the Board's orders dated December 16, 1998 in Docket EX98101130 and December 30, 1997 in Docket EX97080610.	Schumaker & Company consultants identified actions that addressed this issue.
7.	JCP&L will continue to include, as part of its applicable construction standards, the objective to achieve 10 ohms or less on all made electrodes (ground rods) at the grounding connection points to include every arrester location, with respect to its 34.5 kV system lightning arrester or overhead static wire program. JCP&L will demonstrate its commitment to this objective by providing a report to the Board staff and the SRM by August 1, 2004. This report will indicate the measured as-built ground resistance at each of the ground rods on the newly constructed C203 34.5 kV Mantoloking-Seaside Heights line on the Barrier Peninsula, which is scheduled for completion by May 24, 2004.	Schumaker & Company consultants identified actions that addressed this issue.
8.	JCP&L will review and assess the effectiveness of its existing set of written maintenance and testing procedures for all components of its 34.5 kV system, including batteries, switches, and controls. JCP&L will also provide additional training with respect to any changes made as a result of this required review and assessment. JCP&L will provide a report, signed by one of its corporate officers, to the Board staff and the SRM by June 1, 2004. This report will summarize the status of this review and training effort.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 833 and Schumaker & Company Analysis, Interview 195, and Information Responses 790 to 796

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#	Statement Description	Comment
9.	JCP&L will complete its review to determine if training on substation grounding design practices has been provided to, and attended by, all appropriate JCP&L employees. JCP&L will develop a schedule to provide such training during 2004 to those JCP&L employees who have not yet received this training. It will also track attendance so as to assure that all appropriate JCP&L employees have received such training by the end of 2004. JCP&L will provide a report to the Board staff and the SRM by January 31, 2005 with respect to the number of JCP&L employees that have received such training, both prior to and during 2004. This report will also stipulate the number of employees who have not yet been trained as of the end of 2004.	Schumaker & Company consultants identified actions that addressed this issue.
10.	JCP&L will continue to include substation grounding as part of its monthly substation inspection process and will continue to ground out-of-service equipment. JCP&L shall communicate with all of its regional operations employees who are working in its substations that, as a matter of policy and practice, all equipment in the JCP&L system is to be considered energized and treated as such unless properly isolated from the electrical system and properly grounded. JCP&L represents that it has already addressed the grounding condition at its Rosemont substation.	Schumaker & Company consultants identified actions that addressed this issue.
11.	JCP&L recognizes the Board's concerns with both the potential safety and stray-voltage reduction aspects of a proper substation ground grid and will provide a report to the Board staff and the SRM by June 1, 2004. This report will discuss the various methodologies that are available to test the integrity of a substation ground grid with and without de-energizing the substation equipment	Schumaker & Company consultants identified actions that addressed this issue.
12.	As JCP&L replaces faded, cracked, or otherwise unreadable warning signs on its substation fences and gates, it will do so with signs that comply with the latest American National Standards Institute (ANSI) 2535 and Occupational Safety & Health Administration (OSHA) standards. All new signs will also comply with the latest ANSI 2535 and OSHA standards. In addition, in conjunction with its monthly substation visual inspection program, JCP&L will install signs on all substation gates, providing substation name and address-identifying information and generic emergency telephone numbers (e.g., 911) to be used in the event of an emergency at any substation where the presence of such signage is not confirmed by the monthly inspections.	Schumaker & Company consultants identified actions that addressed this issue.
13.	JCP&L agrees that the Board's order dated July 16, 2003 required it to complete infrared thermography on the 34.5 kV system serving the Barrier Peninsula and to address identified hotspots. JCP&L represents that it has completed the required thermography and has addressed identified hotspots in compliance with such order	Schumaker & Company consultants identified actions that addressed this issue.
14	JCP&L will continue to insulate new 34.5 kV construction of overhead lines at 350 kV Basic Impulse Insulation Level (BIL) as it proceeds with system upgrades on the Barrier Peninsula.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 833 and Schumaker & Company Analysis, Interview 195, and Information Responses 790 to 796

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#	Statement Description	Comment
15.	(a) JCP&L will take reasonable steps to seek to enforce its contracts with joint-use pole tenants by providing notice with respect to, among other things, engineering notifications and reviews, make-ready work, the failure of the tenant to properly construct attachments (including improper or missing guys), and the obligation of the tenant to replace or repair its facilities. JCP&L will provide notice to the joint-use tenant within five business days of its discovery of the need for the joint-use tenant to repair or replace its facilities or of the joint-use tenant's failure to properly construct its attachments. (b) When JCP&L is the joint-use tenant and becomes aware of a significant structural defect in the joint-use owner's pole, JCP&L will provide notice to the joint-use owner within five business days of its discovery of the defect and of the need for the joint-use owner to correct, repair, or replace. In cases where the joint-use owner fails to take corrective action and its failure to correct creates a substantial hazard with respect to JCP&L's facilities, JCP&L will take steps to correct the deficiency within 90 days of its notice to the joint-use owner. JCP&L will then bill the joint-use owner for the fully loaded cost of the work and will transfer the ownership of that repair and any associated equipment to the joint-use owner.	Schumaker & Company consultants identified actions that addressed this issue.
16.	JCP&L will develop and implement its plans to construct the new D-212 line, which runs approximately 7.7 miles along Route 37, and the new cable crossing attached to the underside of the Route 37 bridge. JCP&L will advise the Board staff immediately of any difficulties in obtaining permitting or any other necessary approvals for the siting of these cables. Beginning April 2004, JCP&L will provide the Board staff and the SRM with a quarterly report of this project's progress in the prior calendar quarter. This report will be due within 15 days of the close of each calendar quarter until the project is completed	Schumaker & Company consultants identified actions that addressed this issue.
17.	For every transformer in the following table of substations, JCP&L shall either provide to the Board staff a record of the dissolved gas analysis and infrared analyses performed since September 1, 2003 or perform these tests by April 2004. To the extent that any of such test results indicate an immediate need for corrective maintenance, JCP&L shall review such test results with the SRM and shall schedule and implement such corrective maintenance in consultation with, and subject to the approval of, the SRM. JCP&L will also provide a report, signed by a JCP&L corporate officer, to the Board staff by July 15, 2004. This report will summarize the actual remedial actions taken as a result of the foregoing sentence.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 833 and Schumaker & Company Analysis, Interview 195, and Information Responses 790 to 796

