

Docket No. 4780
Tenth Set of Data Requests of the
Division of Public Utilities and Carriers to National Grid
March 9, 2018

NOTE: The references to responses to division data requests refer to docket 4770.

PST Programs

- 10-1. Referring to the response to DIV 24-10(b), the question intended to ask what the incremental revenue requirement for the System Data Portal project would be for Rate Years 1, 2, and 3 if the System Data Portal project commenced in Rate Year 1 and continued in years 2 and 3. The response indicated that there would be “no change to the revenue requirements filed by the Company because the Company has assumed a half-year convention on all the capital revenue requirements in the year of investment.”
- a. (NOTE: The question may not have been written clearly enough or it may have been misunderstood when the response was prepared.) To be clear, was the response intended to suggest that there are incremental capital costs associated with the System Data Portal that would be incurred in any of the Rate Years? If yes, please provide an estimate of the capital investments and revenue requirement associated with those capital investments that would be made in Rate Years 1, 2, and 3 for the System Data Portal project and explain why these capital investments were not identified on Bates page 46 of PST-1 that appears to summarize all the costs of the System Data Portal project by year.
 - b. For clarity, please state the estimated revenue requirement of the System Data Portal project for Rate Years 1, 2, and 3, assuming the Company commenced the System Data Portal project with the increased scope proposed in the PST plan during Rate Year 1 and continued the project as proposed in the PST plan in Rate Years 2 and 3.

Response can be found in Book 1 on Bates page(s) 1.

- 10-2. Referring to the response to DIV 24-11, for each of the initiatives identified in the response (other than the general reference to “Physical Grid Infrastructure”):
- a. Please indicate whether the costs of the initiative are recovered in base distribution rates or recovered through a different cost recovery mechanism. If a different mechanism than base distribution rates, please identify.
 - b. Please indicate when the initiative commenced.

- c. Please provide an estimate of the annual costs incurred by the Company and charged to ratepayers since the inception of the initiative.

Response can be found in Book 1 on Bates page(s) 2-4.

- 10-3. If the Rhode Island Commission directed the Company to implement the Operational Data Management projects for grid modernization set forth in Section 3.5 of PST-1, Bates pages 56-60, for the benefit of Rhode Island, and the Company implemented these projects, would the projects benefit the Company's distribution affiliates in Massachusetts or New York when implemented? If yes, please identify which affiliates will benefit and how each of the projects would benefit those affiliates. If no, please explain why not.

Response can be found in Book 1 on Bates page(s) 5.

- 10-4. If the Rhode Island Commission directed the Company to implement the Telecommunications initiative for grid modernization set forth in Section 3.6 of PST-1, Bates pages 60-61, for the benefit of Rhode Island, and the Company implemented these projects, would the projects benefit the Company's distribution affiliates in Massachusetts or New York when implemented? If yes, please identify which affiliates will benefit and how each of the projects would benefit those affiliates. If no, please explain why not.

Response can be found in Book 1 on Bates page(s) 6.

- 10-5. Referring to project costs for the electric transportation initiative set forth in Table 5-4 in PST-1, Bates page 115, please provide greater detail that shows how these costs were estimated, including more granular information that identifies the underlying costs for the estimates shown. Please also specify whether the costs include adding employees. Please also indicate how many charging stations are assumed in the cost estimate and the capital cost associated with those charging stations.

Response can be found in Book 1 on Bates page(s) 7.

- 10-6. Referring to the Transportation Education and Outreach description in Section 2.4 of PST-1, Bates pages 109-110, please explain why it is reasonable for ratepayers to pay for the costs of informing the public about anything more than the rates, availability, and location of EV charging stations around the service area.

Response can be found in Book 1 on Bates page(s) 8-21.

- 10-7. Referring to the Transportation Education and Outreach description in Section 2.4 of PST-1, Bates pages 109-110, if the Education and Outreach was limited to the location and availability of charging stations and the rates for using the charging stations, how much would this reduce the cost of this component of the proposed program?

Response can be found in Book 1 on Bates page(s) 22.

10-8. Referring to PST-1, Bates page 116, please explain why there is a higher O&M cost for electric vehicles, compared to non-electric vehicles of the same type that are typically used by the Company in its fleet. Please also provide the comparative cost and O&M for non-electric vehicles of the same type used by the Company in its fleet.

