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NOTICE¹

STRAW PROPOSAL ON ADVANCED METERING INFRASTRUCTURE (AMI) DATA TRANSPARENCY, PRIVACY & BILLING

[Docket No. EO20110716](#)

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. The New Jersey Board of Public Utilities (“Board” or “BPU”) has directed Staff to undertake this effort because the Board sees enormous potential for AMI to facilitate carbon reductions, lower costs for customers, open paths to competitive third party innovation, and enhance utility response to storms and outages.

The purpose of this Straw Proposal is to determine the appropriate standardized Data Access Plans (“DAPs”) that each New Jersey public utility will be required to adopt. Staff anticipates that the principles set forth in this Straw Proposal will form the basis of a Minimum Filing Requirement (“MFR”) order, which will trigger the requirement for each of the four investor-owned electric distribution companies (“EDCs”) to create and deploy DAPs that address data sharing, data access, data privacy, and billing reconciliation that should be implemented on a state-wide basis to ensure AMI is cost-effectively leveraged to meet its full promise.² The DAPs should also be built on an open, non-proprietary, AMI platform that eliminates barriers to potential future customer choice options or possible evolving distribution system operator models. The deployment of more than 3.9 million AMI meters throughout the service territories of New Jersey’s three EDCs that have not yet fully deployed smart meters, over the course of the next five years, in addition to future smart meter rollouts by other public utilities, presents an urgent need and opportunity for the coincident development of a comprehensive and robust data access planning protocol.³

If DAPs for AMI are deliberately designed for access and interoperability, they will enhance the retail marketplace, and allow for innovative rate designs which enable customers to better understand and control their own energy usage. Smart meters record customer energy consumption data at a granular level and provide extensive data about customer usage patterns that not only allow better engagement of customers but enable customized solutions tailored to meet customer needs, better segmentation of customers, improved load profiling and forecasting, among others. Staff emphasizes the importance of all providers of energy-related services having access to this information, as described further herein.

The Board found the deployment of AMI in New Jersey to be in the public interest because it provides significant benefits, including supporting achievement of myriad goals of the New Jersey Energy Master Plan (“EMP”).⁴ To date, AMI deployment in New Jersey has largely focused on traditional first-generation

¹ Not a Paid Legal Advertisement.

² This Straw Proposal focuses on the EDCs. However, Staff seeks comment on whether these same rules and processes should apply to all public utilities, as the concerns over data access will eventually apply equally to all public utilities.

³ Rockland Electric Company (“RECO”) has already completed deployment of its AMI meters. See [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 (“2017 RECO AMI Order”).

⁴ See e.g., [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.

AMI business cases, including meter-to-cash functionality, remote disconnect, basic outage detection and the environmental benefits of decreasing the number of truck rolls needed for meter reading, service connections/disconnections, and outage investigations. These uses have almost exclusively focused on decreasing operational costs and acquiring valuable proprietary system operating data. However, the functional capabilities of modern AMI platforms have developed substantially, and Board Staff expects New Jersey's utilities to enable advanced next-generation use cases. Continued development of the functional capabilities of AMI may unlock benefits such as greater ratepayer control over costs, by closely monitoring their usage in real time; sharing (and perhaps even selling) their data to potential third party innovative service providers; piloting and implementing advanced distribution rate design; and informing an intelligent investment decision for furthering regulatory reform. Additionally, AMI data enables efficient deployment of other advanced technologies, such as voltage optimization, which could further reduce energy usage and would potentially create the instrumentation needed to value and compensate distributed energy resources ("DER") for specific grid services. Sophisticated DAP standards will also lay the groundwork for future next-generation regulatory advancements, including alternate rate designs and robust Integrated Distribution Planning. Therefore, Staff has developed this Straw Proposal as the first step in developing MFRs that covered utilities will be required to file and adopt to ensure that consumers and their authorized third party service providers can fully capitalize on their AMI investments, and implement the EMP.

Parties will be provided 45 days to file comments, after which Staff anticipates having one or more stakeholder meetings to discuss that feedback. Once all feedback is received, Staff expects to recommend that the Board approve an MFR order on data access, use cases, and technology requirements, which will be followed by a rulemaking proceeding to codify the requirements placed on each electric public utility with an AMI deployment plan.

Staff notes that New Jersey's EDCs are at the brink of smart meter deployment and DAPs, and some EDCs have open proceedings addressing AMI implementation plans before the Board in Docket Nos. EO18101115 [Public Service Electric and Gas Company ("PSE&G")], EO20080545 [Jersey Central Power & Light Company ("JCP&L")], and EO20080541 [Atlantic City Electric Company ("ACE")]. While these are separate proceedings with separate evidentiary records, Staff anticipates that the MFRs developed as part of this proceeding will be incorporated into ongoing AMI management plans.

Finally, Staff notes that, while smart meter deployment has not yet been rolled out in the water or natural gas sectors in New Jersey, the principles developed as part of this proceeding will also be used to guide any AMI deployment in those industries as well, and Staff is committed to enabling any synergies in data collection or AMI-related software and infrastructure across utility sectors.

I. Background on AMI in New Jersey and Across the Country:

1. AMI's Role in Meeting New Jersey's Clean Energy Goals Set Forth in the 2019 EMP

New Jersey's 2019 EMP describes AMI as "a foundational component of a modernized electric distribution grid," and explains that "[s]tatewide AMI installation is a prerequisite of many additional clean energy objectives as laid out in this EMP." In fact, the EMP requires the Board to develop data access standards. The rollout of AMI is discussed in Goal 5.3.1, which calls on the Board to "[e]valuate a strategic and coordinated rollout of Advanced Metering Infrastructure" and notes that the EDCs are uniquely situated to work with the Board on this endeavor.⁵

⁵ See, generally, EMP at Pages 184 - 187.

According to the EMP, AMI “uses an integrated system of smart meters, communications networks, and data management systems to enable two-way communication between utilities and customers.” The EMP finds that potential benefits of statewide AMI deployment:⁶

...include realization of potential gains in efficiencies and cost savings, accelerated service restoration during outages, better environmental outcomes, lower operations and maintenance costs, better demand-side customer engagement, and alternative rate designs.

EMP Goal 5.3.2 further recommends that the Board “[d]evelop standards to ensure customers have control of and accessibility to free and standardized energy management data.”⁷ In order for customers to meaningfully engage with their usage data, utilities must recognize customer ownership of data and make it available to them or their delegated agents. The Goal directs the BPU to issue guidance on data standardization, privacy and rules governing authorization of third party access to customer specific data.

Further, the EMP highlights the benefits of a standard set of rules implemented on a uniform, statewide basis, and across utilities.

Staff agrees that DAPs are a critical element in achieving the benefits of the AMI goals of the EMP. These DAPs will enable robust next-generation program design and will allow customers to meaningfully engage with their usage data with an adequate level of access and control. To that end, customers must also be able to freely share their data with third parties and preserve their ability to promptly terminate such access.

