NSTAR ELECTRIC COMPANY
D/B/A EVERSOURCE ENERGY

MASSACHUSETTS ELECTRIC COMPANY AND
NANTUCKET ELECTRIC COMPANY
D/B/A NATIONAL GRID

FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
D/B/A UNITIL

AMI STAKEHOLDER GROUP

FINAL REPORT

D.P.U. 21-80/81/82

August 1, 2024

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I. Introduction

On November 30, 2022, the Department of Public Utilities (the "Department") approved the 2022-2025 Grid Modernization Plans ("GMPs") filed by NSTAR Electric Company d/b/a Eversource Energy ("Eversource"), Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid ("National Grid"), and Fitchburg Gas and Electric Light Company d/b/a Unitil ("Unitil") (together, the "Companies" or the "EDCs"). The Department's November 30, 2022 Order ("Track 2 Order") approving the Companies' 2022-2025 GMPs included a directive for the Companies to convene a stakeholder group no later than February 1, 2023 to address issues related to the Companies' advanced metering infrastructure ("AMI") implementation plans approved by the Department in its Track 2 Order (the "AMI Stakeholder Group"). D.P.U. 21-80-B/21-81-B/21- 82-B at 325-326.

Per the Department's directives, the objective of the AMI Stakeholder Group is "to provide a forum for the Companies and interested stakeholders to collaborate in a non-adjudicatory setting to discuss AMI-related issues and to develop a joint proposal for Department review…." Id. The Department identified the following areas of focus: "(1) customer and third-party access to customer usage data; (2) customer education and engagement; (3) billing of time-varying rates ("TVR") offered by competitive suppliers; and (4) AMI deployment strategies that may expedite the ability for competitive suppliers to offer TVR products." Id. This joint proposal should identify areas of consensus and outstanding issues that remain unresolved. Id. at 326.

This report is organized as follows. Section I outlines the AMI Stakeholder Group process undertaken over 2023 and 2024. Section II summarizes the proposals discussed and the consensus status of key items.

II: Stakeholder Group Process

A. Participating Stakeholders

With respect to participation in the AMI Stakeholder Group, the Department included the following directives in its Track 2 Order: (1) the Companies should designate personnel responsible for oversight and management of the stakeholder process; (2) the EDCs should recognize all entities on the service lists for D.P.U. 21-80, D.P.U. 21-81, and D.P.U. 21-82 as stakeholder participants and ensure that each stakeholder participant is included on correspondence related to the AMI Stakeholder Group and its process; and (3) the Companies should identify, solicit, and allow other interested stakeholders to participate in the AMI Stakeholder Group (even if such stakeholders had not participated in dockets D.P.U. 21-80, D.P.U. 21-81, and/or D.P.U. 21- 82). Track 2 Order at 326-327.

The Department also stated that "as the state energy policy office, [the Department] anticipate[s] that [Department of Energy Resources ("DOER")] will play a leading role, particularly in the development of a statewide data access strategy." Id. at 326 (citations omitted). Accordingly, the Companies engaged with DOER prior to commencing the AMI Stakeholder Group to discuss a schedule and identify potential stakeholder group participants.

On January 27, 2023, the EDCs sent an email to the service lists for each of the 2022-2025 GMP services lists (D.P.U. 21-80, D.P.U. 21-81, and D.P.U. 21-82). The Companies also provided notice of the AMI Stakeholder Group to competitive suppliers and municipal aggregators operating in their respective service territories and to entities identified through collaboration with DOER. The EDCs and DOER identified these additional entities as potentially interested parties based on each entity's mission. The email also provided the relevant excerpt of the Track 2 Order and requested confirmation that recipients (or their organization) intended to participate and if so, requested appropriate contact information.

The EDCs commenced the AMI Stakeholder Group process with an initial "kick-off" meeting on January 31, 2023. At the outset of this first meeting, the Companies reiterated that any stakeholders wishing to participate should provide their contact information for inclusion on meeting invitations and the electronic distribution list for meeting materials (e.g., agendas, presentations).

Stakeholder attendance was recorded and updated after each meeting. A record of all organizations and attendees is included as Attachment A. Over the course of the stakeholder group meetings, 30 organizations were represented by 101 individuals inclusive of the EDC participants.

B. Ground Rules and Facilitation

At the January 31, 2023 meeting, the EDCs presented proposed ground rules for the stakeholder working group, including roles and responsibilities of members, roles and responsibilities of the facilitator, and general timelines for sharing meeting materials, reporting materials, and communication by email. The proposed Ground Rules were modeled on the Ground

Rules utilized in the Department's 2012 Grid Modernization Working Group facilitated by Raab Associates. Working Group participants provided feedback and suggested edits to the Ground Rules, which were incorporated into the final version. The agreed to and final Ground Rules are included as Attachment B.

From January up to October 2023, the EDCs facilitated the stakeholder working group meetings prior to retention of a third-party facilitator, Environmental Resources Management ("ERM"). ERM was onboarded ahead of the October 3, 2023 meeting. The facilitator's primary function was to manage productive and well-informed meetings, as well as providing meeting minutes, recording consensus and non-consensus items, assisting in constructing meeting agendas, assembling quarterly reports, and maintaining an updated repository of documents on a SharePoint site for stakeholders to access.

Per the Ground Rules, stakeholders were encouraged to submit proposed agenda items no later than one week in advance of the stakeholder meeting. The EDCs and, once onboarded, the facilitator made final determinations on meeting agenda items, taking into account, among other things, the discussion topic schedule (see below) and timing constraints. Agendas were distributed prior to each meeting.

Following each stakeholder meeting, the EDCs or, once onboarded, the facilitator prepared meeting minutes. Draft meeting minutes were circulated for clarification, discussion, and feedback. The minutes were shared with stakeholders via email and the SharePoint site. Meeting minutes were included in the quarterly reports filed with the Department that are discussed below.

C. Quarterly Reporting

The Department directed the EDCs to submit quarterly status reports, beginning on May 15, 2023, that included the following: (1) a list of stakeholders and attendees; (2) the status of any discussions and the process by which such discussions occurred; and (3) a summary of all issues on which the Companies and stakeholders had reached consensus. Track 2 Order at 326.

The EDCs and facilitator assembled each quarterly report. Draft quarterly reports were shared with stakeholders via email and the SharePoint site for review prior to submission to the Department.[1] Feedback received from stakeholders was carefully reviewed by the EDCs and

[1] The initial quarterly report was circulated to stakeholders via email on May 12, 2023 prior to being filed on May 15, 2024 with the Department. The EDCs did not receive any feedback or questions in response to the May 12, 2023 email. At the subsequent AMI Stakeholder Group meeting (held on May 30, 2023) stakeholders informed the EDCs that it was not clear that the May 12, 2023 email was providing a draft of the quarterly report. The stakeholder group discussed improvements for this process to eliminate confusion going forward and determined that the issue should be revisited at the July AMI Stakeholder Group meeting. A process and timeline for review of the second quarterly report was presented by the EDCs at the July 25, 2023 meeting. Consistent with that discussion, the second quarterly report was circulated on August 8, 2023 together with instructions for providing feedback by August 14, 2023. The EDCs received edits and feedback to the second quarterly report from Cape Light Compact, Good Energy, and Green Energy Consumers Alliance.