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#	Statement Description	Comment
	Air Field, Air Reduction, Alderney, Allamuchy, Belford, Belmar, Bernardsville, Blairstown, Boonton, Branchville, Broadway, Change Bridge, Chapin Road, Chester, Clark Street, Colonial Oaks, Crawfords, Fair Haven, Fairview, Flanders, Gillette, Greater Cross Road, Green Village, Hackettstown, Hawks, Howell, Hurdtown, Hyson, Island Heights, Jamesburg, Jerseyville, Kenvil, Lacey, Lavallette, Mantoloking, McGraw Hill, Millhurst, Monmouth Beach, Morristown, Motts Corner, Mt. Fern, Mt. Pleasant, Newburgh, North Branch, North Newton, Ocean Beach, Old Bridge, Ortley Beach, Pine Beach, Pleasant Plains, Riverdale, Rocktown Road, Seaside Park, Stanton, Stewartsville, Sussex, Taylor Lane, Traynor, Washington, Whitesville, Woodbine, Woodland, Woodruffs Gap	
18.	JCP&L will complete, by June 25, 2004, the following major projects: (i) replacement of the transformers at the Airfield substation; (ii) transformer and equipment upgrades at the Atlantic, Freneau, Lakewood Co-Gen, Glen Gardner, and Hackettstown Hospital substations; and (iii) action to permanently relieve the anticipated overloads at the Hurdtown and Colonial Oaks substations or upgrades to the transformers at these substations. JCP&L will provide a report, signed by a JCP&L corporate officer, to the Board staff by July 25, 2004 regarding the actions taken at each of these locations.	Schumaker & Company consultants identified actions that addressed this issue.
19.	To the extent that JCP&L does not have real-time monitoring of loads through either its EMS system or its real-time metering system at the substation transformers listed in the table below, it will either undertake such EMS monitoring or install such real-time metering by June 25, 2004. JCP&L will also provide a report to the Board staff and the SRM regarding the status of the real-time monitoring/metering at these substation transformers by July 25, 2004: Belford 1, Belmar, 1, Blairstown 1, Fair Haven 2, Flanders 4, Hyson Bank 1, Jerseyville Bank 2, North Branch 2, North Newton 1, Riverdale 1, Stanton 2, Stewartsville 1.	Schumaker & Company consultants identified actions that addressed this issue.
20.	For each week of the 2004 summer peak season (June 1, 2004 through September 30, 2004), JCP&L will provide a weekly report to the Board staff and the SRM as follows: (i) the actual measured peak loading for the prior week on each of the substation transformers on the JCP&L system that have electronic metering; (ii) the actual monthly peak reading for the prior month on each of the substation transformers on the JCP&L system that do not have electronic metering but which were read during routine monthly substation inspections conducted during the prior week; and (iii) the State Estimator projections with respect to peak loading for the prior week for any remaining substation transformers not covered in (i) and (ii) above. Each report will be for the week ending 14 days prior to the date of the report.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 833 and Schumaker & Company Analysis, Interview 195, and Information Responses 790 to 796

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Memorandum of Understanding Commitments
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#	Statement Description	Comment
	The first report will cover the period spanning June 1 through June 9 and will be due on June 23, 2004. The second report will cover the period spanning June 10 through June 16 and will be due on June 30, 2004. (Each subsequent report will follow in sequence.) In the interest of efficiency, JCP&L may, prior to June 1, 2004, submit to the Board staff and the SRM a sample of an existing report or reports that may satisfy this requirement.	
21.	The timing of completion of any JCP&L commitments as set forth in this MOU (including the ARIP described in Attachment 1 hereto) shall be subject to the occurrence of force majeure events beyond the reasonable control of JCP&L. Such events include, but are not limited to, governmental action or inaction with respect to permitting or other matters.	Schumaker & Company consultants identified actions that addressed this issue.
22.	It is understood that this MOU arises in connection with the focused audit conducted under this specific docketed proceeding and addresses actions that may be of value to improve the reliability of electric delivery for the summer 2004 peak period. As such, the execution by Board staff, the approval by the Board, and the implementation by JCP&L of this MOU shall constitute final resolution of the consultant's draft interim recommendations and any of the consultant's final recommendations addressing substantially the same subject matter that arise from such focused audit. Furthermore, JCP&L's compliance with the tenets hereof shall constitute full, complete, sufficient, and satisfactory resolution of, and compliance with, this MOU.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 833 and Schumaker & Company Analysis, Interview 195, and Information Responses 790 to 796

Stipulation of Settlement (SOS)

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Stipulation of Settlement Commitments
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#	Statement Description	Comment
a.	In connection with the various diagnostic tests/inspections/preventative maintenance/corrective maintenance and related work that JCP&L performs in accordance with its asset management program and applicable preferred practices, JCP&L will provide the annual reports listed below.	Schumaker & Company consultants identified actions that addressed this issue.
1.	JCP&L will provide the following reports with respect to JCP&L's distribution transformer maintenance activities: Preventative Maintenance (PM) (including inspections and testing) – the number and percent completed compared to the number of PMs scheduled and as compared to the number scheduled and completed and the percent completed in the prior year Corrective Maintenance (CM) – the number of CMs completed by categories of equipment (e.g., tap changers, bushings, oil treatment, auxiliary equipment, etc.) and the number of total CM man-hours for the year as compared to both the number of CMs by categories of equipment completed in the prior year and the number of total CM man-hours for the prior year Distribution transformer replacements, retirements, refurbishments – the category and number for the year and as compared to the prior year	Schumaker & Company consultants identified actions that addressed this issue.
2.	JCP&L will provide the results of the tests/inspections/PMs/CMs performed.	Schumaker & Company consultants identified actions that addressed this issue.
3.	JCP&L will provide a list of the actions taken/planned on the basis of the tests/inspections/PMs/CMs data indicating that tolerances or accepted ranges have been exceeded or incipient failure conditions have been revealed.	Schumaker & Company consultants identified actions that addressed this issue.
4.	JCP&L will provide, with respect to planned actions from item 3, the schedules for action to be taken.	Schumaker & Company consultants identified actions that addressed this issue.
5.	JCP&L will provide the reports of actions completed as a result of actions planned under item 3 and scheduled under item 4.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 834 and Schumaker & Company Analysis

