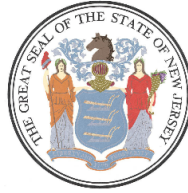


**State of New Jersey**  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



**Joseph L. Fiordaliso**  
**President**

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon  
**Commissioners**

**Board of Public Utilities**



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

## **NOTICE<sup>1</sup>**

### **IN THE MATTER OF Advanced Metering Infrastructure (AMI) Data Transparency, Privacy & Billing**

#### **[Docket No. EO20110716](#)**

Pursuant to the Open Public Meetings Act, N.J.S.A. 10:4-6 et seq., the New Jersey Board of Public Utilities (“BPU” or “Board”) hereby gives notice of a series of virtual stakeholder meetings to discuss the diverse stakeholder feedback received on the Straw Proposal for the above topic.

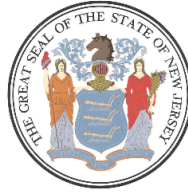
Advanced Metering Infrastructure (“AMI”), also known generically as “advanced” or “smart” meters, holds the potential to be an integral part of New Jersey’s clean energy transition, enhance retail competition and efficiencies, and enable customers to better understand and control their own energy usage.

Staff of the BPU (“Staff”) issued a [Straw Proposal regarding AMI Data Access](#) (“Straw Proposal”) on August 23, 2021. As a result of the Straw Proposal, Staff received numerous public comments, which were considered by Staff in the process of drafting Minimum Filing Requirements (“MFRs”) to be included within the Data Access Plans (“DAPs”) of each of the four (4) electric distribution companies (“EDCs”). Staff has determined that it is appropriate to conduct two (2) stakeholder meetings to help inform Staff’s recommendations to the Board for MFRs that each EDC will be required to adopt for their DAPs. During the stakeholder meetings, Staff will present its proposed MFRs (included as an attachment to this Notice) to stakeholders, at which time stakeholders will have the opportunity to provide input and recommendations.

---

<sup>1</sup> Not a paid legal advertisement.

**State of New Jersey**  
 Governor Philip D. Murphy  
 Lt. Governor Sheila Y. Oliver



**Joseph L. Fiordaliso**  
**President**

Mary-Anna Holden  
 Dianne Solomon  
 Upendra Chivukula  
 Bob Gordon

**Commissioners**

**Board of Public Utilities**



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

The public meetings will be held at the following dates and times, and in the following manner:

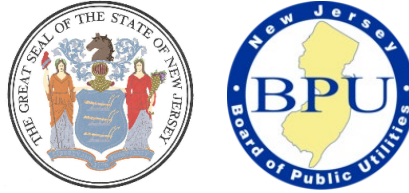
Meeting Date	Purpose and Registration Link
<b>Tue Aug 16, 2022</b> (9AM-1PM EDT)	To review Staff's recommended MFRs and receive input from stakeholders on the following topics: <ul style="list-style-type: none"> <li>• Customer Ownership and Sharing of Energy Related Data</li> <li>• AMI Data Provision Timelines</li> <li>• Standard Customer Privacy and Cybersecurity Requirements</li> <li>• Reporting Metrics</li> <li>• Data Granularity/Rollout Schedule</li> <li>• Consideration of Additional Data Fields</li> </ul> <a href="https://us06web.zoom.us/webinar/register/WN_igc56WrGQm6GzZMYzoN9lg">https://us06web.zoom.us/webinar/register/WN_igc56WrGQm6GzZMYzoN9lg</a>
<b>Tue Sept 6, 2022</b> (9AM-1PM EDT)	To review Staff's recommended MFRs and receive input from stakeholders on the following topics: <ul style="list-style-type: none"> <li>• Fair Access</li> <li>• Billing/Settlements</li> <li>• Data Format</li> <li>• Emergency Responders Access</li> <li>• Appropriate Utility Use of AMI Data</li> </ul> <a href="https://us06web.zoom.us/webinar/register/WN_sUq4QcxtRIeHHPE_Yv4QhA">https://us06web.zoom.us/webinar/register/WN_sUq4QcxtRIeHHPE_Yv4QhA</a>

**Held Via Webinar**

Please note that these meetings will be conducted virtually. You must register for the meeting before attending. Please register for any or all of the sessions at least 48 hours prior to the scheduled date. If you want to reserve a speaking opportunity, please designate this during the online registration process. After registering, you will receive a confirmation email containing information about joining the meeting and information about checking your system requirements in advance of the meeting. Stakeholders should check their access devices in advance of the meeting as to ensure that they will properly connect.

