

DE 19-197 Statewide Multi-Use Online Energy Data Platform Use Cases Proposed by Local Government Coalition (LGC) City of Lebanon, Town of Hanover, Samuel Golding, Kat McGhee, and Patricia Martin

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I. Introduction

Further to the scoping comments to the New Hampshire Public Utilities Commission as part of DE19-197 by the City of Lebanon, Town of Hanover, and Samuel Golding, this document serves to identify a number of use cases for the development of a statewide multi-use online energy data platform.

This document is organized as follows.

- Section II entitled “Preliminaries” provides some common definitions to technical terms used in this document.
- Section III entitled “Data Platform Access” discusses the need for a data platform that is accessible to wide variety of grid stakeholders. It includes Use Case 1.
- Section IV entitled “Use Cases Taxonomy” discuss the need to classify use cases so that the complete set is mutually exclusive and collectively exhaustive. Doing so greatly facilitates downstream technical implementation.
- Section V entitled “Uses-Cases – Community Power Aggregators” focuses on the use cases necessary to support the implementation and operation of community power aggregators (CPAs). The uses cases are derived directly from the RSA 53-E as amended by SB 286.
- Section VI entitled “Use Cases – Exchanged Electricity Services” focuses on the exchanged electricity services defined in Use Case 4. It identifies a number of electricity services that a NH CPA would likely implement in the near term and then derives the associated use case.
- Each of the Appendices A-Q includes one use case table for each of the use cases identified in Section III-VI.

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- Appendix R include some potential functionalities that we expect to find in a statewide multi-use energy data platform (as identified by Greentel).
- Appendix S provides illustrative draft administrative rule language relating to use cases 2-4, an earlier draft of which was presented at a PUC led stakeholder meeting on CPA rules.

II. Preliminaries

Definition 1 – Meta-Data Model: A meta-data model includes 1.) a set of data fields that are populated with instantiated numerical and textual data 2.) a set of classes which serve as containers of data fields and 3.) a set of relationships between the data fields and their classes.

Definition 2 – Data Platform Implementation: The governance, development, technical implementation, change management, and versioning of the meta-data model and its instantiated data.

Definition 3 – Use Case: A written description of how users will interact with and perform tasks on an information technology system or application. It outlines, from a user’s point of view, a system’s behavior as it responds to a request. Each use case is represented as a sequence of simple steps, beginning with a user's goal and ending when that goal is fulfilled⁷.

III. Use Cases – Data Platform Access

First, we recognize that such a statewide multi-use online energy data platform must serve all New Hampshire energy stakeholders including specifically those represented on this docket’s service list. Fifteen categories of stakeholders are identified here. Such service necessarily creates interfaces between all of these stakeholders and the data platform itself as shown in Figure 1. Use Case #1 follows straightforwardly:

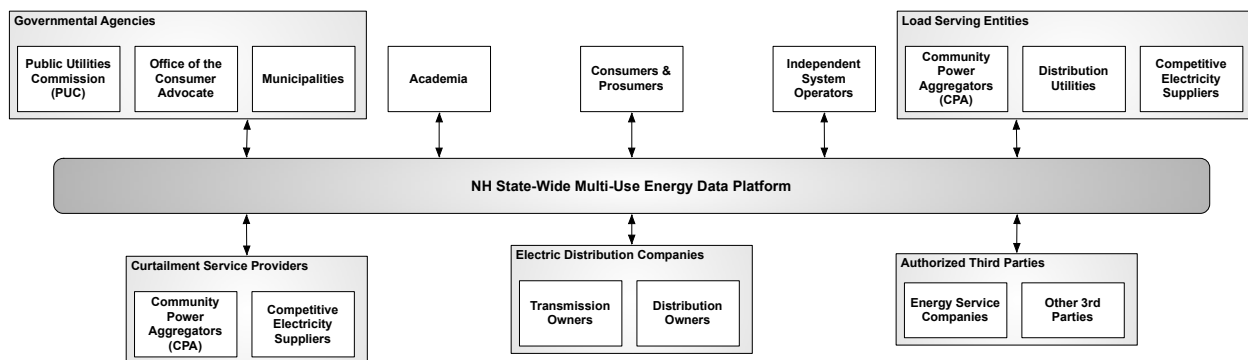


Figure 1. Interfaces between a NH State-Wide Multi-Use Energy Data Platform and NH Energy Stakeholders

⁷ Adapted from: <https://www.usability.gov/how-to-and-tools/methods/use-cases.html>

Use Case 1: Stakeholder Access The NH State-Wide Multi-Use Energy Data Platform shall provide stakeholder-appropriate, secure, and interoperable access for each of the stakeholder categories identified above.

Here “stakeholder-appropriate” means that each of the categories of stakeholders will have a specific “role” in the data platform that gives them read, write, append, or no-access to the platform’s data.

Here “secure” means that the platform will utilize IT security mechanisms such as passwords and two-factor authentication.

Here, “interoperable” means that the data shall be provided in human-readable and machine-readable formats according to established electric power grid standards such as the Common Information Model published by the IEC.

The associated NH PUC Use Case Table is found in Appendix A.

IV. Use Cases Taxonomy

Given the above, NH energy stakeholders can expect that the NH State-Wide Multi-Use Energy Data Platform will have to serve a wide variety of use cases beyond access. The number of use cases will likely proliferate. In order to support downstream software engineering efforts, the final set of use-cases must be mutually-exclusive and collectively exhaustive. Consequently, it is important to classify use cases by life cycle stage: operations, operations improvement, and life-cycle stage. Drawing on the uses cases identified in the scoping comments, we offer examples of each type in Figure 2.

