

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION
ELECTRIC AND NATURAL GAS UTILITIES

Development of a Statewide, Multi-Use Online Energy Data Platform

Docket No. DE 19-197

Scoping Comments of Mission:data Coalition

Pursuant to the Secretarial Letter dated February 14, 2020, and Staff's scoping comment solicitation dated February 10, 2020, Mission:data Coalition ("Mission:data") hereby provides its comments on the scope of Docket No. DE 19-197.

A. Introduction

By way of background, Mission:data is a not-for-profit organization focused on advancing policies that improve utility customers' access to, and utilization of, their own energy usage and cost data, including the ability to easily and electronically share that information with third party distributed energy resources ("DERs"). Mission:data believes that consumers should have convenient access to the best available information about their own energy use in order to save money and take advantage of innovative energy-related services. Mission:data advocates across the country for "data portability" policies based on widely-adopted national standards and best practices. Mission:data has been deeply involved in the development of "data access" proceedings at other state public utility commissions across the country. Since 2013, we have participated in data privacy, data access, smart meter applications and rate cases before numerous state commissions. Our recommendations and expert testimony concerning the Green Button Connect ("GBC") standard for exchanging energy-related data have been adopted in five (5) states, covering over 36.2 million electric meters

nationwide. Most relevant to the present docket is our experience in other states, such as Texas, where a state-wide repository for energy-related information across multiple utilities has been implemented.

Mission:data's primary interest in the present docket is to improve how DERs can receive customer-specific energy information from utilities with customer consent. Customer energy information ("CEI") includes information about energy usage, billing, account(s), and energy efficiency ("EE") or demand management program participation. Mission:data understands, and is sympathetic to, the desires of other parties who are interested in facilitating easier access to information for entities other than DERs, such as cities and towns, community choice aggregators ("CCA"), EE program administrators, researchers and the general public. Therefore, while Mission:data's comments focus primarily on improving DERs' access to CEI with consent, we also attempt to identify overlaps and synergies with other "use cases" for a state-wide, multi-use energy data platform.

Finally, Mission:data addresses the questions in order below. If a question is omitted, Mission:data has no comment at this time.

B. Response to "Functionalities" Scoping Comment Solicitation

1. *What functionalities should a statewide multi-use energy data platform offer to customers, Distributed Energy Resource (DER) providers, Competitive Suppliers, and other users, including any applications and business uses?*

At the outset, Mission:data believes it is critical to define "energy data." Our high-level definitions, as Michael Murray presented at the February 3rd, 2020 technical conference, fall into these three categories: (1) Customer energy information ("CEI") is information specific to an individual customer, such as energy usage, billing, account information, and EE or demand management program participation or eligibility information; (2) Aggregated information is energy

usage summed across a grouping of multiple meters in a building, municipality, zip code, or other aggregations over different timescales; and (3) grid operations and planning data (“grid data” for shorthand).

In the table below, Mission:data provides nine (9) high-level functions of the state-wide data platform. All nine functions involve aforementioned definitions #1 and #2 of energy data – in other words, customer energy information (“CEI”) and aggregated data.

	<i>Functions / Use Cases</i>	<i>Users</i>
<i>Phase 1 Priorities</i>	1. Providing individual customer energy information (“CEI”)	DERs, Competitive Suppliers, CCAs
	2. Providing individual- or community-level energy data	CCAs
	3. Providing whole-building energy data for EE, EnergyStar	Building owners, Towns/Cities
	4. Providing community-level data for municipalities (for purposes other than CCAs)	Towns/Cities
<i>Phase 2 Priorities</i>	5. DER registry	<i>Various parties</i>
	6. DER or utility data to NEPOOL, ISO-NE	<i>Various parties</i>
	7. EE program analysis	<i>Various parties</i>
	8. State-wide energy dashboard	General public
	9. REC tracking	<i>Various parties</i>

Mission:data believes “Phase 1 Priorities” should be considered first in this docket. There are several reasons why: In our experience working across 14 states and the District of Columbia over the past seven years, functions #1 through #4 provide the most immediate value to a broad range of ratepayers. Managing energy usage and costs in the most efficient way possible provides extensive benefits to customers, particularly as new technologies such as smart thermostats, energy management software tools, and smartphone “apps” for controlling Internet-of-Things devices

proliferate. Finally, Mission:data notes that functions #1 through #4 generally comport with the Office of the Consumer Advocate’s (“OCA”) “high priority use cases” that were developed over the past several years in adjacent proceedings.

In addition, Mission:data strongly believes that functions #1 through #4 should be considered first in this docket because all other questions posed in Staff’s scoping comment solicitation are dependent upon defined functions of a state-wide data platform. The Commission cannot make informed decisions about platform governance, data accuracy, privacy, and eligibility criteria for third parties seeking access to certain information without knowing *what* data are involved and for *what purpose* it is sought. Therefore, Mission:data strongly recommends that the March 18, 2020 technical session focus exclusively on the functions for the state-wide data platform, prior to any other questions being addressed.

2. What level of energy data granularity appropriately balances costs of collecting, storing, and transmitting energy data with the incremental benefits of increased granularity?

Answering this question depends upon the intended meaning of “energy data granularity.” Mission:data assumes the phrase refers to energy *usage* granularity – in other words, kilowatt-hours of energy consumed in time intervals of 30 days, 60 minutes, 15 minutes or 5 minutes. (“Energy data granularity” could also refer to grid data at various spatial scales; Mission:data assumes that is not the intended meaning.)