Finally, the EMP recognizes that increased cyber-attacks, and the potential for an increasingly complex and decentralized grid, has raised significant concerns.⁸ This process will identify what standards utilities and third party providers should follow to ensure the privacy and security of data.

2. Status of AMI Proceedings in New Jersey to Date

The first New Jersey EDC to receive approval to deploy AMI was RECO, in August 2017.⁹ In the 2017 RECO AMI Order, the Board ordered that RECO’s costs and recovery remain subject to a prudence review in a subsequent base rate case after RECO’s AMI deployment. Additionally, the 2017 RECO AMI Order ordered that an independent consultant provide a comprehensive Cost Benefit Analysis (“CBA”) of RECO’s AMI program, and that RECO’s program should serve as an AMI case study.

In May 2019, following AMI deployment, RECO filed a base rate case, which included a request to recover the costs associated with its AMI roll out.¹⁰ In the 2019 RECO Base Rate Case, the Board retained a consultant to perform a CBA of RECO’s AMI roll out and provide a nationwide AMI gold standard analysis. By Order dated January 22, 2020, the Board approved the 2019 RECO Base Rate Case.¹¹

⁶ EMP at 184.

⁷ EMP at Pages 186 - 187.

⁸ EMP at 187.

⁹ See 2017 RECO AMI Order.

¹⁰ In re the Petition of Rockland Electric Company for Approval of Changes in Electric Rates, its Tariff for Electric Services, and its Depreciation Rates; and for Other Relief, BPU Docket No. ER18050552 (“2019 RECO Base Rate Case”).

¹¹ In re the Petition of Rockland Electric Company for Approval of Changes in Electric Rates, its Tariff for Electric Services, and its Depreciation Rates; and for Other Relief, BPU Docket No. ER18050552, Order dated January 22, 2020.

By Order dated February 19, 2020, the Board 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 provided in the EMP.¹² In the February 2020 Order, the Board ordered that ACE, JCP&L, and PSE&G either file, or update previously filed, petitions for AMI implementation within 180 days. The Board recognized that each utility was starting from a different investment baseline, particularly with respect to AMI “backbone” investments, such as the communications network necessary to transmit data collected by AMI-enabled meters, and that rollout plans would differ in each service territory.¹³ The specific filings are described below.

PSE&G

On October 11, 2018, PSE&G filed a petition seeking approval of its Clean Energy Future – Energy Cloud (“CEF-EC”) program on a regulated basis (“PSE&G AMI Petition”). In the PSE&G AMI Petition, PSE&G sought approval of a five-year program, with an estimated investment of \$721 million and operations and maintenance (“O&M”) costs of \$73 million, to implement AMI throughout the PSE&G electric service territory.

Following discovery and numerous settlement discussions between the parties, the parties settled all contested issues, with the exception of a reopener, if necessary, to address issues relevant to a DAP.

ACE

On August 26, 2020, ACE filed a petition seeking approval of a plan to replace all of its existing meters throughout its service territory by deploying an AMI system, known as the Smart Energy Network (“SEN”) (“ACE AMI Petition”). ACE proposed to deploy the SEN over approximately 39 months, beginning in January 2021 and concluding in early 2024. In the ACE AMI Petition, ACE estimated that the total capital investment component of the AMI Program would be approximately \$177 million.

ACE’s AMI Petition was approved by the Board on July 14, 2021. Similar to the PSE&G AMI Petition, the matter has a reopener, if necessary, to address issues related to a DAP.

JCP&L

On August 27, 2020, JCP&L filed its AMI petition with the Board seeking authorization to deploy an AMI system throughout its service territory to 99% of customers beginning on January 1, 2023 through December of 2025 (“JCP&L AMI Petition”). JCP&L indicated that the remaining 1% of customers will receive AMI meters over the following 24 months.

In the JCP&L AMI Petition, JCP&L estimated that the total capital investment component of the AMI Program would be approximately \$360 million through the six year deployment period.

This matter is currently pending before the Board and Commissioner Gordon has been designated as the presiding commissioner.

¹² 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 Order”).

¹³ See February 19, 2020 AMI Order; See EMP 5.3.1 at p. 185. However, the Board noted, as provided in the EMP, replacing aging standard meters with new standard meters, and not AMI smart meters, may “prevent ratepayers, and the grid as a whole, from realizing the benefits of AMI for years, or risk stranding the investments in newly installed standard meters that are no longer useful.” *Id.* Therefore, in the February 2020 Order, the Board noted that it expected the utilities to keep stranded costs to a minimum.

3. Review of AMI Data Access, Billing and Data Privacy Proceedings in Select Other States

a. New York

The New York Public Service Commission (“NY PSC”) has opted for a relatively centralized and streamlined approach to DAPs, with the express goals of bolstering AMI roll-out in the state and benefitting marketplace innovation. NY PSC Staff initiated this centralized approach with a May 2020 whitepaper outlining a proposed Data Access Framework with the objectives of establishing consistent guidance for enabling access to customer energy-related data and standardizing the necessary privacy, cybersecurity and quality requirements related to this data.¹⁴

The Data Access Framework developed a standardized approach by bringing together existing approaches from previous NY PSC data proceedings. It also promoted consistency by outlining uniform steps to obtain access to energy-related data. Functionally, NY PSC Staff promoted a centralized approach with the creation of an integrated energy data resource (“IEDR”) to serve as a one-stop, statewide platform for access to customer and system data in an additional whitepaper released in May 2020.¹⁵ The IEDR proposed by Staff and adopted by the NY PSC in February 2021 will collect, integrate, analyze and manage a variety of standardized energy-related information from utilities and other sources. Critically, it will provide opportunities for ratepayer savings by taking advantage of economies of scale.

b. Maryland

The Maryland Public Service Commission (“MD PSC”) has focused on the link between data sharing and enhanced competition as well as customer ownership of data, and recently broadened access to customer interval data from utilities to include third party Energy Consultants. The MD PSC’s proceeding was initiated in 2016 and is titled Public Conference 44 (“PC44”).¹⁶ Similar to the EMP, PC44 recognizes AMI as a “foundational component” of the modern grid and determines that customer data from smart meters belongs to the customer.¹⁷ The MD PSC proceeding, although less centralized than its sister proceeding initiated by the NY PSC, is similarly focused on the tie between data access and enhanced competition – and it provides lessons in how to expand data access from utilities to third parties.

Regarding the link between data ownership and competition, the MD PSC stated that: “[e]nhancing competitive markets and customer choice may be key components of modernizing Maryland’s electric distribution systems. Markets and choice can help ensure that Marylanders are receiving the services they desire at an affordable cost. One critical component to achieving this is to ensure that the market has appropriate access to data.”¹⁸

The MD PSC is working to promote competition while maintaining customer ownership by utilizing Green Button Connect and by requiring Energy Consultants, or third parties, to maintain a website containing customer service contact information, how the customer may confirm that the Energy Consultant has a current and valid authorization in place for data sharing, and a clear description of how to cancel the

¹⁴ In the Matter of Strategic Use of Energy Related Data: Dept. of Public Service Staff Whitepaper Regarding a Data Access Framework, Case 20-M-0082, New York Department of Public Service (Issued May 29, 2020) (“NY Framework Proceeding”).