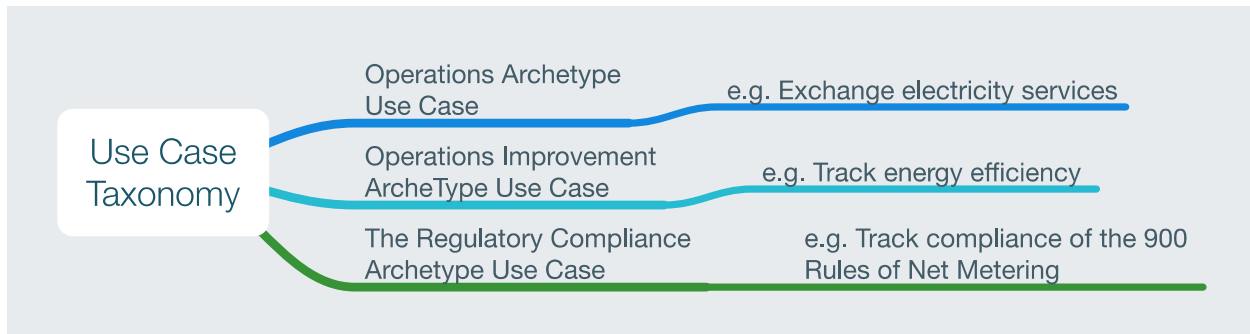


Figure 2. A Use Case Taxonomy Classified by Life Cycle Stage

For the remainder of this document, we focus on use cases that enable the successful operation of community power aggregators as legislated in SB 286.

V. Use Cases – Community Power Aggregators

The community power aggregator use cases are derived directly from RSA 53-E as amended by SB 286 (and other relevant statutes). The table below shows the relevant provisions and their associated use cases.

RSA 53-E & Other Statutory Provision	Associated Use Case
<p>RSA 53-E:6 “Electric Aggregation Plan. –</p> <p>I. The governing body of a municipality or county may form an electric aggregation committee to develop a plan for an aggregation program for its citizens. . . .</p> <p>II. The plan shall provide universal access, reliability, and equitable treatment of all classes of customers . . .</p> <p>III. The plan shall detail: . . .</p> <p>(f) How net metered electricity exported to the distribution grid by program participants, including for group net metering, will be compensated and accounted for.</p> <p>(g) How the program will ensure participants who are enrolled in the Electric Assistance Program administered by the commission will receive their discount.</p> <p>Also: RSA 38-D ENERGY COMMISSIONS, including RSA 38-D:4 re: Duties;</p> <p>& RSA 674:2 Master Plan; Purpose and Description. – including III (a), (c), (g), (i), (n), and (o) re: topics to include in Master Plans.</p>	<p>2. LOCAL GOVERNMENT COMMUNITY POWER PROGRAM, ENERGY, AND CLIMATE ACTION PLANNING.</p> <p>2.1 To enable planning and development of aggregation plans and other energy and climate action planning by local governments and RPCs, the data platform shall provide access to read aggregated historic (and current) monthly customer load data for each class of customer by municipality (and county) of where they take service. This data should be available to any electric aggregation committee created pursuant to RSA 53-E (as well as other governmental entities).</p> <p>2.2 The data platform shall also provide access to anonymized individual customer interval load data where such data is available with a granularity of an hour or less. This data should include groupings within each customer rate class of whether the customer is on utility provided default energy service or competitive supply for each month in the history, as well as counts of customers by rate class and supply type using net metering on in the EAP.</p>
<p>RSA 53-E:7, “Aggregation Program . . .</p> <p>II. If the plan is adopted or once adopted is revised to include an opt-out alternative default service, the municipality or county shall mail written notification to each retail electric customer within the municipality or county. To enable such mailed notification and notwithstanding RSA 363:38, after an aggregation plan is duly approved the electric distribution utility or utilities serving an</p>	<p>3. IMPLEMENTATION OF AN OPT-OUT COMMUNITY POWER PROGRAM</p> <p>3.1 The data platform shall be the repository of a current list of the names and mailing addresses of all electric customers taking distribution service within the municipality or county. CPAs and electric distribution utilities shall have read, write, and append access to this data.</p>

<p>adopting municipality or county shall provide to such municipality or county a current list of the names and mailing addresses of all their electric customers taking distribution service within the municipality or county. . . . IV. . . . Customers who are on default service provided by an electric distribution utility shall be automatically enrolled in an aggregation provided alternative default service if they do not elect to opt out. . . . New Customers . . . shall be given a choice of enrolling in utility provided default service or aggregation provided default service, where such exists. New customers shall be informed of pricing for each when they apply for service. Such new customers may also enroll with a competitive electricity supplier. New customers who do not make such a choice shall be enrolled in the default service of any geographically appropriate approved aggregation, or, if none exists, the utility provided default service.” ot elect to opt out.”</p>	<p>3.2 To enable such mailed notification and notwithstanding RSA 363:38, after an aggregation plan is duly approved the electric distribution utility or utilities serving an adopting municipality or county shall provide to such municipality or county a current list of the names and mailing addresses of all their electric customers taking distribution service within the municipality or county.</p> <p>3.3 The data platform shall provide customer access to read the data necessary to make an informed choice between utility provided default service, community aggregation services, and competitive electricity supplier service. This data includes the pricing information on these services. It also includes customers’ consumption and distributed generation data. (See Use Case 4)</p> <p>3.4 The data platform shall provide utilities, community aggregators, and competitive suppliers access to write and update data pricing information for these services.</p>
<p>RSA 53-E:3 “Municipal and County Authorities. . . .</p> <p>II “[CPAs have the authority to] provide for:</p> <p>(1) The supply of electric power.</p> <p>(2) Demand side management.</p> <p>(3) Conservation.</p> <p>(4) Meter reading.</p> <p>(5) Customer service.</p> <p>(6) Other related services.</p> <p>(7) The operation of energy efficiency and clean energy districts adopted by a municipality pursuant to RSA 53-F.”</p>	<p>4. OPERATION OF A COMMUNITY POWER AGGREGATION PROGRAM</p> <p>4.1 The data platform shall provide CPAs and customers the read, write, and append access to support the exchange of electric power services.</p> <p>4.2 The data platform shall provide CPAs and customers the read, write, and append access to support the exchange of demand side management services.</p> <p>4.3 The data platform shall provide CPAs and customers the read, write, and append access to support the exchange of conservation services.</p> <p>4.4 The data platform shall provide CPAs and customers the read, write, and append access to</p>

