Raquel J. Webster
Senior Counsel

December 21, 2020

BY ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket 5077 - Standards for Connecting Distributed Generation, R.I.P.U.C. No. 2244
Responses to PUC Data Requests – Set 2

Dear Ms. Massaro:

I have enclosed an electronic version of National Grid's[1] responses to the Public Utilities Commission's Second Set of Data Requests in the above-referenced docket.[2]

Thank you for your attention to this filing. If you have any questions concerning this matter, please contact me at 781-907-2121.

Very truly yours,

Raquel J. Webster

Enclosures

cc: Docket 5077 Service List
Jon Hagopian, Esq., Division
John Bell, Division

[1] The Narragansett Electric Company d/b/a National Grid (National Grid or Company).

[2] Per Commission counsel's update on October 2, 2020, concerning the COVID-19 emergency period, the Company is submitting an electronic version of this filing. The Company will provide the Commission Clerk with five (5) hard copies and, if needed, additional hard copies of the enclosures upon request.

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PUC 2-1

Request:

Sheet 44 includes the following language:

> If System Modifications are required to interconnect a proposed Facility and the Company determines that those System Modifications (in full or in part) may provide an obvious future benefit to the Company EPS that would be considered used and useful by the Company's customer base, the Interconnecting Customer shall only be responsible for the incremental cost of such System Modifications that would not otherwise be considered used and useful.
>
> In PUC 1-6, the Company states that current cost causation principles would not be changed by the new language quoted in PUC 2-1 because "if some portion of an investment that was installed solely for the use of a DG project later is used to service other customers, the rationale of cost causation solely to the DG project will have changed. Therefore, the concept is maintained that once all customers benefit from an investment, its cost should be recovered from all customers."

Referencing Sheet 44's new language quoted above, please response to the following:

a. Referencing the Company's response to PUC 1-4.g, the Company asserts that this provision does not differ from current practice and cites Section 5.3 of the current tariff. Does the Company assert that the new language cited in this question does not apply until other customers benefit and will result in a credit to the interconnecting customer? If not, how is this the same as the current practice cited by the Company?

b. Referencing the Company's response to PUC 1-4.h, the Company explains that this paragraph differs from the provisions pertaining to "accelerated modifications" only in timing (currently, the investment needs to be part of the Company's 5-year plan to qualify for acceleration and now it applies to investments that are not in the Company's 5-year investment plan). Under this scenario, how is the new language consistent with current practice?

Response:

a. The new language was inserted at the request of the DG community to further clarify Sections 5.3 and 5.4. In its response to PUC 1-4(g), the Company was trying to articulate that the Company would review any costs a DG customer would have paid for an upgrade (a System Modification) that at the time was solely needed for the DG to

interconnect safely and reliably if the Company elected to serve another customer(s) using all or a portion of the upgrade. This would not occur until such time that the new customer(s) agreed to pay their pro-rated share of the upgrade, and/or the upgrade was determined to be the least cost, best fit solution to serve a group of customers and would be socialized. Section 5.3 of the tariff mandates that if, within a 10 year window, the Company uses any portion of a System Modification paid for by a Renewable Interconnecting Customer to serve subsequent renewable customers , the Company must determine a fair allocation of those costs to the original Renewable Interconnecting Customer, subsequent DG or load customers, or the ratebase, as determined by which customer or group of customers could benefit from the initial DG customer's payment for a System Modification. This is the same as the Company's cost sharing practices per the original Sections 5.3 and 5.4.

b. This referenced language is not consistent with current practice because only projects in the Company's five-year plan were to be considered for review per the accelerated modifications language. The new language will work with the 10- year lookback provision, and only upon an actual identification of value to all customers, will a potential refund be made to the initial DG project.