Response can be found in Book 1 on Bates page(s) 23.

10-9. Referring to the section 2.5 of PST-1, Bates page 110, does the Company believe it is important for it to begin phasing in electrified vehicles into its fleet? If yes, please explain why it has not done so in the ordinary course of business and simply included the cost in its historical test year and rate year revenue requirement. If no, please explain why not and further explain why the Company is now proposing it as a separate initiative.

Response can be found in Book 1 on Bates page(s) 24.

10-10. Referring to PST-1, Bates page 117, please recalculate the BCA ratio assuming that the costs associated with “Transportation Education and Outreach” is reduced by 80% and the Company Fleet Expansion is removed.

Response can be found in Book 1 on Bates page(s) 25-26.

10-11. Referring to PST-2, Appendix 10.6, Bates page 241, please provide a recalculation of the annual revenue requirement assuming the “Transportation Education and Outreach” is reduced by 80% and the Company Fleet Expansion is removed.

Response can be found in Book 1 on Bates page(s) 27-37.

10-12. Referring to project costs for the Electric Heating initiative set forth in Table 6.2 in PST-1, Bates page 129, please provide greater detail that shows how these costs were estimated, including more granular information that identifies the underlying costs for the estimates shown. Please also specify whether the costs include adding employees.

Response can be found in Book 1 on Bates page(s) 38-41.

10-13. Referring to Section 2.1 of PST-1, Bates page 122 and Table 6.2 on Bates page 129:

- a. Please explain why it is reasonable to allocate \$592,000 of ratepayer dollars for single ground-source heat pump installation in one customer’s building.
- b. How much of the Community-Based Marketing costs, if any, relate to the GSHP Program?

Response can be found in Book 1 on Bates page(s) 42.

10-14. Comparing the Community-Based Marketing costs shown on Table 6.2 of PST-1, Bates page 129 (\$286,500) to the Transportation Education and Outreach description for the Transportation Electrification initiative in Table 5-4 of PST-1, Bates page 115 (\$499,397), please explain why the Transportation Education and Outreach costs for the

Transportation initiative are so much higher than the Community-Based Marketing costs for the Electric Heating initiative. What are the higher cost drivers?

Response can be found in Book 1 on Bates page(s) 43.

10-15. Referring to PST-1, Table 6.2 of PST-1, Bates page 129, please provide the program costs assuming that the GSHP Program is eliminated and recalculate the BCA ratio shown on Table 6-4, assuming the elimination of the GSHP program.

Response can be found in Book 1 on Bates page(s) 44.

10-16. Referring to Appendix 10.7 in PST-2, please provide the annual revenue requirement for Rate Years 1, 2, and 3 for the Electric Heating initiative, showing O&M and the revenue requirements for any capital investments, if any, separately.

Response can be found in Book 1 on Bates page(s) 45-55.

10-17. Please explain why there is a difference between the costs for the Electric Heating initiative shown on Table 6.2 of PST-1, Bates page 129 and the O&M expenses shown in Appendix 10.7.

Response can be found in Book 1 on Bates page(s) 56-57.

10-18. Referring to Appendix 10.7 in PST-2, please provide the annual revenue requirement for Rate Years 1, 2, and 3 for the Electric Heating initiative, showing O&M and the revenue requirements for any capital investments separately, assuming the GSHP program is eliminated.

Response can be found in Book 1 on Bates page(s) 58-68.

Advanced Metering Functionality

10-19. Please refer to Schedule PST – 1, Chapter 4 – AMF, Page 3 of 31, in which the Company seeks approval for FY19 costs of \$2 million “to undertake the next phase of design, including further exploration of partnerships, stakeholder input, and other innovative program elements, and to undertake a procurement exercise.”

- a. Please describe the information that the Company anticipates gaining from a “further exploration of partnerships,” and how such information would be factored into the Company’s full AMI deployment proposal. Please provide an illustrative example with your response.
- b. Please describe the process by which the Company proposes to solicit stakeholder input.
- c. Please describe the “other innovative program elements” that the Company intends to explore.

- d. Please describe the procurement exercise the Company intends to conduct and how such information would be factored into the Company's full AMI deployment proposal.
- e. Please provide a table showing how the requested \$2 million will be split among the categories listed above.

Response can be found in Book 1 on Bates page(s) 69-80.