	<p>support the exchange of energy efficiency services.</p> <p>4.5 The data platform shall provide CPAs and customers the read, write, and append access to support customer service activities.</p> <p>4.6 The data platform shall provide the CPAs, and electric utilities (as owners/operators of metering systems) access to read, write and update customers’ consumption and distribution generation meter data.</p> <p>4.7 The data platform shall provide customers access to read their consumption and distributed generation meter data.</p>
<p>RSA 53-E:4, IV “For the purpose of obtaining interval meter data for load settlement, the provision of energy services, and near real-time customer access to such data, municipal and county aggregators may contribute to the cost of electric utility provided meter upgrades, jointly own revenue grade meters with an electric utility, or provide its own revenue grade electric meter, which would be in addition to a utility provided meter, subject to commission finding in the public good and approval of the terms and conditions for such arrangements, including sharing or transfer of meter data from and to the electric distribution utility.”</p>	<p>5. AMI INTERVAL DATA TO SUPPORT RTP & DR</p> <p>5.1 The data platform shall support near real-time interval meter data for load settlement (between the CPA, wholesale electricity market, and the CPA’s customers).</p> <p>5.2 The data platform shall support near real-time interval meter data for the provision of energy services (between the CPA and its customers) such as dynamic demand response.</p> <p>5.3 The data platform shall support customer’s read access of near real-time interval meter data.</p>
<p>RSA 53-E:3, II(b) “CPAs may exercise their new authorities on an individual basis, or may choose to standardize the provision of any and all services across multiple jurisdictions by “operating jointly pursuant to RSA 53-A”.</p>	<p>6. SUPPORT FOR CPA JOINT ACTION</p> <p>6.1 The data platform shall create equal access for jointly operated CPAs as for individually operated CPAs.</p>
<p>RSA 53-E: 4, VI “[CPAs are] subject to RSA 363:38 as service providers and individual customer data shall be treated as confidential private information and shall not be subject to public disclosure under RSA 91-A. An approved aggregation may use individual customer data to comply with the provisions of RSA 53-E:7, II and for research and</p>	<p>7. USE AND PROTECTION OF INDIVIDUAL CUSTOMER DATA</p> <p>7.1 The data platform shall provide CPAs access to individual customer data in a confidential manner and free from public disclosure.</p>

<p>development of potential new energy services to offer to customer participants.”</p> <p>The authority to use individual customer data for "research and development of potential new energy services" is a much broader authority, while the relevant provisions of RSA 53-E:7 more specifically relate to the notification by mail of (1) default service customers to be enrolled on an opt-out basis as well as (2) customers on competitive supply that must be offered CPA service on an opt-in basis</p>	<p>7.2 The data platform shall allow CPAs to use individual customer data to comply with the provisions of RSA 53-E:7.</p> <p>7.3 The data platform shall allow CPAs to engage R&D entities (academia, laboratories, and consultants) that support development of new energy services to offer to customer participants.</p>
<p>RSA 53-E:3-a “[CPAs are] expressly authorized to aggregate other services commonly and regularly billed to customers” [including] “combining billing for any or all utility services”.</p>	<p>8. EXCHANGE OF BILLING DATA</p> <p>8.1 The data platform shall <u>provide customer access to read the pricing information</u> in terms of its constituent components (e.g. energy, system benefit, regional access, distribution delivery, distribution demand, and service charges).</p>
<p>RSA 374-D:2 “Powers. – Municipalities may design, develop, acquire, and construct small scale power facilities at sites owned or leased by them or otherwise made available to them for a period at least equal to the term of any financing undertaken under this chapter. Municipalities may operate, or may enter into contracts for the operation of, such facilities on such terms and conditions as the governing board may determine. Power produced by such facilities may be transmitted and distributed by a municipality to any user of power or to any public utility, at such price and on such terms and conditions as may be agreed to by the governing board.”</p> <p>Also: RSA 362-A:2-a Purchase of Output by Private Sector.</p> <p>RSA 374-F:1, Purpose and RSA 374-F:3, II Customer Choice.</p>	<p>9. ENABLE RETAIL & INTRASTATE WHOLESALE ENERGY MARKET UNDER STATE JURISDICTION</p> <p>9.1 The data platform shall enable municipal producers of electricity to sell directly to CPAs, any retail customer, or any competitive electricity supplier that they can supply over the state jurisdictional distribution grid, without having to become a FERC jurisdictional interstate wholesale market participant.</p>

VI. Use Cases – Exchanged Electricity Services

The use cases identified above describe the exchange of electricity services. More specifically, Use Case 4 mentions the exchange of electric power services (4.1), demand side management services (4.2), conservation services (4.3), and energy efficiency services (4.4). Each of these sub-use cases must be further detailed because they each have their respective sets of data. Rather than offer an exhaustive list of exchanged services, we offer here a list of electricity services that a New Hampshire community power aggregator is likely to deploy in the near-term.