Mission:data strongly believes in a “best available” standard for energy usage interval data. The “best available” standard means that the shortest interval of usage data that is collected by the metering and information technology (“IT”) systems of the utility – whatever that interval may be – should be made available to both customers and customer-authorized DERs. In Mission:data’s view, a state-wide data platform should not mandate that participating utilities alter their metering or information technology (“IT”) systems in order to achieve a common time interval due to a

Commission order in the present docket. Mission:data's reasoning is simply that the present docket is not intended to impose wholesale, multi-million-dollar meter replacement requirements upon utilities. Utilities in other jurisdictions have often been found to have different time intervals programmed into their meters – whether advanced metering infrastructure (“AMI”), automated meter reading (“AMR”) systems, or conventional digital or electromechanical meters – across various customer classes; Mission:data believes that, at this early stage, requirements to substantially modify or replace utilities' existing metering and IT systems should be determined in other dockets. Mission:data notes that, in competitive areas of Texas, virtually all electric meters are required by Commission rules to collect energy usage data at 15-minute intervals. This standardization was important to the efficient operation of the Texas market, but most pertinent to this case is the fact that the Public Utility Commission of Texas's Substantive Rules 25.130, which requires 15-minute collection intervals, were put in place in 2007, *before* legislation authorized widespread AMI deployment. It was easy and cost-effective to standardize the time interval before advanced meters were installed because Texas utilities' requests for proposals for AMI could include such requirements. In contrast, New Hampshire utilities have a mix of AMI, AMR, conventional meters and interval data recorders (“IDR”) for certain customers. While Mission:data believes that standardizing New Hampshire utility meters on consistent time intervals is a worthy and noble goal, Mission:data believes it would be inappropriate for this particular docket to introduce requirements that would implicate large-scale infrastructure replacements.

3. How often should the data be updated?

Whether in regard to energy usage data, billing data, account data, or other customer-specific information, Mission:data believes the update frequency that provides the greatest value to ratepayers is “as soon as possible.” As mentioned above, Mission:data does not believe it is appropriate for this docket to trigger large infrastructure modifications on the part of utilities, and so it would be unwise

to specify a hard-and-fast rule for update frequency. However, given the metering and IT systems a utility has installed, the utility should be required to promptly update the state-wide data platform with information gathered or processed by the utility.

As for energy usage data specifically, it is important to discuss energy usage data latency. Generally speaking, low latencies have been shown to lead to greater energy conservation outcomes than high latencies. This is because consumers can learn more effectively about the energy usage of appliances and devices with near-real-time feedback. For example, a meta-analysis of 57 energy information feedback studies by the American Council for an Energy Efficient Economy (“ACEEE”) found that monthly feedback on utility bills could generate energy savings of 2% - 3.8%, whereas real-time feedback could generate energy savings of 9.2%.¹

While lower latencies are preferred, it is important to note the different levels of energy usage data *quality* that are found in utilities’ IT systems. For example, usage data collected by a meter is considered “raw” and is not used for billing until it has gone through a processing operation known as validation, editing and estimation (“VEE”). VEE is essentially a set of rules necessary to fairly handle glitches and gaps in interval usage data. While “raw” usage data may be available every 4-6 hours from an AMI head-end system, VEE’d usage data may not be available until a batch process is executed by a Meter Data Management System, either once per day or once per month. In Mission:data’s experience, competitive suppliers are often concerned with “revenue-quality” interval meter data because settling energy procurement transactions is of paramount importance. However, DERs are not interested solely in revenue-quality usage data. If a DER could receive “raw” data on a much shorter timescale – keeping in mind that it may have some inaccuracies – that is a trade that most DERs are willing to make because the economically optimal operation of DERs depends upon

¹ Ehrhardt-Martinez, Karen, Kat Donnelly and John “Skip” Laitner. 2010. Advanced Metering Initiatives and Residential Feedback Programs: A Meta-Review for Household Electricity-Saving Opportunities. Washington, D.C.: American Council for an Energy-Efficient Economy.

rapid responses to changing conditions. Therefore, Mission:data strongly recommends that the Commission consider making “raw” usage data available to customer-authorized DERs as quickly as the utility receives it, in addition to the revenue-quality usage data following VEE.

As for billing data, it is typical for bills to be generated by utilities once per month. Therefore, Mission:data would expect billing data to be available in the state-wide data platform promptly after a bill is generated – say, within a few hours’ time. As for historical bills, they should be stored and available immediately to DERs electronically following customer authorization.

4. *Should the customer data platform focus only on energy usage data as measured at the meter, or include other data and/or data sources? If other data sources, how should those sources be included and at what cost?*

Mission:data strongly believes that other information besides energy usage data as measured at the meter is essential to be included in the state-wide data platform. The simple reason is that usage data alone is insufficient for customers to take advantage of many DERs. Lessons learned from other jurisdictions, such as Illinois, also provide a cautionary tale of how a narrow focus on usage data will prevent DERs from serving customers effectively.

DERs broadly, and Mission:data member companies in particular, provide a wide range of products and services to residential, commercial and industrial customers that require simple, convenient, and secure access to customer information *other* than usage data. Consider the following examples:

- Utility bill management services are a multi-hundred-million-dollar-per-year industry in the U.S., helping commercial customers gather, analyze and manage their utility costs. For at least a decade, the electric utility industry’s “national accounts” – that is, large, multi-site commercial customers with locations across the country – have complained to utilities and the Edison Electric Institute about the lack of consistency among utilities in accessing their billing information. Many publicly-traded

companies are required by their investors to submit environmental, social and governance (“ESG”) reports with enterprise-wide energy usage and cost statistics, meaning that consistent access to billing information is a critical business requirement.