(once onboarded) the facilitator; feedback was incorporated by the EDCs where appropriate.[2] All final quarterly reports were made available on the SharePoint site.

D. Meeting Schedule

AMI Stakeholder Group meetings were scheduled approximately once per month from January 2023 through April 2024, with adjustments made due to holiday schedules and notable conflicts with other proceedings. The order of topics to be discussed was determined based on the required lead time to address any material changes in the EDCs' respective AMI implementation plans (i.e., topics related to projects that required the most lead time for changes were prioritized). For example, TVR rate implementation requires the longest lead time due to billing system requirements. Consequently, the two TVR-related focus areas were addressed first and second, respectively. Data sharing strategies will not impact core "meter-to-cash"[3] strategies but do have digital channel and database implications. Accordingly, data sharing was addressed as the third topic. Customer education and outreach strategies have the shortest lead time and therefore were addressed as the fourth and final topic by the AMI Stakeholder Group. This order of discussion was determined by the AMI Stakeholder Group at the outset of the process.

See the table below for an overview of meeting dates and topics. As demonstrated by the meeting minutes included with quarterly reports, these topics often continued into subsequent meetings based on stakeholder questions and interest (e.g., third-party access to customer usage data continued to be discussed through the final AMI Stakeholder Group meeting). In addition to these AMI Stakeholder Group meetings, smaller technical working group meetings were held to discuss third-party access to customer usage data.

[2] The quarterly reports included all meeting agendas, minutes, and presentation materials. In an effort to avoid duplicative information, the quarterly reports did not repeat the substance of discussions captured through these quarterly report attachments.

[3] Meter to cash is the overarching process for deployment of a meter that begins with the ability to generate a meter read and ends with the ability to generate a final bill and post a payment to a customer's account.

Table 1: Summary of AMI Stakeholder Group Meetings

Date	Topic
January 31, 2023	Kickoff meeting
March 28, 2023	Billing of TVR offered by competitive suppliers
April 25, 2023	Billing of TVR offered by competitive suppliers
May 30, 2023	Billing of TVR offered by competitive suppliers
June 27, 2023	AMI deployment strategies to expedite supplier TVR
July 25, 2023	AMI deployment strategies to expedite supplier TVR (including discussion of National Grid's Smart Energy Solutions AMI Smart Grid pilot)
August 29, 2023	AMI deployment strategies to expedite supplier TVR
October 3, 2023	Customer and third-party access to customer usage data
October 31, 2023	Customer and third-party access to customer usage data
December 13, 2023 *Originally scheduled for November 15, 2023. Rescheduled due to a scheduling conflict with an Electric Sector Modernization Plan meeting.*	Customer and third-party access to customer usage data
January 30, 2024	Customer education and engagement
February 27, 2024	Customer education and engagement
March 26, 2024 *Cancelled due to sufficient coverage of topic during January and February meetings.*	Customer education and engagement
Technical workshop, **April 19, 2024** *Additional technical meeting scheduled with small group of subject-matter expert stakeholders.*	Technical workshop to address NRG proposal for flat-file alternative to Green Button Connect. The NRG proposal raised at the April 19th meeting falls under the 'customer and third-party access to customer usage data' topic.
April 30, 2024	Final wrap-up of all topics, final report planning and initial review of the consensus/non-consensus matrix
Technical workshop, **July 15, 2024**	Technical workshop to understand Green Button Connect use cases from other deployments across the country, and to continue discussion on third-party access to customer usage data formats and protocols.

III. Consensus Tracking Process and Reporting

Consensus and non-consensus items were recorded in each quarterly report. The consensus and non-consensus items presented in this submission (including in the summary matrix) represent the status of discussion items at the conclusion of the AMI Working Group process. The EDCs note that positions of the EDCs and/or stakeholder group members may have evolved over the course of the working group process as more information was received or based on discussions of the group. Accordingly, the positions presented in this submission may not be consistent with prior quarterly reports because certain topics spanned more than one quarter or were revisited later in the stakeholder process. The EDCs also anticipate that there will be an additional Department process in response to this submission that could result in further evolution of stakeholder positions.

The EDCs note that the AMI Stakeholder Group meetings were primarily comprised of presentations (by the EDCs or other stakeholders) followed by discussion. Stakeholders had the opportunity to ask questions, share concerns, and provide feedback during meetings and to the dedicated AMI Stakeholder Group email address.[4] As such, the EDCs, with stakeholder input and support, have defined three types of consensus/non-consensus based on the level of positive, neutral, or negative engagement from stakeholders on a given topic:

- **Stated Consensus:** Topics with stated consensus indicates that the EDCs and stakeholders spoke in agreement on a proposal or key topic during meeting discussions. Any questions and concerns raised were addressed and resolved.
- **General Consensus:** Topics with general consensus indicates that during and after meetings, there were no substantial concerns or disagreements raised on a proposal item or key topic. While stakeholders may have engaged with questions or lengthy discussion on some topics, no disagreement or opposition was indicated for general consensus items. As noted above, stakeholder positions may have evolved since items were discussed.[5] As discussed below, stakeholders were also offered an opportunity to review the draft matrix of consensus and non-consensus items prior to creation of a final version to ensure that categorization of issues in the final matrix is both current and accurate.
- **Non-consensus:** Topics are considered non-consensus if one or more stakeholders expressed concern, disagreement, or opposition to a proposal item or key topic that was not resolved through discussion or further information from the EDCs.

The EDCs and facilitator developed a matrix of consensus and non-consensus issues to track ongoing discussion and resolution of topics. The draft matrix was circulated to the AMI

[4] ERM established a dedicated AMI Stakeholder Group email address to receive and coordinate responses to stakeholder questions. Prior to ERM's retention, counsel for the EDCs served as the point of contact for stakeholders.

[5] At the April 30, 2024 AMI Stakeholder Group meeting, the EDCs raised the issue of next steps and suggested proposing a comment period in response to this final report and/or a technical session with the Department to answer any questions the Department may have following its review of this final report. Stakeholders supported recommendation of these options to the Department. Should the Department facilitate an additional process, the EDCs anticipate that any evolutions of stakeholder positions could be addressed at that time.

Stakeholder Group for discussion ahead of the April 30, 2024 meeting. ERM accepted any additional comments or edits to the draft matrix through May 10, 2024. A final draft was included for review with the draft of this final report. The draft matrix was created to allow stakeholders to review major topics the EDCs identified as within the EDCs' proposals in one document and provide any final feedback prior to submission of this final report. The matrix was also intended to capture the "final" status of these key topics based on the evolution of positions and discussions that occurred during this 18 month process. The full Consensus Matrix is provided as Attachment G.