CPA Retail Electricity Service	Associated Use Case
<p><u>Default CPA Retail Electricity Service:</u> The CPA exchanges a number of consumed kilo-watt hours (active power integrated over time) in normal operating mode at a flat market rate (cents/kWh) with self-scheduled electricity consumers over a monthly billing cycle in the jurisdiction of the CPA.</p>	<p>10. Default CPA Retail Electricity Service Data</p> <p>The data platform shall provide the data that enables Default CPA Retail Electricity Service.</p>
<p><u>Net-Metered CPA Retail Electricity Service:</u> The CPA exchanges a number of generated kilo-watt hours (active power integrated over time) in normal operating mode at a flat market rate (cents/kWh) with self-scheduled electricity generators over a monthly billing cycle in the jurisdiction of the CPA.</p>	<p>11. Net-Metered CPA Retail Electricity Service Data</p> <p>The data platform shall provide the data that enables Net-Metered CPA Retail Electricity Service.</p>
<p><u>Time-of-Use CPA Retail Electricity Service:</u> The CPA exchanges a number of consumed kilo-watt hours (active power integrated over time) in normal operating mode at a market rate (cents/kWh) differentiated by the hour-block of consumption with self-scheduled electricity consumers over a monthly billing cycle in the jurisdiction of the CPA.</p>	<p>12. Time-of-Use CPA Retail Electricity Service Data</p> <p>The data platform shall provide the data that enables Time-of-Use CPA Retail Electricity Service.</p>
<p><u>Time-of-Use Net-Metering CPA Retail Electricity Service:</u> The CPA exchanges a number of generated kilo-watt hours (active power integrated over time) in normal operating mode at a market rate (cents/kWh) differentiated by the hour-block of generation with self-scheduled electricity generators over a monthly billing cycle in the jurisdiction of the CPA.</p>	<p>13. Time-of-Use Net-Metered CPA Retail Electricity Service Data</p> <p>The data platform shall provide the data that enables Time-of-Use Net-Metered CPA Retail Electricity Service.</p>
<p><u>Wholesale Real-Time Pricing CPA Retail Electricity Service:</u> The CPA exchanges a number of (generated or consumed) kilo-watt</p>	<p>14. Wholesale Real-Time Pricing CPA Retail Electricity Service Data</p>

<p>hours (active power integrated over time) in normal operating mode at the wholesale market rate (cents/kWh) of the associated ISO-New England 5-minute time block with self-scheduled electricity generators and consumers over a daily settlement period in the jurisdiction of the CPA.</p>	<p>The data platform shall provide the data that enables Wholesale Real-Time Pricing Time-of-Use Net-Metered CPA Retail Electricity Service.</p>
<p><u>Transactive Energy Real-Time Pricing CPA Retail Electricity Service:</u> The CPA exchanges a number of (generated or consumed) kilo-watt hours (active power integrated over time) in normal operating mode at an optimal market rate (cents/kWh) every 5-minutes between self-scheduled electricity generators and consumers and dispatchable generators and consumers over a a daily settlement period in the jurisdiction of the CPA.</p>	<p>15. Wholesale Real-Time Pricing CPA Retail Electricity Service Data</p> <p>The data platform shall provide the data that enables Transactive Energy Real-Time Pricing CPA Retail Electricity Service.</p>
<p><u>Yearly Coincident Peak Reduction CPA Retail Electricity Service:</u> The CPA exchanges a reduction in consumed kilo-watt hours (active power integrated over time) in normal operating mode at the predicted time of the coincident peak at an optimal market rate (cents/kWh) with dispatchable generators and consumers in the jurisdiction of the CPA.</p>	<p>16. Yearly Coincident Peak CPA Retail Electricity Service Data</p> <p>The data platform shall provide the data that enables Yearly Coincident Peak Reduction CPA Retail Electricity Service.</p>
<p><u>Monthly Coincident Peak Reduction CPA Retail Electricity Service:</u> The CPA exchanges a reduction in consumed kilo-watt hours (active power integrated over time) in normal operating mode at the predicted time of the coincident peak at an optimal market rate (cents/kWh) with dispatchable generators and consumers in the jurisdiction of the CPA.</p>	<p>17. Monthly Coincident Peak CPA Retail Electricity Service Data</p> <p>The data platform shall provide the data that enables Monthly Coincident Peak Reduction CPA Retail Electricity Service.</p>

A. Use Case 1: STAKEHOLDER ACCESS

<i>Name</i>	STAKEHOLDER ACCESS
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	The NH State-Wide Multi-Use Energy Data Platform shall provide stakeholder-appropriate, secure, and interoperable access for each of the stakeholder categories identified above.
<i>Step-by-step process – what happens?</i>	<ol style="list-style-type: none"> 1. Stakeholder signs up with data platform website or mobile app. 2. Stakeholder is prompted to authenticate themselves and authorize sharing of data as defined by their “role” in the data platform. The premise methods for authentication/authorization can vary depending upon architecture and user experience; but it should be simple, convenient, and require no more information than utilities require today for establishing an online account (typically account number and telephone number) 3. Once authorized, the data platform begins transmission of data within 60 seconds to relevant parties. 4. Ongoing data continues to be transmitted as defined by the governance of the data platform.
<i>Data fields required</i>	This use case describes the stakeholder’s initial “user experience” – and not a specific set of data.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	<p>The primary benefit of this use case is to achieve privacy and cyber-security up front.</p> <p>That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.</p>
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None. It is conventional cyber-security practice to establish the read, write, append, and no-access permissions of a data platform’s users and roles.
<i>Cybersecurity Issues</i>	The purpose of this use case is to achieve cyber-security.
<i>Assumption/Pre-Conditions</i>	None.