- Demand response (“DR”) applications require account, rate and wholesale market information in order to function. In California, for example, residential customers are only eligible to participate in certain DR programs if they are not on a “peak day pricing” rate; therefore, third party DR providers cannot assess a prospective customer’s eligibility without knowing what rate the customer is on. In addition, the California Independent System Operator (“CAISO”) establishes requirements for registering DR locations in its resource adequacy market. These locations are not street addresses; they include the aggregation point or “pricing node” on the transmission system, information which, for all practical purposes, can only be obtained by the distribution utility. In part due to the difficulty that third party DR providers experienced in registering customers for DR with CAISO, the California Commission instituted a lengthy rulemaking proceeding which culminated in a definitive mandate of investor-owned utilities to provide demand response participation information to third party DR providers. That list is attached hereto.²

The best example of DERs’ need for electronic access to account and billing data, and not just usage data, comes from Illinois. Commonwealth Edison (“ComEd”) was ordered to implement GBC in 2017; the Illinois Commission’s order, and later ComEd’s tariff, were strictly limited to providing electronic access to energy usage data. ComEd’s tariff states, “a Third Party may access historical AMI Interval Data that are available for such retail customer for up to twenty-four (24) consecutive months via the Green Button Connect.”³ A Mission:data member serves retail chains in Illinois with a web-based energy analysis tool that helps owners and managers reduce their utility

² Excerpt from California Public Utilities Commission, “Customer Data Access Committee Whitepaper.” May 21, 2018.

³ See Illinois Commerce Commission Docket No. 14-0507, Final Order, dated July 26, 2017; ComEd Rate Data Access and Retrieval Tenets (DART). Effective 5/23/16, Sheet 226-229. Available at <https://www.comed.com/MyAccount/MyBillUsage/Pages/CurrentRatesTariffs.aspx>

costs. This firm registered to use ComEd's GBC system. However, ComEd's GBC turned out not to be useful, since these retail chains have multiple locations in and around Chicago; the firm would receive energy usage data files from ComEd, but could not ascertain *to which location* the energy usage was attributed. The firm described the effort of implementing support for ComEd's GBC as "a massive waste of time."

In 2017, Mission:data and the Advanced Energy Management Alliance published a whitepaper, "Energy Data: Unlocking Innovation with Smart Policy," that provides 10 recommendations for data portability policies.⁴ In the report, we put forth the following definition of CEI. Note that usage data is only one component of the information that should be electronically accessible to customer-authorized DERs:

- **Customer data:** Name, address, phone number, etc.
- **Billing data:** Information generally contained on bills and having to do with payment such as what rate(s) the customer is on, what retail provider the customer uses, billing cycle dates, account number(s), meter number(s), payment history, and line items of costs such as volumetric charges, delivery charges, demand charges, taxes, fees, etc. Utilities should support up to four (4) years of historic billing data, or the length of the time the customer has been at the premise in question, whichever is less.
- **Usage data:** Electric or natural gas usage in kilowatt-hours, cubic feet or therms, containing both "register reads" (i.e. representing the overall usage to date, equivalent to the dial positions of an older, analog meter) and "interval reads," also known as a "load profile," which is time-series energy use typically in hourly or 15-minute periods. Utilities should support up to four (4) years of historic usage data, or the length of the time the customer has been at the premise in question, whichever is less.
- **System data [necessary for participation in energy efficiency or demand response programs]:** This could include the customer assigned peak load contribution, energy and capacity loss factors, or other information needed for wholesale market participation.

⁴ Mission:data Coalition and Advanced Energy Management Alliance. "Energy Data: Unlocking Innovation with Smart Policy." December, 2017. Available at <http://www.missiondata.io/s/Energy-data-unlocking-innovation-with-smart-policy.pdf>

The above definition, “system data,” involves participation in EE or demand response (“DR”) programs. More recent definitions of this concept from other jurisdictions may be helpful.

Mission:data collaborated with North Attorney Attorney General Josh Stein in drafting a comprehensive data privacy and data portability rule which was submitted last month to the North Carolina Utilities Commission. The draft rule contained this definition for information that a utility must make electronically available to customer-authorized DERs:

any information that might be necessary for participation in, or to determine customer eligibility for, bill payment assistance, renewable energy, demand-side management, load management, or energy efficiency programs.⁵

In addition, reflecting the need of energy management firms to access customer information *other* than usage information in order to serve their customers, the Green Button Alliance, a non-profit which leads the technical development of the Green Button standard, has sought to increase the amount of customer information incorporated into the Green Button standard. In April, 2019, the North American Energy Standards Board (“NAESB”), an ANSI-accredited standards development organization, ratified an update to the Green Button standard that contains significant amounts of information other than energy usage data such as premise addresses, account details, demand response information, etc. Other utilities nationwide, such as in California and New York, are currently providing billing information, account numbers, premise addresses, and other data points to customer-authorized DERs. Furthermore, Ohio’s “Data and Modern Grid” working group recently made recommendations to the Ohio Commission that include the provision of account numbers, customer address, and other account information in addition to energy usage data.⁶

⁵ North Carolina Utilities Commission Docket No. E-100, Sub 161. North Carolina Attorney General’s Office Proposed Rule R8-51 and Initial Comments, dated February 10th, 2020. Initial Comments available at: <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=333627b1-b94e-4624-87e5-c04bc3b07cca> Draft rule available at: <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=d4c63203-1607-4f07-a776-580639ab2260>

⁶ Final Report by Enernex to Public Utilities Commission of Ohio on behalf of the Data and Modern Grid Workgroup. November 20, 2019. Available at

To be clear, Mission:data does **not** believe that the data utilities should provide should be unlimited. The North Carolina Attorney General’s draft rule includes a definition of “unshareable personal data,” which Mission:data believes serves as a sound protection against identity theft and other potential violations of customers’ privacy:

"Unshareable personal data" means the birth date, social security number, biometrics, bank and credit card account numbers, driver's license number, credit reporting information, bankruptcy or probate information, health information, or network or internet protocol address of the customer or any person at the customer’s location. This personal information is specifically excluded from the definition of standard customer data and, as stated in subdivision (d)(9) of this Rule, will not be shared by a utility with any party other than the customer.

5. Is the energy data platform under consideration in this docket the appropriate mechanism to provide information on energy system data? Why or why not?