IV. EDC Proposed Plans and Consensus Status by Focus Area

A. Billing of TVR offered by *C*ompetitive *S*uppliers

Under the billing of TVR offered by competitive suppliers focus area, the Department identified the following goals:

a. Identify AMI meter deployment strategies that may expedite and maximize the availability of TVR products to customers during the AMI deployment period; and
b. Assess the potential costs and limitations of incorporating competitive supplier's rates on a single bill.

Track 2 Order at 328.

1. EDC Proposal for Billing of TVR offered by Competitive Suppliers

The EDCs presented the proposal to accommodate supplier TVR post-AMI deployment at the June 27, 2023 meeting. The proposal is included in Attachment E. Supplier TVR was also discussed during the March 28, April 25, and May 30, 2023 AMI Stakeholder Group meetings.

Once the core AMI meter-to-cash capabilities have been demonstrated to be stable at scale, the EDCs plan to accommodate the capability of TVR for residential, commercial, and large industrial rate classes, with the appropriate guidance and approval from the Department on TVR specifics. The EDCs proposal includes parameters for rate-ready TVR[6], as well as a commitment to evaluate a bill-ready billing concept for any rate-variation outside of the standard rate-ready TVR parameters. The EDCs propose to accommodate, as standard rate-ready TVR parameters, up to three daily billing periods with separate options for weekends and holidays. Any changes to the periods would require new entry and testing procedures. Each suppliers' rate would be set up to have a TVR definition in each EDC's Customer Information System ("CIS"). Finally, anything more complex than the proposed parameters would be evaluated to determine the costs to accommodate new rate structures and weighed against the expected adoption and customer benefits of new non-standard proposals. The EDCs expect the Department will investigate and

[6] "Rate-ready" billing of TVR entails that suppliers provide to an EDC a set of TVR periods and prices that correspond to the agreed-upon standard parameters that allow an EDC to calculate a bill for a customer enrolled in that TVR rate. In contrast, "bill-ready" billing entails the sending of customer interval usage data to the supplier, which would compute the bill line items and send them back to the EDC for inclusion on the customer bill.

issue further guidance on the aforementioned parameters and options as part of a separate time-varying rate proceeding, and the EDCs will accommodate the directives resulting from that proceeding accordingly (see March 28, 2023 meeting minutes[7]).

Stakeholders asked that the EDCs make available for third-party suppliers the TVR design that the Department already identified in *Investigation by the Department of Public Utilities upon its own Motion into Time Varying Rates*, which National Grid successfully used in its Worcester pilot—*viz.* "(1) a default time of use ('TOU') rate with a critical peak price ('CPP') component; and (2) an option to opt out of the default rate and choose a flat rate with a peak time rebate ('PTR') component." However, these dynamic pricing models would require the ability to receive and update prices in the billing systems as market conditions change, and to communicate those price updates to customers in a timely manner to allow them to respond. The EDCs' AMI deployment plans approved by the Department do not include capabilities for ingesting and broadcasting dynamic pricing in response to changing market conditions, or capabilities for maintaining a peak-time baseline for each customer. EDCs, while supportive of rate innovation, remain concerned about customer adoption of dynamic pricing rates and caution that building those capabilities without additional customer research post-deployment could result in under-utilized investments. Consequently, the EDCs do not plan to accommodate dynamic pricing structures in their AMI rollouts. Instead, the Companies will accommodate standard TVR options. Eversource intends to accommodate bill-ready billing for non-standard TVR options beginning approximately when TVR options are enabled for suppliers; National Grid and Unitil are in the process of evaluating the cost and feasibility of bill-ready billing (see August 16, 2023 Quarterly Report at 2, fn. 3). This means that suppliers seeking to offer CPP and peak-time rebates would not be able to do so under rate-ready billing. Instead, the Companies explained that suppliers intent on offering dynamic pricing would have to communicate pricing signals to customers directly and then use the bill-ready billing option (i.e., calculate the bills themselves using data provided by the applicable EDC and then provide the billing values to EDC for billing purposes). Additionally, after EDC AMI deployments and TVR capabilities are established and stable at scale, the EDCs will collaborate with stakeholders to assess customer demand for other rate innovations to determine if the additional system enhancements are warranted in the future. As noted above, the EDCs anticipate a separate Department proceeding regarding TVR rates that may address these rate innovations (including dynamic pricing).

A few stakeholders expressed interest in hold-harmless offers, whereby customers could "try out" a TVR rate with a guarantee that they would be billed the lesser of the TVR charges or their charges under a flat rate. The EDCs explained that they will not accommodate hold harmless offers under rate-ready billing because the EDCs do not plan to develop the system capabilities and incur the additional cost to perform revenue-quality bill calculations under multiple rate scenarios simultaneously and then assign the lowest outcome to the customer for billing purposes. Suppliers would have the option to make their own hold harmless offers using bill-ready billing.

For rate set-up and administration costs, the EDCs will aim to assess a charge (not yet known) to the supplier for the cost of set-up, testing, and exception processing in the EDC CIS of each TVR option conforming to the parameters, with no markup. The EDCs will enable TVR

[7] See Track 2 Order at 327, fn. 136.

capabilities after enabling scaled AMI meter installations, in order to achieve system stability, as well as to establish a usage baseline for customers for more informed decision making. This is currently anticipated to take at least one year.

The EDCs propose that the parameters for rate-ready and bill-ready TVR are delivered on a best-efforts basis and may be subject to change, delay or additional limitations as system projects are further scoped, designed, and executed in alignment with any guidance provided by the Department in the anticipated TVR proceeding.

2. Consensus Status for Billing of TVR offered by Competitive Suppliers Issues[8]

a. Stated Consensus

Discussion during AMI Stakeholder Group meetings regarding TVR billing by competitive suppliers led to several stated consensus items between the EDCs and stakeholders, including:

- TVR for basic service is beyond the scope of the AMI Stakeholder Group;
- EDCs are targeting 2026 for core capabilities necessary to accommodate competitive supplier TVR;[9] and
- Further exploration and system development is needed for EDC-specific Electronic Data Interchange ("EDI") updates, which will take some time.

b. General Consensus

The EDCs consider significant portions of their proposed plan to accommodate supplier TVR post-AMI deployment to have reached general consensus, including:

- Supplier TVR initially to be offered as static with suppliers using the same time of use periods as the utilities;
- Suppliers using the same rate classes as the utilities;
- Determination not to offer a hold harmless offer.

c. Non-Consensus

Following discussion on TVR billing for competitive suppliers, several non-consensus items were recorded. The list of recorded non-consensus items below includes additional details on resolution or response from the EDCs (in italics):

- Timing of Enabling Competitive Supplier TVR: EDCs aim to enable availability of competitive supplier TVR approximately one year after scaled meter deployment to ensure meter-to-cash process stability and establishment of a customer usage baselines. However,

[8] Due to the overlap between AMI deployment and TVR rates for suppliers, all consensus items (i.e., Stated Consensus, General Consensus, and Non-Consensus) for both topics are addressed in this section.