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#	Statement Description	Comment
b.	JCP&L will provide its running three-year average transformer failure rate compared to a national industry average failure rate, as set forth in "ANALYSIS OF TRANSFORMER FAILURES – A TWENTY-YEAR TREND" by William H. Bartley of The Hartford Steam Boiler Inspection & Insurance Co. USA, as most recently presented at the Proceedings of the 2000 International Conference of Doble Clients, Section 8-5 (copy attached as Attachment A) and as may be amended from time to time hereafter. For the purposes of this reporting, it is understood that the definition of a transformer failure, as used by JCP&L, is as follows: anytime JCP&L cannot refurbish the transformer, replace a component part, or rebuild the transformer on site. For example, if the transformer fails and must be sent to a repair facility for rewind, it is a failure. Replacing a tapchanger mechanism on a planned basis, however, or after testing and inspection show that it cannot be economically rebuilt, would be a corrective maintenance and not a failure. Similarly, replacing the oil, degassing the transformer, or replacing one or more bushings, CT sensors, fans, etc. would also be corrective maintenance and not a failure. JCP&L understands that this definition is consistent with the manner in which failures were considered in the aforementioned paper presented by Mr. Bartley.	Schumaker & Company consultants identified actions that addressed this issue.
c.	In the event that JCP&L's three-year running average failure rate exceeds the national average failure rate, JCP&L will agree to revise its distribution transformer loading guidelines/criteria to a more conservative loading level. These revisions will remain in effect until such time as its three-year average failure rate returns to below the national average failure rate or below the level of the lowest year during the three-year period that triggered the change in criteria.	Schumaker & Company consultants identified actions that addressed this issue.
d.	JCP&L will provide a list of its distribution transformers that are projected to exceed the IEEE Moderate Loss of Life (MLOL) rating under normal conditions on a going-forward basis.	Schumaker & Company consultants identified actions that addressed this issue.
e.	For distribution transformers projected to exceed the MLOL rating under normal conditions on a going-forward basis, JCP&L will take appropriate action to relieve the loading on such distribution transformers.	Schumaker & Company consultants identified actions that addressed this issue.
f.	All of the aforementioned annual reporting requirements may be reviewed by Board staff and JCP&L for possible termination or adjustment after three years.	Schumaker & Company consultants identified actions that addressed this issue.
6.	In addition to the foregoing, JCP&L also agrees to take certain actions with respect to its circuits as follows:	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 834 and Schumaker & Company Analysis

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Stipulation of Settlement Commitments
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#	Statement Description	Comment
a.	JCP&L agrees that it will target attainment of 80% of its circuits to a Circuit Reliability Index (CRI) (as described in Attachment B) level of 130 or less within four years. JCP&L will report on all the circuits on an annual basis until such time as the goal has been achieved as follows: (i)The annual average CRI rate by region (ii)The three-year trend on the average circuit CRI rate per region (iii)With respect to the number of circuits with a CRI score of 0–60 compared to a running three-year average number of circuits in the same range, if the number is increasing over 25% or a score change of 8 points, whichever is greater, to take targeted action on the ones that increased; in the case of circuits with CRI scores of 60–100 compared to a running three-year average number of circuits in the same range, if the number is increasing over 15% or a score change of 12 points, whichever is greater, to take targeted action on those circuits that increased (iv) After four years or the earlier achievement of the aforementioned goal of 80% of circuits with a CRI score of 130 or less, JCP&L agrees to adjust the CRI goal in order to use the CRI tool to further improve circuit reliability and customer satisfaction. It may do so by, for example, reducing the targeted CRI score or using the same goal and targeted CRI score on a circuit element basis, which has the effect of measuring circuit performance at a level that is increasingly closer to the individual customer.	Schumaker & Company consultants identified actions that addressed this issue.
7.	Over the course of the five years beginning January I, 2004, JCP&L agrees that it will budget $12 million per year on distribution transformer-related capital investments (the amount of which will be subject to review by Board staff and JCP&L in June 2005) as part of the implementation of its asset management strategy (as described in Attachment C). The $12 million shall be in addition to JCP&L's commitment in Attachment C to spend no less than $30 million annually (including both capital expenditures and operations & maintenance) on reliability enhancements in the areas of capacity additions, reinforcements, replacements, upgrades, inspections, and testing.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 834 and Schumaker & Company Analysis

Exhibit V-5
Stipulation of Settlement Commitments
as of December 31, 2008
Page 4 of 4

#	Statement Description	Comment
8.	It is agreed that JCP&L shall be permitted to seek recovery in its Phase II proceeding in Docket 02080506 for (a) known and measurable reliability-related investments (including associated depreciation and other related adjustments) to be completed in 2004 and 2005 made pursuant to the 3/24/04 MOU and this stipulation that were not included in the .2002 test-year rate base in JCP&L's last base rate case and (b) any operations and maintenance costs associated with reliability-related projects approved by the Board since the end of the 2002 test year in JCP&L 's last base rate case. Thereafter, JCP&L can seek recovery—in proceedings substantially similar to the Phase II proceeding contemplated for 2004 or by other appropriate proceedings before the Board—of future reliability-related costs incurred in connection with projects approved by the Board since the end of the 2002 test year in JCP&L's last base rate case and not included in such Phase II proceeding.	Schumaker & Company consultants identified actions that addressed this issue.
9.	It is understood that this stipulation arises in connection with the Board's investigation and the focused audit conducted under the specific docketed proceedings and that it addresses actions to improve the reliability of JCP&L's electric delivery. As such, the execution of this stipulation by Board staff, its approval by the Board, and its implementation by JCP&L (in compliance with its terms and over the period specified therein), in conjunction with the Board's December 22 order and the March 29 order adopting the 3/24/04 MOU, shall constitute final resolution of the SRM's Final Report, all Booth Associates' recommendations, and any other issues that arise from such investigation and focused audit. JCP&L's compliance with the terms hereof in the time period set forth herein shall constitute full, complete, sufficient, and satisfactory resolution of, and compliance with, the SRM's Final Report, the Booth Associates' Final Report, any other issues raised in the remainder of Booth Associates' draft audit report and this stipulation.	Schumaker & Company consultants identified actions that addressed this issue.