B. Use Case 2 LOCAL GOVERNMENT COMMUNITY POWER PROGRAM, ENERGY, AND CLIMATE ACTION PLANNING.

<i>Name</i>	LOCAL GOVERNMENT COMMUNITY POWER PROGRAM, ENERGY, AND CLIMATE ACTION PLANNING.
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	2.1 To enable planning and development of aggregation plans and other energy and climate action planning by local governments and RPCs, the data platform shall provide access to read aggregated historic (and current) monthly customer load data for each class of customer by municipality (and county) of where they take service. This data should be available to any electric aggregation committee created pursuant to RSA 53-E (as well as other governmental entities). 2.2 The data platform shall also provide access to anonymized individual customer interval load data where such data is available with a granularity of an hour or less. This data should include groupings within each customer rate class of whether the customer is on utility provided default energy service or competitive
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) aggregated historic and current monthly customer load data for each class of customer by municipality and county where they take service. 2.) anonymized individual customer interval load data with a granularity of an hour or less grouped within each customer rate class of whether the customer is on utility provided default energy service or competitive. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:6. That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.

<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

C. Use Case 3 IMPLEMENTATION OF AN OPT-OUT COMMUNITY POWER PROGRAM

<i>Name</i>	IMPLEMENTATION OF AN OPT-OUT COMMUNITY POWER PROGRAM
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	<p>3.1 The data platform shall be the repository of a current list of the names and mailing addresses of all electric customers taking distribution service within the municipality or county. CPAs and electric distribution utilities shall have read, write, and append access to this data.</p> <p>3.2 To enable such mailed notification and notwithstanding RSA 363:38, after an aggregation plan is duly approved the electric distribution utility or utilities serving an adopting municipality or county shall provide to such municipality or county a current list of the names and mailing addresses of all their electric customers taking distribution service within the municipality or county.</p> <p>3.3 The data platform shall provide customer access to read the data necessary to make an informed choice between utility provided default service, community aggregation services, and competitive electricity supplier service. This data includes the pricing information on these services. It also includes customers’ consumption and distributed generation data. (See Use Case 4)</p> <p>3.4 The data platform shall provide utilities, community aggregators, and competitive suppliers access to write and update data pricing information for these services.</p>
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	<p>Generic description: 1.) a current list of names and mailing addresses of electric customers taking distribution service within the municipality or county. 2.) Pricing information on default service, community aggregation services, and competitive electricity supplier service. 3.) Customer consumption and distributed generation data – See Use Case 4.</p> <p>For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.</p>
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues

	significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	<p>The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:7.</p> <p>That said, as stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.</p>
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

D. Use Case 4 OPERATION OF A COMMUNITY POWER AGGREGATION PROGRAM

<i>Name</i>	OPERATION OF A COMMUNITY POWER AGGREGATION PROGRAM
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	<p>4.1 The data platform shall provide CPAs and customers the read, write, and append access to support the exchange of electric power services.</p> <p>4.2 The data platform shall provide CPAs and customers the read, write, and append access to support the exchange of demand side management services.</p> <p>4.3 The data platform shall provide CPAs and customers the read, write, and append access to support the exchange of conservation services.</p> <p>4.4 The data platform shall provide CPAs and customers the read, write, and append access to support the exchange of energy efficiency services.</p> <p>4.5 The data platform shall provide CPAs and customers the read, write, and append access to support customer service activities.</p> <p>4.6 The data platform shall provide the CPAs, and electric utilities (as owners/operators of metering systems) access to read, write and update customers’ consumption and distribution generation meter data.</p> <p>4.7 The data platform shall provide customers access to read their consumption and distributed generation meter data.</p>
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	<p>Generic description:</p> <ol style="list-style-type: none"> 1.) The required data fields depend on the nature of the exchanged electric power services. 2.) The required data fields depend on the nature of the exchange demand side management services 3.) The required data fields depend on the nature of the conservation services. 4.) The required data fields depend on the nature of the energy efficiency services.

	<p>5.) The required data fields depend on the nature of the customer service activities associated with the services in 1-4.</p> <p>6.) Consumption and distribution meter data has been standardized in the Common Information Model published by the IEC.</p> <p>7.) Same as 6.</p> <p>For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.</p>
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	<p>The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3.</p> <p>That said, as stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.</p>
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

E. Use Case 5 AMI INTERVAL DATA TO SUPPORT RTP & DR

<i>Name</i>	AMI INTERVAL DATA TO SUPPORT RTP & DR
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	5.1 The data platform shall support near real-time interval meter data for load settlement (between the CPA and its customers). 5.2 The data platform shall support near real-time interval meter data for the provision of energy services (between the CPA and its customers) such as dynamic demand response. 5.3 The data platform shall support customer's read access of near real-time interval meter data.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) Near real-time load data as standardized in the Common Information Model published by the IEC. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:4, IV. That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