PUC 2-2

Request:

Sheet 44 includes the following language:

> If System Modifications are required to interconnect a proposed Facility and the Company determines that those System Modifications (in full or in part) may provide an obvious future benefit to the Company EPS that would be considered used and useful by the Company's customer base, the Interconnecting Customer shall only be responsible for the incremental cost of such System Modifications that would not otherwise be considered used and useful.
>
> In PUC 1-6, the Company states that current cost causation principles would not be changed by the new language quoted in PUC 2-1 because "if some portion of an investment that was installed solely for the use of a DG project later is used to service other customers, the rationale of cost causation solely to the DG project will have changed. Therefore, the concept is maintained that once all customers benefit from an investment, its cost should be recovered from all customers."

Referencing Sheet 44's new language quoted above, please respond to the following:

a. Is this a forward-looking or backward-looking provision? In other words, assume a $1M investment is required to connect a distributed generation facility. Assume further that $500,000 is assumed to provide an obvious future benefit to the Company EPS that would be considered used and useful by the Company's customer base. How much is included in the impact study as the interconnecting customer's responsibility as a System Modification?
b. Referencing the Company's responses to PUC 1-4.f, under the hypothetical in 2-2.a, when does the Company seek cost recovery of any costs not charged to the interconnecting customer as a System Modification?
c. Referencing the Company's response to PUC 1-5, when would a System Modification be converted to a System Improvement?
d. Will the Company issue a final Impact Study and sign an Interconnection Services Agreement prior to approval by the Commission of recovery of the investment in an ISR?

Response:

a. The entire $1m will be included in the impact study and subsequent ISA. The Company will not know an "obvious future benefit" at the time of the impact study, and only when it is clearly determined by subsequent impact studies or system load analyses to have

potential future benefits will the Company determine any refunds on the initial $1m upgrade cost.

b. Under section 2-2(a), the Company would only look to recover any refunded amounts when a subsequent customer has paid their pro-rated share or the Company determines that all or a portion of the upgrade benefits all customers and would be included in the non-discretionary section of a future ISR filing.

c. A System Modification would be converted to a System Improvement when all or a portion of an initial System Modification is determined to benefit all customers through a subsequent study or review for a new customer's service request either for load or DG.

d. No, the Company will issue a final impact study and sign an Interconnection Services Agreement only after an initial System Modification has been shown to be a known System Improvement (see PUC 2-2 (c)).

PUC 2-3, page 1

Request:

Referencing the Company's response to PUC 1-4.f, which states, "Once a System Modification is used for other customers, it will be considered used and useful."

a. The Company indicated that "the 'obvious future benefit' is intended to refer to an enhancement to system reliability, and/or hosting capacity enablement for the life of the associated system assets. Asset life expectancy varies, ranging as high as 20+ years." Assume the investment in PUC 2-1.a will not provide an obvious future benefit to other customers until year fifteen. Under this scenario, when will the investment be considered used an useful by other customers? When will the Company seek inclusion of the investment in rate base and when will the Company seek cost recovery from all other customers?

Response:

a. Since Section 5.3 of the current tariff and R.I. Gen. Laws § 39-26.3-4.1(c) only dictate a 10-year look back, an investment that is determined in year 15 to have benefits for all customers would not be subject to any refund or cost share. Therefore, the Company would not seek to include such costs in rate base.

Proposed Tariff Revisions and Rationale	Interconnection Tariff Reference (Per Redlined Tariff as Filed)	Amendment Characterization
Revision: Added a new tariff provision to provide for the creation of an Interconnection Technical Standards Committee ("ITSC"). **Rationale for change:** The ITSC will facilitate the timely flow of technical information and information regarding potential changes to the technical requirements of interconnection.	See Section 1.1, Definitions, Sheet 6; Section 9.4, Interconnection Technical Standards Committee, Sheet 55	(b) Adding a new procedure or process; (d) Adding a new substantive component
Revision: Pre-Impact Study Review: Added a new tariff provision to provide for a Pre-Impact Study Review. **Rationale for change:** The Pre-Impact Study Review will provide an optional high-level engineering review before an Impact Study or ISRDG is carried out to determine the scope of modifications to the EPS at an early stage of the interconnection process. The proposed Pre-Impact Study Review Agreement will be Exhibit F, and current Exhibits F through I will be re-lettered accordingly.	See Section 1.1, Definitions, Sheet 7; Section 1.3.5, Forms and Agreements, Sheet 9; Section 3.0, Process Overview, Sheet 12; Section 3.4, Standard Process, Sheets 19 and 20; Table 1, Sheet 28; Exhibit F – Pre-Impact Study Review Agreement, Sheets 79-80	(b) Adding a new procedure or process