Source: Information Response 834 and Schumaker & Company Analysis

Exhibit V-6
Memo of Understanding & Stipulation of Settlement
Implementation Table
2003 to 2010

	3124104 Memorandum of Understanding Implementation:	Original Completion Date	Revised Completion Date
	ARIP		
1	Distribution Capacitors	811/2003	Complete
2	Circuit Reliability Reviews	12/3112004	Complete
3	Distribution Substation Metering	12/3112004	Complete
4	Substation Data Telemetry	12/31/2004	Complete
5a	Vegetation Management (Accelerated Tree Trimming)	7131/2005	Complete
5b	Additional Vegetation Management Cost - FE Policy	On-going	On-going (1)
6	34.5 kV Protection Scheme Coordination & Automation	12/3112004	Complete
7	Mobile Capacitors	12/3112004	Complete
8	Outage Management System	12/31/2005	Complete
9	Regional Dispatch Office Relocation	2/29/2004	Complete
10	Geographical Information System Field Audit	12/3112005	Complete
	Barrier Peninsula		
1	34.5 kV C203 Rebuilt & Reconductored Circuit	5/11/2004	Complete
2	34.5 kV D212 New Circuit	6/8/2004	Complete
3	Barnegat Bay SR37 Bridge - New Conduit & Cable Crossings	6/812004	Complete
4	Manitou Sub Reconductored 34.5 kV Breaker	5124/2004	Complete
5	Ocean Beach - 34.5 kV Capacitor Addition	5/24/2004	Complete
6	Ortley Beach - 34.5 kV Capacitor Addition	5/24/2004	Complete
7	Perform Inspections & Corrective Maintenance on X50 between Seaside Heights & Seaside Park	5/23/2005	Complete
8	Acquire and Maintain Underwater Spare Replacement Cable	5/24/2004	Complete
9	Install Fault Detectors on X50, C203 and V126 *	5/24/2004	Complete
10	Equip Existing Circuit Breakers with Line Relays	5/2312005	Complete
11	Emergency Diesel Generators	7/16/2003	Complete
	6108104 Stipulation of Settlement (SOS):		
1	Annual Thermography Schedule (Bt)	Annual	Annual (2)
2	Replace #6 & #8 Copper Primary Conductors on CRI>130 Circuits (C3)	2007	2007 (3)
3	Institute Infra-Red *Survey* & Maintenance Program (C4)	Annual	Annual (4)
4	PlanIBuild Alternate Facilities for Submarine Cable X-50 or V-126 (D1 & D2)	5/2312005	Complete
5	Feasibility Study I Circuit Breakers / 34.5 KV Breaker Automation (E1)	2007	2007 (5) 4
6	Wood Pole 10 Year Inspection Program (GI)	Annual	Annual (6)
7	Replacement Program for Oil-Filled Cutouts (H1, H2, & H3)	Policy Instituted 11/1104	Policy Instituted 11/1/04 (7)
8	Group Lamp Replacement Program (K1)	Policy Instituted 11/1/04	Policy Instituted 11/1/04 (8)
9	Loop Design For Greater than 25 Homes (I1)	Policy Instituted 11/1104	Policy Instituted 1111/04 (9)
10	Distribution Transformer-related Capital Investment Project	Annual (Ending In 2008)	Annual (Ending In 2008) (10)

1 JCP&L will meet BPU requirements to inspect and trim as necessary on a 4-year cycle.
2 This is an annual program. JCP&L is on target to complete this by 12/31/08.
3 24 initially identified, 8 resolved during Engineering review, 2 construction projects completed 2005, 1 Circuit completed in 2006 and one project beginning shortly, 11 in Engineering review.
4 This is an annual program. JCP&L is on target to complete this by 12/131/06.
5 Five locations were evaluated. Four of them have same potential for networking. Cost-benefit will be evaluated for 2007 budget.[1]
6 This is an annual program. JCP&L is on target to complete this by 12/131/08.
7 136 have been removed YTD. 150 are projected by year end.
8 Sections of Avon, Berkeley, Highlands, Loch Arbor, Neptune, Pine Beach, Sea Bright, Seaside, Spring Lake, Dover Complete, Denville, Interlaken, Little Silver, Shrewsbury Boro, Flemington, and Lambertville
9 This policy was implemented on 11/1/04. All new subdivisions meeting this criterion comply with the policy.
10 The $12 million in investment is ongoing and we are on track to meet this 5-year obligation.

Note: the above table reflects a status update as of the 3rd quarter of 2006. All items are now complete except for those which are annual and/or ongoing requirements.
Source: Information Response 833 and 834

B. Findings & Conclusions

Finding V-1 **JCP&L has implemented the recommendations contained within the Liberty Consulting competitive services audit report.**

JCP&L's existing compliance plan was submitted to the NJBPU on August 31, 2010. Schumaker & Company consultants reviewed this plan and requested further backup documentation for selected items. Although each item is included in the Competitive Services Audit Report recommendations, further recommendations are included in *Chapter III – Affiliate Relationships & Cost Allocation Methodologies.*

Finding V-2 **JCP&L has implemented the agreed-to recommendations arising out of the Booth Associates' review.**

JCP&L provided periodic reports to the BPU staff who reported on the actions and status of actions taken to respond to items agreed to by Booth Associates. Schumaker & Company consultants reviewed this material and requested further backup documentation for selected items. Everything agreed to in the ***Memorandum of Understanding*** and the ***Stipulation of Settlement*** has been implemented. Although not all of the recommendations from the Booth Associates' report were necessarily agreed upon for implementation, the improvement in system reliability discussed in *Chapter IX – Electric Operations* is reflective of the results of some of these recommendations.

Finding V-3 **JCP&L has implemented the recommendations arising from the PJ Downes interim and final reports, although more could be done.**

JCP&L provided periodic reports to the BPU staff who reported on the actions and status of actions taken to respond to items agreed to in the PJ Downes Associates' report. Schumaker & Company consultants reviewed this material and requested further backup documentation for selected items. JCP&L agreed to implement everything in the PJ Downes Associates' report. All of the recommendations in the PJ Downes report have been implemented, although it might be beneficial to extend one of the recommendations to the entire JCP&L system as opposed to limiting it to just one specific area.

In particular, the PJ Downes Associates' report recommended a study to determine if proactive relaying could be reasonably and effectively installed to allow the automatic sectionalizing of network operations during faults at various substations along the New Jersey shore on 34.5 kV lines. JCP&L performed these studies and did make changes at certain substations along the New Jersey shore that had been affected by outages covered in the PJ Downes report. While all of the recommendations in the PJ Downes report have been implemented, Schumaker & Company believes that JCP&L should consider whether it might be beneficial to extend this recommendation to the entire JCP&L system as opposed to limiting it to just one specific area. In response to our inquiry, JCP&L indicated that since the PJ Downes' reports, its distribution planning criteria includes requirements consistent with this particular

recommendation for tie and recloser schemes for new and substantially reconfigured circuits, which, over time, will allow for increasing levels of automation with respect to the Company's response to outages. This criteria specifies that a circuit must be looked at for incorporation of these tie and recloser schemes if

- A reconfiguration of an existing distribution system (circuit) results in more than 40% change in geographic area
- New distribution systems should be designed initially for 100% contingency for loss of circuit at peak load.

While this design criteria is a step in the right direction, the extent to which these tie and recloser schemes get implemented into the JCP&L system is largely depended on load growth. Without load growth, there is little need for new distribution circuits or the reconfiguration of existing circuits. Schumaker & Company's concern is that the adoption of this technology has been throttled by recent economic factors and, as a result, it will take a long time for JCP&L to implement such technologies.

