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July 19, 2021

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

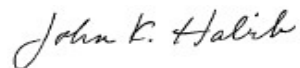
Re: DG Interconnection – D.P.U. 20-75

Dear Secretary Marini:

On behalf of NSTAR Electric Company d/b/a Eversource Energy (“Eversource”), enclosed are Eversource’s responses to the Department of Public Utilities’ Third Set of Information Requests.

Thank you for your attention to this matter. Please contact me if you have any questions regarding this filing.

Sincerely,



John K. Habib

Enclosures

cc: Katie Zilgme, Hearing Officer

Information Request EDC-3-1

Eversource: Refer to Eversource's response to EDC-2-3.

- (a) Please explain how Eversource determined which electric power system ("EPS") upgrade costs fall into the categories of (1) costs to be recovered from interconnecting customers via Capital Investment Project ("CIP") fees (\$312 million) and (2) costs to be recovered fully from distribution customers (\$230 million).
- (b) Please describe what factors the company considered when determining whether a specific EPS upgrade should be allocated exclusively to distribution customers versus offset by CIP fees paid by interconnecting customers.

Response

- (a) The Distribution Station upgrade costs are estimated to be about \$542M. These costs are proposed to be recovered partly from all distribution customers and partly from DER developers via CIP fees based on the proportion of MVA capacity allocated for operational flexibility and reliability for all customers ("*Operational Capacity*") and the proportion of MVA capacity allocated to specifically to integrate planned and future DER at each station ("*Capital Project Enabled DER Capacity*"). These are documented in columns "U" and "W" of Eversource's DER Group Study Cost Allocation spreadsheet previously submitted with its April 6, 2021 response to the Department's Information Requests as Attachment Eversource-1(b).
 - i. **Operational Capacity:** Based on a combination of existing, planned and projected DER as well as Demand growth and reliability needs, Eversource has determined the *Planned Connected Capacity* required for a comprehensive solution of upgrades at each distribution station. These are documented in Column "T" of Eversource's DER Group Study Cost Allocation spreadsheet. To ensure that all distribution and DER customers remain energized during planned and emergency outages, Eversource plans its system to an N-1 standard such that there is sufficient substation capacity to reconfigure the system and keep all customers energized. This Operational Flexibility is critical for

maintaining a uniform standard of reliability for load and DER customers alike. To ensure Operational Flexibility, Eversource has allocated enough substation capacity (typically equal to one station transformer) to sustain N-1 operation. This *Operational Capacity* (which includes future small DER - rooftop solar) is subtracted from the *Planned Connected Capacity* (comprehensive solution) in column “T” and is documented in Column “U”. The Operational Capacity ensures that we continue to provide a high level of reliable service to all customers.

- ii. **Enabled DER Capacity:** To account for existing, planned and future DER, Eversource has allocated the remaining *Planned Connected Capacity* (in Column “T”) as *Reserved DER Capacity* (in Column “V”). The portion of this *Reserved DER Capacity* that is then available for planned and future projected DER is derived by deducting the total of existing large and small DERs as well as future projected rooftop, and offsetting this with the minimum load to arrive at the *Enabled DER Capacity* documented in Column “W”. This is unique to each station given a combination of existing and forecasted DER growth, load demand at the station, the *Planned Connected Capacity* at the station and also at the other dependent stations within the DER group.

(b) Specific EPS upgrades can be classified into three categories:

- i. **Distribution Line Upgrades:** There are three (3) distinct scenarios for DER-driven distribution line upgrades: 1) if new distribution lines are required to be constructed to physically interconnect DER customers exclusively, then 100% of the costs for the new lines that benefit more than one DER customers should be shared by the DER customers that benefit; 2) if new lines are being constructed to connect both distribution and DER customers and there is already an existing project in the Five-Year Capital Plan for distribution customers, then the cost allocated to DER customers should be offset by the planned capital investment; 3) if the DER is connected to an existing distribution feeder that needs to be upgraded due the DER impact, then the cost to upgrade the feeder would be borne by the DER customers alone. In scenarios 2) and 3) above, load customers might benefit from the increased reliability due to added line

capacity to connect DER. All of these DER-driven costs that benefit more than one DER customers would be rolled up within the CIP Fee for a given Group Study area.