PUC 2-3, page 3

Proposed Tariff Revisions and Rationale	Interconnection Tariff Reference (Per Redlined Tariff as Filed)	Amendment Characterization
Revision: Added reference to microgrids and deleted outdated paragraph contemplating special interconnection requirements for facilities over 3 MW. **Rationale for change:** To acknowledge that the Company will work with local jurisdictions and Interconnecting Customers who are considering microgrids.	See Section 2.0, Basic Understandings, Sheet 10	(a) Clarifying current practice; (c) Removing an existing procedure or practice;
Revision: Created an Ombudsperson role. **Rationale for change:** To designate an individual from the PUC or retained by the PUC to have responsibility for overseeing the Company's administration of disputes.	See Section 2.0, Basic Understandings, Sheet 11; Section 9.2, Mediation/Non-binding Arbitration, Sheets 51-52; Table 3, Sheet 54	(d) Adding a new substantive component

PUC 2-3, page 4

Proposed Tariff Revisions and Rationale	Interconnection Tariff Reference (Per Redlined Tariff as Filed)	Amendment Characterization
Revision: Added requirement to the Simplified Process that the Company must have completed any required System Modifications before interconnection is authorized. **Rationale for change:** To clarify that under the Simplified Process (as is the case under the Expedited and Standard Processes), interconnection cannot be authorized until System Modifications have been completed.	See Section 3.1.g, Simplified Process, Sheet 14	(a) Clarifying current practice
Revision: Added additional information to Pre-Application Reports, a fee for both mandatory and optional Pre-Application Reports, and time frames. **Rationale for change:** To compensate the Company for the additional information required in the Pre-Application Report. Consensus was reached on the concept of charging a fee; determination of the fee amount was deferred.	See Section 3.2, Pre-Application Reports, Sheets 14-16; Exhibit B – Generating Facility Expedited/Standard Pre-Application Report Form, Sheet 66	(b) Adding a new procedure or process

PUC 2-3, page 5

Proposed Tariff Revisions and Rationale	**Interconnection Tariff Reference (Per Redlined Tariff as Filed)**	**Amendment Characterization**
Revision: Added specificity about the Standard Process. **Rationale for change:** To provide more detail about the steps of the Standard Process.	See Section 3.4, Standard Process, Sheets 19-20	(a) Clarifying current practice
Revision: Added more information about ASO Studies and the Standard Process. **Rationale for change:** To provide more information about how an ASO Study can affect the Standard Process.	See Section 3.4.f and h, Standard Process, Sheets 20-21	(a) Clarifying current practice
Revision: Added specificity about System Modification payment obligations. **Rationale for change:** To clarify Interconnecting Customer System Modification payment obligations.	See Section 3.5, Time Frames, Sheet 23; Section 5.3 System Modification Costs, Sheet 43; Section 5.4 Separation of Costs, Sheet 44; Section 5.5, Normal Payment Procedure, Sheet 45; Exhibit H – Detailed Study Agreement, Sheet 85	(a) Clarifying current practice

PUC 2-3, page 6

Proposed Tariff Revisions and Rationale	**Interconnection Tariff Reference (Per Redlined Tariff as Filed)**	**Amendment Characterization**
Revision: Clarified that Table 1 Time Frames will be affected by a "transmission" level system impact study. **Rationale for change:** To clarify that this provision refers to a transmission, and not a distribution, system impact study.	See Note 1 of Table 1, Sheet 31	(a) Clarifying current practice

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PUC 2-4

Request:

Referencing PUC 1-4.b, the Company stated that the criteria for "System Modifications [which] provide an obvious future benefit to the Company EPS that would be considered used and useful by the Company's customer base" would "vary", but would be "any portion that serves other non-DG customers in the future, either directly, or indirectly as a redundant service in the event of outages, would be used."

a. If the criteria would vary, how would disputes be resolved?
b. What types of investments would not fall under this definition?