Furthermore, we note that the Booth Associates' reports also contained several recommendations dealing with system sectionalizing and/or auto load transfer schemes although these items were not necessarily contained in the Memorandum of Understanding or Stipulation of Settlement.

C. Recommendations

Recommendation V-1 **Provide a report on the number of circuits that have implemented tie and recloser schemes during the past year as a part of the Annual System Performance Report. (Refer to Finding V-3)**

Some other utilities have extended the distribution load switching to a larger part of their distribution system. For instance, in the early 2000, one utility took a serious look at the design of its distribution network with respect to the implementation of more distribution automation in the network. The primary distribution voltages that were candidates for the automation used were 13 kV and 34 kV. The current design criteria for these circuits are shown in *Exhibit V-7*.

Exhibit V-7
Distribution Circuit Design Criteria

	Normal Operating Condition	Emergency Operating Condition
13 kV	7 MVA	11 MVA
34 kV	21 MVA	29 MVA

MVA = Mega Volt Ampere

This utility has designed all of its distribution circuits such that they can be backfed from an adjacent distribution circuit in an emergency condition—defined as in the event of an outage. Before distribution automation, this design allowed the utility to restore service to all customers on an out-of-service 13 kV circuit by manually switching to two adjacent circuits. It also enabled the utility to restore service to all customers on an out-of-service 34 kV circuit by manually switching to three adjacent circuits, even during peak load conditions. Today, the utility's distribution automation scheme provides automated switching and reduces the number of customers affected by an outage. This scheme is illustrated in *Exhibit V-9* and *Exhibit V-10*, with *Exhibit V-8* providing a definition of the symbols that are used.

- 13 kV circuits are usually connected to an adjacent circuit, from a different substation, through a normally open tie recloser, as shown *Exhibit V-9*. The switching on the circuit in the event of a fault is such that, although a momentary circuit outage would be experienced, within approximately one minute the two distribution circuits would get automatically reconfigured to minimize the number of customers impacted by the sustained outage.
- 34 kV circuits are usually connected to more than one adjacent circuit through multiple, normally open tie reclosers as shown *Exhibit V-10*. The switching on the circuit in the event of a fault is such that, although a momentary circuit outage would be experienced, within approximately one minute these multiple distribution circuits would get automatically reconfigured to minimize the number of customers impacted by the sustained outage.

Exhibit V-8
Circuit Diagram Legend

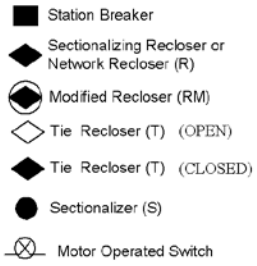
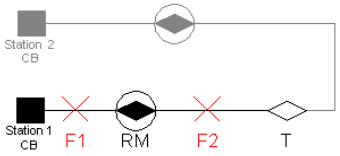


Exhibit V-9
13 kV Distribution Circuit

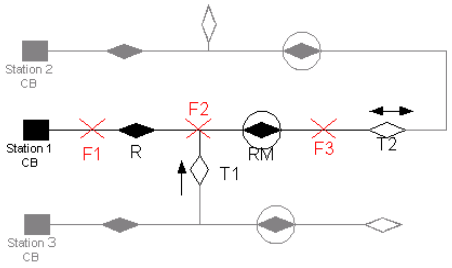
Typical 13kV recloser scheme



FAULT LOCATION	TIME (SEC.)	MOMENTARY FAULT	SUSTAINED FAULT
F1	0+	Station1 CB trips	Station 1 CB trips
	15	Station 1 CB closes	Station 1 CB closes, trips, & locks out
	30		RM opens & locks out
	60		Tie closes
F2	0+	RM trips	RM trips
	15	RM closes	RM closes, trips, & locks out
	60		Tie closes, trips & locks out

Exhibit V-10
34 kV Distribution Circuit

Typical 34kV recloser scheme



FAULT LOCATION	TIME (SEC.)	MOMENTARY FAULT	SUSTAINED FAULT
F1	0+	Station1 CB trips	Station 1 CB trips
	30	Station 1 CB closes & holds	Station 1 CB closes & trips
	45		R changes settings to coordinate with T1 RM opens & locks out
	60		T1 & T2 close R trips & locks out
F2	0+	R trips	R trips
	30	R closes & holds	R closes & trips.
	45		RM opens & lock out
	60		T1 closes, trips & locks out. T2 closes.
F3	0+	RM trips	RM trips
	30	RM closes	RM closes, trips, & locks out
	60		T2 closes, trips & locks out

The load shifted to the adjacent circuit is carried for a period of time following the sustained outage using the circuit's emergency rating. Once the fault is remedied, the circuits are reconfigured back to their normal operating conditions.

This distribution automation scheme is referred to as an automated loop scheme. The customers in the local area served by the automated loop see an improvement in reliability, while the widespread use of reclosers is an attractive investment to supplement other initiatives to improve system-wide reliability.

As a result of discussion during the three party meeting, JCP&L's position is that the revised design criteria effectively implements the tie and recloser scheme throughout the whole JCP&L distribution systems whereas Schumaker & Company's concern is that the design criteria is structured such that, without significant load growth, this technology will not be implemented. Truth is probably somewhere in the middle of those two opposite viewpoints; however, taking steps to measure the implementation of this technology within the JCP&L distribution would begin to shed some light on the truth. Therefore, we are recommending that JCP&L provide, as a part of its Annual System Performance Report, some measure of the number of circuits that have implemented these tie and recloser schemes each year.

VI. Remediation Costs

From the early 1800s through the mid-1900s, gas for lighting, heating, and cooking was manufactured from coal or oil at hundreds of plants nationwide. The gas production and purification processes at these manufactured gas plants (MGPs) yielded gas plant byproducts and residues that included coal-tars, sludges, lampblack, light oils, spent oxide wastes, and other hydrocarbon products. Although many of these byproducts were recycled, excess residues remained at these sites. These residues contain polynuclear aromatic hydrocarbons (PAHs), petroleum hydrocarbons, benzene, cyanide, metals, and phenols. As a result, most of these sites may need to be remediated.