¹⁵ *Id.*

¹⁶ See In the Matter of Transforming Maryland’s Electric Distribution Systems to Ensure that Electric Service is Customer-Centered, Affordable, Reliable and Environmentally Sustainable in Maryland, Docket No. PC44, Notice (Jan. 31, 2017), available at: <https://www.psc.state.md.us/wp-content/uploads/PC44-Notice.pdf>.

¹⁷ Compare *id.* at p. 10 with EMP Goal 5.3.2.

¹⁸ See PC44 at p. 10.

authorization, among other items.¹⁹ This is in addition to retail suppliers, which could already obtain customer authorization to access customer interval data.²⁰

c. Pennsylvania

Like the MD PSC, the Pennsylvania Public Utility Commission (“PA PUC”) requires each EDC to utilize and maintain its own web portal, as opposed to the central IEDR utilized in NY. The PA PUC has focused on customer privacy, stating in the Final Order on historical interval usage and billing quality interval that customer privacy is of “paramount importance.”²¹ Unlike the MD PSC, the PA PUC therefore stated that unlicensed third parties, including other consumers, should not be granted access to the web portals except as an agent of a licensed Electric Generator Supplier or as an Act 129 Energy Efficiency and Conservation Program Conservation or Curtailment Service Provider contracted by an EDC and as specified in Section 2.1 of the Framework.²²

The PA PUC also directed that its main working group reinstitute the smaller Web Portal Working Group, with mandatory EDC participation, to develop standards for a uniform system to system functionality allowing an authorized users’ information technology (“IT”) system to communicate directly with an EDC’s web portal without requiring the user to manually log in. The Electronic Data Exchange Working Group filed Pennsylvania Web Portal Working Group Technical Implementation Standard(s) on April 7, 2016.²³ Those standards stated that each EDC will utilize and maintain its own unique web portal, which will adhere to the privacy standards mandated by the PA PUC regardless of the customer’s preference for release of information on file with the EDC.²⁴ If the states are placed on a continuum from most to least conservative, the PA PUC’s approach to customer privacy would likely be to the right of the MD PSC.

d. Texas

Like the NY PSC, the Public Utility Commission of Texas (“PUCT”) has taken a centralized approach to data access; and like the MD PSC, the PUCT allows third parties access to customer data. The PUCT adopted advanced metering rules in May 2007 that address the importance of balancing the interests of customers, Retail Electric Providers (“REP”) and electric utilities in bringing the grid benefits of AMI to the State (“PUCT AMI Rules”).²⁵

Specifically, the PUCT AMI Rules defined minimum functionality requirements for advanced metering systems and established customer data access requirements. The PUCT AMI Rules establish that the current retail customer is the owner of all meter data and grant the customer authorization to share data with entities other than the REP.

Energy usage data can be accessed by customers, authorized third parties and REPs through the centralized Smart Meter Texas (“SMT”) web portal. SMT serves as the Texas’s common access portal and data repository for energy usage data received from participating Transmission/Distribution Service Providers (“TDSPs”). The platform was developed through a collaborative stakeholder process and designed using industry standards and best practices. Both customers and service providers have

¹⁹ March 8, 2018 Notice, Attachment 4-41.

²⁰ COMAR 20.53.03.02(a)(18).

²¹ Submission of the Electronic Data Exchange Working Group’s Web Portal Working Group’s Solution Framework for Historical Interval Usage and Billing Quality Interval Use Final Order, PA PUC Docket No. M-2009-2092655 (Sept. 3, 2015).

²² *Id.* at 13.

²³ Pennsylvania Web Portal Working Group Technical Implementation Standard(s) (April 7, 2016), available at: <https://www.puc.pa.gov/pcdocs/1431402.pdf>.

²⁴ *Id.* at 6-8.

²⁵ PUCT Substantive Rule §25.130 - Advanced Metering

benefited from a common, standard data platform. Improved access and utilization of usage data allows customers to better manage their energy consumption. Additionally, efficiencies are created for REPs and third party service providers by having one common exchange point for customer data across the different TDSP service territories.

e. California

The California Public Utilities Commission (“CPUC”) began looking at data access in 2011 and has further streamlined its approach and increased transparency over the past decade. The CPUC adopted rules to protect the privacy and security of customer data generated by smart meters in a decision dated July 28, 2011.²⁶ Those rules applied to smart meters deployed by utilities, utility contractors, and third parties authorized to receive energy usage data. Utilities are required to provide pricing, usage and cost data to customers online to be updated at least on a daily basis. Fair Information Practice Principles were adopted in the decision as a framework for California regulations that protect the privacy and security of customer electricity usage data. California’s rules established requirements for transparency, individual participation, purpose specification, data minimization, use limitation, data quality and integrity, security and accountability, and auditing.

In May 2014, the CPUC approved Decision (D.) 14-05-016 establishing the Data Request and Response Process, a protocol for investor owned utilities to follow when providing customer usage data to eligible third party requesters.²⁷ Utilities are required to establish consistent and streamlined processes for providing data to entities eligible to request access to it. To further increase centralization, a single point of contact should also be featured prominently on each utility’s website.

D. 14-05-016 also established the Energy Data Access Committee (“EDAC”), which provides advice regarding a utility’s protocols for reviewing data requests; acts as an informal body to review disputes between a utility and a requestor; and acts as an on-going forum to discuss and review changes in protocols resulting from technological advancements. D.13-09-025 also authorized the provision of customer energy data to third parties upon customer request via Customer Data Access or Green Button Connect.

f. Minnesota

The Minnesota Public Utilities Commission (“MN PUC”) started an investigation into AMI and data access in 2013 with a docket on customer data and another docket in 2018 on open access.²⁸ The MN PUC orders addressed personal identifiable information and how it was protected and consumer electric usage data and how it provides benefits to consumers and society at large; privacy concerns, requiring informed consent before sharing with third parties; and required utilities to track the number of request and costs associated with aggregating and storing it.²⁹

²⁶ Decision Adopting Rules To Protect The Privacy And Security Of The Electricity Usage Data Of The Customers Of Pacific Gas And Electric Company, Southern California Edison Company, And San Diego Gas & Electric Company, Decision 11-07-056, California Public Utilities Commission (July 28, 2011).

²⁷ See California Decision Adopting Rules to Provide Access to Energy Usage and Usage-Related Data While Protecting Privacy of Personal Data, California Public Utilities Commission, Decision 14-05-016 (Dec. 18, 2008) (“D. 14-05-016”); see also EDAC, California Public Utilities Commission, available at: <https://www.cpuc.ca.gov/General.aspx?id=10151>.