[9] This timeline assumes the core AMI meter-to-cash capabilities have been demonstrated to be stable at scale. This stability is a prerequisite to accommodation of TVR.

suppliers see a direct link between this issue and the EDCs statement that they "have not committed to being able to provide municipal aggregators and/or their suppliers with AMI data for verifying ISO-NE settlements/billing." Suppliers assert that the EDCs must provide this data to enable competitive supplier TVR. This is covered in greater detail later in the document (Section V, Summary of Technical Working Group Meetings). Suppliers also assert that the one-year period contradicts the Department's directive in the Track 2 Order that the AMI Working Group "identify AMI meter deployment strategies that may expedite and maximize the availability of TVR products to customers during the AMI deployment period."[10] They believe that the year following AMI deployment is critical for engaging customers and that the EDCs should enable competitive supplier TVR earlier.

  - *The EDCs have explained in response to these concerns that it will be essential for the EDCs to ensure meter-to-cash stability and that customer usage baselines have been established. The EDCs further disagree that their determination contradicts the Department's directives in the Track 2 Order. The EDCs have given this issue careful consideration (and it was discussed at length during the AMI Stakeholder Working Group meetings) but have determined that expediting rollout of TVR before these critical milestones are achieved could cause customer confusion and/or issues that could actually delay or interfere with implementation of TVR, subsequently jeopardizing potential customer and system benefits.*

- Timing for TVR billing: Stakeholders also requested a commitment by the EDCs to agree to include "aspirational" language related to a target time for TVR billing (not just for competitive suppliers) that would be sooner than 12 months after first meters are installed.
  - *A stakeholder representing Green Energy Consumers Alliance suggested that the TVR proposal should include language that the EDCs will accelerate TVR capabilities if possible. The EDCs did not agree to this request and explained that including such language could foster unrealistic expectations, since system development dependencies to achieve AMI process stability, as well to accommodate and test TVR options are numerous and complicated. Ensuring customer equity in terms of foundational AMI functionality (i.e., network connectivity and meter-to-cash stability) is the first priority. Demands for testing TVR options should not detract from the EDCs' ability to equitably deliver core AMI functionality to all customers.*

- Cost to third-parties and municipal aggregators offering TVR and accessing AMI data. The EDCs have not been able to provide specific information related to supplier costs for setting up TVR. Concerns over prohibitive costs have been noted in response to these currently unknown costs.
  - *The EDCs must first design and deploy their system enhancements to accommodate TVR setup in order to be able to calculate their costs and capacity. Only then can the EDCs prescribe the TVR submittal process and costs to suppliers.*

- Requirement of a separate meter for electric vehicle ("EV") time of use ("TOU") rates.

[10] Track 2 Order at 329.

- *The EDCs' EV TOU strategy is currently the subject of docket D.P.U. 21-92. When questioned by some stakeholders on EV TOU plans, the EDCs referenced filings and testimony in that docket but asserted that discussion of EV TOU proposals is out of scope for the AMI Stakeholder Group. The Companies will incorporate any outcomes of that proceeding into their AMI deployment, as appropriate.*

B. AMI Deployment Strategies

Under the AMI deployment strategies focus area, the Department identified a goal of identifying AMI meter deployment strategies that may expedite and maximize the availability of TVR products to customers during the AMI deployment period. Track 2 Order at 329.

1. *EDCs' Proposed AMI Deployment Strategies*

The EDC deployment strategies were discussed beginning with the June 27, 2023 AMI Stakeholder Group meeting. The EDCs shared a presentation summarizing these discussions at the August 29, 2023, AMI Stakeholder Group meeting. This presentation is included as Attachment F. The EDC presentation stressed that the most efficient path to broadly available supplier TVR is an efficient meter deployment that achieves core meter-to-cash process stability, thus laying the foundation for expanded capabilities to accommodate TVR. This approach is modeled after successful deployments by other EDCs across the country. In response to stakeholder requests, National Grid presented on lessons learned from its Worcester AMI Smart Grid Pilot at the July 25, 2023 AMI Stakeholder Group meeting as part of the AMI deployment discussions. These discussions led to robust stakeholder engagement regarding TVR rate options and customer engagement.

The EDCs support rate innovation, and over time will continue to invest to expand capabilities beyond "Day 1" functionality as justified by market demand and consistent with any guidance or directives issued by the Department. The EDCs have determined that most cost-efficient path to network stability and near-complete customer coverage necessitates discipline in limiting the scope to the core meter-to-cash functionality and a defined set of "Day 1" customer experience enhancements. As such, the initial focus of the EDCs for deployment is on core capabilities to acclimate customers to AMI and deliver broadly valued basic features as demonstrated by successful deployments in other states. More complex functionality typically follows only after the AMI network, basic features and customer engagement have achieved maturity, and there is consensus that subsequent investments would be justified based on expected market adoption and value to customers on utility operations, while remaining aligned to expectations and further direction from the Department across varying proceedings. The EDCs look forward to assessing customer demand for these advanced functionalities and working with stakeholders on long-term plans to bring them to market, as warranted.

In planning AMI deployment, engagement and TVR accommodation strategies, the EDCs will integrate equity and Environmental Justice ("EJ") considerations wherever possible. EJ considerations will influence the deployment plan to the extent that cost-efficiency and the path to stable coverage are not materially compromised. The EDCs were asked by stakeholders if underserved and EJ communities would receive priority in the deployment plan. The EDCs

explained that AMI technology relies on the expanding mesh of devices that communicate with each other, therefore establishing full coverage in a region is the most efficient path to delivering benefits to all customers. Targeting specific communities can work so long as doing so does not create a patchwork of deployment pockets with suboptimal mesh density.

2. Consensus Status for Issues Related to AMI Deployment Strategies

Due to the overlap between AMI deployment and TVR rates for suppliers, all consensus items (i.e., Stated Consensus, General Consensus, and Non-Consensus) are addressed in Section IV(A)(2), above.

C. Customer and Third-Party Access to Data

Under the customer and third-party access to data focus area, the Department identified the following goals:

a. identify the most effective and efficient way(s) for customers to access their hourly usage data, as well as voluntarily share the data with competitive suppliers;
b. assess the need for and value of providing aggregated hourly usage data to stakeholders, and how to efficiently provide such data in a manner that protects customer privacy; and
c. identify the most effective and efficient way(s) in which the Companies can incorporate competitive supply TVR products on the Companies' bill. The Companies must assess the potential costs and limitations on incorporating competitive supplier's rates on a single bill.

Track 2 Order at 327-328.

1. AMI Stakeholder Group Planning for Discussion on Data Access

Pursuant to the schedule in Section I(D), above, data access was the third topic and scheduled for discussion beginning with the October 3, 2023 AMI Stakeholder Group meeting. At the August 29, 2023 meeting, the DOER presented a proposed schedule and framework for approaching data access issues that included presentations from stakeholders. DOER's presentation was included with the November 15, 2023 quarterly report as Attachment C.