- ii. **Distribution Station Upgrades:** As documented in the response to part (a), because all customers benefit from upgrades that enable DER and increase operational flexibility and reliability, the Company allocates costs among DER customers and distribution customers in proportion to the ratio of *Enabled DER Capacity/Planned Connected Capacity* and *Operational Capacity/Planned Connected Capacity* respectively. This results in costs allocated to DER customers to be recovered through CIP Fees (noted as *Capital Investment Project \$M* in Column “AA”) and cost allocated to distribution customers recovered through a separate tracked charge (noted as *Common System Modification \$M* in Column “Z”).
- iii. **Transmission Station and Line Upgrades:** Transmission Station and Line upgrades improve reliability of the local transmission network by mitigating against transmission outages as well as increasing capacity on transmission lines that would benefit DER customers, local Transmission customers, Distribution customers as well as Transmission connected generators. Given the interconnected nature of the Transmission system, precisely dissecting the benefits and costs for all noted customers is protracted and impractical. It is for these reasons, the Company proposed to allocate 100% of transmission costs to rate base.

Information Request EDC-3-4

Eversource and National Grid: Please explain in more detail how each Company proposes to recover through a provisional system planning program (“Provisional Program”) costs of transmission of related EPS upgrades from distribution customers and/or interconnecting customers.

Response

Eversource will incorporate the Transmission Station and Line upgrades within its Transmission Local System Plan (LSP). The LSP is published annually in October and is made available on both the Eversource and ISO New England websites. The LSP undergoes a Planning Advisory Committee review but is not subject to approval by the ISO-NE or the ISO-NE Board.

To the extent Eversource is unable to recover the costs and ensure appropriate cost allocation to Massachusetts customers through existing local network service transmission tariffs, Eversource would seek cost recovery for these upgrades from NSTAR Distribution customers through an appropriate alternative mechanism. Eversource expects it will continue to evaluate potential alternative recovery mechanisms, should they be required. At this time, the Company expects an alternative cost recovery mechanism could be accomplished by establishing a regulatory asset, with DPU approval, to recover these transmission provisional system planning program costs from NSTAR Distribution customers.

Information Request EDC-3-5

Eversource and National Grid: Refer to the Massachusetts Office of the Attorney General's June 8, 2021 comments. Please explain how the expanded authority for utility-owned solar and energy storage under section 77 of “An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy,” St. 2021, c. 8, intersects with each Company's proposal provisional plan. Specifically:

- (a) Explain whether this type of utility development would affect planning estimates for EPS upgrades and associated costs and construction timelines for a Provision Program.
- (b) How would utility-owned solar facilities effect access for interconnecting customers to the hosting capacity enabled by a CIP in a Provisional Program?
- (c) How would utility-owned solar facilities utilizing hosting capacity enabled by a CIP in a Provisional Program effect the benefits of that Provisional Program for distribution customers, including the share of EPS upgrade costs that are paid exclusively by distribution customers versus offset by CIP fees paid by interconnecting customers?

Response

Eversource has recommended that a unique \$/kW CIP Fee be established for each of the 7 Group Study areas included in the Provisional Program. Solar energy projects that are owned and operated by an electric utility pursuant to M.G.L. Ch. 164 Section 1A(g), and which are sited in one of the 7 Group Study areas, will pay the same applicable \$/kW CIP Fee toward the cost of required Provisional Plan Upgrades.

- (a) Development of solar energy projects by utilities would not affect planning estimates. Consistent with the DER Group Study Cost Allocation spreadsheet (Attachment Eversource -1(b)) previously submitted with its April 6, 2021 response to the Department's Information Requests, Eversource accounted for DER Projections at each substation included within the Provisional Plan. It is that incremental projection (in columns “G” and “H”) in combination with the electric load demand at these stations that is used to establish the *Planned Connected Capacity*. The associated cost and construction timelines are tied to

the scope of these comprehensive upgrades and not influenced by development of solar energy projects by utilities.

- (b) Eversource expects that upgrades completed through the Provisional Program will enable DER capacity that exceeds the total capacity of DER facilities currently in the interconnection queue. As a result, development of new utility solar energy projects will not impact access of currently queued DER facilities to the hosting capacity enabled by a CIP in a Provisional Program. As DER development continues, utility solar energy project applications would be submitted in the DER queue and follow the same applicable standards for interconnection as any other facility. It is anticipated that once a unique \$/kW CIP Fee is established in each Group Study area – providing long term interconnection cost certainty, all DER applicants including utility solar energy projects would incorporate hosting capacity, CIP fees and associated construction timelines in their development decisions.
- (c) As noted above the same CIP fee would be assessed to each DER applicant in the applicable Group Study area. CIP fees assessed to utility solar energy projects would be incorporated into the overall cost of the project.