F. Use Case 6 SUPPORT FOR CPA JOINT ACTION

<i>Name</i>	SUPPORT FOR CPA JOINT ACTION
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	6.1 The data platform shall create equal access for jointly operated CPAs as for individually operated CPAs.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) The data fields in this use case are equivalent to those for individually operated CPAs. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3, II(b). That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

G. Use Case 7 USE AND PROTECTION OF INDIVIDUAL CUSTOMER DATA

<i>Name</i>	USE AND PROTECTION OF INDIVIDUAL CUSTOMER DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	7.1 The data platform shall provide CPAs access to individual customer data in a confidential manner and free from public disclosure. 7.2 The data platform shall allow CPAs to use individual customer data to comply with the provisions of RSA 53-E:7. 7.3 The data platform shall allow CPAs to engage R&D entities (academia, laboratories, and consultants) that support development of new energy services to offer to customer participants.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) The data fields associated with individual customer data. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:4, VI. That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

H. Use Case 8 EXCHANGE OF BILLING DATA

<i>Name</i>	EXCHANGE OF BILLING DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	8.1 The data platform shall <u>provide customer access to read the pricing information</u> in terms of its constituent components (e.g. energy, system benefit, regional access, distribution delivery, distribution demand, and service charges).
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) The data fields associated with pricing information and its constituent components. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3-a. That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

I. Use Case 9 ENABLE RETAIL & INTRASTATE WHOLESALE ENERGY MARKET UNDER STATE JURISDICTION

<i>Name</i>	ENABLE RETAIL & INTRASTATE WHOLESALE ENERGY MARKET UNDER STATE JURISDICTION
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	9.1 The data platform shall enable municipal producers of electricity to sell directly to CPAs, any retail customer, or any competitive electricity supplier that they can supply over the state jurisdictional distribution grid, without having to become a FERC jurisdictional interstate wholesale market participant.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) The data fields associated with pricing and quantity of electricity generation by asset at the temporal resolution associated with the electricity service. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 374-D:2 and RSA 362-A:2-a consistent with RSA 374-F. That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

J. Use Case 10 ENABLE DEFAULT CPA RETAIL ELECTRICITY SERVICE DATA

<i>Name</i>	ENABLE DEFAULT CPA RETAIL ELECTRICITY SERVICE DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	10. The data platform shall provide the data that enables Default CPA Retail Electricity Service.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: See Use Case #4 For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3. That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

K. Use Case 11 ENABLE NET-METERED CPA RETAIL ELECTRICITY SERVICE DATA

<i>Name</i>	ENABLE NET-METERED CPA RETAIL ELECTRICITY SERVICE DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	11. The data platform shall provide the data that enables Net-Metered CPA Retail Electricity Service.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: See Use Case #4 For an interoperable implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3. That said, as stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

L. Use Case 12 ENABLE TIME-OF-USE CPA RETAIL ELECTRICITY SERVICE DATA

<i>Name</i>	ENABLE TIME-OF-USE CPA RETAIL ELECTRICITY SERVICE DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	12. The data platform shall provide the data that enables Time-of-Use CPA Retail Electricity Service.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: See Use Case #4 For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3. That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

M. Use Case 13 ENABLE TIME-OF-USE NET-METERED CPA RETAIL ELECTRICITY SERVICE DATA

<i>Name</i>	ENABLE TIME-OF-USE NET-METERED CPA RETAIL ELECTRICITY SERVICE DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	13. The data platform shall provide the data that enables Time-of-Use Net-Metered CPA Retail Electricity Service.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: See Use Case #4 For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3. That said, <u>as</u> stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

N. Use Case 14 ENABLE WHOLESALE REAL-TIME PRICING CPA RETAIL ELECTRICITY SERVICE DATA

<i>Name</i>	ENABLE WHOLESALE REAL-TIME PRICING CPA RETAIL ELECTRICITY SERVICE DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	14. The data platform shall provide the data that enables Wholesale Real-Time Pricing Time-of-Use Net-Metered CPA Retail Electricity Service.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: See Use Case #4 For an interoperable implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3. That said, as stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

O. Use Case 15 ENABLE WHOLESALE REAL-TIME PRICING CPA RETAIL ELECTRICITY SERVICE DATA

<i>Name</i>	ENABLE WHOLESALE REAL-TIME PRICING CPA RETAIL ELECTRICITY SERVICE DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	15. The data platform shall provide the data that enables Transactive Energy Real-Time Pricing CPA Retail Electricity Service
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) The data fields associated with pricing and quantity of electricity generation by asset at the temporal resolution associated with the electricity service. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 374-D:2 and RSA 53-E:3. That said, as stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

P. Use Case 16 ENABLE YEARLY COINCIDENT PEAK CPA RETAIL ELECTRICITY SERVICE DATA

<i>Name</i>	ENABLE YEARLY COINCIDENT PEAK CPA RETAIL ELECTRICITY SERVICE DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	16. The data platform shall provide the data that enables Yearly Coincident Peak Reduction CPA Retail Electricity Service.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) The data fields associated with pricing and quantity of electricity generation by asset at the temporal resolution associated with the electricity service. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3. That said, as stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