In Mission:data’s recommended list of nine (9) functions, presented above, grid data is expressly excluded. This is for two reasons. First, Mission:data notes that “grid data,” or any similar references thereto, does not appear anywhere in the text of Senate Bill 284 (SB284), which led to the creation of this adjudicative proceeding. Instead, SB284 references “individual customer data,” which it defines as “the customer's name, address, opt-in status pursuant to RSA 374:62, energy usage as recorded by meters supplied by electric and natural gas utilities, and other data segments established and authorized by the commission.” Since grid data involves attributes of the power system that involve multiple customers, such as distribution feeders that serve multiple end users, it is clear that grid data cannot be “individual customer data” as defined in SB284 because it does not pertain to any individual customer. Based upon the plain language of SB284, Mission:data concludes that the General Court of New Hampshire did not intend the present docket to consider grid data.

Second, in our experience, grid data in other states has been the subject of extensive, years-long dockets of immense complexity. The potential release of grid data to non-utility entities necessarily requires consideration of confidentiality, the risks of disclosure to the safety and operation of the distribution grid, and extensive power engineering and planning processes. California's Distributed Resource Planning docket has been ongoing since 2016, for example. Mission:data believes that DERs can benefit from access to grid data in certain circumstances; however, we do not believe the present docket is an appropriate venue for considering grid data in the state-wide data platform at this time because, in addition to grid data not being mentioned in the enabling legislation, focusing on grid data would necessarily introduce substantial delays in the present docket, preventing Commission action on "individual customer data" cited in SB284. For these reasons, Mission:data believes that grid data is, and should be, outside the scope of this proceeding.

C. Response to "Database Structure and Management" Scoping Comment Solicitation

- 1. Please describe any preferred approaches to governance, development, implementation, change management, and versioning of the platform.*

Mission:data believes these are very complex topics that are best discussed in upcoming technical workshops, once the initial list of prioritized functionalities has been established (see functions #1 through #4 described above). At the outset, however, Mission:data believes it is important to learn from other jurisdictions in answering this question. Texas provides a helpful case study. Smart Meter Texas ("SMT") is owned and maintained by four transmission and distribution utilities in Texas. While its design was very thoughtful and forward-thinking, it suffered from implementation problems, including an extremely poor user experience and system outages that lasted for hours, days or weeks at a time. In Mission:data's judgment, much of the problems stemmed from the utilities' contract with IBM to implement SMT. The contract with SMT was signed well before the business

requirements were well known, a factor which undoubtedly led to “short-changing” the implementation once detailed requirements were developed. After IBM won the contract, it had little incentive to improve SMT incrementally over time. For example, parties would ask for very minor modifications to improve usability, and IBM used its contract as leverage to extract exorbitant fees. As a result, the user experience was neglected and became so sub-standard that it became the topic of three proceedings before the Public Utility Commission of Texas (Project Nos. 46204, 46206 and 47472). Only after four years did the Texas Commission finally approve a comprehensive settlement agreement that required a dramatically streamlined user experience. More information about Texas is contained in an article, “5 Things You Should Know About Smart Meter Texas,” attached hereto.

In addition, Mission:data provides a table of different jurisdictions and their policy and technical approach to managing data portability, attached hereto.

2. Please describe any preferred standards for data accuracy, retention, availability, privacy, and security.

Regarding accuracy and retention, see Mission:data’s comments above, in which we stated that four (4) years of historical energy usage and billing information should be available. As for accuracy, it is extremely important that the information in the state-wide repository be continuously accurate, and that if there are inaccuracies, those should be immediately remedied.

Regarding availability, Mission:data has, in our 2017 report “Energy Data” cited above, recommended a 99.9% uptime requirement, as measured on a monthly basis. This is due to the poor uptime seen in early implementations of SMT and other similar systems across the country. Mission:data notes that virtually all modern IT systems today come with a “service level agreement” that guarantees availability above a certain percentage. Failure to meet those uptime targets should subject the operator of the platform to financial penalties.

Finally, regarding privacy and security, Mission:data strongly recommends the Commission consider the North Carolina Attorney General's Office draft rule mentioned previously. As a comprehensive, 16-page rule, we are unaware of any other state that has proposed as thorough a set of requirements as North Carolina has.

4. *Please comment on the definitions of the terms “common base of energy data,” and “user friendly interface,” and describe how they relate to preferred database structure and management approaches.*

Regarding “user friendly interface,” Mission:data has spent considerable time over the past three years addressing these issues. Regrettably, user experience has been neglected in virtually every utility's implementation of Green Button Connect over the past five years, requiring extensive remediation efforts. A lengthy proceeding in California resulted in user experience requirements that can be succinctly described as “two screens, and two clicks.”⁷ In other words, a customer should be able to authorize access to a third party DER on a website with only two web pages (one for authentication, one for authorization) and two “clicks” of the mouse. The web pages must be optimized for mobile devices as well as desktop computers. These requirements were established because Southern California Edison's original implementation of GBC involved over ten (10) screens, a dozen or more clicks, and it was virtually unusable on mobile web browsers. Mission:data's recommendation is that New Hampshire's state-wide data platform **must** meet user experience requirements and best practices as they evolve.

For reference, Mission:data strongly encourages all parties and the Commission to read our 2019 report, “Energy Data Portability: Assessing Utility Performance and Preventing ‘Evil Nudges,’”

⁷ Resolution E-4868. California Public Utilities Commission

which describes how poorly designed user experiences can dramatically hinder customer adoption of DERs.⁸

D. Response to “Costs and Benefits” Scoping Comment Solicitation

1. *What are the likely incremental benefits and costs of a single statewide database compared to utility specific energy data access mechanisms?*

On this topic, we strongly believe that centralization in some form is important. The common problem seen by our 30 members across utilities with different data portability systems is that there is a non-trivial cost to (i) integrating with each utility’s IT system in the first place and (ii) managing that IT connection over time. These are costs that are eventually passed on to customers who use DER products and services. If the number of connections can be reduced, then costs to customers will be cut accordingly. This is precisely the reason why Texas opted to build Smart Meter Texas – the reduction of marginal costs associated with exchanging information.