The EDCs and stakeholders agreed to DOER's proposal. Accordingly, the October 3, 2023 meeting included presentations from Unitil on current customer data access; and from data access vendors invited to present by DOER (UtilityAPI, Landis + Gyr, and Oracle). The October 31, 2023 meeting included discussion of the EDCs' proposed data access guidelines (discussed in detail below) and presentations by Cape Light Compact on data access needs/uses, and the New York Integrated Energy Data Resource Program. At the December 13, 2023 meeting,[11] Unitil provided a presentation on the New Hampshire data access portal. This portal, which is presently being developed, enables the potential for expansion to a New England regional energy data hub, which the EDCs have collectively supported as sub-applicants for a Department of Energy

[11] The November 2023 AMI Stakeholder Group meeting was rescheduled to December due to a conflict with an Electric Sector Modernization Plan meeting being attended by numerous stakeholders.

("DOE") Grid Resilience and Innovation Partnerships ("GRIP") grant[12]. Based on interest in data access issues and the robust discussions during these meetings, the EDCs and stakeholders determined that it was appropriate to extend data access discussions into the January 2024 meeting. At the January 30, 2024 meeting, NRG presented on experiences and alternative practices regarding data access related to AMI deployment in other states. The EDCs' proposed data access guidelines, which are discussed in the next section, were first presented at the October 31, 2023 meeting and reflect these discussions and ongoing feedback received from stakeholders. The stakeholders continued to engage on discrete data access issues at the February and April 2024 meetings, as well as through smaller technical workshops in April and July 2024.

2. EDCs' Proposed Data Access Guidelines

The EDCs shared initial proposed guidelines for data-sharing during the October 31, 2023 meeting. The presentation is available as Attachment C. The EDCs' proposed guidelines were designed to address the Department's objectives for data access listed above. As discussed in greater detail below, the EDCs have determined that Green Button Connect ("GBC") will address many of these objectives without increasing current estimated costs. The EDCs have also designed a framework that balances protection of customer data with ease of data sharing through a tiered model depending on the data level being shared.

The guiding principles for data sharing are governed by a number of inputs, including cybersecurity and data privacy best practices as suggested by the EDCs' internal subject matter experts ("SMEs"), and consensus practices in other states in which the EDCs operate and where data sharing frameworks have advanced further. The guiding principles include: compliance with state laws as the top priority; data security best practices, including only sharing data that is required and destroying or deleting data when no longer needed; and utilizing three distinct strategies for individual customer data, building-level data, and aggregated data.

The EDCs propose that a single statewide approach/solution based on Application Programming Interface ("API") architecture is the most efficient approach for data sharing, and GBC is the obvious and appropriate solution given its position as the emerging nationwide industry standard.

Individual and aggregated data sets will be available for data sharing, as well as EPA Portfolio Manager compatibility for multi-property owners. The EDCs have also agreed to explore a vendor solution.

The EDCs proposed a logical data model for data sharing, which received no stated opposition from participating stakeholders. The general categories of data to be made available include customer usage data over the billing period; usage data for 15-minute intervals; peak demand; billed amount; customer account, address, and meter (not for aggregated or business level); and supplier information. Individual customer data that is successfully collected by the AMI network will be available the next day following EDC validation, estimation and editing ("VEE") and data cleaning routines. Aggregated and building-level data will be available the next month in order to

[12] A detailed description of and timeline for the Regional Energy Data Hub is included below on page 21.

allow sufficient time to verify consent thresholds.[13]

With respect to timing of data access, the EDCs have committed to making a good-faith effort to accommodate data sharing for individual AMI customers six months after each EDCs' commencement of scaled AMI meter deployment, or when statewide administrative processes are in place (i.e., if a single statewide or regional approach is adopted), whichever is later. Stakeholders assert that customers and their authorized suppliers should have access to near real-time VEE data. They assert that without any data sharing platform in place, they will have no visibility into customer usage. Moreover, retail suppliers assert that it will take time for them to ingest and analyze this new data so that they can begin to offer new products to their customers and that a delay in obtaining the data unnecessarily delays customers receiving benefit from their investment

The EDCs intend to ensure functionality for aggregated data sharing and building-level data when AMI deployment across each of their respective service territories is substantially complete. Good faith efforts will be made to deliver functionality before full deployment, if appropriate. Delivering functionality before complete deployment will be balanced with the goal of preventing customer and user confusion.

If a single statewide or regional solution is adopted, the EDCs recommend that the data platform vendor host be responsible for vetting third-parties based on criteria proposed by the EDCs and stakeholders that would be approved by the Department. This vetting will include third-parties' cyber security and privacy protections, as well as demonstrated business need for the data. Third-parties accessing data must be signatories to Dataguard, which requires annual attestation. Additionally, there will be progressive security requirements for third parties based on the number of customers whose data are being accessed.

Consent requirements would vary for individual customers, building-level data, and aggregated data. For individual customers, customer consent would be required through a web-based consent process. There will be an annual reminder of the option for customers to revoke consent, and customers will have the ability to revoke consent at any time via the consent portal. Customers should also have the option to provide consent for individual, third-parties or blanket consent for all vetted third-parties. Anonymization would not override consent requirements.

For building level data, consent would not be required if a building has more than four tenants and no single tenant's usage exceeds 50 percent of the building's total usage. Consent would be required from all tenants if there are four or fewer tenants, and from any tenant whose usage exceeds 50 percent of the building's total usage. There will be a web-based consent process and an annual reminder of the option for customers to revoke consent. Again, anonymization would not override consent requirements. Third parties must acknowledge that attempts to identify customers using building-level data are prohibited. Municipal ordinances may supersede these guidelines.

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[13] The EDCs' commitment to next day availability for individual customer data and next month availability for aggregated and building-level data was discussed and made in good faith. However, during the subsequent technical working group session it was discovered that other utilities have required more than twenty-four hours to 'validate, estimate and edit' customer usage data. As a result of this additional information, potential options were identified at the technical working group sessions that will require further discussion and/or guidance from the Department.

For aggregated data, aggregation basis must be an existing datum in the EDCs' respective CIS. Consent would not be required if the number of unaffiliated customers in the aggregation exceeds 100. Consent would be required if an aggregation has fewer than four customers and no single customer's usage exceeds 50 percent of total use in the aggregation. The EDCs are proposing a web-based consent process and an annual option for customers to revoke consent. Only anonymized data will be shared. Third-parties must acknowledge that attempts to identify customers using aggregated data are prohibited. Municipal ordinances may supersede these guidelines.

As discussed below, three suppliers (NRG Energy, Vistra Corp., and David Energy) have noted perceived insufficiencies with specific GBC implementations in other jurisdictions, and the investigation of GBC and alternative data sharing methods, such as flat file data and Green Button bulk data transfer capabilities using secure file transfer protocol ("FTP"), is ongoing. The EDCs convened two technical workshops for a smaller group of AMI Stakeholder Group participants to discuss these specific concerns. These technical workshops were held on April 19, 2024 and July 15, 2024. Recognizing that there are numerous variables in GBC implementations, the EDCs' primary goal was to understand the limitations faced in previous GBC implementations so that they can design their implementations in Massachusetts to avoid those shortcomings. To date, the EDCs remain committed to the GBC standard as they do not believe the challenges associated with past GBC instances are insurmountable.