Q Use Case 17 ENABLE MONTHLY COINCIDENT PEAK CPA RETAIL ELECTRICITY SERVICE DATA

<i>Name</i>	ENABLE MONTHLY COINCIDENT PEAK CPA RETAIL ELECTRICITY SERVICE DATA
<i>Author/last updated</i>	Document Authors: LGC Last updated 4/3/2020
<i>Description (1-2 sentences)</i>	17. The data platform shall provide the data that enables Monthly Coincident Peak Reduction CPA Retail Electricity Service.
<i>Step-by-step process – what happens?</i>	Once Use Case #1 is completed, then the data platform should make this information available to the appropriate stakeholders perpetually.
<i>Data fields required</i>	Generic description: 1.) The data fields associated with pricing and quantity of electricity generation by asset at the temporal resolution associated with the electricity service. For an <i>interoperable</i> implementation of the specific data fields, please consult the Common Information Model standards published by the IEC.
<i>Estimated costs</i>	As stated in our scoping comments, the cost of an individual use case should never be assessed individually. A given use case often accrues significant costs for “generic groundwork” that can be shared across multiple use cases.
<i>Estimated benefits</i>	The primary benefit of this use case is to achieve regulatory compliance with RSA 53-E:3. That said, as stated in our scoping comments, the benefits from an individual use case should never be assessed individually. The total benefits of a given use case are usually not realized until other use cases have been implemented as well.
<i>What policy changes required for benefits to be realized?</i>	None at the legislative or regulatory level. That said, the governance of the data platform needs to be established in concert with the technical implementation.
<i>Project Risks</i>	None.
<i>Cybersecurity Issues</i>	None.
<i>Assumption/Pre-Conditions</i>	None.

R. Potential Functionalities of a Statewide Multi-Use Energy Data Platform by Greentel.

In addition to the 17 use cases identified above, we include some of the functionalities that we can expect to find in a statewide multi-use energy data platform.

Functionalities

Data Format
Data is accessible to all platform users in API , electronic, machine readable format
Data is accessible to all platform users in downloadable machine readable format
Data Type Availability
Platform will make available customer data upon customer consent (see data points and elements below)
Platform will make available anonymous aggregated customer data
Platform will make available system data (see data points and elements below)
Platform will make available market/financial data (see data points and elements below)
Platform will make available DER data (see data points and elements below)
Customers
Customers can authorize 3rd parties to access customer data via 1-click electronic authorization
Customers can access customer data via both data formats stated above (downloadable/API)
Customers can access portal (app store) to access registered 3rd parties for energy services (Makes it easier for the customer to access the market aka DERs providers, Competitive Suppliers, EE/DR Providers and Utilities)
Distributed Energy Resource (DER) providers
DERs providers can access customer data upon customer consent
DERs providers can access anonymous aggregated customer data
DERs providers can access system data
DERs providers can access market/financial data
DERs providers can access DER data

Competitive Suppliers
Competitive suppliers can access customer data upon customer consent
Competitive suppliers providers can access anonymous aggregated customer data
Competitive suppliers providers can access market data
Community Choice Aggregators
CCA aggregators can access customer data upon customer consent
CCA aggregators can access anonymous aggregated customer data
CCA aggregators can access system data
CCA aggregators can access market/financial data
CCA aggregators can access DER data
Utilities
Utilities can provide customer data to customers to inform EE programs (1-stop shop platform for customers)
Utilities can access DER data

S. Illustrative Draft Administrative Rule Language Relating to Use Cases 2-4.

Use Case 2 LOCAL GOVERNMENT COMMUNITY POWER PROGRAM, ENERGY, AND CLIMATE ACTION PLANNING

After notification to the PUC of the formation of an electric aggregation committee pursuant to RSA 53-E:5, I:

Puc 2203.02 Request for Load Information from Utilities. A committee or CPA may request load information for all electric customers located within the applicable municipality or county for each utility servicing such customers by making an email or written request for such data to each such utility with a copy to the PUC consistent with the requirements of Puc 202.06.

Puc 2203.03 Provision of Load Information by Utilities. Within 30 days from receipt of such request the utility shall provide the following load information for their customers taking service within the municipality or county:

(a) For customer accounts with meters that record or report only interval data between readings, typically monthly, the following:

(1) The most recent 60 months of monthly load data for each rate class, aggregated and sorted by whether they were taking competitive service or utility provided default service for each such month; and

(2) Customer counts in each rate class for each month, sorted by whether they were taking competitive service or utility provided default service for each such month.

(3) Aggregated capacity tag information by month for each rate class sorted by whether they were taking competitive service or utility provided default energy service.

(4) A count of customers participating in the Electric Assistance Program (EAP) for each month sorted by whether they were taking competitive service or utility provided default energy service.

(5) A count of customers that net meter by month for each rate class sorted by whether they were taking competitive service or utility provided default energy service.

[Not in this list are class average load shapes that are currently made available on utility websites for competitive suppliers. These seem to be only refreshed once per year and for through 2018 is available on-line. Could the data platform support monthly updates?

(b) For customer accounts with meters that routinely record or report interval data more frequently than monthly, such as hourly or by time-of-use, the following:

(1) All of the information in paragraph (a) above plus:

(2) If requested, for customers then currently on default service all interval load data available for each customer for the most recent 36 months down to a granularity of not less than hourly if such interval data is retained at hourly or more frequent intervals.

(c) Any individual customer data provided to a committee shall only be provided after information that identifies or enables the identification of any individual customer name, address, or account number is removed.

(d) A code that allows the utility to release customer identity information to a CPA after accounts become customers of the CPA may be included with the utility provided anonymized individual customer data provided pursuant to (b)(2) above.

(e) A committee or CPA may request to have such data refreshed or extended to the most recent month available not more frequently than once every 6 months after the initial request. [For data platform, this should be continuously available at any time – with data base perhaps updated daily or at least weekly as meters are read and verified for billing purposes. Monthly data probably needs a data stamp of the reading period (date of last meter read to date of most recent read). More granular interval data obviously needs date *and time* stamps.]