²⁸ *Order Establishing Procedures For Further Comment And For Working Group*, E, G-999/CI-12-1344, Minnesota Public Utility Commission (June 17, 2013) AND *Order Governing Disclosure Of Customer Energy Use Data To Third Parties, Requiring Filing Of Privacy Policies And Cost Data, And Soliciting Comment*, E,G-999/CI-12-1344, Minnesota Public Utility Commission (January 19, 2017) (“2017 Order”).

²⁹ 2017 Order at 5-11.

II. Topics for Utility Data Access Plans:

Staff is seeking comment on a number of principles which, taken together, are designed to allow for the creation of a comprehensive data ecosystem for streamlining and accelerating the clean energy transition and grid modernization currently underway here in New Jersey. Staff seeks comment on (i) whether the principles set forth below are the appropriate places for the EDCs to focus; (ii) whether there are modifications or clarifications to these principles that will aid an equitable clean energy transition and/or lower consumer costs; and (iii) whether there are additional concepts that are desirable and prudent to accomplish these goals. Staff has included specific questions at the end of this document and requests that parties comment on whether each affected New Jersey EDC should be required to incorporate these principles into its antecedent AMI deployment plan as part of an MFR proceeding, within 90 days of the Board's formal adoption of any MFRs.

1. Customer Ownership & “Hassle-Free” Sharing of Energy Related Data.

Staff recommends that the Board enshrine the principle that customers own and have complete control over sharing of all individually generated interval usage and related AMI data. This principle should serve as the foundation of any Standard DAP. To further this principle, the process, documentation, timelines, and implementation formats should be consistent across EDCs to the greatest extent possible. As recognized in many other states implementing AMI, customers should have easy access to their own ongoing and historical interval data, as well as a convenient means of authorizing utilities, utility contractors, and third parties to access this data. To facilitate this understanding, Staff proposes that each utility adopt a clear statement in their MFR compliance filing that all data generated by AMI meters belongs to the customer. Staff requests that commenters propose specific language to enshrine this principle and to ensure means of verifying subsequent compliance.

Customer ownership of data is only useful, however, if the customer and the customer's agents, as defined by New Jersey law, have ready access to the data. It is critical to share information with customers on a timescale that is relevant to them. This requires that utilities share data with customers and other authorized parties on a real-time or near real-time basis, and in a variety of easy-to-access formats, as discussed in Section 5 below. Real-time access is critical to allowing customers to understand how their daily actions affect their electricity consumption. Staff proposes to define “real-time” and “near real-time” data transfer as a requirement that utilities make all data available no later than 24 hours after the meter readings are captured. Additionally, Staff proposes that the utilities support the sharing of data to home area networks on a sub-15 second basis.

Staff further sees value in requiring utilities to make the AMI data available on a rolling basis as these meters are installed across their service territories. Rollout of this critical energy-saving information should not wait until all, or even most, AMI meters are installed. This will allow consumers (and the energy services marketplace and participating aggregators) to gradually adapt to the influx of new data and for customers to immediately benefit from their AMI investment. Staff seeks comment on how best to implement these requirements.

Staff notes that a number of states have addressed similar issues related to ease of data access, and have directly tied benefits of AMI to the ease of accessing customer data. For example, in California, a “Customer Data Access Committee Whitepaper” developed in response to a CPUC directive, highlighted that barriers to hassle-free sharing of AMI data led to “customer fatigue” and a “cliff drop in enrollment rates” in a voluntary demand response program. Staff notes that many states require utilities and third party energy services companies or third party suppliers (“TPSs”) to abide by the same rules for accessing customer data (other than for billing, reliability or other core utility purposes). Thus, all bonafide users of customer data would have access to the data once a customer provides valid authorization. Staff requests comments on whether this approach makes sense in New Jersey.

As another example, the MD PSC recognized a strong link between data sharing and enhancing competition to ensure customer choice. Additionally, a 2015 report by the U.S. Energy Information Administration noted that, even with customer consent, ease of access to AMI data is dependent on whether utilities already have web-based systems in place for downloading that data.

To ensure consistency with the principle that customers in New Jersey have complete control over sharing of all interval usage and related AMI data, Staff proposes the following Straw Proposal elements. Staff seeks comment on the inclusion of these elements in future MFRs:

- Customers, or their agents, should be able to access customer energy usage data in real-time, or near real-time, in order to enable the use of technology to make better energy choices and to automate responses to market and other behavior change signals;
- Customers have the right to move their energy-related data from one energy services provider to another, a concept known as “data portability”;
- Data should be made available for customers as soon as practicable;
- Providing that the mechanisms for appropriate and secure access to customer energy usage data are implemented in a useful, timely, standardized and quality-assured manner; and
- Customers should be able to share their AMI data with energy services providers, including utility contractors and TPSs, with a minimum of hassle, including online industry-standardized forms that provide secure access to authorized agents with “one click” and access to a single point of contact that will be listed prominently on each provider’s website.
- Comparable access standards for both utilities and third -parties requesting access to customer data for non-core utility functions, such as billing or reliability considerations.

2. Adoption of Standardized Customer Privacy Requirements.

Staff recommends that the Board enshrine the principle of robust customer privacy protections and informed consent for any release of Customer Electricity Use Data. Several states, including California and New York, have already pioneered this type of state-wide standard approach to data privacy, and Staff recommends that the Board take a similar approach here. Data privacy issues are generally common across all utilities, and having a standardized approach will address typical utility objections to sharing data and thereby aid customers and energy services providers to adopt and deploy next-generation energy management technologies.

The NY PSC’s evolution of data privacy standards illustrates how important universal privacy rules are to the protection of customers and utilities. Originally, the NY PSC incorporated many industry standards, such as the Department of Energy’s (“US DOE’s”) DataGuard Energy Data Privacy Program, into a set of privacy rules that allowed flexibility for individual utility implementation. By studying and incorporating numerous industry standards, the NY PSC was able to initiate a formal risk management program determining necessary privacy requirements for entities seeking data access. However, this initial approach was flawed and the NY PSC staff found that the development of individual utility cybersecurity risk management programs led to varying implementation strategies. Utilities also disagreed with third parties over the reasonableness of cybersecurity and privacy requirements and who they applied to.³⁰

To remedy these problems, in 2019, the NY PSC adopted a uniform set of privacy standards including a minimum level of cybersecurity and privacy protections.³¹ Those standards provided a universal

³⁰ NY PSC Staff Whitepaper on Data Access Framework, Case 20-M-0082, at 14-15.

³¹ Case 18-M-0376, Proceeding on Motion of the Commission Regarding Cybersecurity Protocols and Protections in the Energy Market Place, Order Establishing Minimum Cybersecurity and Privacy Protections and Making Other Findings (Issued October 17, 2019) (“Cybersecurity Order”).

foundation of protections for consumers and ensured both the privacy of customer data and protection of utility IT systems, while also enabling data access. Even today, however, NY PSC staff believes utilities differ in how they interpret the 2019 standards and is working towards an increasingly universal set of rules.³²

The European Union's General Data Protection Regulation ("GDPR") provides another example of data privacy rules. The GDPR generally requires covered entities to use the concept of privacy by design, consent, and that consumers have certain rights: knowing how your data is collected and used; knowing what information has been collected about you; requesting that any mistakes in the data be fixed; having the right to be forgotten; and the ability to refuse collection of the data.