- 10-20. Refer to Appendix 10.4 – AMI Stand Alone, Page 1 of 31 and Appendix 10.5 – AMI Shared, Page 1 of 31. Please provide columns similar to those included in the Annual Revenue Requirement General Summary tables documenting the cost elements for the \$2 million for the Six Months Ended March 31, 2019. Please do this for both the AMI Stand Alone and AMI Shared expenses and costs.

Response can be found in Book 1 on Bates page(s) 81-86.

- 10-21. Refer to PST Appendix 4.2 regarding benefits from VVO/AMF integration and the Company's proposal to invest in Feeder Monitoring Sensors:
- a. Please describe the information that the subset of AMF meters acting as end-of-line sensors will provide to the Company, and how that information will be used to provide benefits to the grid.
 - b. Please describe the information that the Company's proposed feeder monitoring sensors will provide to the Company, and how that information will be used to provide benefits to the grid.
 - c. Please describe and quantify the value of the benefits provided by the feeder monitoring sensors that are incremental to those provided by the subset of AMF meters acting as end-of-line sensors.
 - d. Please discuss whether using AMF meters as sensors could reduce or obviate the investment in feeder monitoring sensors.

Response can be found in Book 1 on Bates page(s) 87-88.

Grid Modernization Investments

- 10-22. Please provide PST Appendixes 10.1 through 10.9 in native format with all formulas intact, including all revisions made in response to Division 19-8.

Response can be found in Book 1 on Bates page(s) 89-90.

- 10-23. Refer to Attachment DIV 19-8-3. In this attachment, the Company includes GIS Data Enhancement (IS) costs in its first year revenue requirements. Please clarify whether the Company is seeking Commission approval of those costs in the instant proceeding, in the same way that the Company is seeking Commission approval of \$2,000,000 in AMF planning costs.

Response can be found in Book 1 on Bates page(s) 91.

10-24. Refer to response to Attachment DIV 5-38:

- a. For each substation for which 3V0 protection is proposed, pending, has been installed, or is in the process of being installed, please describe the criteria or conditions that occurred, or were forecast to occur, that the Company used to determine that 3V0 protection was warranted. Please support your response with relevant data, such as the existing quantity of DG as a percentage of the transformer capacity or the number of occurrences of reverse power flow.
- b. For each substation that has been upgraded to 3V0 protection, please provide the cost of the upgrade.
- c. Attachment DIV 5-38 appears to show 339 MW of distributed generation interconnected to the distribution grid. Please confirm that this is accurate. If not, please explain.
- d. Please provide the capacity of distributed generation interconnected to the Company's distribution grid by fuel type, date of approval to interconnect, and rate class.
- e. Please discuss the level of visibility and control the Company currently has with respect to various types of solar distributed generation. For example, for projects 1 MW or larger, does the Company have any real-time visibility or the ability to curtail exports to the grid from the project?
- f. Please discuss in detail how the Company's proposed grid-side investments to enable DER would change the level of visibility and control for solar PV. Would the level of visibility and control vary by project size?
- g. Please discuss whether the Company's proposed grid-side investments would have any impact on the need to install additional 3V0 protection through the use of better monitoring or control devices, or any other capabilities.
- h. Please provide the Company's forecast of customer-owned distributed generation growth over the next five years.

Response can be found in Book 1 on Bates page(s) 92-146.

10-25. Refer to response to DIV 8-4 (c):

- a. Please briefly summarize the responses received from the RFI and RFP for OMS and ADMS, and the rationale for the vendor selected.
- b. Please provide the technology roadmap developed by Accenture for the Company's New England and New York Control Centers.

- c. Please provide all memoranda, presentations, reports, or written summaries by the Company or its consultants regarding the pilot project with ADMS software and its fit for National Grid, the maturity and usability of the ABB ADMS advanced applications, lessons learned, and survey results from other utilities regarding the use of ADMS.

Response can be found in Book 1 on Bates page(s) 147-165.

- 10-26. Refer to response DIV 19-16. If AMF is not approved in Rhode Island in the next three years, could the Company delay investments in Operational Data Management, Telecommunications, and Cyber Security? Please discuss.

Response can be found in Book 1 on Bates page(s) 166.