Questions on this stakeholder process may be directed to Paul Heitmann at [paul.heitmann@bpu.nj.gov](mailto:paul.heitmann@bpu.nj.gov).

**State of New Jersey**  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



**Joseph L. Fiordaliso**  
**President**

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon

**Commissioners**

**Board of Public Utilities**



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

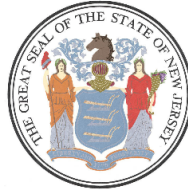
All public comments should be filed under [Docket No. EO20110716](#). **The deadline for written public comments is 5 p.m. EDT on Friday Sept 30, 2022.** Please submit comments directly to the specific docket listed above using the “Post Comments” button on the Board’s [Public Document Search](#) tool. Comments are considered “public documents” for purposes of the State’s Open Public Records Act and any confidential information should be submitted in accordance with the procedures set forth in N.J.A.C. 14:1-12.3. Written comments may also be submitted to:

Secretary of the Board  
44 South Clinton Ave., 1<sup>st</sup> Floor  
PO Box 350  
Trenton, NJ 08625-0350  
Phone: 609-292-1599  
Email: [board.secretary@bpu.nj.gov](mailto:board.secretary@bpu.nj.gov)

*Carmen D. Diaz*  
\_\_\_\_\_  
Carmen D. Diaz  
Acting Secretary of the Board

Dated: July 29, 2022

State of New Jersey  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



Joseph L. Fiordaliso  
President

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon  
Commissioners

Board of Public Utilities



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

**IN THE MATTER OF  
Advanced Metering Infrastructure (AMI) Data Transparency, Privacy & Billing**

**[Docket No. EO20110716](#)**

**Draft Minimum Filing Requirements**

On August 23, 2021, Staff issued a Straw Proposal. As a result of the Straw Proposal, Staff received numerous public comments, which Staff has considered in formulating these recommended MFRs to be included in each EDCs Data Access Plan. Staff seeks public comment on these recommended MFRs.

**Background/Procedural History**

By order dated August 23, 2017, the Board authorized Rockland Electric Company (“RECO”) to conduct an AMI program.<sup>2</sup> Following RECO’s deployment of AMI, the Board issued an order on February 19, 2020, which found that AMI had the potential to benefit the distribution system, streamline and modernize utility operations, provide an enhanced customer experience, benefit the environment, and was a means to achieve the goals detailed in the Energy Master Plan.<sup>3</sup> Accordingly, the February 2020 AMI Order directed the State’s remaining EDCs to file, or update previously filed, petitions for AMI implementation within 180 days. Subsequently, the Board approved the AMI programs of Public Service Electric and Gas Company (“PSE&G”) and Atlantic City Electric Company (“ACE”) on January 7, 2021 and July 14, 2021, respectively.<sup>4</sup> The AMI program filed by Jersey Central Power & Light Company (“JCP&L”) was the final program approved by the Board on February 23, 2022.<sup>5</sup>

By Notice dated November 10, 2020, the Board announced the initiation of AMI Work Sessions, which would allow interested stakeholders the opportunity to provide input to ensure that the use of AMI data reaches its full potential in a cost-effective manner.<sup>6</sup> Subsequently, Staff issued a Straw Proposal on August 23, 2021, which set forth draft

---

<sup>2</sup> In re the Petition of Rockland Electric Company for Approval of an Advanced Metering Program; and for Other Relief, BPU Docket No. ER16060524, Order dated August 23, 2017.

<sup>3</sup> In re the Petition of Rockland Electric Company for Approval of an Advanced Metering Program; and for Other Relief, BPU Docket No. ER16060524, Order dated February 19, 2020 (“February 2020 AMI Order”).

<sup>4</sup> In re the Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future - Energy Cloud (“CEFC”) Program on a Regulated Basis, BPU Docket No. EO18101115, Order dated January 7, 2021; and

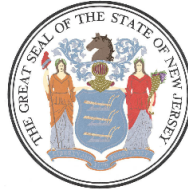
In re the Petition of Atlantic City Electric Company for Approval of the Smart Energy Network Program and Cost Recovery Mechanism and Other Related Relief, BPU Docket No. EO20080541, Order dated July 14, 2021.