Furthermore, for data privacy for customers to exist, the customer must be able to give informed consent for the release of the data to a third party. Without appropriate information provided before consent, robust privacy protections may not be maintained because the customer could not reasonably manage the release of their data. Because customers will receive multiple requests to share their data, and may move their data to different service providers, the privacy requirements should be standardized across all utilities as much as possible. This would allow customers to easily understand what data they are consenting to be released. In addition to the elements below, Staff proposes initiation of a working group to provide ongoing recommendations related to a common framework for customer privacy protections to be expressed in the "New Jersey Common Release Form" ("NJ-CRF").

To ensure consistency with the principle of robust customer privacy protection, Staff proposes the following Straw Proposal elements. Staff seeks comment on the inclusion of these elements in the MFRs under development in this docket.

- The utility will protect the customer's data from unauthorized release;
- All access to customer data should occur through the protocols of the NJ-CRF;
- How and the degree to which the required data can be captured and automated in a low friction (i.e. easily entered, low latency, timely and clear interaction) processing mode;
- In the event of an unauthorized release of customer information, the NJ-CRF will require steps to notify customers, the Board, the Attorney General, Law Enforcement (or explain why law enforcement was not notified) of the release;³³
- The working group should regularly meet to address and propose to the Board best practices related to privacy and cyber-security for updates to the NJ-CRF;
- The EDCs will participate in the working group and ensure that the cybersecurity and privacy protections of the NJ-CRF maintain the integrity of the security practices of each EDC. The EDC shall remain the custodian of the data and is therefore obligated to protect it.

3. Using AMI to Drive Efficient Achievement of New Jersey's Clean Energy Goals, and Positioning New Jersey Grid to Appropriately Account for Clean Energy Attributes

Staff recommends that the Board enshrine the principle that AMI data must assist New Jersey in efficiently and effectively achieving its clean energy goals. For example, New Jersey's EMP identifies DER as being an underlying linchpin in one of the strategies to meet to the goal of 100% clean energy

³² The Data Access Framework includes privacy and cybersecurity rules, and specifically a risk-based approach and standardized process.

³³ Staff notes that the CPUC specifies the actions parties need to take upon the inadvertent release of information and encourages stakeholders to comment on those plans. See Order Instituting Rulemaking to Consider Smart Grid Technologies Pursuant to Federal Legislation and on the Commission's own Motion to Actively Guide Policy in California's Development of a Smart Grid System, CPUC Rulemaking 08-12-009 (July 29, 2011).

by 2050.³⁴ DER aggregation and participation in wholesale markets provides efficient price signals that will efficiently encourage expansion of private investment in these assets. Deployment of DERs with maximum efficiency also requires the effective deployment of AMI and a workable DAP process. Commenters from the work session held in December 2020, point out that in the near-term AMI adoption allows consumers to participate in various types of demand response programs, such as universal peak-times rebates, and helps provide measurement and verification of energy efficiency (“EE”) program effectiveness.³⁵ In addition, Staff believes that robust AMI data allows for different rate designs including interval demand rates and other time of use rates that will allow efficient deployment and integration of distributed generation, energy storage, electric vehicles, and microgrids.

Staff also believes that AMI needs to be able to communicate with customers (or their aggregation energy service providers) on a real-time basis to update them on changes to system conditions and other pertinent information. Otherwise, customers will not react to changing situation on the grid (e.g. peak demand) or information (potential high bill) and take the appropriate action (i.e. reduce consumption). Lastly, Staff sees an important role for AMI data to help improve distribution planning and operations which will be essential for the future growth of DERs.

AMI smart meters measure and collect very granular power quality and energy usage data in increments ranging from one minute to an hour. This data is commonly referred to as Interval Usage (“IU”) data. This more granular IU data provides information about how much electricity a customer is using during every hour (or less) of the day. The availability of such granular usage data spurs innovation and customized energy solutions that enable informed and motivated customers to take control over both their energy usage and their energy budgets through products and services designed to help them optimize their load profile based on their individual needs.

Additionally, Staff sees a compelling interest in positioning New Jersey customers to take advantage of the opening of the wholesale energy and ancillary services markets to smaller, largely retail, “prosumer” customers who may invest in DER or smart load management technologies behind the AMI meter. The Federal Energy Regulatory Commission (“FERC”) recently issued its landmark Order No. 2222, FERC’s Order on DER Aggregation.³⁶ Order No. 2222 allows all DERs to be aggregated and bid into the PJM market to provide energy, capacity, or any other services it can provide³⁷ One of the key areas of compliance with Order No. 2222 that AMI can assist in is the metering and telemetry requirements.³⁸ Once this order is fully implemented, relatively small customers will be able to sell electricity and related products, on an aggregated basis, into the wholesale markets for the first time. Ensuring appropriate measurement technologies will allow the grid to fully value and account for DERs, and efficiently deploy them to unlock the full economic and environmental benefits of the NJ Clean Energy initiative. Staff believes that appropriate AMI data polices will help ensure that New Jersey customers receive the full benefits of this sea-change in the way DERs are compensated, and recommends that the EDCs must elaborate how their DAP plan will help implement FERC Order 2222.

The data gathered from AMI can also be used to evaluate next-generation program design, including potential application of blockchain and potential artificial intelligence and machine learning based technology innovations. These technologies, if found useful and adopted, could help drive advances in EE, more intelligent load management programs, and renewable energy and storage investment.

³⁴ See *generally* EMP Strategy 2.

³⁵ See New Jersey Sustainable Business Council, The Natural Resources Defense Council, Environment New Jersey, New Jersey Conservation Foundation, NJPIRG, and the Energy Efficiency Alliance of New Jersey, Advanced Metering Infrastructure (AMI) Working Session, Docket No. EO20110716 (December 7, 2020).

³⁶ See *generally*, Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators, Order No. 2222, 172 FERC ¶ 61,247 (2020).

³⁷ Id.

³⁸ Id.

Staff is interested in having the Board require electric EDCs to adopt standardized “best practices” for developing AMI data to drive applications that promote clean energy objectives, including enhanced customer awareness of energy usage, enhanced rate designs, and enhanced deployment of EE and DERs. Staff seeks comments from the EDCs and potential users of third party energy information on how to further these goals, including any specific requirements that the Board should consider including in its MFR order.

In developing the MFRs, Staff has identified the following use cases that each utility’s DAP should enable. Staff seeks comment on how these use cases should be incorporated into the MFRs. In addition, commenters should describe specific data access and communication network protocols that would enable each identified use case, and identify both the qualitative and quantitative benefits that could be derived.