Transportation Electrification Initiative

- 10-27. Refer to PST-1, Chapter 5, page 2 regarding the hours in which the Company proposes to offer a rebate to participants in its proposed off-peak charging rebate pilot:
- a. Please describe how the Company determined which hours to include within the off-peak period for the purposes of this pilot.
 - b. Did the Company consider varying the hours included in the proposed off-peak period by season? Explain why or why not.
 - c. Did the Company consider varying the hours included in the proposed off-peak period between weekdays and non-weekdays? Explain why or why not.
 - d. Did the Company consider implementing an off peak charging pilot with more than two periods (i.e. including a “super-off-peak” period with a lower rate than the “off-peak” period)? Explain why or why not.
 - e. Did the Company consider increasing the electric rate from the standard rate during peak periods for the purposes of this pilot? Explain why or why not.
 - f. Please provide the hourly system load for the Company’s service territory for each year from 2013 through 2017.
 - g. For each of the Company’s distribution circuits, please provide the following information for each year from 2013 through 2017:
 - i. The percentage of customer load accounted for by residential customers
 - ii. The top 100 hours of circuit-level peak demand
 - iii. The level of circuit demand (in MW) associated with each of the top 100 peak hours.
 - h. Please describe how the Company proposes to separately monitor the EV load of customers participating in this pilot.

- i. Please discuss the benefits and drawbacks associated with each of the options the Company is considering for measuring off-peak charging.
- j. Please provide the expected cost for each metering option that the Company is considering for the off-peak rebate program.
- k. Please explain whether the Company could use the proposed 8,000 AMI/VVO pilot meters (as proposed in its ISR filing in Docket 4783) for the purposes of applying an off-peak charging rebate or other time-based rate to customers in the Washington substation area.

Response can be found in Book 2 on Bates page(s) 1-148.

- 10-28. Refer to PST-1, Chapter 5, page 3 regarding the seasonal value of the rebates which the Company proposes to offer through its proposed off-peak charging rebate pilot:
- a. Provide all calculations underlying the determination of these rebates values, in machine-readable, spreadsheet-based format with formulas intact.
 - b. Identify the portion of each value represented by:
 - i. The “difference in load-weighted on-peak and off-peak energy costs”
 - ii. The “additional payment intended to reflect a contribution to forward capacity market cost savings.”

Response can be found in Book 2 on Bates page(s) 149-151.

- 10-29. Refer to PST-1, Chapter 5, page 3 regarding the Company’s estimate of the likely monthly earnings for customers under the proposed off-peak charging rebate:
- a. Provide all calculations underlying the estimate of these monthly earnings values, in machine-readable format with formulas intact.
 - b. Provide the Company’s hourly EV charging assumptions underlying these earnings values.

Response can be found in Book 2 on Bates page(s) 152-153.

- 10-30. Refer to PST-1, Chapter 5, Table 5-2 regarding the targeted charging segments, number of sites targeted, and potential ports per site under the Company’s proposed charging station demonstration program. For each targeted segment:
- a. Explain whether the Company plans to pursue site development on a first-come, first-serve basis, or whether the Company plans to evaluate potential sites with respect to certain criteria.
 - b. Identify all criteria that the Company plans to use in determining which specific sites to pursue.
 - c. Identify the weight assigned to each criterion that the Company plans to use in determining which specific sites to pursue.
 - d. Identify any specific sites that the Company intends to pursue.

Response can be found in Book 2 on Bates page(s) 154-155.

- 10-31. Refer to PST-1, Chapter 5, page 7 regarding the proposed Daily Charging Rate for Level 2 charging:
- a. Has the Company considered applying a time-based commodity charge rate instead of the “Base Standard Offer Service rate” as part of its Daily Charging Rate (e.g., a time-of-use rate)? Explain why or why not.
 - b. Has the Company considered applying a time-based Delivery Service Rate as part of its Daily Charging Rate (e.g., a time-of-use rate)? Explain why or why not.
 - c. Identify all hours of the year to which the Company proposes to apply a “Peak Hours Adder.”

Response can be found in Book 2 on Bates page(s) 156.

- 10-32. Refer to PST-1, Chapter 5, page 7 regarding the proposed Fast Charging Convenience Rate:
- a. Please provide any documents and calculations supporting the Company’s proposal to set the Fast Charging Convenience Rate as two times the Daily Charging Rate in the absence of pricing data from other public DC Fast Charging stations.
 - b. Has the Company considered applying time-based rates (e.g., a time-of-use rate) to the DC Fast Charging stations it proposes to own? Explain why or why not.