E. Response to “Obligations of Database Users” Scoping Comment Solicitation

The following response applies to questions #1 through #4 in this sub-section.

Please see the attached table showing the “eligibility criteria” for third party DERs established in other jurisdictions. Mission:data believes that California’s requirement is the best and simplest, and we note it has been copied by other states as well. California requires that third party recipients of individual CEI with consent (i) provide their contact information to the utility, (ii) agree to the Commission’s privacy rules, (iii) demonstrate technical interoperability and (iv) not be on the list of “banned” third parties as maintained by the Commission. For more information on

⁸ Mission:data Coalition. “Energy Data Portability: Assessing Utility Performance and Preventing ‘Evil Nudges.’” 2019. Available at <http://www.missiondata.io/s/Energy-Data-Portability.pdf>

California's eligibility criteria and enforcement process against "bad actors," see Decision D.13-09-025 from the California Public Utilities Commission.

Finally, we note that the North Carolina Attorney General's draft rule incorporates California's eligibility requirements, but adds a fifth requirement: Data recipients must be a signatory to the Department of Energy's "DataGuard" privacy standard. Mission:data supports adherence to DataGuard as a reasonable customer protection measure.

As for registration or certification timeframes, Mission:data believes registration should be indefinite, until terminated by the Commission. It is important that the Commission – and not a utility – be the entity that can terminate or revoke registration of a third party data recipient, in order to ensure third party's due process rights. Other jurisdictions that do not afford due process rights to third parties have created so much business risks and uncertainty to third party DERs that the GBC systems have been little used.

As for non-disclosure agreements ("NDA"), Mission:data notes that NDAs can create conflicts with a customer's wishes. While an NDA to protect customer privacy sounds reasonable enough on its face, the reality is that NDAs in other jurisdictions – such as New York, where the utilities unilaterally imposed strict NDAs on third party DERs in 2018 – can, by being too broad, contravene the intentions of customers. For example, suppose a customer wishes to send their data to a solar company, "Acme Solar." Acme Solar, in turn, goes to multiple rooftop solar installers to receive price quotes. The customer authorizes Acme Solar to exchange his or her information with multiple installers in order to receive the price quotes. This would run into direct conflict with an NDA that might forbid Acme Solar from exchanging customer information with any entity. For these reasons, Mission:data argues that utilities should not be permitted to require NDAs. Instead, the Commission should determine a set of privacy standards that protect customers while also giving customers the ability to access products or services through multiple levels of vendors. Mission:data has termed these vendors as "Nth parties," extending the concept of third parties, fourth parties, and

fifth parties, etc. Our recent paper discusses both legal and technical mechanisms to address these issues.⁹

Finally, as for financial security standards, Mission:data is strongly opposed to financial requirements of any kind for DERs that receive CEI with customer consent. This is because no other jurisdiction in the U.S. today requires it, and imposing a financial requirement such as a fee or surety bond would put New Hampshire out of step with every other state in the country. Part of the success of low-cost DERs that help customers and utilities alike is having a consistent market in which consumers can benefit from economies of scale; that requires some level of consistency among jurisdictions. To date, all other jurisdictions that have considered financial requirements for DERs have ultimately rejected them because they were not necessary to meet the ultimate goals of consumer protection. Instead, Mission:data believes that reasonable privacy policies, such as the North Carolina Attorney General’s draft rule, or the DataGuard privacy standard, should be adopted.

Mission:data appreciates the opportunity to file these comments and looks forward to working with the parties on these important topics in the months ahead.

Sincerely,

_____/s/_____
Michael Murray, President
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⁹ “Beyond Third Parties: Promoting Innovation Through Energy Data Sharing With ‘Nth’ Parties.” Mission:data Coalition and Flux Tailor. October, 2019. Available at <http://www.missiondata.io/s/ThirdPartiesAndBeyond-s4wb.pdf>

March 11th, 2020

Certificate of Service

I hereby certify that a copy of this *Scoping Comments of Mission:data Coalition* was provided via electronic mail to the individuals included on the Commission's service list for this docket.

_____/s/_____
Michael Murray

APPENDIX D:

Rule 24/32 Expanded Data Set

EXPANDED RULE 24/32 DATA ELEMENTS	
Account Elements	Bill tier breakdown (if any)
Account name (ACME INC. or JOE SMITH)	Name (Over Baseline 1%-30%)
Account address (123 OFFICE ST...)	Volume (1234.2)
Account ID (2-xxx...)	Cost (\$100.23)
Outage block (A000)	Bill TOU kwh breakdown (if any)
Service Elements	Name (Summer Off Peak)
Utility Unique Identifier	Volume (1234.2)
Service ID (3-xxx...)	Cost (\$100.23)
Service address (123 MAIN ST #100...)	Bill demand breakdown (if any)
Service tariff (D-TOU)	Name (Summer Max Demand)
Service voltage (if relevant)	Volume (1234.2)
Service meter number (if any)	Cost (\$100.23)
# of Service meters	Bill line items (sum should equal bill total charges above)
Meter Read Cycle	
Sub-Load Aggregation Point (Sub-LAP)	Charge name (DWR Bond Charge)
Pricing Node (PNode)	Volume (1234.2)
Known future changes Status of Service	Unit (kWh)
Service tariff options (CARE, FERA, etc.)	Rate (\$0.032/kWh)
Known future changes to Sub-LAP	Cost (\$100.23)
Known future changes to PNode	Tracked line items
Local Capacity Area	Charge name (e.g. Net In/Net Out)
Known future changes Local Capacity Area	Volume (1234.2 in kWh)
Standby Rate Option if On-Site Generation	Unit (kWh)
Customer Class Indicator	Rate (\$0.032/kWh, if any)
Billing Elements	Cost (\$100.23, if any)
Bill start date	Historical Intervals
Bill end date	Start
Bill total charges (\$)	Duration
Bill total kWh	Volume (1234.2)
	Unit (kWh)