- Instantaneous usage and demand measurements on a near real-time basis; Staff initially recommends that the Standard DAP require utilities to collect 5-minute meter IU data, at watt-level precision;
- Ability for the customer to be notified about high bills on a near real time basis;
- Ability for customers to be notified about voluntary conservation requests;
- Ability to use different rate structures, such as time of use or peak demand;
- Ability for customers to understand how and when their own generation is exporting to the grid, including instantaneous two-way meter data where applicable; and
- Ability for 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;
- Ability for the customers to understand how the size of the DER they interconnect to the grid will affect interconnection costs.

Staff also seeks comment on whether the MFRs should require compliance with the National Electrical Manufacturers Association (“NEMA”) handbook under ANSI C12.10 standards and prohibit standards that differ from those established by NEMA, which could preclude competitive offerings from generally used Original Equipment Manufacturers (“OEMs”).

In their MFR compliance filings, utilities should be able explain how their proposed DAP plans can leverage their AMI investment to improve visibility and planning on the distribution level, including such items as aggregating AMI data sets to:

- Allow 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;
- 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
- Enable efficient and productive regulatory performance audit as well as future legislative and regulatory reform debate and decision support.

4. Maximizing Impact of AMI on Reliability, Planning, and Reporting Metrics.

Staff recommends that the Board enshrine the principle that AMI must measurably improve the reliability of utilities by increasing system and customer transparency, improving efficiency of distribution system planning, and accelerating outage recovery. For example, real-time AMI data could be used to more rapidly isolate and immediately notify the utility of the outage on a distribution system segment. With sufficient analytic tools, real-time AMI data could eventually provide a predictive degradation assessment that may allow for preemptive correction. AMI would also give utilities the ability to 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.

Fully capturing AMI data streams also provides a more robust view of system dynamics by, for example, measuring injections of customer generation, current, volt, var, watt, and other power quality components. Over longer time horizons, utilities can use this information to make their distribution planning more effective and efficient. In addition, usage of this data can form the groundwork for future development of Integrated Distribution Plans (“IDP”) set forth in the EMP.³⁹

For instance, enhanced grid visibility and data collection will eventually allow the Board “to optimally and most cost effectively plan for and accommodate increased demand through electrification and further penetration of DERs.”⁴⁰ In the short-term, Staff recommends that utilities begin utilizing smart meter availability data in all reliability reporting requirements, including System Average Interruption Duration Index (“SAIDI”)/System Average Interruption Frequency Index (“SAIFI”) and other metrics, as such data becomes available on a rolling basis.

To ensure consistency with the principle of AMI fostering improvement in reliability by increasing transparency, improving efficiency of planning, and improved outage recovery, Staff proposes the following MFR elements. Commenters should address specific elements of a DAP that would foster achievements of these or additional elements to further this principle:

- AMI data should be collected and stored for retrieval, synthesis, modeling and analysis supporting future distribution planning, including but not limited to:
 - Determining whether retail-level load management could avoid upgrading a circuit;
 - Forecasting overloads on future circuits based on granular usage trends;
 - Determining whether deployment of DER resources could more efficiently alleviate identified violation; and
 - Facilitating improvements to the current interconnection process.
- Use of AMI information will be maximized to cost-effectively determine location and severity of outages;
- Use of AMI information will be maximized, as appropriate, to aid in emergency operations; and
- Barriers to third party data access regarding outages and other emergency conditions are appropriately lowered, with specific reporting on number of authorized access connections made and maintained.

5. Data Granularity & Appropriate Rollout Schedule

AMI smart meters measure and collect very granular power quality and energy usage data in increments ranging from one minute to an hour. This data is commonly referred to as Interval Usage (“IU”) data. This more granular IU data provides information about how much electricity a customer is using during

³⁹ See EMP goal 5.1.1.

⁴⁰ Id.

every hour (or less) of the day. The availability of such granular usage data spurs innovation and customized energy solutions that enable informed and motivated customers to take control over both their energy usage and their energy budgets through products and services designed to help them optimize their load profile based on their individual needs. Staff agrees with sentiment expressed by one party in their testimony submitted in the PSE&G AMI Petition that “[c]ustomers simply cannot remember what they did say, weeks, or even a single month after the fact – time is of the essence.”⁴¹

Staff recommends that the standard DAP require utilities to collect 5-minute meter IU data, at watt-level precision.⁴² Equally important to data granularity is the need to share that information with customers on a timescale that is relevant to them. This requires that utilities share data with customers and other authorized parties on a real-time or near real-time basis, and in a variety of easy-to-access formats (as discussed below). This was the objective of the Green Button Connect capability evolution described under subsection 7 below. Real-time access is critical to allowing customers to understand how their daily actions affect their electricity consumption.

Finally, Staff proposes that the utilities make the IU data available on a rolling basis as AMI meters are installed across their service territories. Rollout of this critical energy-saving information should not wait until all, or even most, AMI meters are installed. This will allow consumers (and the energy services marketplace and participating aggregators) to gradually adapt to the influx of new data and for customers to immediately benefit from their AMI investment. Staff seeks comment on how best to implement these requirements.

6. Ensuring Fair Access and Competition for All Meter Capabilities

Staff recommends that the Board enshrine the principle that fair access and competition exist for all meter capabilities, as reasonably appropriate. Advanced meters are not only capable of collecting and buffering many different types of data in addition to kilowatt (“kW”) or kilowatt hour (“kWh”), but also capable of hosting various types of software and other platformed technologies or applications. Besides kW or kWh, advanced meters can also measure current, phase frequency, volt, var, watt, and other power quality components. Access to this information may be limited by utilities either for business reasons or because meter memory and the communication network bandwidth might not be able to handle the increased size of the packet. Staff seeks comment from the utilities on whether their meter memory and processing sizes, as well as communication network bandwidth, are sized appropriately to provide these types of data. Staff also seeks comment from all stakeholders on whether receiving data on a variety of power quality components might be useful to customers or third parties, and for supporting regulatory compliance verification audits through direct sampling methods.

Advanced meters can also host various types of software and technologies. The ability to upgrade the software on meters is a key tool in fighting the technical obsolescence that has plagued meter rollouts in other jurisdictions. Staff proposes that each utility ensure that the meter is capable of “over the air” updates, and that the utility’s network has sufficient “bandwidth” to make such updates feasible, including the necessary meter memory and processing sizes for these updates to occur.

On-meter apps and other technologies should also be open to competition by utilities and third party providers. That bandwidth should therefore be universal to allow for an adequate level of competition, as opposed to tailored to meet the software needs of individual utilities or providers. Like power quality

⁴¹ Testimony of Leah Gibbons, In re the Petition of Public Service Electric & Gas Company for Approval of Its Clean Energy Future-Energy Cloud (“CEF-EC”) Program on a Regulated Basis, Docket No. EO18101115, (August 31, 2020).