<sup>5</sup> In re the Verified Petition of Jersey Central Power & Light Company for Approval of an Advanced Metering Infrastructure (AMI) Program (JCP&L AMI), BPU Docket No. EO20080545, Order dated February 23, 2022.

<sup>6</sup> In re Notice of Advanced Metering Infrastructure (AMI) Work Session, BPU Docket No. EO20110716, Notice dated November 10, 2020.

<sup>7</sup> In re Straw Proposal on Advanced Metering Infrastructure (AMI) Data Transparency, Privacy & Billing, BPU Docket No. EO20110716.

**State of New Jersey**  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



**Joseph L. Fiordaliso**  
**President**

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon

**Commissioners**

**Board of Public Utilities**



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

MFRs to be included in each EDC's AMI Data Access Plan.<sup>7</sup> Staff received numerous public comments on its Straw Proposal, which Staff considered in drafting the MFRs outlined below.

### **Recommended MFRs:**

Staff recommends the following MFRs for inclusion within the EDCs' Data Access Plans. Appendix 1 to this attachment provides details on the benefits of each proposed MFR. Appendix 2 to this attachment provides definitions of terms used in this attachment. The MFRs propose to require utilities to file with the Board a report on its use of AMI data to achieve these benefits at intervals no longer than every 18 months.

### **AMI Use Cases**

In setting forth the following MFRs, Staff hopes to enable a number of use cases designed to provide energy consumers with the ability and incentive to engage with their energy usage and select options that reduce energy consumption, or shift that consumption to times of day that alleviate strain on the electric grid.

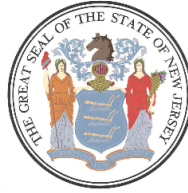
For customers, these use cases include:

- Allow sharing of instantaneous usage and demand measurements on a near real-time basis, at watt-level precision;
- Allow customers to be notified about pre-defined bill or usage thresholds, demand, and voluntary conservation requests;
- Enable customers to select between available rate plans and to understand how and when their own generation is exporting to the grid;
- Enable customers with DERs to fully participate in DER aggregations envisioned by FERC Order 2222, including providing appropriate data access and availability for approved two-way metering and telemetry requirements; and
- Provide the complete data set for operation of a Managed Electric Vehicle ("EV") Charging application.

For utilities, these AMI use cases include:

- Utilize AMI to measurably improve the reliability of utilities by increasing system and customer transparency, improving efficiency of distribution system planning, and accelerating outage recovery;
- Rapidly isolate and immediately notify the utility of the outage on a distribution system segment;
- Remotely connect, disconnect, and reconnect certain meters in emergencies and allow the rest of the critical infrastructure on the feeder to remain powered on during the emergency;
- Enable the use of information gleaned from AMI to assist customers and third parties to propose and site DERs at the most valuable place on the distribution grid;
- Promote system visibility for customers and third party developers through enabling real-time power flow mapping from the feeder to the customer meter in a way that would update on real-time conditions, forecast load and voltage at primary and secondary nodes and meters, and monitor the voltage, power quality, frequency, and other measurements of the grid conditions in real time;

State of New Jersey  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



Joseph L. Fiordaliso  
President

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon

Commissioners

Board of Public Utilities



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

- Allow the consideration of non-wire alternatives and potentially informing a local pricing component that may be used in future market-based mechanisms to best capitalize on the value for DER services provided to the local distribution circuit; and
- Collect information that may inform future integrated DER planning, including:
  - Identifying locations on the grid which could utilize retail-level load management to avoid or defer the capital expense of upgrading a circuit;
  - Forecasting overloads on future circuits based on granular usage trends;
  - Determining whether deployment of DER resources could more efficiently alleviate identified violations; and
  - Facilitating improvements to the current interconnection process.

## 1. Customer Ownership and Sharing of Energy Related Data

Staff recommends that each EDC adopt a clear, unambiguous statement in its Data Access Plan that usage and demand data generated by AMI meters belong to the customer whose usage is captured by the AMI meter and that such data should be easily accessible with “one click” access and sharing ability, as discussed below. Customers should also have the right to move their energy-related data from one energy services provider to another, a concept known as “data portability.” Furthermore, Staff recommends, as discussed below, that all EDCs use the Green Button Connect (“GBC”) to allow the seamless sharing of data with customers through the GBC. EDCs should provide customers the ability to share data with authorized third parties through a variety of formats, including GBC, Electronic Data Interchange (“EDI”) or through the EDCs’ supplier web portals via flat files (i.e., “batch CSV” or Tab-delimited files). Staff’s opinion is that this MFR will ensure that customers maintain complete control over sharing of all individually generated interval usage and related AMI data.