Response can be found in Book 2 on Bates page(s) 157-159.

- 10-33. Refer to PST-1, Chapter 5, page 7 regarding the proposed Discount Pilot for DC Fast Charging Station Accounts:
- a. Please confirm that the Company plans to make this program available to existing DC Fast Charging station accounts.
 - b. If (a) is not confirmed, what is the earliest charging station installation date for which the discount would be available?

Response can be found in Book 2 on Bates page(s) 160.

- 10-34. Refer to PST-1, Chapter 5, page 10 regarding the Company Fleet Expansion proposal:
- a. Please provide the average annual miles driven by each heavy-duty truck in the Company’s current fleet.
 - b. Please provide the average greenhouse gas emissions per heavy-duty truck in the Company’s current fleet.
 - c. Please identify whether the proposed 12 new vehicles would be battery-electric vehicles, plug-in hybrid vehicles, or a combination of the two types.

- d. Has the Company considered providing an incentive to other Rhode Island commercial and industrial organizations to electrify their heavy-duty fleets? Please explain.
- e. Has the Company investigated whether electrifying other commercial or industrial vehicle fleets in Rhode Island (such as commercial delivery vehicles) would provide greater benefits (such as greater greenhouse gas benefits)? If so, please provide the research that the Company has conducted. If not, please explain why not.

Response can be found in Book 2 on Bates page(s) 161-162.

- 10-35. Refer to PST-1, Chapter 5, Table 5-4. Do the costs shown in this table represent all costs of the Company's proposed transportation electrification initiatives? If not, identify all costs that would be incurred after the first three years of the proposed initiative.

Response can be found in Book 2 on Bates page(s) 163.

- 10-36. Refer to PST-1, Chapter 5, Table 5-6. For each of the 6 programs within the Company's transportation electrification proposal, please provide the following:
- a. Program-specific Societal Cost Test BCA ratios.
 - b. A summary of all Societal Cost Test Benefits and Costs at the program level, provided in the same format as shown in Table 5-6.
 - c. All calculations underlying the program-specific benefit-cost ratios, in machine-readable format with all formulas intact.
 - d. The annual revenue requirements for each of the 6 initiatives.

Response can be found in Book 2 on Bates page(s) 164-166.

- 10-37. Refer to PST-1, Chapter 5, Table 5-7. For each of the 6 programs within the Company's transportation electrification proposal, please provide the following:
- a. Program-specific Rate Impact Measure BCA ratios.
 - b. A summary of all Rate Impact Measure Benefits and Costs at the program level, provided in the same format as shown in Table 5-7.
 - c. All calculations underlying the program-specific Rate Impact Measure benefit-cost ratios, in machine-readable format with all formulas intact.

Response can be found in Book 2 on Bates page(s) 167-169.

- 10-38. Refer to PST-1, Appendix 2.1, page 21, referring to Forward Commitment Capacity Values:
- a. Explain why the Company believes that the timing of Forward Capacity Market auctions would delay the capacity value of changes in load by four years.
 - b. Explain why the Company did not attempt to value the capacity benefit of the off-peak rebate program.

- c. Provide all assumptions about the hourly charging patterns of customer participants in each of the Company’s proposed transportation electrification programs. Please provide these assumptions in machine-readable format.

Response can be found in Book 2 on Bates page(s) 170-172.

- 10-39. Refer to PST-2, Appendix 10.6. Please provide a version of this appendix in machine-readable, spreadsheet-based format, with all formulas intact.

Response can be found in Book 2 on Bates page(s) 173.

- 10-40. Refer to PST-3, Workpaper 5.1:

- a. Please provide a version of this workpaper in machine-readable, spreadsheet-based format, with all formulas intact.
- b. For each year, please identify the amount of “Offsetting Participation Payments” associated with each program.
- c. For each year, please identify the amount of “NG Program Manager FTE – Program Manager Labor” costs associated with each program.

Response can be found in Book 2 on Bates page(s) 174-175.

- 10-41. Refer to Attachment DIV 5-21 to National Grid’s Response to Division of Public Utilities and Carriers Data Request No. 5-21.