Several cost-effective remediation technologies have been developed for treating the various wastes found at gas and electric industry sites. Schumaker & Company evaluated the following remediation cost attributes:

- The internal controls and flow of information to ensure that all remediation costs that are recovered from JCP&L customers are properly recorded
- Whether the costs were properly recorded and the amount of any outstanding balance
- The reasonableness of the expenses and the efficiency of the engineering and financial methods used to calculate the expenses from the ratepayers' point of view – Additionally, Schumaker & Company investigated whether JCP&L acted in its own self-interest, shared expenses with the ratepayers, and was effective in controlling costs.
- JCP&L's effectiveness in negotiating with the Department of Environmental Protection (DEP), despite pass-through charges

A. Background

JCP&L has been involved in the investigation and remediation of former manufactured gas plant sites since 1982, when it first became aware that some of the soil and groundwater at these sites might contain residues from historic MGP processes. Although such residues were not previously known to present a potential hazard, with the advent of new environmental laws and regulations in the 1980s, it became recognized that some of the residues constituted environmental contaminants. Hence, the sites now required remediation. As a prior owner and operator of these facilities, JCP&L was designated under applicable state and federal law as a legally responsible party that was required to investigate and remediate these sites. JCP&L is performing these required activities under the terms of Administrative Consent Orders (ACOs) or Memoranda of Agreement (MOAs) that have been executed with the New Jersey Department of Environmental Protection (NJDEP).

JCP&L is currently conducting remedial investigation and/or remedial action activities on 17 MGP sites in New Jersey, as shown in *Exhibit VI-1*. JCP&L is no longer responsible for two MGP sites - Long Branch and Toms River, which were sold to New Jersey Natural Gas Company ("NJNG") with BPU

approval and are now the responsibility of NJNG and all the spending listed on the table for these two sites occurred prior to their sale.

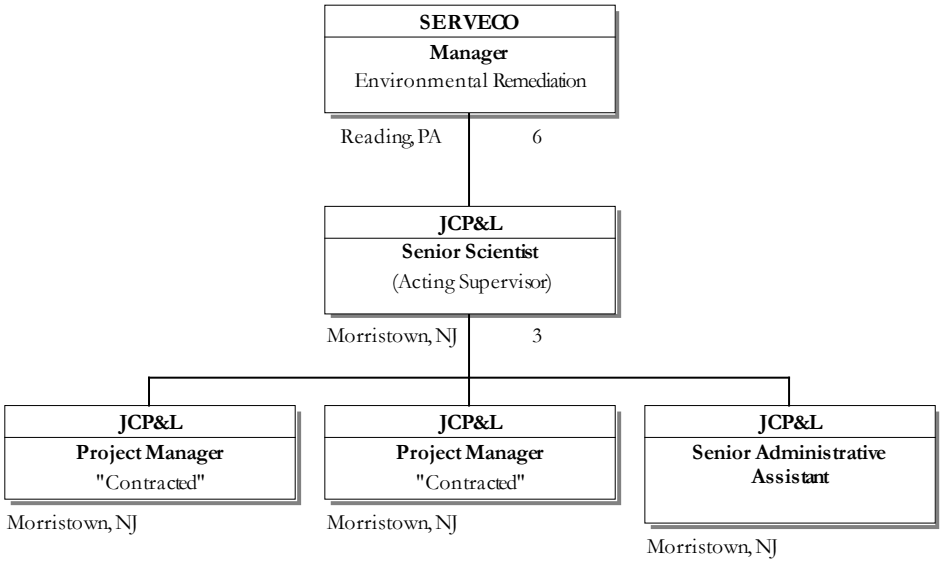
Exhibit VI-1
JCP&L Remediation Sites
as of December 31, 2009

Site Name	O&M and Capital Expense to Date (000)	Estimated Capital Cost to Complete (000)	Estimated O&M Annual Amount (000)	O&M # Years	Total Estimated O&M	Estimated Total Cost of Remediation *(000)
Asbury Park	$110	$77	$0	**15**	$0	$187
Belmar	$9,178	$679	$527	**15**	$7,905	$17,762
Boonton	$4,145	$1,439	$40	**15**	$600	$6,184
Cape May	$9,807	$5,030	$95	**15**	$1,425	$16,262
Dover	$11,502	$5,879	$65	**15**	$975	$18,356
Flemington	$2,097	$1,687	$171	**15**	$2,565	$6,349
Lakewood	$2,827	$4,600	$15	**15**	$225	$7,652
Lambertville	$3,116	$355	$0	**15**	$0	$3,471
Long Branch	$4,163	$0	$0	**15**	$0	$4,163
Newton I	$1,080	$2,316	$78	**15**	$1,170	$4,566
Newton II	$3,885	$1,004	$90	**15**	$1,350	$6,239
Ocean City	$1,910	$1,876	$130	**15**	$1,950	$5,736
Phillipsburg	$26	$68	$0	**15**	$0	$94
Red Bank	$644	$437	$3	**15**	$45	$1,126
Sea Isle City	$14,055	$19,515	$15	**15**	$225	$33,795
Toms River	$2,246	$0	$0	**15**	$0	$2,246
Tuckerton	$1,405	$4,235	$5	**15**	$75	$5,715
Washington	$1,582	$1,010	$20	**15**	$300	$2,892
Wildwood	$5,200	$638	$70	**15**	$1,050	$6,888
General Program	$5,516	$0	$0	**0**	$0	$5,516
2009 Total	**$84,494**	**$50,845**	**$1,324**	**15**	$19,860	**$155,199**

Notes: * Estimated Total Cost of Remediation is the sum of the following columns O&M and Capital Expense to Date (as of 12/31/2009), Estimated Capital Cost to Complete, and Total Estimated O&M
Source: Information Response 334 Supplemental

Environmental staff based in JCP&L's Morristown, New Jersey office manage this program as shown in *Exhibit VI-2*. The staff consists of a senior scientist (currently the acting supervisor), and a senior administrative assistant. Two full-time contracted project managers supplement the staff and are managed by the Supervisor – Site Remediation. The staff reports to the Manager, Environmental Remediation in the FirstEnergy (FE) Service Corporation (SERVECO) Environmental Department.

Exhibit VI-2
JCP&L Environmental Organization
as of June 30, 2010



Source: Information Responses 54 Supplemental

Status Reporting

Internal

The Manager, Environmental Remediation provides a summary report on major JCP&L environmental issues (including MGP sites) to the JCP&L Board of Directors semiannually. Cost projections for remediation of the MGP sites are provided to the Accounting Department at midyear and year end. Significant milestones or issues for individual sites are provided to the Manager, Environmental Remediation during biweekly staff conference calls. The Morristown-based remediation staff conducts project status review meetings approximately every three weeks.

External

JCP&L provides quarterly progress reports to the NJDEP for the MGP sites under ACOs. Annual project cost reviews and annual financial summaries are provided to the NJDEP under each individual MGP site's applicable ACO or MOA. Quarterly, semiannual, or annual progress updates are also provided, as requested by the NJDEP case manager, for some of the MGP sites.