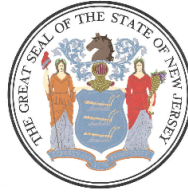
## 2. AMI Data Provision Timelines

Staff recommends that validated AMI data be made available to customers or their authorized agents no later than 48 hours after the meter readings are captured. Staff originally recommended in its Straw Proposal that all data be made available “no later than 24 hours after the meter readings are captured.” However, several EDCs expressed concerns about this MFR due to the timeframe required for data validation. Specifically, JCP&L stated that the 24 hour-timeframe would be too short, but that a 48 hour-timeframe would be sufficient. Additionally, ACE proposed that data be made available the afternoon of the following day. PSE&G stated that it performs validation of its AMI data on a day-following basis (i.e., on the morning of day two PSE&G performs a validation of the AMI data for day one), which would make it impossible for PSE&G to adhere to the 24 hour-timeframe. For these reasons, Staff believes that it is appropriate for validated AMI data to be made available within 48 hours after the meter readings are captured.

Staff recommends that unvalidated AMI data be shareable with home area networks where feasible (i.e. single-tenant customers without range constraints) on a sub-15 second basis through a customer-owned qualified energy monitoring device that a customer may procure from the competitive market. Staff notes that this language was similar to language included in its Straw Proposal, but modified to clarify that the customer would be responsible for purchasing the necessary equipment to enable this optional capability. While RECO stated that it did not support the sharing of data with home area networks due to cybersecurity concerns, other commenters (JCP&L; ENGIE Resources, NRG Energy, and Vistra (“Competitive Suppliers”); and Mission:data) expressed support for this MFR. Therefore, Staff believes that this MFR should be adopted. While Staff shares RECO’s concerns about sharing the data with home area networks due to increased vulnerability regarding cybersecurity, the utilization of a behind the meter device will significantly reduce the exposure of cyber risks.

## 3. Adoption of Standardized Customer Privacy and Cybersecurity Requirements

**State of New Jersey**  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



**Joseph L. Fiordaliso**  
**President**

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon  
**Commissioners**

**Board of Public Utilities**



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

Staff proposed to require that each EDC adopt clear statement in its Data Access Plan that its customer will be able to share their AMI data with their current and subsequent energy service providers. Staff notes that similar recommendations were set forth in the Straw Proposal, and those were generally supported by stakeholders.

As noted in the Straw Proposal, ease of customer access to energy data is critical to realizing the benefits of AMI data sharing. Staff proposes to require that the EDCs coordinate to ensure that the processes by which a customer grants permission to a third party are standardized through a common “one-click” web-based release form, known as the “New Jersey Common Release Form” or “NJ-CRF.” A TPS enrollment that includes the NJ-CRF disclosure information may be used as well to ensure that customers signing up for retail electricity are not required to go through two different processes to ensure that data may be shared with their chosen supplier. In order to ensure that the NJ-CRF is effective, as recommended by Mission:Data, the MFRs prohibit utilities from imposing any additional terms or conditions to the NJ-CRF or imposing additional cybersecurity requirements beyond those established across all EDCs and approved by the Board.<sup>8</sup>

Staff also recommends that customers are afforded the ability to withdraw permission, without penalty, at any time. The common release form shall be web-based, solely accessible by using multi-factor authentication (“MFA”), and include the following information:

- i. Name of the third party requesting authorization;
- ii. Scope of data fields to be shared, how many periods back (historical), how many periods forward (ongoing), and for which accounts/services;
- iii. How the data is authorized to be used after consent is given;
- iv. One-click consent/decline; and
- v. Confirmation required through MFA.

Staff agrees that it is important for each EDC’s release form to be consistent amongst the utilities, while simple enough so as not to negatively impact customer participation. In order to ensure comparable treatment of customers across New Jersey, Staff proposed to direct the EDCs, in consultation with interested stakeholders, to agree on the NJ-CRF common release form within 120 days, and provide a joint report to the Board memorializing the standardized approach.

Staff recommends that the EDCs maintain cybersecurity standards consistent with the National Institute of Standards and Technology and industry best practices in order to protect customer data from unauthorized intrusion/release. Staff believes that this MFR will help to ensure that customer data is sufficiently protected. EDCs will not be liable for the acts of customer-authorized third parties, and directs the EDCs to maintain a “bad actor” list of third-party entities that are banned from participation in AMI data sharing, with a right of appeal to the Board for entities who do not believe that a ban is warranted.