EXPANDED RULE 24/32 DATA ELEMENTS (CONTINUED)	
Utility Demand Response Programs	Service Providers
Program Name	LSE
Earliest End Date w/o penalty	MDMA
Earliest End Date regardless penalty	MSP
Capacity Reservation Level (CRL) for CPP/PDP customers	Known future changes to LSE
	Contact Information for LSE, MDMA, MSP
DR Program Nomination if fixed	
DATA ELEMENTS NOT REQUIRED IN EXPANDED DATA SET (ALL 3 IOUs)	Historical Bills (PDF)
	Payment Information
DATA ELEMENTS NOT REQUIRED IN EXPANDED DATA SET (SCE ONLY)	Service Elements
	<i># of Service Meters</i>
	<i>Standby Rate Option if On-Site Generation (but "S" indicated in rate schedule)</i>

MISSION:DATA

empowering energy savings

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5 THINGS YOU SHOULD KNOW ABOUT SMART METER TEXAS

September 22, 2017
 by [Michael Murray](#)



#1. SMT'S CONCEPTUAL DESIGN WAS AHEAD OF ITS TIME.

In 2008, while some states' smart meter deployments were delayed by large protests, and other utilities struggled to understand and operationalize “big data” concepts for the first time, Texas embarked on what is still today a cutting edge design: a centralized web portal across most of the state. In addition to supporting some retail functions such as same-day switching between suppliers, SMT was designed from the beginning to (i) centralize all data collected by AEP, Centerpoint, Oncor and TNMP, (ii) provide data to customer-authorized third parties through a standardized interface, and (iii) support Home Area Network (HAN) device provisioning. Texas was then what California is now -- a

national leader in smart grid. Texas utilities gave presentations about their lessons learned to utilities and commissions across the country. A report called “Understanding Smart Meter Texas” showed the system architecture:

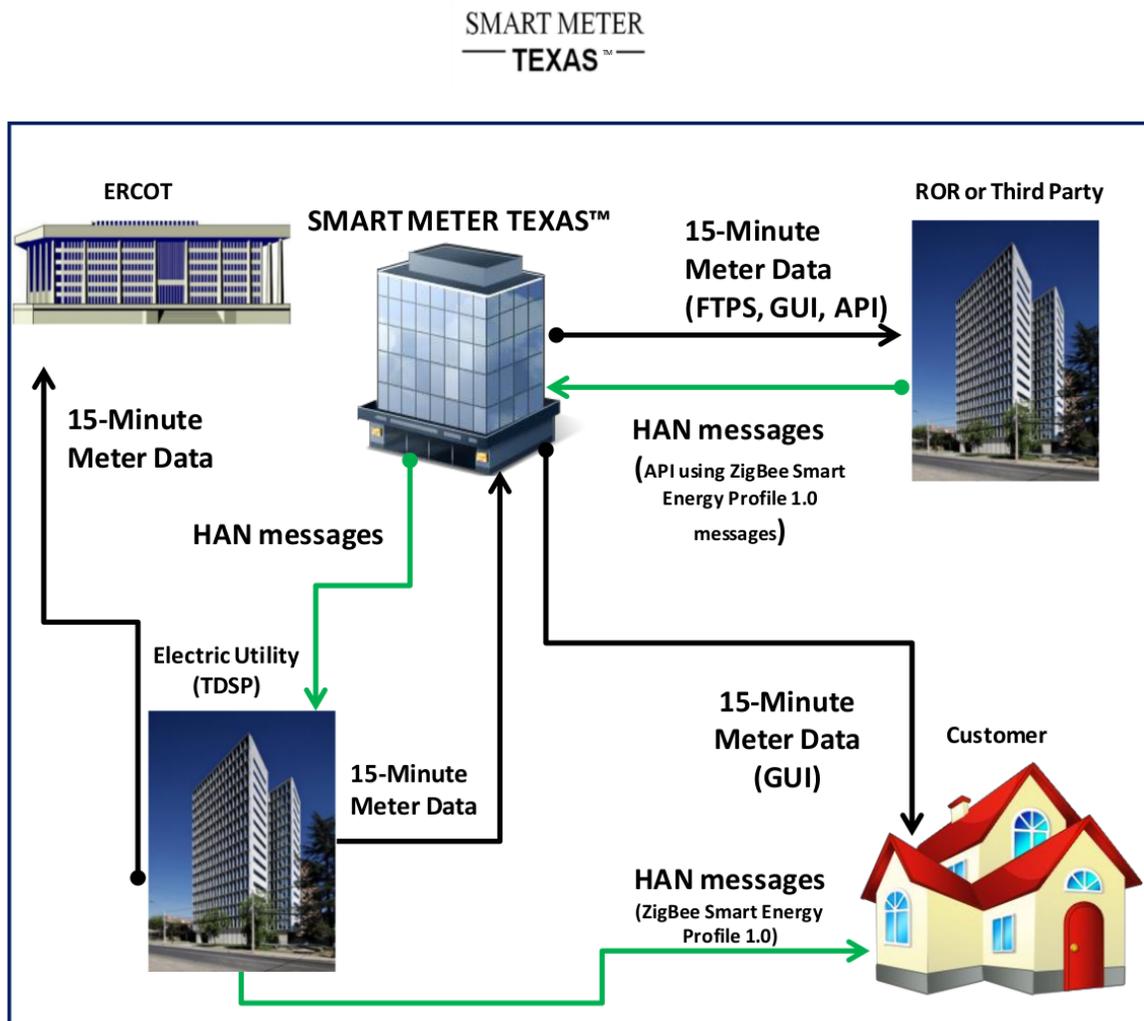


Figure 24: SMT Key Points of Interoperability and Interfaces

#2. TEXAS’S LAWS AND RULES SEEMED PERFECT.

