

April 5, 2023

Mark D. Marini, Secretary
Department of Public Utilities
One South Station, 5th Floor
Boston, MA 02110

Dear Secretary Marini:

Acadia Center appreciates the opportunity to file written comments concerning performance metrics related to the 2022-2025 Grid Modernization Plans (“GMP”) and Advanced Metering Infrastructure (“AMI”) investment plans filed by NSTAR Electric Company d/b/a Eversource Energy (“NSTAR Electric”), Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid (“National Grid”), and Fitchburg Gas and Electric Light Company d/b/a Unitil (“Unitil”) (together, “Companies”) for approval by the Department of Public Utilities (“Department”) in D.P.U. 21-80, D.P.U. 21-81, and D.P.U. 21-82, respectively.

In establishing the grid modernization proceedings, the Department’s three overarching grid modernization objectives were to (1) optimize system performance (by attaining optimal levels of grid visibility, command and control, and self-healing); (2) optimize system demand (by facilitating consumer price-responsiveness); and (3) interconnect and integrate distributed energy resources.¹ In support these three objectives, Acadia Center provides comments below on proposed state-wide and company-specific performance metrics for continuing and new grid-facing investments; customer-facing investments; and performance metrics related to low-income and environmental justice community customers.

Acadia Center’s priority in proposing performance metrics is to ensure that the projected benefits of grid modernization and AMI deployment are being realized for ratepayers. In general, Acadia Center recommends that the Department not only approve performance metrics that track and measure activities and outputs, but instead implement metrics that are outcomes-based and are explicitly aimed at supporting the Department’s three grid modernization objectives. Moreover, Acadia Center urges the Department not only to implement basic performance metrics but also to consider financial penalties for underperformance where appropriate.

I. Continuing Investments

In the 2022 Track 1 and Track 2 Orders, the Department approved the continuation of existing state-wide and company-specific grid modernization performance metrics from July 25, 2019. The Department required the Companies to revise their volt/volt-ampere reaction optimization (VVO) greenhouse gas (GHG) impact performance metrics so that they were consistent with 2022-2024 Three Year Energy Efficiency Plans. The Department approved Eversource’s power quality monitoring performance metric but rejected Eversource’s request to delete its advanced load flow performance metric. And the Department required National Grid to develop a performance metric for smart

¹ D.P.U. 21-80-B/D.P.U. 21-81-B/D.P.U. 21-82-B, Track 2 Order, Page 136.

capacitor investment. Acadia Center agrees that the Companies' VVO GHG performance metric should be consistent with the 2022-2024 Three Year Energy Efficiency Plans and does not object to the Department's other requirements listed above.

In response to the Department's request for comment about whether to track storm-related and non-storm-related outages separately, Acadia Center does not object to doing so but cautions that separate tracking may unintentionally give the impression that the Companies are more limited in their capacity to make system improvements than they actually are. One of the potential benefits of grid modernization and AMI investments is to reduce the negative effects of outages for customers. While there may be few downsides to tracking storm and non-storm-related outages separately, the Companies' grid modernization and AMI investments will presumably reduce the negative effects of outages, whether storm-related or not. Tracking storm-related and non-storm-related outages separately must not result in the perception that there is nothing a Company can do to improve outcomes during storms, simply because it is a storm-related outage.

Acadia Center recommends that the Department consider additional metrics for continuing investments, including:

- Growth in DER hosting capacity.
- Average interconnection speed per customer.
- Total MW and MWh curtailment of DER.
- Total dollar value of deferred or avoided distribution and transmission investments as a result of grid modernization investments.

Acadia Center recommends a rolling average of the three prior years, starting with 2019-2021 for the first investment year of 2023, as a baseline for evaluating continuing investments.

II. New Investments

A. Performance Metrics for New Grid-Facing Investments

In the Companies' grid modernization filings each proposed performance metrics that would track customer DER aggregation participation related to FERC Order 2222, but the Department determined that any proposed investments and metrics driven by compliance with FERC Order 2222 were premature and outside the scope of these proceedings.

The Companies proposed a statewide performance metric to monitor the number and percentage of DER sites enrolled in each company's DERMS system and the associated dispatched kW and would be provided on an annual basis with the Grid Modernization Annual report for the year prior. The Department rejected these proposed metrics.

The Companies also proposed company-specific grid-facing metrics, but the Department chose not to accept them. NSTAR Electric proposed a load forecasting milestone completion performance metric to demonstrate progress towards completion of the advanced forecasting workflow from adoption propensity model to probabilistic scenario modelling. National Grid proposed a metric for tracking milestones in the implementation of its DERMS investment, as well as a metric to measure the increase in feeders with advanced short-term load forecasting capabilities. Unitil proposed a metric to measure the amount of DER capacity enabled as a direct result of the DER mitigation project completed.

While the metrics above may be useful for evaluating progress, Acadia Center urges the Department to ensure that activity or output-based metrics are clearly tied to meeting the Department's grid modernization and AMI objectives—namely, improving system performance, optimizing system demand, and integrated more distributed energy resources. Implementation of performance metrics to track progress in meeting the Department's overarching grid modernization goals is critical.