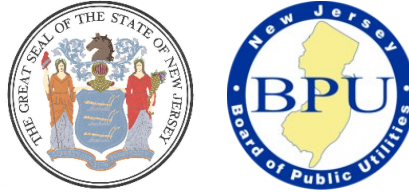
Finally, as noted in the Straw Proposal, in the event of an unauthorized release of customer information, each affected utility will be required to notify customers, the Board, the Attorney General, Law Enforcement (or explain why law enforcement was not notified) of the release. Official entities should be informed of the release within 48 hours of the utility learning of the release, and customers should be notified as soon as is practicable.

#### **4. Reporting Metrics**

---

<sup>8</sup> Staff envisions that EDCs will adopt a comparable standard to the Green Button Connect Auth 2.0 Authorization Form used in California. See Mission:Data’s comments at page 7.

**State of New Jersey**  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



**Joseph L. Fiordaliso**  
**President**

**Board of Public Utilities**



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon

**Commissioners**

Staff recommends that each EDC report the following metrics to the Board on a quarterly basis:

- Total usage kilowatt-hours (“kWh”) and number of EDC customers during the reporting period, broken down by month and customer tariff class. Each EDC shall also provide the same data for each of the previous five (5) years, broken down by month and applicable customer tariff class;
- Demand level – (“kW”) Each EDC shall report the hourly demand curve for each customer tariff class (minimum hourly interval), and during the same quarter for each of the previous five (5) years, broken down by month. Each EDC shall also report the percentage of customers whose demand exceeded tariff level (e.g. incurred demand charges)
- Number of customers who granted ongoing access to customer data via GBC;
- Number of customers who granted one-time access to customer data via GBC;
- Number of customers who withdrew ongoing access permission;
- Number and type of errors generated (customer-facing) in a data-sharing authorization;
- Number and type of errors generated (third party-facing) in a data-sharing transaction;
- Data delivery time after an authorization is granted (in seconds with histogram);
- Web page loading time (in milliseconds with histogram);
- Time for third parties to complete technical and administrative onboarding with utilities’ GBC systems;
- Number and type of technical issues reported by third parties or customers, including severity, acknowledgment time with histogram, and resolution time with histogram;
- Total number and percentage of customers with AMI meters who logged into the data portal;
- Total number and percentage of customers identified to receive messages regarding their energy savings tools, personalized usage and or savings tips; and
- Average and median number of instances that a customer logged into the data portal during the reporting period.

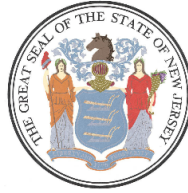
Staff believes that the ongoing provision of performance metrics will be critical to ensuring that AMI continues to deliver benefits to customers.

## **5. Data Granularity and Appropriate Rollout Schedule**

Staff recommends that each EDC shall collect 5-minute meter Billable Quality Interval Usage (“BQIU”) data, at watt-level precision, for all customers. Staff notes that its Straw Proposal originally recommended that the EDCs “collect five (5) minute meter Interval Usage data, at watt-level precision.” While, several EDCs expressed concerns about the need to provide 5-minute meter data to all customers, Staff thinks it is important to have the retail settlement match with the wholesale market framework, which in PJM, is settled on a 5-minute basis. For example, RECO notes that it currently provides commercial customers with interval data on 5-minute basis and residential customers with interval data on a 15-minute basis. JCP&L stated that its AMI plan would provide for intervals of 15 minutes for commercial customers and 60 minutes for residential customers. ACE also supported 60-minute intervals for residential customers, consistent with the AMI programs conducted by ACE’s affiliates. Additionally, the New Jersey Division of Rate Counsel (“Rate Counsel”) recommended that the intervals be expanded to 10-, 12-, or 15-minute intervals. The Competitive Suppliers supported 5-minute intervals, but stated that such data must be BQIU data, which requires the utilities to verify the accuracy of the data prior to sharing it with the customer and third parties. Based on this feedback, Staff believes that it is appropriate to establish an MFR requiring 5-minute BQIU for customers. Staff understands that this greater data granularity will allow resource aggregations to fully participate in PJM’s markets under the reforms proposed under Order No. 2222. Because the PJM FERC 2222 tariff will not be implemented for several years, Staff recommends that an initial interval of 15 minutes be permitted for current residential class customers on the condition that provision for easy (e.g. simple OTA software configuration update) be made upon these customers entering a DER aggregation plan requiring 5-minute interval data.