It is difficult to find a state besides Texas whose laws and regulations are better suited to accommodate data access and support energy entrepreneurs. Going back to 2005, the state legislature declared that “all meter data...shall belong to a customer,” eliminating many ownership claims by utilities or REPs that would have otherwise had a chilling effect on the market. Texas also makes third party access a requirement. PUC rule §25.130(j), in a section titled “Access to meter data,” says:

“An electric utility shall provide a customer...and other entities authorized by a customer read-only access to the customer’s advanced meter data, including...historical load data, and any

other proprietary customer information. The access shall be convenient and secure, and the data shall be made available no later than the day after it was created.”

Furthermore, Texas law explicitly endorsed the idea of using advanced meters to help customers manage their energy usage, not simply to provide operational benefits to utilities. [PURA §38.107](#) reads:

“It is the intent of the Legislature that net metering and advanced meter information networks be deployed as rapidly as possible to allow customers to better manage energy use and control costs...”

We’d kill to have these laws in other states.

#3. SMT WAS DESIGNED TO USE THE LATEST NIST STANDARDS, INCLUDING GREEN BUTTON CONNECT.

Having fought for Green Button Connect (GBC) in Texas since 2014, we were quite surprised to find that a 2013 [“final business requirements”](#) document includes OpenESPI, a technical term for GBC.

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Wow. Just wow. 2013 Smart Meter Texas requirement calls for Green Button Connect (OpenESPI), yet never implemented. Great oversight, folks!

Green Button Requirements	
BR-306	Ability for 3 rd parties to use Green Button functionality to access customer data (e.g. Open ADE, Open ESPI, etc.)

1 1 1

But GBC was never implemented. Instead, Green Button Download My Data was added to SMT, and business requirement #306 was forgotten.

The utility trade association, Edison Electric Institute, acknowledged the fundamental challenge facing Download My Data, [writing in 2012](#): “The downloading process is a barrier....Connect My Data will become the norm.”

#4. GOOD LAWS AREN’T ENOUGH. IMPLEMENTATION MATTERS.

Unfortunately, even under the best regulatory framework, IT systems don’t solve their own problems. The management of SMT has left much to be desired. The November, 2014 unveiling of SMT to third parties was very rocky. One outage lasted for two full weeks, cutting off data access entirely. And [technical support for third parties has been poor](#). Unfortunately, problems are experienced by

customers, too, not merely third parties: **According to an analysis of help desk records for the past 12 months by Mission:data, 59% of nearly 5,000 support tickets involve problems accessing or using the website.** Problems include not being able to find the correct meter, web browser errors and being unable to reset a lost password. The subpar user experience created by Texas utilities gives entrepreneurs a feeling a helplessness: even the best smartphone app in the world will flop if its success depends upon customers logging in to a poorly-designed utility website.

#5. REFORM IS UNDERWAY.

After three years and as many dockets at the PUCT considering the funding, performance and third party access components of SMT, no reforms have yet been made. A new case promises to finally put issues of policy and implementation to rest. [Project 47472](#) is a contested case with utilities, REPs, consumers and third parties. The current SMT vendor, IBM, has a contract that expires in 2018, so the opportunity is to “reset” SMT with a clean slate. Mission:data seeks reforms in the areas of service quality, performance tracking and accountability, full implementation of Green Button Connect, and an excellent user experience. Mission:data looks forward to working on these issues this fall in order to bring the most advanced energy management technologies to 7 million Texas consumers.



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Leon 6 months ago · 0 Likes

Thanks for the detailed information.

Using SMT web site to monitor data is like driving a car by only looking at what happened in the rear view mirror 2 days ago. The almost 48 hour delay in data is pathetic in this day and age. While using the Home Area Network and a good 3rd party device is a much better approach to getting real time data, it also has it flaws. Oncor is very reticent in their support and always assumes the issue is on the consumer side (probably for good reason). I've been using two approved, 3rd party devices for 3 years with good results on the HAN, but one recent morning both disconnected at exactly the same time from the Zigbee meter network. Even though SMT says it is ready to accept my smart units back into the HAN, neither device ever sees the Zigbee network (within 3' of the meter). I am going on three weeks with no HAN connection.

I am also 5 calls into Oncor in this same time period. I finally had to quote chapter and verse of the PUC rule to them requiring Oncor to provide me a working HAN for connecting. After three weeks of cajoling, begging and finally convincing them I know what I am talking about (I am a degreed engineer that supports various network environments for a living), they will have someone contact me within two work weeks to setup an appointment to come out and check my meter. What a pain!

I have invested quite a bit of time writing smart home management software to manage power usage based on the meter HAN interface working reliably. It's worthless if Oncor can't/won't fix their end. I cannot imagine if this happened to a typical customer just wanting to monitor their power usage. They'd be lost.

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Regional Comparisons of Data Access

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Comparison of States With Data Access Policies Enacted:

G	Green = very good
Y	Yellow = mixed
R	Red = poor

	<u>California</u>	<u>Colorado</u>	<u>Illinois</u>	<u>New York</u>	<u>Texas</u>
<i>Date that utility I.T. systems were implemented for third party use</i>	2016	2021	2018	2019 (ConEd only)	2016
<u>Policy Attributes</u>					
Data access must be centralized across utilities	R	R	R	R	G
No utility liability for a third party's misuse of customer data	G	G	G	R	G
Simple third party eligibility criteria established by the Commission	Y	G	G	R	G
Utility system uptime/performance is tracked & reported	Y	R	R	R	G
<u>Technical Attributes</u>					
Consistency between utility implementations	Y	n/a	Y	n/a	Y
Certified by Green Button Alliance	R	Tbd	R	R	n/a
Outage/downtime notices are provided	Y	Tbd	Y	R	G
Retail Customer information is provided, such as account/billing information	Y	Tbd	R	Y	n/a
Tariff information provided	G	Tbd	R	G	n/a
Sandbox provided	Y	Tbd	Y	G	G
Utility participates in standards development committees	Y	R	R	R	R
OAuth2.0 support	Y	n/a	R	R	n/a