But more important than simply measuring activities and outputs (e.g. the number of circuits where devices have been installed) is the need to track meaningful outcomes for ratepayers (e.g. that installed devices are in fact being used to deliver better outcomes in terms of optimizing system demand and improving reliability). Performance metrics that track progress in improving measurable outcomes such as increasing DER hosting capacity or reducing SAIDI and SAIFI may be more useful than simply tracking activities. Acadia Center strongly agrees with the statement from the Attorney General's Office that the Department should "direct the Companies to develop and propose performance metrics that measure whether customers are actually receiving the projected benefits from the Companies' grid-facing investments."²

B. Performance Metrics for New Customer-Facing Investments

National Grid and NSTAR Electric did not propose any performance metrics related to AMI and customer-facing investments in their AMI Implementation Plans but did include suggested metrics for consideration. In its filings, National Grid mentioned (1) operational and program metrics related to (i) deployment, (ii) billing accuracy, (iii) outage management, and (iv) system operation and environmental benefits; and (2) customer metrics related to (i) awareness, (ii) enablement and empowerment, and (iii) Green Button Connect My Data.³ NSTAR Electric mentioned the following performance metrics: the number of AMI meters deployed per day or week; geographical AMI meter deployment percentages; the number of meters experiencing loss of communications; meter read rates and post-installation AMI meter issues, e.g. failed read; bandwidth of network routers and collectors; and latency statistics.⁴

Unitil proposed three performance metrics associated with its AMI Implementation Plan: (1) an AMI meter replacement metric, which would quantify the number of meters deployed with the ability to provide interval metering; (2) a customer engagement metric, which would measure the number of customers that have enrolled in the customer engagement system; and (3) a data sharing platform metric, which would measure the number of customers that have enrolled in the data sharing program. The Department did not accept Unitil's proposed company-specific customer-facing performance metrics.

The performance metrics above that the Companies identified in their AMI Implementation Plans will be useful to track progress in meeting the timelines of AMI deployment. But the Department can go beyond the types of metrics that primarily track activities and outputs. Acadia Center urges the Department to set outcome-based performance metrics that track progress towards meeting its three grid modernization goals, not just simply measurement of deployment installations. In its Initial Brief, Acadia Center urged the Department to set concrete metrics for the following performance categories:

- Measurement of successfully meeting AMI deployment timelines.

² D.P.U. 21-80-A/D.P.U. 21-81-A/D.P.U. 21-82-A, Track 1 Order, page 28.

³ D.P.U. 21-80-B/D.P.U. 21-81-B/D.P.U. 21-82-B, page 318.

⁴ NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 21-80, Exhibit ES-AMI-2.

- System performance improvements as a result of AMI, including reducing peak demand (MW) compared to a baseline year and/or system average, and increasing system load factor (i.e. average load divided by peak load during a specific period of time).
- Customer usage of online portals, including the number or percentage of customers who access their energy data per month.
- The number or percentage of customers who make customer data available to third-party entities.
- Percentage and number of customers enrolled in demand response programs.
- MW of load participating in demand response programs.
- Customer AMI opt-out rates.
- The number of customers that receive high bill alerts.
- Measurement of delivered ratepayer benefits over time from AMI deployment as compared to projected benefits in the Companies' benefit-cost analyses from their original filings.

The final metric above requires a comparison of benefits relative to spending that will provide a more comprehensive view of the effectiveness of the Companies' investments. Acadia Center also supports the additional metrics below that the Attorney General originally proposed in its testimony, including:⁵

- Percentage reductions in average annual voltage for circuits with VVO/CVR;
- Percentage improvements in average annual power factor for circuits with VVO/CVR;
- Count of residential customers billed on a time-varying rate; and
- Average system-wide demand response per event (in MW) by residential customers.

In addition to metrics that track basic levels of performance—which are useful for collecting initial data—Acadia Center recommends that the Department develop specific performance targets for each metric that can then be used to analyze performance over time and identify areas for improvement. Acadia Center also recommends a rolling average of the three prior years as a baseline for evaluating new investments.

III. Performance Metrics for Low-Income Customers and Environmental Justice Communities

Acadia Center urges the Department to consider the following performance metrics to track whether the Grid Modernization and AMI investments are providing benefits specifically to low-income customers and EJ communities:

- Reliability and resilience metrics (e.g SAIDI, SAIFI, CAIDI, MAIFI), each segmented by geographic area, income, and other census block data.
- Infrastructure deployment and success in meeting deployment timelines in environmental justice communities.
- Infrastructure maintenance in environmental justice communities.
- Number and percentage of low and moderate-income customers enrolled in demand response programs.

⁵ DPU 21-80. Direct Testimony of Paul Alvarez and Dennis Stephens on Behalf of the Office of the Attorney General. Exh. AG-WG-1, January 19, 2022.

- Number and percentage of low and moderate-income customers accessing energy usage data each month.
- Number of low and moderate-income customers participating in time-of-use rates.
- Number of educational events specifically in environmental justice communities.
- Number of completed communications campaigns to raise customer awareness about AMI.

IV. Financial Penalties for Underperformance

Acadia Center urges the Department not only to consider performance metrics, but also to identify performance targets and to consider financial penalties for underperformance. The planned grid modernization and AMI investments are vital for helping the Commonwealth achieve its climate and clean energy requirements, and failure to deliver the expected benefits proposed in the investment plans runs the risk of imposing additional costs without the commensurate benefits. Acadia Center urges the Department to set performance targets for all of the metrics where feasible and where sufficient data exists and to consider implementing financial penalties if the Companies fail to meet those targets. Acadia Center recommends that the Department assess performance metrics in the context of any potential unintended consequences. For example, a utility may be incentivized to use AMI infrastructure to reduce operational expenses such as meter reading but not necessarily to use that same infrastructure to its full potential in helping to reduce peak demand and therefore reducing the need for physical infrastructure upgrades (on which the Companies earn a rate of return).

Sincerely,

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