⁴² Staff seeks comment on whether the Minimum Filing Requirements should require compliance with the NEMA handbook under ANSI C12.10 standards and prohibit standards that differ from those established by NEMA, which could preclude competitive offerings from generally used OEMs.

components, data from software and other meter technologies should also be open access to all parties, including consumers, consistent with the security and privacy principles herein. Another important issue will be the approval of apps and the running of the utilities' app store, which Staff believes should happen on an open-access basis. Staff seeks comment on how to translate open access principles into the specific needs of apps, as well as what process the EDCs should use to accept or reject a third party app, including redress to the Board should parties believe that open access principles are not being followed.

Staff seeks comment on the inclusion of these elements in future MFRs.

- Open access principles must ensure that third parties have reasonably fair access to any app “stores” or other processes for distributing apps run by the utilities consistent with privacy and security requirements;
- Any costs that a utility proposes to recover for app distribution mechanisms or open-access platforms must be reasonable and provide tangible benefits to customers;
- Third parties should be able to seek review from the Board if they are concerned that they are being treated unfairly by the EDCs in the running of any app distribution mechanism;
- Clear procedures should exist for addition of an app to any store;
- Approval should not be unreasonably withheld, given that the third party service provider meets baseline privacy and security requirements, with a built-in Board appeal process;
- An app that is approved through the NJ-CRF for one utility will be deemed approved for all other similar utilities; and
- Whether New Jersey should adopt a Statewide data warehouse, as several other states, including New York, New Hampshire and Texas have opted for. The major advantage of a third party data warehouse is ensuring that all parties in New Jersey's energy ecosystem have non-discriminatory access to the data. Concerns include cost, complexity, and time for rollout.

7. Billing and Settlements Best Practices

Staff recommends that the Board enshrine the principle that AMI must improve the efficiency of rates charged to customers, including rate design and billing accuracy. Data provided by the transition to AMI will allow development of billing and settlement practices designed to achieve pro-consumer outcomes. By modernizing billing and settlement practices, AMI will help customers in understanding their energy usage and allow customers to directly see the financial benefits of reduced consumption, installing EE measures, or otherwise actively engaging with their energy consumption. Further, by breaking down the barriers to allow energy services companies to directly engage with customers, Staff sees the ability to accelerate the transition to a cleaner, fairer, more distributed grid that is modernized with less reliance on public (i.e. ratepayer and/or taxpayer) subsidized investment.

Basing customer energy usage and associated settlement charges on actual customer data, will enhance efficiencies of rates charged to customers. Specifically, Staff seeks comment on requiring New Jersey EDCs to settle customer accounts using actual AMI customer data, instead of estimates. Staff believes that doing so will ensure that customers see the direct savings associated with their changing energy usage, and ensure that proactive engagement with energy management is financially rewarded. Additionally, Staff proposes that the MFRs require each EDC to establish the customer's Peak Load Contribution (“PLC”), using each customer's load data. As many other jurisdictions have recognized, targeting “peak” energy usage can result in significant environmental benefits. Staff recognizes that this represents a departure from today's utility billing practices, which depend on determining usage “profiles” from a group of test customers, which is used to determine PLC and capacity market allocations and seeks comments on whether the use of average customer profile data unreasonably mutes the financial incentive for customers to shave their peak usage. Additionally, development of efficient, next-generation retail rate design will depend on individual customers seeing, in real-time, the financial impact of their

energy usage decisions. Further, this reform will help sellers and aggregators of electricity and related services to maximize the impact of DER.

Additionally, Staff seeks comments on the benefits of accelerating the transition to supplier consolidated billing (“SCB”) as part of the push towards maximizing the benefits of AMI deployment. In Staff’s view, SCB provides opportunity for increased customization of energy services and improved customer service and engagement. Allowing TPSs to securely collect, organize, analyze and present precise AMI data, in context with easy online access to innovative third party data-driven solutions for customers, will enable the significant transition towards a more decentralized market structure, with increasing reliance on DER and customer energy management.

To ensure consistency with the principle of AMI improving the efficiency of rates charged to customers, Staff seeks comment on the inclusion of these elements in future MFRs. Commenters should address specific elements of a DAP that would foster achievements of these elements or whether commenters see any perceived challenges to these recommendations.

- AMI information will enable rate designs that improve the efficiency and granularity of rates charged to customers;
- Customer settlement should be based on actual usage data, with use of average customer profile data for billing minimized;
- Furthering communication opportunities between electricity suppliers and customers will enable increased customer service and participation in the energy future;
- Demand measurements will be revenue quality, sufficient for use in billing or planning determinations.

8. Format of Data Sharing and Cost Implications

In addition to control over data sharing and privacy, Staff recommends that the Board enshrine the principle that AMI data must be shared in a manner that is convenient for customers. Access to AMI data is a key element of meeting New Jersey’s clean energy goals by furthering customer’s ability to actively engage in their energy usage, as well as allowing easy access to DER installers and other energy services providers.

There are several different formats for the output of information, each with their own specific use cases, advantages, and disadvantages. Given that each of these data formats serves a different use case, Staff seeks comments on each of the proposed formats. Staff also seeks comments on whether provision of data in multiple proposed formats would provide incremental benefit. Staff seeks comments on whether each utility should provide the data in the format preference of the customer or the customer’s agent. Those standards are summarized below:

- *Green Button Connect.*

The original Green Button program was conceived by the US DOE over 10 years ago and launched in January 2012. The initial version was envisioned as a static (batch) download of historical energy consumption data that made it easy for the consumer to download this data cache (or permit access to trusted third parties). Evolution to a more dynamic and potentially interactive and transactional flow of this data was implemented in the next generation version entitled Green Button Connect. Staff’s understanding of the Green Button Connect project is that it is best suited to providing individual customers with access to real-time data, with an intuitive interface and the ability to provide customers with daily access to their energy usage, and to allow these customers to establish an automated ongoing feed to third party systems. This would also help pave the way for potentially transactional energy systems.

However, because Green Button Connect is largely initiated by consumers or their agents on case-by-case basis, it appears less suited to large-scale third parties, for both third party competitive retail providers and entities seeking to deliver energy services to large number of customers (i.e. aggregators).

- *Electronic Data Interchange (“EDI”)*

Staff understands that EDI transactions are currently utilized throughout New Jersey as a means of sharing data between EDCs and TPSs. As AMI data becomes more prevalent, Staff expects that EDI will be used to share historic interval data usage. In the AMI context, however, Staff understands that EDI may not be suitable for sharing larger data sets, including full interval usage data, and may be more suitable for larger customers and less suitable for sharing mass-market customer data.

- *CSV or “Flat Files” or “Tab Delimited” Files (collectively, “CSV”)*

An additional option for AMI data transfer is to provide authorized suppliers and providers of energy services the option to download full billing-quality interval usage data through a standard spreadsheet-compatible CSV file. While Staff notes that Green Button Connect provides data in these formats, Staff understands that the process is not available to download the data associated with large numbers of customers at the same time. Electric utilities in Delaware, the District of Columbia and Texas, among others, already require that utilities allow automated access to CSV files as an efficient and low-cost method of sharing large quantities of information, and that both the MD PSC and the PA PUC recently required that EDCs provide data in this format as well. The wide-spread usage of this data format will likely prove critical to ensuring that customers are able to authorize energy services companies to access the type of granular usage analysis that should be enabled by AMI. Staff seeks comment on the appropriate frequency of updating such CSV files, (i.e. on a rolling 24-hour or 48-hour basis).