- a. Please provide a copy of Attachment DIV 5-21 in machine-readable, spreadsheet-based format with formulas intact.
- b. For each charging station listed in Attachment DIV 5-21, please provide the following for each year from 2014 through 2017:
 - i. Monthly electricity sales (kWh)
 - ii. Hourly electricity sales (kWh)
 - iii. Monthly peak electricity demand (kW)
 - iv. Maximum station charging capacity (kW).

Response can be found in Book 2 on Bates page(s) 176-199.

- 10-42. Refer to National Grid’s Response to Division of Public Utilities and Carriers Data Request No. 5-23:

- a. Confirm that the Company is proposing to continue to charge participants in its charging station demo program according to the same tariff faced by the rest of the customers’ load. If not confirmed, provide an alternative explanation.
- b. Explain why the Company is proposing to install a dedicated meter at every new charging location, if vehicle charging will face the same rate as the rest of a site host’s facility.

- c. Is the Company planning to offer participants in its charging station demo program the opportunity to participate in its off-peak charging rebate pilot?

Response can be found in Book 2 on Bates page(s) 200.

10-43. Refer to National Grid's Response to Division of Public Utilities and Carriers Data Request No. 10-11(e):

- a. Please provide all calculations underlying the Company's statement that its proposed Off-Peak Charging Rebate Pilot does not demonstrate positive quantified net benefits as a stand-alone program. Please provide all such calculations in machine-readable format, with all formulas intact.
- b. Please provide all calculations underlying the Company's statement that the limited size of the Off-Peak Charging Rebate Pilot is responsible for the program not demonstrating positive quantified net benefits as a stand-alone program. Please provide all such calculations in machine-readable format, with all formulas intact.

Response can be found in Book 2 on Bates page(s) 201-202.

Energy Storage Initiative

10-44. Refer to Schedule PST-1, Chapter 7 regarding the Company's proposed energy storage initiative:

- a. Please confirm that the benefits included in the benefit-cost analysis do not contain any avoided transmission peak costs, nor any avoided capacity DRIPE.
- b. If (a) is confirmed, please explain the rationale for excluding such benefits.

Response can be found in Book 2 on Bates page(s) 203.

Solar Initiative

10-45. Refer to Schedule PST-1, Chapter 8:

- a. Please explain what lessons the Company's Massachusetts affiliate has learned through construction of approximately 35 MW of Company-owned solar generation.
- b. Please explain what questions or issues the Company currently faces that would be illuminated by the Company's ownership of the proposed solar systems.
- c. Please explain how gaining experience with siting, permitting, construction, interconnection, and operation of these solar systems would provide benefits to customers.

- d. Please explain how gaining experience with siting, permitting, construction, interconnection, and operation of these solar systems would provide benefits to third party developers.
- e. Please confirm that the proceeds from the proposed solar program would supplement, rather than replace, existing funding for low income energy efficiency.

Response can be found in Book 2 on Bates page(s) 204-206.

PIMs

- 10-46. Refer to response to DIV 5-43 (d), which states “The Company proposes to earn a behind-the-meter storage incentive only for customer-owned storage applications that are incremental to a baseline forecast of storage applications that the Company expects to be submitted without influence by the Company:
- a. Please provide the Company’s proposed baseline storage forecast.
 - b. Please provide the data and methodology used to develop the baseline storage forecast.

Response can be found in Book 2 on Bates page(s) 207-208.

PST Tracker

- 10-47. Please discuss when any O&M savings realized due to PST investments would be reflected in rates. Would this occur beginning with the next rate case, or would savings be reflected in rates sooner?

Response can be found in Book 2 on Bates page(s) 209.

Follow Up Questions from Division Set 24 (Docket 4770)

- 10-48. Referring to the response to DIV 24-1(a), the question asked whether it was impossible as a practical matter to recover costs of PST initiatives through base distribution rates. The response contained the following statement: “Although it would not be impossible, per se, to advance PST initiatives with costs recovered through base distribution rates, such approach would necessitate a reevaluation of the types of activities underlying the PST initiatives that the Company could realistically advance, taking into account the need for stakeholder input, flexibility, and transparency. . . .” For each of the initiatives below, please identify the activities underlying the specific initiative that would “necessitate a reevaluation” and explain why the particular activity would have to be reevaluated if the costs of the initiative were recovered in base distribution rates. Please address each initiative specifically, rather than through a “catch all” response:

- a. Feeder Monitoring,
- b. RTU Separation,
- c. Enterprise Service Business,
- d. Data Lake,
- e. PI Historian,
- f. Advanced Analytics,
- g. Telecommunications,
- h. Cybersecurity,
- i. DSCADA,
- j. GIS Data Enhancement,
- k. System Data Portal.