3. Consensus Status of Issues Related to Data Access

a. Stated Consensus:

Discussion during stakeholder group meetings on specific data sharing topics led to stated consensus on several items, including:

- Preference for a single statewide solution/approach for data sharing, provided that such solution can meet the needs of customers, their authorized suppliers, municipal aggregators, and other stakeholders.
- Initial support for a statewide solution potentially growing into a regional solution with the DOE GRIP grant application that was submitted in May 2024 for a regional energy data hub. A DOE decision on grant funding is, at this time, expected in Fall 2024).
- In both the AMI Stakeholder Working Group meetings and technical workshops, EDCs and stakeholders discussed data sharing strategies and implementations to ensure that GBC can satisfy the needs of interested parties
- Reducing barriers to obtaining customer consent is vital. For customers who have not previously granted authorization to sharing their data, GBC offers a step towards simplifying this process of customer approval for sharing and lends itself to being leveraged for incorporation into mobile applications and other means that provide customers easy means for data access and sharing.
- Suppliers of municipal aggregations (Department-regulated entities with bilateral agreements with the EDCs) should have access to customer AMI data within their aggregation unless the customer opts out, subject to review of the data privacy protection

terms in supplier services agreements and Department approval of this policy. GBC could be leveraged for these suppliers as well, potentially allowing customer aggregation enrollment as a means to automate data sharing through GBC. Customers could also review and decide to opt out through GBC functionality. The Companies have committed to further investigate this capability.

- Competitive suppliers would like to access customer AMI data.
    - *The EDCs support providing customer AMI data to competitive suppliers but request Department approval to share this volume of interval data and clarification regarding the customer consent requirements for doing so. The Department's Track 2 Order authorized the EDCs to move forward with AMI but also directed the EDCs to initiate this AMI Stakeholder Working Group to specifically address data access. Pending feedback from the Department following submission of this report, the EDCs cannot confirm what additional consent requirements should be implemented to ensure that customer data privacy is preserved while also enabling customers to achieve the full potential of this interval data*.
- Municipal aggregators would like access to customer AMI data.
    - *The EDCs support providing customer AMI data to municipal aggregators but do not currently have agreements in place that would govern this volume of interval data sharing. Therefore, the EDCs agree that this sharing of data is subject to Department approval of an agreement between the EDCs and municipal aggregators. The EDCs are researching the terms and conditions of an agreement municipal aggregators could sign to access customer AMI data and request that this be discussed during the technical sessions with the Department.*

b. General Consensus:

The EDCs consider significant portions of the proposed guidelines for data-sharing and third-party access that was shared with the AMI Stakeholder Working Group at the October 31, 2023 meeting (provided in Attachment E to the November 15, 2023 quarterly report) to be under general consensus, including:

- Detailed data sharing framework and guiding principles. The EDCs guiding principles are: (1) compliance with state laws; (2) data security best practices; (3) distinct strategies for individual customer data, building-level data, and aggregated data. For each of these categories of data, the EDCs have outlined a framework and requirement for consent (see November 15, 2023 Quarterly Report, Attachment E, at 339)
- Use of GBC for certain use cases.
- Standards for data access elements.
- Granularity, as available by rate class: (1) usage data for the billing period; (2) 15-minute intervals; (3) peak demand; (4) billing amount; (5) customer account, address, meter (not for building or aggregated data); and (6) supplier information
- Delivery timeline including a focus on established standards and common means of data sharing.
- The EDCs have committed to good faith efforts to deliver data sharing functionality before full deployment of AMI, if appropriate. However, delivering data sharing functionality

before complete deployment of AMI must be balanced with the goal of preventing customer and user confusion.

c. Non-Consensus:

Following numerous discussions, including the two technical workshop to address specific stakeholder concerns, several non-consensus items remain.

The following list of recorded non-consensus items includes additional details on resolution or response from the EDCs (in italics):

- Third-party suppliers' (including municipal aggregators' suppliers) access to interval level VEE data in near-real time for billing purposes. The EDCs have not committed to being able to provide municipal aggregators and/or their suppliers with AMI data for verifying ISO-NE settlements/billing.
  - *The EDCs assert that the data sharing focus area directed by the Department pertains to facilitating customer data access, billing customers on TVR and data aggregation. Track 2 Order at 327-328. They assert that the Department's Track 2 Order did not require the EDCs to facilitate discussion on ISO settlements/billing, which would trigger different (and likely more stringent and costly) business requirements. The EDCs also assert that this is outside of the scope of this AMI Stakeholder Working Group.*
  - As noted above there is consensus regarding providing competitive suppliers and municipal aggregators with data access. There is non-consensus regarding whether the Department's existing regulations would require customers to re-authorize their competitive suppliers that are not suppliers to municipal aggregations to access their interval data once AMI is deployed and a data platform is operational. Suppliers point to existing Department regulations that already require customers to affirmatively choose to share their data with their suppliers when the customer enrolls with the supplier. Specifically, Section 220 CMR: 11.05 (4) states "Data sharing: Customer Authorization Requirements. (a) Release of Customer Usage Information. Each Competitive Supplier or Electricity Broker must obtain verification that a Customer has affirmatively chosen to allow the release of the Customer's historic usage information to the Competitive Supplier or Electricity Broker, in accordance with 220 CMR 11.05(4)(c)." Suppliers assert that they can access this data for multiple purposes, including but not limited to customer engagement, rate offerings, load forecasting, billing, etc.
  - *The EDCs assert that due to the qualitatively different level of data that will become available, additional guidance is necessary. Customers who have previously authorized data sharing may not have anticipated sharing the interval data that will be available through AMI when that previous authorization was made. Accordingly, the EDCs suggest this topic for discussion during a technical session with the Department to determine if additional authorizations are necessary.*

4. Summary of DOE GRIP Grant Application for a Regional Energy Data Hub

Pursuit of a DOE GRIP grant for a Regional Joint Utility Energy Data Hub for Advancing Community Distributed Energy Resource ("DER") Enablement and Customer Analytics in New England ("Regional Energy Data Hub").

Background: The regional electric distribution companies (including the Massachusetts EDCs) along with regional stakeholders partnered on the development of a $35 million GRIP Grant proposal that builds on ongoing efforts in New Hampshire related to New Hampshire Public Utilities Commission Docket DE 19-197, Statewide Energy Data Platform. This effort included four regional electric distribution companies: National Grid, Eversource Energy (on behalf of its New Hampshire, Connecticut and Massachusetts distribution companies), Unitil (on behalf of its New Hampshire and Massachusetts distribution companies), and Liberty; and fourteen non-utility key stakeholders. The joint parties supporting the GRIP Grant proposal are seeking to establish the Regional Energy Data Hub, designed to streamline customer access to, and sharing of, energy data using a method that is standardized across utility service territories and state boundaries that will provide a basis for regional collaboration and innovation. The Regional Energy Data Hub will leverage the GBC Standard and a common data model across all companies and will be made available to over five million customers across four New England states. The data shared will include billing, usage, and interval data providing a common means of access for customers and third-party service vendors to innovate new energy services. The Regional Energy Data Hub will enable joint capabilities, including electrification load growth estimation, hourly DER impact calculations, customer-facing efficiency and DER programs, aggregated community usage data, and forecasting grid impacts of new technologies.