JCP&L submits an annual remediation adjustment clause filing with the New Jersey BPU. This filing includes cost and project status information on the remediation of the MGP sites during the previous calendar year.

B. Findings & Conclusions

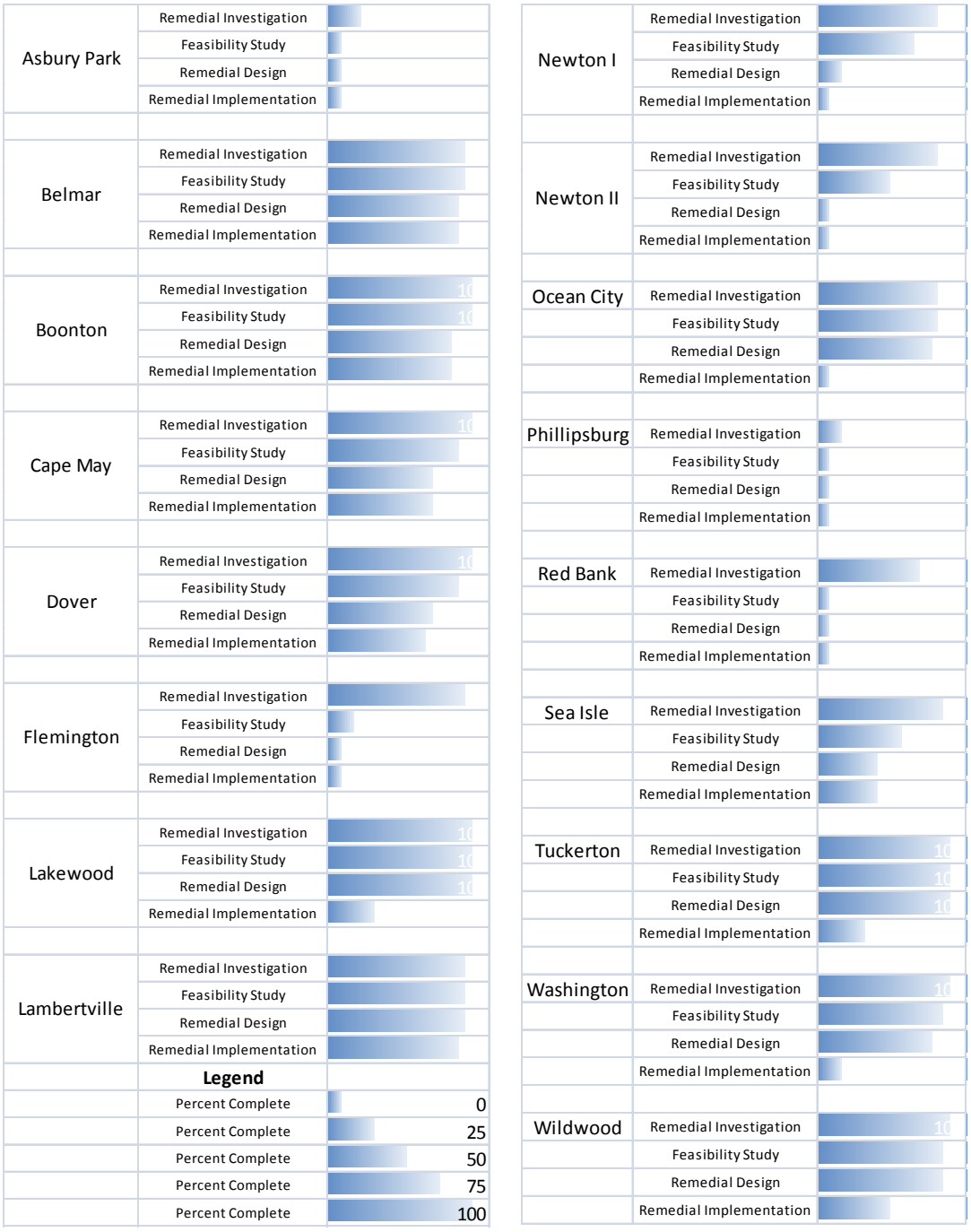
Finding VI-1 JCP&L has created a separate organization that is responsible for managing remediation efforts.

As discussed above, JCP&L has created a separate organization whose sole responsibility is the oversight and management of remediation efforts. This organization is composed of both full-time employees and long-term contract personnel. These team members (called project managers) are assigned responsibility for overseeing remediation activities performed at their assigned sites. The project managers generally follow a four-phase project, specifically:

- Remedial Investigation
- Feasibility Study
- Remedial Design
- Remedial Implementation

Outside environmental consulting firms are contracted to provide the technical resources required to perform the remediation investigations and other activities for each site. There are currently approximately 17 sites in various stages of remediation, as shown in *Exhibit VI-3*.

Exhibit VI-3
Remediation Status
as of April 30, 2010



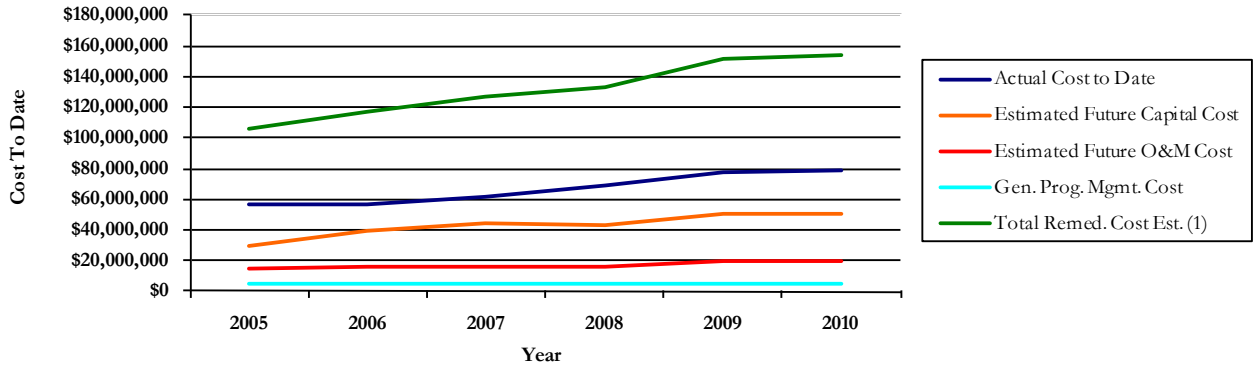
Source: Information Response 333

Finding VI-2 Remediation cost estimates have been increasing.