Response can be found in Book 2 on Bates page(s) 210-212.

10-49. Referring to the response to DIV 24-1(b), the question asked the Company to identify where commissions in National Grid’s other jurisdictions have structured other mechanisms to accomplish recovery for transformative initiatives. Except for a reference to the Niagara Mohawk settlement agreement, the response simply referred to “many transformative initiatives in the past” without any specificity as to initiative or whether the mechanism was a fully reconciling tracker similar to what is proposed in Docket 4780. Please respond more fully to the question originally asked, including the following elements:

- a. Identify the distribution affiliate,
- b. Identify the jurisdiction,
- c. Briefly describe the transformative initiative for which the costs were being recovered and why the particular initiative is “transformative,”
- d. Describe with specificity how the rate recovery mechanism operated, including without limitation whether the mechanism was a fully reconciling cost tracker similar to what is being proposed by the Company for the PST initiative in Docket 4780,
- e. Identify the order in which the rate mechanism was approved.

Response can be found in Book 3 on Bates page(s) 1-3.

10-50. Referring to the response to DIV 24-1(b), the question asked the Company to identify where commissions in National Grid’s other jurisdictions have structured other mechanisms to accomplish recovery for transformative initiatives. The response stated in part: “With the current transformative initiatives, the Earnings Adjustment Mechanism contained in the settlement submitted in Niagara Mohawk Power Corporation’s general rate case, which is currently pending before the New York Public Service Commission, proposes the recovery of costs through a surcharge.” Please identify the transformative

initiative through which the costs are recovered through the reference “surcharge.” Please also explain how the surcharge mechanism operates, which costs are recovered, and whether it is a fully reconciling tracker similar to the one proposed in Docket 4780 that allows recovery of both O&M and capital costs whether they exceed original estimates or not.

Response can be found in Book 3 on Bates page(s) 4-5.

- 10-51. Referring to the response to DIV 24-4, the question was attempting to ask the Company to explain the New York ratemaking practice which affected Niagara Mohawk’s decision not to seek recovery of the non-recurring Gas Business Enablement costs that occurred prior to the filing of the rate case. The response identified ratemaking rules in a way that was not specific to the non-recurring Gas Business Enablement costs. Given the response to DIV 24-4, is it fair to interpret the answer to mean that Niagara Mohawk did not seek recovery of these non-recurring costs that occurred prior to the filing of the rate case because the New York Public Service Commission has ratemaking rules that would have precluded such recovery; as a result, the Company simply did not ask for the recovery? If this interpretation is incorrect, please explain.

Response can be found in Book 3 on Bates page(s) 6-7.

- 10-52. Referring to the response to DIV 24-3, the response indicates that the Service Company incurred \$39 million of operating and maintenance expenses related to Gas Business Enablement between April 2016 and December 2017. Please provide a schedule showing the total amount of the \$39 million in operating maintenance expenses charged by the Service Company to each affiliate (including Narragansett Electric) in one column and, in a second column, indicate the portion of those charges for which cost recovery was either received or has been sought in pending rate proceedings. Please indicate the docket number through which the costs were either received or are being sought.

Response can be found in Book 3 on Bates page(s) 8-9.

- 10-53. Referring to the response to DIV 24-12, for each of the initiatives identified in the response, please indicate whether there were any special rate recovery mechanisms (outside of base distribution rates) used to recover the costs of the initiative, describe how the special rate recovery mechanism operates, and indicate whether it is a fully reconciling tracker similar to the one proposed in Docket 4780 that allows recovery of O&M and capital costs whether they exceed original estimates or not.

Response can be found in Book 3 on Bates page(s) 10-18.

10-54. If the Commission were to direct the Company to implement its feeder monitoring program beginning in Rate Year 1, are there any Cybersecurity projects included in Section 3.7 of Chapter 3 of PST-1 that would need to go forward in Rate Year 1 to assure a reliable and secure system? If yes, please identify the projects and the revenue requirement associated with each such project for Rate Years 1, 2, and 3.