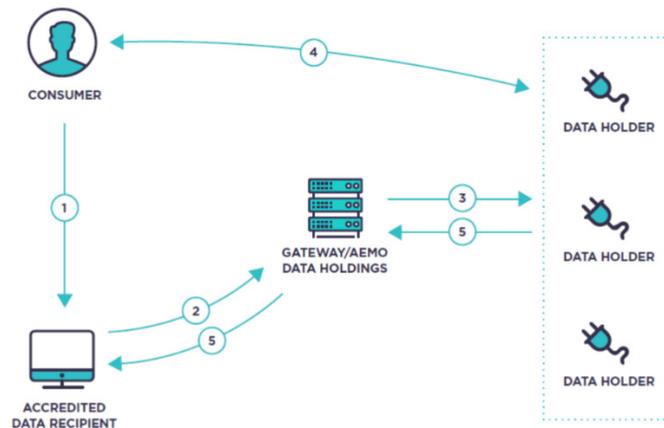
Support for Third Parties	<u>California</u>	<u>Colorado</u>	<u>Illinois</u>	<u>New York</u>	<u>Texas</u>
Thorough online documentation	Y	n/a	R	R	Y
Quickly facilitates onboarding of Third Parties	Y	n/a	R	R	Y
Support tickets/bug tracking system	Y	n/a	R	R	G

Customer experience	<u>California</u>	<u>Colorado</u>	<u>Illinois</u>	<u>New York</u>	<u>Texas</u>
Responsive HTML to different screen sizes/devices	Y	n/a	Y	Y	Y
Support “alternate authentication” if a customer does not want to create an online utility account	Y	n/a	R	R	G
Streamlined authorization in less than 2 screens and 2 “clicks”	Y	n/a	Y	Y	G

Other Regions Investigating Data Access:

Australia’s federal government is implementing a comprehensive data access scheme. This is one of the best models because (i) third parties are centrally “accredited” (licensed) across the country; (ii) user authorization is consistent and centralized, which will dramatically streamline customer education efforts; and (iii) APIs are standardized so that “data holders” (i.e. network utilities) must provide data via identical methods across the country.

High-level transaction flow (third party access):



The European Data Alliance is working toward standardized access to energy data across the continent pursuant to a European directive. The exact nature of the standard, and how it is centralized, is yet to be determined. <https://www.dataalliance.eu/>

Green Button Connect: State-Level Policy Summary

<i>State</i>	<i>Who submits consent to the utility – the customer or third party?</i>	<i>Technical standard required by Commission</i>	<i>Scope of data</i>	<i>Third party eligibility criteria</i>
California (E-4868, D1309025, Rule 24/32)	“Click-Through” process adopted allows customer to begin and end enrollment on Third Party website	Green Button Connect (GBC), Use Case 2.	48 months interval usage history, ongoing 15- or 60-minute readings, billing and account info, tariff, DR participation info, Home Area Network.	Provide contact info, agree to privacy terms, must not be on the Commission-maintained list of “banned” third parties.
Colorado (16A-0588E, 18A-0194E)	Customer. The customer needs to log into the utility’s website to grant an authorization.	“A nationally-recognized open standard and best practice.” GBC today, and utility has burden to prove GBC is no longer appropriate.	Usage history, near-real-time 15-minute readings and Home Area Network.	None. Rule 3027(e) says, “Nothing in these rules shall limit a customer’s right to provide his or her customer data to anyone.”
Illinois (17-0123, 15-0073, 14-0507)	Customer.	Green Button Connect (GBC)	24 months interval usage history, ongoing 30-minute readings every day, and Home Area Network	None
New York (15-M-0180, 14-M-0101)	ConEd supports customer submissions today, but PSC orders call for third party submissions as well	“Green Button Connect or alternate standard with similar functionality”	24 months interval usage history (marked actual, estimated or billed), ongoing 5- or 15-min readings, service address, electric account number, meter numbers, “ICAP” tag, rate class	Third parties required to sign Data Security Agreement (DSA).
Texas (47472)	Third party; SMT then emails the customer a link to confirm	Green Button API ¹	24 months interval usage history, ongoing 15-minute readings (billing data not available)	Must agree to SMT Terms and Conditions.

¹ Texas deviates slightly from the standard in order to accommodate Texas’s unique market structure in which the retailers hold the consumer relationship, not the utility. Thus, the Green Button APIs are used, but not the authorization standard within Green Button Connect known as “OAuth.”

<i>State</i>	<i>Standard authorization language for customers</i>	<i>Commission jurisdiction over third parties</i>	<i>I.T. performance monitoring & transparency</i>	<i>User experience requirements</i>
California	None (except for lengthy privacy policy).	Commission claims jurisdiction over any entity receiving utility-held data about 11 or more customers per D.11-07-056, but courts have not yet weighed in.	Website must show real-time performance statistics including availability, “funnel” metrics and start-to-finish times.	Extensive: 2 screens and 4 clicks (see E-4868), no account required at utility website, optimization for mobile devices required.
Colorado	Yes, approved in 15A-0789E.	None.	Annual testing and reporting on I.T. system availability and performance metrics.	Xcel will work to “minimize the number of screens and clicks required” and minimize the time lag between authorization and data transmission.
Illinois	Yes, approved in 15-0073.	None.	None.	None.
New York	None	Commission claims jurisdiction: DER Business Practice Manual; “truth in advertising” (15-M-0180 DER Oversight Order, Oct 19, 2017)	None.	None.
Texas	Yes	None.	99.5% uptime requirement and monthly reporting on various metrics.	Detailed specifications include: no online utility account requirement, one click to confirm from email link.