The Environmental Remediation group performs mid-year and end-of-year reviews of the cost estimates associated with the remediation of JCP&L's manufactured gas plant sites. These estimates are subject to many uncertainties, including but not limited to: 1) JCP&L does not currently own/control all of the sites and 2) the New Jersey Department of Environmental Protection's cleanup criteria /standards and remedial technologies, although acceptable to the NJDEP, are subject to change. Furthermore, until the sites are more fully investigated and the remedial alternatives are approved by the NJDEP, the final extent of the necessary remediation will not be completely known.

Schumaker & Company consultants requested and reviewed the cost estimates for remediation efforts over the last five years. This information is summarized in *Exhibit VI-4*. As of December 31, 2009, JCP&L has spent approximately $83 million on its past remediation efforts (total O&M and capital costs). JCP&L anticipates it will spend an additional $70 million ($50 million in capital, plus $20 million in O&M) on its future remediation efforts.

Exhibit VI-4
Total Remediation Cost Estimates - Past and Future
2005 to 2010



* The Estimated Total Cost of Remediation includes total O&M and capital cost to date (as of 12/31/2009), estimated capital cost to complete and estimated O&M for 15 years.
Source: Information Responses 377 and 334

Finding VI-3 JCP&L's management of the remediation programs is reasonable, although improvements are possible.

Schumaker & Company consultants reviewed a selection of the reports and other documentation created as part of the remediation efforts. In fact, much of the reviewed documentation was the same information that has been submitted to the BPU as a part of the 2009 Remediation Adjustment Clause (RAC) minimum filing requirements—a two-foot stack of paper that, in addition to containing some useful details, contains a significant amount of information that would be useful to only a trained

environmental professional. Given the stack of paper being reproduced, it was somewhat ironic that one of the technical consultants labeled each of the pages of the reports with the tagline:

> "Because we care – 100% recycled paper produced by wind power energy"

Schumaker & Company consultants question whether reproducing all this material serves any more useful purpose than just creating a mechanism whereby the BPU could access the same information for review electronically.

Secondly, in reviewing the documentation, Schumaker & Company consultants believe that several of the responses to the minimum filing requirement questions need further clarification. In particular, in response to

> 5. For each of the same three MGP sites, provide a narrative description and organizational chart for that site, showing the vendors and project control structure for the remediation effort. The response should show what entities supervise all significant contractors and subcontractors and which JCP&L personnel are involved in site and remediation supervision and control.

The response to the above question described in detail the specific contractors' project management practices and procedures but it did not describe JCP&L's oversight role in those practices and procedures, something which needs to be done. To adequately respond to such a question on an ongoing basis begs the need for a well-developed project management methodology within JCP&L.

Thirdly, it is apparent from our review of the documentation that someone (JCP&L project managers) is reviewing invoices and approving payments. Situations leading us to draw such a conclusion include:

- Although we did not identify any invoices stamped with an "OK to Pay" coupled with a project manager's signature or initials, we did discover illegible marks on some of the invoices[4]
- We identified contract change order documentation and sole source justifications within the documentation that appeared appropriate.
- We identified several document certifications showing oversight of site remediation efforts that were tied to self-guarantee applications.

Finding VI-4 Remediation costs are being appropriately handled in JCP&L's accounting systems.

Schumaker & Company consultants reviewed how remediation costs are being processed through JCP&L's accounting systems for inclusion in the RAC filing. In short, all costs are being collected and charged to various accounting codes on a site-by-site basis. These costs primarily arise from monthly invoices submitted by the contractors that are assigned to each remediation site. These invoices are

[4] It is our understanding that hardcopies of invoices are approved, stamped with an approval stamp, and signed prior to submission for electronic approval through the SAP system. After the invoice is processed in SAP, an electronic approval form is printed out and attached to the invoice. It is possible that the auditor did not receive the approved stamped copy of the invoice (as multiple copies are received) and or the approval stamp was not located on the first page of the invoice due to space limitations.

reviewed and approved by JCP&L project managers in addition to being assigned the appropriate accounting code (built into the purchase order system) prior to being entered into accounts payable.

Finding VI-5 **No external audits of contractors have been performed by JCP&L's external auditors or internal auditors.**

Schumaker & Company consultants would expect JCP&L to have the ability to perform random audits of remediation contractors—similar to the requirements the federal government imposes on federal contractors; however, we found no indication that such audits have been performed.

C. Recommendations

Recommendation VI-1 **Institute a formal process to review the existing project management methodology for the remediation program to determine if there are ways to strengthen and improve it.. (Refer to Finding VI-3)**

As of 2011, has spent approximately $83 million on its past remediation efforts (Total O&M and capital costs). JCP&L anticipates that it will spend an additional $70 million ($50 million in capital plus $20 million in O&M) on its future remediation efforts for a total of $153 million, as shown in *Exhibit VI-4*. Much of the information we reviewed during our investigations consisted of documents submitted by the various outside environmental contractors that addressed how they were managing the remediation efforts. In addition, we would have liked to have seen JCP&L practices and procedures documentation that had been developed for managing the effort. It is apparent from Schumaker & Company's review of the various documents and reports submitted during the remediation efforts that JCP&L has implemented some project management methodology for such undertakings.

The individuals currently managing the remediation efforts are environmental technical specialists. Nonetheless, given that JCP&L will continue to spend a significant amount on the remediation efforts and will be subject to oversight from external agencies, including both the NJDEP and NJBPU, on how these dollars are spent, it would be beneficial to develop specific project management methodologies that are consistent with the Project Management Institute's *Project Management Book of Knowledge (PMBOK)*. JCP&L should engage either an internal or external project management professional to assist the current remediation staff in formalizing project management methodologies for the remediation efforts. That formalization process should include methodologies for performing formal risk assessments (as described in the PMBOK) on the projects.

Recommendation VI-2 **Investigate the provisions of the RAC minimum filing requirements via an electronic repository that is accessible by the BPU via the Internet. (Refer to Finding VI-3)**

There is a significant amount of paper that is currently being submitted as a part of the RAC minimum filing requirements. JCP&L is currently in the process of implementing electronic storage (P8, previously FileNet) and submittal for all documents associated with the remediation efforts. JCP&L should investigate the possibility of providing access to electronic-only documents related to the remediation effort.

Recommendation VI-3 **Perform periodic internal audits of external remediation contractors' invoicing. (Refer to Finding VI-5)**

JCP&L currently requires the environmental consultants to submit a significant amount of backup documentation for all the charges incurred on a site (especially if these sites are submitted as a part of the RAC minimum filing requirements). Another approach to consider is periodically conducting audits of external billings by the FE Internal Audit group.