(f) Load data shall include consumption in kWh, and where available, kW and kVA demand, for each reported interval.

Note: To protect individual customer privacy, including compliance with RSA 363:37-38, the following features or something similar could be built into the data platform:

1. If there are only 1 or 2 customers within a rate class by supplier (on default or competitive supply) for any applicable time period, their data will be placed in with the most similar other rate class and their data presented together. For example, if a given town only had 1 or 2 G-1 (largest C&I) customers on default service, their data would be aggregated with G-2 and the two together presented as G-1 and G-2 rate class on default service. (This is relevant for both (a) and (b) above.)
2. If there are only 3 to 6 customers within a rate class (or grouping due to 1 above), then all of them would be aggregated to show total or average load for the group (with a count of number of such customers) (This is relevant for (b) above.)
3. If there are 7 or more customers within a rate class (or grouping due to 1 above), then the 3 largest customer loads will be averaged together and presented as 3 customers with identical (average) loads and for the remaining customers load data can be provided individually without identifying information. (This is relevant for (b) above.)

Use Case 3 IMPLEMENTATION OF AN OPT-OUT COMMUNITY POWER PROGRAM

Puc 2204.02 Request for Names and Addresses of Customers.

(a) Upon request, after a municipality or county files its approved electric aggregation plan with the commission, each utility serving the jurisdiction shall provide to the jurisdiction the names and mailing addresses for every electricity customer taking service within the municipality or county including the utility account numbers for each metered load within the jurisdiction.

(b) Such data shall be in digital electronic format [not scanned images] such as a data base or spreadsheet file.

Use Case 4 OPERATION OF A COMMUNITY POWER AGGREGATION PROGRAM

PART Puc 2206 METERING, LOAD SETTLEMENT, AND BILLING

Puc 2206.01 Historic Load and Billing Data. Once a utility customer becomes a customer of a CPA the utility shall provide for each such customer:

(a) A minimum of three years of historic load data for each such customer, consistent with the requirements of Puc 2203.03, except for Puc 2203.03(c), which may be by means of an unlocking key to the data provided under Puc 2203.03.

(b) Individual customer data that allows the identification of that customer and association with their load data, including:

- (1) Name of customer;
- (2) Name of customer contact if different from customer;
- (3) Mailing address;
- (4) Service address; and
- (5) Account number.
- (6) Historic (3-5 yrs.), current [power year] and prospective [next power year] capacity tag information for each customer [when it becomes available].
- (7) Current and historic status of customers regarding:
 - a. whether they net meter under grandfathered terms [kWh credit];
 - b. whether they net meter under more recent tariffs [alternative net metering monthly monetary credit for surplus kWh];
 - c. whether they are a group net metering host or member with on-bill crediting;
 - d. whether the customer is certified under the RPS as being a qualified customer-cited source of RECs and if so, for which class of RECs;
 - d. whether they participate in the Liberty battery pilot;
 - e. whether they are currently enrolled in the EAP;
 - f. whether they are currently in a payment plan for arrearages; and
 - g. rate class of the customer.

(c) At least one year's worth of billing data including monthly arrearage balances.

Puc 2206.02 Ongoing Meter Data Access. Utilities shall provide CPAs with access to metering and load data for each of their customers on as near contemporaneous time frame as they themselves have access to the meter and load data. This may be done by:

- (a) Providing the CPA access to meter and load data through a secure API; and
- (b) Enabling the CPA to directly read the customer meter. [Pursuant to RSA 55-E:3, II(4).]

Note: Going beyond utility provided meter data, the ongoing use case should incorporate the idea of the CPAs reading interval meters that they own or partially own making that data available through the platform for daily load settlement with ISO New England.

To implement RSA 53-E:3 after the CPA is launched and it has actual customers for Load Settlement and Allocation of Capacity Tags, these functions need to be enabled for customers with hourly interval meters and might best be done through the data platform:

Puc 2206.05 Use of Interval Load Data for Load Settlement. [Use interval meter data for daily load settlement where available, including from CPA provided secondary revenue grade meter. Use negative loads (with hourly or more granular interval data), whether from customer-generators, limited producers, or municipally owned, leased, or operated small power producers under 5 MW and not registered in ISO-NE wholesale market pursuant to RSA 374-D:2, to offset hourly consumption load to determine net load for wholesale market load settlement purposes.]

Puc 2206.06 Use of Interval Load Data for Capacity Tags. [For allocation of capacity tags for ISO-NE FCM use hourly interval load data to figure overall capacity tags for CPA customers, netting negative loads (like Puc 2206.05 above) at annual system peak hour to offset consumption loads at that coincident peak. Give net producer meters a zero capacity tag and reduce consumption meter capacity tags pro rata across the CPA customer base by negative loads unless CPA specifies specific consumer meters to apply the negative loads to, but not less than zero.]

Note: This allocation would probably best be done by the CPAs through the data platform, subject to utility verification that overall capacity tags for CPA customers and distributed generation (with none below zero) equal overall capacity tag for CPA meter group at the time annual capacity tags are assigned. (This could also be done by the software forcing it to be true.) This is an important new functionality that doesn't exist today. Negative loads at time of system peak (e.g. from net metered generation exports) are currently effectively socialized by the utilities to all customers. Distributed generation in this instance refers to generators < 5 MW that are connected behind retail meters on the distribution grid and that are not registered or participating in the FERC jurisdictional wholesale market (engaged in interstate commerce).

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