Response can be found in Book 3 on Bates page(s) 19.

10-55. If the Commission were to direct the Company to implement its System Data Portal project beginning in Rate Year 1, are there any Cybersecurity projects included in Section 3.7 of Chapter 3 of PST-1 that would need to go forward in Rate Year 1 to assure a reliable and secure system? If yes, please identify the projects and the revenue requirement associated with each such project for Rate Years 1, 2, and 3.

Response can be found in Book 3 on Bates page(s) 20.

10-56. If the Commission were to direct the Company to implement the GIS Enhancements in Rate Year 1, are there any Cybersecurity projects included in Section 3.7 of Chapter 3 of PST-1 that would need to go forward in Rate Year 1 to assure a reliable and secure system? If yes, please identify the projects and the revenue requirement associated with each such project for Rate Years 1, 2, and 3.

Response can be found in Book 3 on Bates page(s) 21-187.

10-57. Referring to the response to DIV 24-1, the response contained the following statement about a Massachusetts DPU case:

“In fact, in Massachusetts, the Department of Public Utilities recently found that, because grid modernization will evolve substantially over the next five years, cost recovery for these investments is more appropriate outside of base rates. See NSTAR Electric Company and Western Massachusetts Electric Company, D.P.U. 17-05, at 442 (November 30, 2017) (discussing cost recovery through a grid modernization cost recovery reconciling factor).”

The Division researched this case. But all it was able to find on the cited order page was the following statement about not including grid modernization projects as a part of a performance based ratemaking proposal:

“[W]ith the exception of the energy storage and electric vehicle proposals addressed below, the Department declines to make any findings in this case regarding pre-approval of the proposed budgets or investments included in the grid modernization base commitment. Rather, for the reasons stated above, the Department will address these issues in our forthcoming Order in D.P.U. 15-122.

“In the future, as we gain experience with grid modernization, it may be appropriate to include grid modernization investments together with other capital investments in a PBR. However, given our expectations that grid modernization

will evolve substantially over the next five years, the Department finds that a more robust review of grid modernization investments than can be afforded by including these investments in the PBR is necessary in the short term. Accordingly, based on the above, the Department finds that it is in the public interest to address the Companies' proposed grid modernization base commitment investments outside of the PBR.

“Consistent with this finding, the Department will address the structure of the grid modernization regulatory review process in the context of our review of the proposed grid modernization investments in our forthcoming Order in D.P.U. 15-122.”

- a. Please confirm that this quoted section of the DPU order is what the Company's response was referring to. If not, please provide the correct quote from the order.
- b. Referring to the cited DPU order, does the Company generally agree with the following description of what transpired in that order regarding the Eversource grid modernization PBR proposal?

The cited case related to the most recent Eversource rate case in which the Eversource companies proposed grid modernization projects in its rate case as a part of a Performance Based Ratemaking (“PBR”) proposal that would have granted pre-approval for the companies to undertake grid modernization projects. Specifically, the Eversource companies proposed to spend \$400 million in incremental grid modernization capital investments over five years and to absorb the revenue requirement associated with these investments through the PBR until their next rate case five years from now. But the projects proposed in the rate case also overlapped with proposals that were pending in a separate grid modernization docket. In response, the Department decided that all but two of the grid modernization proposals would be taken up in the parallel grid modernization docket and not be addressed as a part of the “PBR” proposal in the rate case. The Department was not necessarily drawing a general conclusion that cost recovery for grid modernization projects is inappropriate for recovery through base rates. Further, the Department has not authorized a fully reconciling factor for the recovery of both capital and O&M grid modernization costs like the one proposed in Docket 4780. Rather, the Department has proposed in its grid modernization docket that a utility may obtain pre-approval for the capital costs of grid modernization projects that meet certain requirements specified by the Department. Once pre-approval is obtained, the utility may advance the project and later seek recovery of the revenue requirement of the capital costs after-the-fact through a filing with the Department. But recovery of the revenue requirement does not commence until after the capital project is in service and the mechanism makes no provision for the recovery of operation and maintenance

expenses associated with grid modernization (whether past or future) through the capital tracker.

Response can be found in Book 3 on Bates page(s) 188-193.