Information Request EDC-3-6

Eversource and National Grid: Refer to the Department Energy Resources' ("DOER") May 21, 2021 comments at 1.

- (a) Explain whether each company's Provisional Program proposal aims to establish a fixed percentage for all CIPs, or if the benefits of each project would be individually evaluated to determine a percentage.
- (b) If the proposal is for a fixed percentage of rate base cost share, explain whether lifespan of the asset is a factor when determining allocation of costs for the asset.

Response

- (a) Eversource does not seek to establish a fixed percentage for all CIPs. As evidenced by the Company's Cost Allocation spreadsheet, given the unique nature of the Distribution system and electric demand served from those local systems, Distribution upgrades and associated costs can vary significantly even within a relatively small geographic region such as Southeastern Massachusetts. Establishing one fixed percentage may be punitive to some DER customers who may have otherwise been assessed lower interconnection costs or maybe punitive to all distribution customers who may be assessed more costs than justified by the benefits they avail given the area they are served from. Having said that, having some degree of appropriate uniformity in interconnection cost is necessary to minimize uncertainties and administrative complexity. This is why the Company's proposal includes establishing a unique \$/kW CIP Fee in each Group Study area within the Provisional Plan.
- (b) N/A

Information Request EDC-3-7

Eversource and National Grid: Refer to the DOER's June 8, 2021 comment at 1-2. Explain what, if any, safeguards each company has considered in developing their Provisional Program proposals to ensure distribution customer benefits are maximized.

Response

The comprehensive upgrades that have been identified by Eversource and which would be recommended in a provisional program proposal are consistent with the criteria identified by DOER to ensure distribution customer benefits are maximized.

In its initial comments on the Department's straw proposal, the Company recommend that any planning assessment of system needs should identify upgrades that provide a broader benefit and can accommodate various types of load growth, as well as high penetration of DER. Eversource explained that its recommended planning assessment should consider the integrated impacts of both load growth (including electric vehicle adoption, energy efficiency, demand response, sector conversion, etc.), as well as DER adoption, rather than look at these two dynamics as separate and independent activities. In its response to Information Request EDC-1 filed on April 6, 2021, Eversource further confirmed that anticipated EPS upgrades, in addition to enabling renewable energy to fully support the Commonwealth's climate goals, also allows the Company to preserve and maintain safe, reliable operation of the EPS for all customers.

Eversource has also provided bill impact estimates that demonstrate the Company could complete the proposed upgrades and maintain bill impacts within the annual rate cap included in the Department's straw proposal.

Information Request EDC-3-8

Eversource and National Grid: Based on current trends, please describe all external contractor resource constraints that may impact distributed generation ("DG") interconnection construction timelines. Include in your response constraints related to availability of construction workers and cost of construction materials.

Response

Eversource does not envision having contractor resource constraints in construction of the Provisional Plan upgrades. The timelines are governed by the ability to take construction outages as well as procuring upgrades.

1. **Construction:** Because of the interconnection nature of these Distribution Stations, construction is sequenced to ensure that reliability to all customers can be maintained during construction periods. Outage windows are generally limited to periods of lighter substation demand – which allows for system re-configuration to maintain service to loads while bulk stations are being upgraded.
2. **Procurement:** The longest lead time items are the bulk transformers and switchgear. Detailed engineering needs to be conducted to establish specifications for these critical pieces' equipment. Detailed engineering for all these upgrades can be conducted simultaneously over a 4-6-month period after which procurement orders can be issued. Procurement of these items might take 12-24 months. Full cost recovery certainty is necessary prior to commencing detailed engineering.

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Information Request EDC-3-9

Eversource and National Grid: Refer to EDC 3-8. Please describe any known or anticipated impacts to DG interconnection timelines and cost due to external contractor resource constraints.

Response

As stated in the response to Information Request 3-8, Eversource does not envision contractor resource constraints in construction of the Provisional Plan upgrades.

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Information Request EDC-3-10

Eversource and National Grid: Refer to EDC 3-8. Please describe any known or anticipated impacts to timelines and costs specific to a Provisional Program due to external contractor resource constraints.

Response

As stated in the response to Information Request 3-8, Eversource does not envision contractor resource constraints in construction of the Provisional Plan upgrades.