**State of New Jersey**  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



**Joseph L. Fiordaliso**  
**President**

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon

**Commissioners**

**Board of Public Utilities**



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

Staff recommends that AMI data be made available on a rolling basis as AMI meters are installed across the EDCs' service territories and meter certification processes are completed. Staff's current recommendation expands upon its Straw Proposal recommendation, which did not incorporate the meter certification process. In response to comments received from JCP&L, Staff believes that it is reasonable for this MFR to also note that additional time for meter certification will be necessary before transmission of AMI data may begin.

## **6. Additional Data Fields**

Staff recommends that any additional data fields (beyond the core energy data set) be included in the published AMI Data set to enable at a minimum the following:

- 1) using AMI Data to track electric vehicle charging;
- 2) allowing the dataset to identify and correlate retrieved energy data to a status flag of the metered premise as operating within a predefined community (e.g., Disadvantaged Community); and
- 3) potential use of AMI Data for future Volt/VAR services.

EDCs shall provide a methodology for handling requests for future data field expansion and access as new applications become envisioned.

## **7. Ensuring Fair Access and Competition**

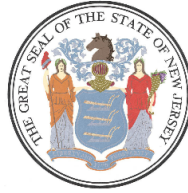
Staff recommends that the following requirements be included within the MFRs to ensure non-discriminatory access for all third parties and unregulated EDC affiliates, to allow fair access and competition between these parties (collectively "third parties").

- On-meter software applications ("apps")<sup>9</sup> and other technologies shall be non-discriminatory and open to competition by third-parties;
- The EDCs shall coordinate to ensure that AMI meter App Stores are consistent amongst the EDCs while being fair, reasonable and non-discriminatory to authorized third party providers without sacrificing the integrity of the data, reliability of the grid, or increasing vulnerability to cyber threats;
- Each EDC's Data Access Plan shall include clear procedures outlining the process for adding an app to the App Store;
- The EDCs shall not diminish or "cripple" any App Store or distributed intelligence functionality for any particular authorized third party app developer and shall complete any security reviews of new apps on a non-discriminatory basis within 8 weeks;
- The EDCs shall not be permitted to pre-install their own apps on AMI meters unless the app is solely a utility-facing function or necessary to monitor for vulnerabilities or threats;
- The EDCs must report quarterly to the Board on costs and revenues earned from App Stores;
- Meter manufacturers shall be prohibited from earning any fee or commission on a third party software app that the customer wants loaded onto their AMI meter. If there is such a fee or commission, that fee or commission must be paid by utility shareholders, not ratepayers or third parties;

---

<sup>9</sup> "App" or "apps", an abbreviation for application(s), in this context refers to a computer program or piece of software designed for a particular purpose that an individual may download and utilize on a capable/compatible mobile cellular phone or other electronic devices.

State of New Jersey  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



Joseph L. Fiordaliso  
President

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon

Commissioners

Board of Public Utilities



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

- Third-party app developers may bring any dispute with an EDC to the Board where a formal escalation and resolution process will be developed;
- The EDCs will maximize reverse compatibility on the App Store so that authorized third parties have at least 12 months to adapt their app to new technical requirements prior to removal, unless the revision is due to cyber vulnerability;
- The EDCs will provide authorized third-party app developers with all technical documentation and shall be prohibited from withholding or blocking access to technical information necessary for developing, deploying or troubleshooting meter-based apps to the extent feasible without compromising integrity of the data;
- The EDCs will provide customer-authorized third parties with an automated application programming interface (“API”) to determine if a given customer is eligible for the installation of a given app onto a meter. For example, a certain customer may be temporarily ineligible due to a meter malfunction or other issue(s);
- The EDCs will provide a web-based issue tracking system for authorized third party app developers to log technical requests and bugs;
- The EDCs shall be prohibited from surveilling or reverse engineering third-party apps, or engaging in any effort to gain competitive insight or advantage into a third party’s business or product offering, unless the third-party app contains code or vulnerability issues that could impact the integrity of the data;
- The EDCs shall offer a service level agreement (“SLA”) describing the App Store’s uptime and availability and responsiveness to bugs and technical issues;
- The EDCs shall enable Wi-Fi devices to connect to an AMI behind-the-meter device, including voice assistants, smart home hubs, inverters, EV charging equipment, laptop computers, mobile phones, etc.; and
- The EDCs shall not discriminate against any particular type of Wi-Fi device by, for example, imposing pre-screening criteria, fees or security assessments. This information will be a read-only file type and a one-way communication to the consumers.