Staff seeks comment on the technology and software upgrades associated with providing the data in a manner that is appropriate for each use case. Utilities should comment on the standard method of data access included with their AMI systems, and explain the necessary upgrades and extensions required to provide data in these formats. Utilities and commenters should include cost estimates for enabling these data access formats.

Further, Staff seeks comment on whether it may prove appropriate for utilities to make investments to support the State’s goal of enabling customers to control their own energy usage and to provide this data free of additional charge to entities with a legitimate interest in data, including TPSs, DER aggregators, and other energy services companies. Staff requests comment on the potential socialization of these costs, and whether the potential grid savings would outweigh the costs required to develop robust data sharing platforms. Commenters should explain in detail the potential benefits of data sharing platforms that may exist in addition to the other benefits of AMI data access, such as the benefits of better visibility into the distribution system to interconnection and hosting capacity.

Additionally, Staff requests that interested commenters address the potential to cost-effectively leverage data mesh networks by multiple utilities through joint-use agreements or other methods. While New Jersey’s EDCs are the first to deploy smart meters, Staff anticipates that other industries may also seek to move towards smart meters in the future, including the water or natural gas industries. Staff proposes to require that utilities develop a standard protocol for sharing networks to allow other regulated industries to utilize the already existing networks. Green Button Connect, for example, can be used across multiple industries.

9. Promoting Academic Research into Reliability and Clean Energy Adoption by Customers

Staff recommends that the Board adopt standard terms for promoting access to AMI data for legitimate non-commercial academic research into customer usage and system reliability. Staff seeks comment on the structure of a standard state-wide data access agreement, consistent with the NJ-CRF. Staff seeks comment on the appropriate format and data access elements to allow faculty, graduate students and post-doctoral fellows, associated with academic institutions, to gain access to aggregated AMI data by signing a state-wide non-disclosure agreement that allows sharing of anonymized usage data at the zip-code or sub-zip code level.

Given the growing interest in the use of blockchain and Artificial Intelligence technologies, Staff envisions some of this technology application to be applied to this AMI data stream and expects the data to be sufficiently structured to support this area of research. Staff seeks additional comment from energy data researchers and others on how to make New Jersey a leader in this type of research.

10. Appropriate Utility Use of AMI Data

Staff recommends that the Board enshrine the principle that EDC usage of smart meter data be limited to core functions, including billing, settlements and reliability. For instance, utilities should avoid situations where the EDCs use ratepayer funds or their monopoly position to gain an unfair advantage over other entities offering energy solutions or to expand the utility's marketing of non-utility products (e.g., home security systems and appliance warranties), new energy rate products (e.g., free nights and weekends, targeted time of use rates), as well as energy-related usage items, other than EE program administration.

Staff seeks comment on how to define appropriate limitations. For example, Staff notes that it expects AMI data to significantly enhance the delivery of EE to end-use customers. Because EDCs are the primary parties delivering EE services to select customer classes, Staff seeks comment on how to enable efficient data analysis, visitation, and structuring for the purpose of delivering EE services while still appropriately limiting utility usage of AMI data and analysis tools.

However, for most other energy related services, Staff seeks comment on a recommendation that each standard DAP require that use cases that are outside of the utility's core function be done either with at-risk capital with competitive solicitations or performed exclusively by third parties. Commenters should address the proposal that any exception to this general rule, such as the delivery of EE services called out above, be specifically listed in the utility's compliance filings, and should be limited to those roles that are uniquely performed by the utility, either because it is a natural monopoly, or has been expressly assigned the role by the Board. Staff seeks comment on whether this proposed limit avoids situations where the utility uses ratepayer funds and its monopoly position to gain an unfair advantage over other entities offering comparable energy solutions.

11. AMI Data must Support Emergency Responder Effectiveness and Safety

Real time power quality and energy consumption data of the immediacy and precision captured by AMI can provide vital situational awareness and support emergency response planning activity. Understanding the real time profile of an extensive disaster area relative to live wires, outages, safe evacuation areas, etc. can be greatly enhanced if there are well designed access mechanisms to the AMI network that are specially authorized for officials responding to emergency events. Staff therefore recommends that the Board enshrine the principle that EDC usage of AMI must support emergency responder effectiveness and safety.

Each EDC shall specifically address this need and the system integration and processes they will implement in order to support this high priority scenario. Staff seeks comment on any additional straw proposal elements that would assure AMI's support of emergency responder safety.

12. Stakeholder Engagement

Data access is critical to competition, market innovation, and allowing customers to engage with their own energy usage, all of which are in the public interest. A functional DAP is necessary to ensure that New Jersey customers receive the full benefit of their investment in AMI infrastructure, and successful implementation of a DAP is, in Staff's view, a key metric of whether ratepayer investments in AMI infrastructure are considered used and useful. Thus, Staff seeks comment on how to measure whether the utilities have implemented a functional DAP before allowing full recovery of the AMI assets.

Staff further seeks comment on appropriate metrics that should be reported related to AMI and DAPs to ensure prudent rollout, including, but not limited to:

- AMI System Status Metrics
- Energy Consumption Metrics
- Distribution System Performance
- Customer Satisfaction

Similarly, Staff believes that it is crucial that all parties are given an opportunity to present their concerns related to data access. PSE&G points out that Maryland and Pennsylvania utilized working groups, but also expressed concern that the rulemaking may delay other proceedings. Staff shares in this concern. California, Texas, New York, and other states that are implementing AMI have not utilized full working groups like Maryland and Pennsylvania.

In California, utilities were required to complete independent audits of their data privacy and security practices to monitor compliance. The audits were required to be conducted in conjunction with general rate case proceedings and the findings reported as part of general rate case filings following 2012. Further, annual reports were required that disclose the number of third parties accessing covered information and the number of non-compliances with the data security and privacy rules.

New York is also allowing extensive stakeholder and utility engagement without creating full-fledged working groups. The NY PSC designated the New York State Energy Research and Development Authority ("NYSERDA") as the Program Sponsor in the Order issuing the IEDR, which is the functional platform for accessing customer and system data, and directed NYSERDA to set up a series of stakeholder workshops and other avenues for stakeholder engagement around that platform. Utilities are invited to engage with each other and other stakeholders and to comment on how best to implement that platform while the NY PSC continues to consider a standardized framework.

Staff seeks comment on whether stakeholders prefer working groups over other methods of engagement like comment periods, work sessions, and audits, and if so why.

The deadline for comments on this matter is 5:00 p.m. ET on October 7, 2021. 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:

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