Please provide at least

a. five concrete examples from actual prior DG interconnections (without providing any customer-specific information) for investments that would have fallen under this new provision and investments that would still be considered System Modifications. This should be a fully public response.

Response:

a) It is the Company's intention to not provide for an initial credit to the cost of System Modification. Instead, the Company would only provide a credit when the future benefit was realized. The criteria would vary based on whether a System Modification for a DG project would have required any upgrade at all for new load (e.g., if a DG project prompted a 5 MW upgrade in an area with 2 MWs of spare capacity, any cumulative new loads of less than 2 MWs would not trigger any review of the System Modification). Disputes would flow through the current Alternate Dispute Resolution process in Section 9 of the tariff.

b) It would vary depending on the situation on the ground, but typically any portion of a System Modification that is constructed on private property, and any portion that is subsequently abandoned due to having to construct larger upgrades in the same area for other customers, would not fall under this definition.

   See below for concrete examples the Company has seen while conducting impact studies. Unfortunately, since the Company has never worked through this level of analysis for any project, it has only been able to quantify one of the examples. Unless a benefit to all customers is quantified for an example, the example would remain a System Modification.

PUC 2-4, page 2

With that said, an incremental challenge would be determining: 1) how to separate out what portion of a System Modification provides for any future benefit; 2) the actual monetary value of that benefit; 3) dealing with the depreciation of any asset installed in one year versus the depreciated value on the Company's books of an asset some years in the future; 4) the actual refunding process; and 5) the process by which that portion of a System Modification is returned back to plant on the Company's books.

Here is a list of various upgrades and how a future benefit could be realized:

1. The need for an UG duct bank to be constructed where the initial need for the project may only be for a two duct bank, but due to the location and state and town road opening restrictions, the Company requires an eight duct bank knowing it will not have an opportunity for a new road opening permit or bridge attachment permit for a number of years.

2. Install a conductor or cable that is necessary for loading reasons for the DG under light load, high generation conditions, but the same conductor or cable will be used to serve peak load under peak load, light generation conditions.

3. Install a larger sized substation transformer (sizes are set based on standards, i.e. not customized) to allow a DG to interconnect but also will be used to serve peak load and potential future load.

4. Capacitors required for a DG customer interconnection can also be used to assist with other system issues and manage system voltage during peak load periods while the DG is off.

5. Contingency events -With new conductors and/or transformers, it provides additional capacity for contingency conditions.

6. Build a new substation for a DG customer that is solely used for the DG customers now but could be used to serve load customers/address area issues in the future.

7. If a recloser is upgraded and/or added for a DG customer (paid for by the developer), then other customers on the distribution line could benefit from the improved reliability.

PUC 2-4, page 3

A specific example for #2 above:

For a specific project studied, the conductor size was upgraded from 336Al (514 amps) to 795Al (879 amps.

This reconductoring provided an additional load capacity of 365A and additional hosting capacity of 95A (beyond the DG customer). See the chart below:

	Existing Rating	New rating	DG Requirement on The Line/Location	Additional Load Capacity	Additional Hosting Capacity
Amps	514	879	784	365	95

This additional load capacity in this example would be 14.5 MWs, and as load growth in the state is still very low and negative in areas, any underlying load increase would have been able to be met with the original conductor size for years to come, so any future benefit would only occur if the load in the area exceeded the original conductor size.

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.

Joanne M. Scanlon

December 21, 2020
Date

Docket No. 5077– National Grid's Standard for Distributed Generation Tariff Advice
Service List updated 10/27/2020

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