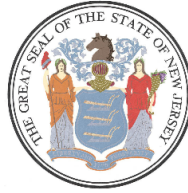
## 8. Billing and Settlements

Staff recommends that each EDC settle customer accounts using actual AMI customer data, rather than estimated data. Staff also recommends that each EDC establish the customer’s Peak Load Contribution (“PLC”) using each customer’s load data. Staff notes that this recommendation was supported by the Competitive Suppliers, Mission:data, and Rate Counsel. JCP&L did not believe Staff’s recommendation was necessary because this process would occur organically. PSE&G noted that this recommendation would have a significant impact on load settlement and PLC processes but did not object to Staff’s recommendation. Based on the comments received, Staff believes the recommendation to require AMI data to be used for determining PLC and settling customer bills based on actual usage data is appropriate.

## 9. Format of Data Sharing

Staff recommends that the EDCs enable GBC as a means for customers or their agents to access AMI usage data. Staff also recommends that the EDCs enable authorized third parties to access their customers’ interval usage data through the Electronic Data Interchange (“EDI”) as well as through the EDCs’ supplier web portals via flat files (i.e., “batch CSV” or Tab-delimited files). These data sets should contain a rolling 14 days’ worth of UI data delivered through supplier portals daily and accessible through an automated API solution. Staff notes the use of EDI and flat files, will allow authorized third parties to automatically download customer files each day through a secure supplier web portal, allowing the supplier to more efficiently manage large quantities of data. Staff further notes that GBC was generally supported by stakeholders as an appropriate method for customers to access their own data. Several commenters also noted that GBC can be implemented differently by different utilities. In order to ensure comparable treatment of customers across New Jersey, Staff proposed to direct the EDCs to agree on a

**State of New Jersey**  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



**Joseph L. Fiordaliso**  
**President**

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon

**Commissioners**

**Board of Public Utilities**



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

common implementation of GBC, in consultation with stakeholders, within 120 days, and provide a joint report to the Board memorializing the standardized approach.

Staff also recommends that AMI data be transmitted to the authorized third parties no longer than 60 seconds after customer authorization. Staff agrees that the authorized third parties should be able to access customer data as soon as possible after customer authorization is received, unless there are specific cyber threats and verification processes that dictate a longer period. Further, each EDC shall ensure 99.5% uptime of GBC services and public reporting of uptime and performance metrics.

Staff recommends that the following data types to be shared with authorized third parties, in addition to AMI usage data:

- All customer billing information, including, but not limited to, account information, meter information, rate information, and any other data necessary to participate in various demand management programs;
- Premise addresses for multi-site customers; and
- Customer account number(s).

Staff recommends that the EDCs shall not be permitted to charge a fee to the customer or to the third party with whom the customer wishes to share their AMI data, including authorized third-party suppliers, Distributed Energy Resource aggregators, and other energy services companies. Staff notes that this position was supported by Rate Counsel and the Competitive Suppliers. However, PSE&G and JCP&L argued that utility customers alone should not bear these costs. In order to maximize the potential of AMI data sharing, Staff believes that its MFRs should require that the EDCs not charge any fees to access AMI data.

## **10. Emergency Responders Access**

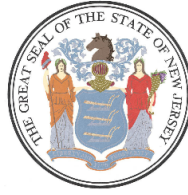
Staff recommends that AMI data must be accessible to Emergency Responders as this information can provide vital situational awareness and support emergency response planning activity. The real time outage profile of a community during a disaster can greatly enhance emergency responders' ability to quickly establish evacuation routes, determine shelter needs and viable locations, resource distribution sites and other community and responder needs. A designated responder portal or other well designed access mechanism to the AMI network for specially authorized officials responding to emergency events is an essential asset for emergency response. RECO expressed concerns about emergency responders having direct access to the system and argued that this level of sharing must comply with the Federal and State law. However, RECO currently does share information with municipalities that includes AMI data. Therefore, Staff still believes that this recommendation is appropriate.