A federal grant award will not only help facilitate this large collaborative effort but will include monies for community education and outreach and the building of specific services using the Regional Energy Data Hub as a basis. These services include outreach and benefit programs for communities and Low-Moderate Income households and other disadvantaged and Justice40 communities; An 'Energy Bill Check Up' that will help reduce energy costs in vulnerable communities; and the development of community energy dashboards to facilitate community energy efficiency and planning efforts.

A regional approach of this type is novel and improves upon existing statewide efforts to create new best practices. It brings together diverse stakeholders to align on a common solution for standardizing and sharing energy data, which is normally an exceedingly difficult proposition due to the challenges in coordinating a collective effort to this scale. It is specifically designed to be highly scalable and serve to drive continued private and public sector investment as additional utilities and users of the Regional Energy Data Hub join the broadening the resulting network effects. Ultimately, the goal is the incorporation of other investor-owned utilities, cooperatives, and municipal electric providers into the Regional Energy Data Hub as well, providing a deep source of standardized energy data across the entire New England region.

As of August 1, 2024, the expectation is for a response from DOE on a grant award by the end of calendar year 2024. Upon notification of any award, the anticipated next step is to negotiate scope and funding of the Regional Energy Data Hub, and to seek regulatory approval from

appropriate state agencies and regulators.

D. Customer Education and Engagement

Under the customer education and engagement focus area, the Department identified the following goals:

a. Receive input on developing specific strategies and tactics to provide customer education to low- and moderate-income customers, Environmental Justice ("EJ") communities, and other underserved populations; and
b. Identify effective and efficient ways in which the Companies can coordinate their customer education efforts with competitive suppliers and municipal aggregators.

Track 2 Order at 328-329.

1. EDCs' Proposals for Customer Education and Engagement

Each of the EDCs presented their individual plans for customer education and engagement during the January 30, 2024 meeting. The presentations are available as Attachment D. Customer education and engagement was also discussed during the February 27 stakeholder meeting.

Each EDC's plan includes strategies for targeted outreach to EJ communities and low- and moderate-income communities. The EDCs also have plans for engagement with key stakeholders (e.g., municipal aggregators, competitive suppliers). Participants in the AMI Stakeholder Group included representatives from these customer groups providing an opportunity to receive direct feedback prior to finalization of these customer education and engagement plans. For example, Cape Light Compact (a municipal aggregator) has been an active participant in the AMI Stakeholder Group, as have the Low-Income Weatherization and Fuel Assistance Program Network and National Consumer Law Center. As AMI deployment moves forward, the EDCs will continue to engage with these key stakeholders on their education and engagement efforts.

National Grid

National Grid's education and engagement strategy includes three phases: 1) *Customer and Community Awareness*; 2) *Deployment*; and 3) *Empowerment and Enablement.* Having incorporated lessons learned from its Smart Energy Solutions AMI smart grid pilot (2015-2018), the *Customer and Community Awareness* phase will inform customers about smart meters and how they can improve and better manage their personal energy experience, while also engaging with local community leaders and key community partners to develop advocates for forthcoming smart meter deployment. This includes engaging a broad cross-section of customers and communities, prioritizing EJ communities and low- and moderate-income customers, municipalities, and small and medium businesses, to listen, learn and incorporate feedback. The *Deployment* phase will consist of a targeted 90, 60, 30, 10-day pre-deployment plan for communicating personally with customers, as well as answering questions through a continuously updated website landing page (inclusive of FAQs) and engagement with customer service representatives. Specifically, the 90, 60, 30, and 10-day communications timeline includes mass market outreach (e.g., billboards, bus

wraps, radio ads); direct mail letter and email; welcome brochure (i.e., AMI 101), email, bill insert, letter, and video; and text, email and/or robo call prior to AMI installation, respectively. Customers will receive a doorhanger on the day of installation

Upon installation of a smart meter, National Grid will, in the *Empowerment and Enablement* phase, continuously support customers' ongoing energy management capabilities by highlighting benefits from their new meter, including: access to,15-minute interval data, high usage alerts, and recurring energy usage summaries (through their MyAccount web portal), as well as real-time load disaggregation (via a mobile phone application); remote service connections; enhanced outage management; and enablement of future innovative solutions, such as time-varying pricing programs. National Grid will also deploy, on a rolling basis, pre-deployment baseline surveys, post-installation surveys, and long-term tracking surveys to capture and continuously incorporate customer experience learnings and insights, especially from EJ communities and low- and moderate-income customers.

National Grid is currently, and will continue to, undertake proactive and consistent community engagement with town/municipal leadership and critical community partners, and is integrating foundational AMI capabilities into its larger community and customer outreach strategy for its Future Grid Plan (i.e., Electric Sector Modernization Plan).

Eversource

Eversource will employ a three-phased customer communications plan cultivating broad awareness, installation readiness, and post-installation engagement. The broad awareness phase will include education for all Massachusetts customers increasing in frequency (particularly for early-deployment areas) as the 2025 date for first installations nears. There will be a specific focus on EJ communities and low-to-moderate income customers. Engagement and education materials will be delivered via all customer communications channels, including Eversource.com, video, email, traditional and social media, advertising, and community events. The installation phase includes a 90, 60, 30-day direct customer outreach plan, communication by text and email one to two days before installation, and a doorhanger on installation day. The post-installation phase will include targeted follow-up communications to promote benefits and maximize AMI customer engagement portal use through email, postcard or mailer, on-bill message, and Eversource.com. Eversource's AMI customer engagement portal will launch with core features such as access to past interval usage data third-party data sharing and insights into their usage behavior. Later features will include high usage alerts, usage insights, near-real-time usage data and service/outage status, a rate comparison tool, and self-service communications related to rate (e.g., TVR) enrollments.

Unitil

Unitil's goal for customer education and engagement is to connect customers with value adding products and services that empower users to reduce their energy usage thereby reducing their bill and their carbon footprint. Unitil is utilizing experience from its initial AMI deployment and updating customer outreach plans such as those used in 2006 to educate customers on AMI meters. The communication plan includes direct mail, email, text messages, door hangers, and 24-7 call

center coverage through Utility Partners of America. Communications will be in multiple languages to support EJ communities. Unitil's customer data portal will include a compare bill feature, usage charts, rate comparison tool, a mobile application, and Green Button Download. Features to be added after deployment include GBC and high usage notifications. The customer education and engagement plan is part of a roadmap that seeks to change customer's energy behavior in accordance with the customer's vision of their energy future through proactive alerts, insights in behind-the-meter disaggregated load, and machine learning to assist customers based on their unique data. Unitil will build on demand response programs to understand customer needs and trends, as well as contribute to a "decarbonization hub" or "Electrification Hub" in concert with customers, regulators, and investors.