## **11. Appropriate Utility Use of AMI Data**

Staff recommends that any use cases that are outside of the EDC's core functions (such core functions include billing, settlements, and reliability) be open to competition by authorized third parties. Staff believes that this MFR is necessary to ensure that the EDCs do not gain an unfair competitive advantage over other entities. Staff also recommends that all consumer AMI data is not for resale.

Finally, Staff proposes to adopt data sharing to promote academic research into energy usage and clean energy adoption. Utilities must provide access for legitimate, non-commercial academic research, into customer usage and system reliability by faculty, graduate students or post-doctoral fellows, associated with academic institutions on an anonymized usage basis, at the zip code or sub-zip code level.

State of New Jersey  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



Joseph L. Fiordaliso  
President

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon  
Commissioners

Board of Public Utilities

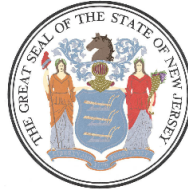


[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

## Appendix 1 AMI Data Access Topic Benefit Summary

TOPIC	PRIMARY BENEFIT	SECONDARY BENEFITS	INTENDED MEASUREMENT
Customer Ownership and Sharing of Energy Related Data	Opens paths for innovative 3 <sup>rd</sup> party energy management solutions.	Potential for enabling compensation – “unlocking the value” of the energy data.	Measure increase in Customer engagement, percent of residential load shifted to off peak hours, and reduction of energy usage against previous year’s consumption.
AMI Data Provision Timelines	Assures the continuous timely availability of highly fungible data.		Measure and track customer engagement numbers (ramp rates) and how quickly they can access the data after meter activation
Standard Customer Privacy and Cybersecurity Requirements	Ensures consistency and efficacy for an individual’s data protection without restricting desired access and use.		
Reporting Metrics	Allows close monitoring and cross-EDC comparison of program effectiveness and IDs any remaining barriers		
Data Granularity/Rollout Schedule	Provides the optimal cost-effective interval capture for meaningful energy mgmt. solution design.	Supports the most immediate return on investment for deployed AMI meters	Show how the energy load shift correlates to higher consumer education and simpler paths to action
Additional Data Fields	Enhances AMI data set for optimal utilization of data	Develops an EDC methodology for evolutionary improvement	Extent of innovation enabled for adjacent industry applications
Fair Access	Ensures that all barriers are removed to authorized users of the energy data.	Develops a thriving and innovative “app” ecosystem.	Inline “rating systems” for App users to track ease of use and fairness perception. Complaint resolution tracking for App vendors.
Billing/Settlements	Forces verifiable accuracy of bills and minimizes disputes	Provides important customer impact data for driving an optimal grid modernization	Tracking reduction of estimated billing as % of total and continual reduction in quantity and average duration billing disputes
Data Format	Ensures the minimum “friction” for data flow between authorized parties.	Establishes near real time authorization processing for 3 <sup>rd</sup> party data access	Customers and 3 <sup>rd</sup> party ease of use access to the system
Emergency Responders Access	Streamlines and consolidates situational awareness data on local grid for authorized responders		Usefulness during emergency situations resulting in safer and quicker responses
Appropriate Utility Use of AMI Data	Prevents EDC market power advantage for competitive energy management solutions	Ensures that EDC cannot resell collected data – this mitigates any expanded commercial interest.	3 <sup>rd</sup> party involvement in using AMI Data and monitor prohibited utility access and use of certain data.

State of New Jersey  
Governor Philip D. Murphy  
Lt. Governor Sheila Y. Oliver



Joseph L. Fiordaliso  
President

Mary-Anna Holden  
Dianne Solomon  
Upendra Chivukula  
Bob Gordon

Commissioners

Board of Public Utilities



[www.nj.gov/bpu/](http://www.nj.gov/bpu/)

## Appendix 2 Terms Definition

- **Green Button Connect** – Green Button Connect allows the customer to share their Electric Data with Third Parties of their choice in order to make modifications to their usage.
- **Interval usage** – Customer's and authorized Third Parties will have access to 15 second intervals of the Customers usage in order to make modifications to their usage.
- **Multi-Factor Authentication** – A two-step verification process to ensure customers agree to sharing their data with third parties.
- **Unvalidated Data** – Data that is for instantaneous usage for the customers to see where they are using electricity and allow them to modify their behavior to reduce load and save money.
- **Validated Data** – Data that the EDCs will collect from the customer meters and verify that the usage is correct for billable purpose.