2. Consensus Status for Issues Related to Customer Education and Engagement

The EDCs consider each EDC's plan for customer education and engagement to have received general consensus among stakeholders. The EDCs are aligned in communications plans that will incorporate mass market communications, execute a variation of 90, 60, 30-day and day-of installation communication plans for deployment, provide digital customer engagement tools, and facilitate general community engagement efforts, with tailored outreach for environmental justice communities specific to each EDCs service area.

No non-consensus items were recorded for customer education and engagement.

V. Summary of Technical Working Group Meetings

At the conclusion of the initially scheduled sessions addressing customer data sharing, several competitive suppliers shared a perspective that Green Button Connect would not satisfy all of their needs for customer usage data, and voiced a preference that the EDCs make an alternative data sharing option available for suppliers. Given that Green Button Connect has emerged as the industry standard for customer data sharing, the EDCs were intent on understanding the suppliers' concerns so that any shortcomings from Green Button Connect deployments in other states can be solved in Massachusetts. Over the course of the suppliers' presentations and two added technical workshops, it became clear that the suppliers' concerns about the Green Button Connect solution stem from a desire to use the transferred usage data for load settlements. The EDCs do not take issue with the retail suppliers' desire to explore improvements to load settlement using AMI data; however, the EDCs interpret the mission of the AMI Stakeholder Group as advancing customer education, engagement and the development of new rates, products and services through AMI data sharing (and by extension, redesigning the load settlement process is not in scope). The EDCs assert that their Green Button Connect deployment plan affords expansive opportunities for retail suppliers and other third parties to forecast customer usage, design new offerings, and engage customers around their energy usage for these purposes.

Additionally, with the participation in the two technical workshops of Eversource's Green Button Connect deployment partner UtilityAPI and current and former Green Button Connect users in the California market, it became apparent that the bottlenecks in other utilities' data sharing processes reside in the VEE process, which occurs prior to transmission via Green Button Connect. Recognizing that AMI data collection and validation processes can be subject to

variability and delay, the EDCs are committed to ensuring their VEE processes strike the right balance between data timeliness and data quality.

Furthermore, it is important to note that the EDCs did not contemplate redesigning load settlement processes in their AMI plans approved by the Department. Load settlements are achieved using systems that operate in parallel with core meter-to-cash systems, and each EDC intends to leave existing settlement processes intact through its AMI deployment. It is also important to note that load settlements are governed by ISO-NE, and changes would require a separate stakeholder process under its oversight. Consequently, the EDCs believe that load settlement discussions are not within the scope of this AMI Stakeholder Group, and consideration of changes would necessitate an extensive study of the costs and benefits to determine prudence. Finally, the EDCs note that there is broad consensus among the AMI Stakeholder Group that customers will have the right to opt out of data sharing, including with their individual supplier. The EDCs question whether the customer data sharing platform can ever be used for settlements assuming the customer right to opt out is preserved.

The view of load settlements being out-of-scope notwithstanding, the EDCs respect the positions that were voiced by suppliers during the AMI Stakeholder Group meetings and in the technical workshops, and have therefore included them here for Department consideration.

Supplier Positions:

- *On multiple occasions, NRG and Vistra presented the need for suppliers to be able to access all of their customers' watt-level data all at one time within 24-48 hours of measurement via .csv files through an automated mechanism. NRG, Vistra, and David Energy also expressed concern about the feasibility of using GBC for bulk data transfers for mass market customers. They highlighted their negative experiences using API and XML-based solutions such as GBC for bulk transfer of mass market customer data in other regions and their positive experiences using .csv flat file transfers. Given those positive experiences, NRG and Vistra repeatedly noted their preference for flat file data options instead of GBC. Their concerns were amplified by a former CIO, that spoke to the July 15 technical workshop about the challenges his East Bay CCA faced using GBC for bulk data transfer of mass market customers in a timely and complete fashion. He noted that GBC was designed for the exchange of limited amounts of data between customers, utilities, and third parties using a standard format, which is not appropriate for the bulk transfer of granular data for hundreds of thousands of customers on a daily basis. He also noted the bulkiness of using an XML format, and that data was often incomplete and/or difficult to download. Two representatives of other CCAs (Peninsula and Silicon Valley) spoke to having positive GBC experiences.*

  At the July 15 technical workshop, UtilityAPI (a GBC vendor) presented and stated that they can design the platform to provide data via .CSV instead of XML and use a flat file transfer format. They assert that they can do this through Green Button Connect. The EDCs have also promised to involve suppliers in the testing of this platform as AMI deployment begins and they reach enough customers where testing would be helpful.

While suppliers still harbor significant concerns with relying exclusively on Green Button Connect as the platform for bulk data transfer for mass market customers, they are willing to agree to test it provided that:

- *UtilityAPI implements their plans to use flat file transfers and provide data via .CSV*
- *The EDCs develop and implement Service Level Agreements that require the GBC platform to function 99.9% of the time (similar to NH settlement)*
- *If GBC fails to perform during testing and it becomes apparent that it cannot meet the SLA upon full AMI deployment, that the EDCs collaborate with suppliers to implement an alternative solution that would be available once AMI deployments are complete (e.g., similar to existing .csv flat file transfer solutions utilized in mid-Atlantic states and ERCOT)*

- *In addition to the concerns raised regarding GBC, NRG and Vistra also underscored the importance of the EDCs providing data into the platform (whether GBC or a different platform) with the necessary granularity, timeliness, and accuracy. The EDCs and suppliers have agreed to develop Service Level Agreements governing these areas that will be submitted jointly to the Department. We recommended that as part of the technical session that the Department holds on data access, that the Department include these SLAs on the agenda.*
- *Stakeholders, including retail suppliers and municipal aggregators, have expressed significant concern with the EDC position, as they believe EDCs must provide all customers and their authorized suppliers with all interval-level data and conduct load settlement and capacity tag calculations using that interval data at the ISO. Stakeholders assert that the EDCs must provide interval-level data to customers and their authorized suppliers regardless of whether customers are on a time-varying rate, as they can gain insights from that interval data that improves their own load forecasting and customer engagement. They assert that access to this interval-level data and load settlement based on it is foundational to a successful AMI deployment. Without it, customers will have neither the insights nor the motivation to change their behavior and respond to price signals, negating the major benefit of AMI deployment. Customers will not realize the full value of the investment they are making with AMI deployment. In other restructured markets where AMI has been deployed (e.g., PJM), stakeholders reported that this is standard practice.[14] Settling on this data also includes calculating and providing "ICAP tags" to customers and their authorized suppliers. Stakeholders request Department guidance on this issue.*

[14] For example, Stakeholders provided an example of an interaction with the grid operator (PJM) and the use of interval data for settlement purposes and capacity/transmission tags.