

**STATE OF NEW HAMPSHIRE  
DEPARTMENT OF ENERGY**

**IP 2022-01**

**Investigative Proceeding Relative to Customer Generator Interconnection**

**COMMENTS OF PUBLIC SERVICE COMPANY OF  
NEW HAMPSHIRE d/b/a EVERSOURCE ENERGY**

Pursuant to the Request for Comment issued by the New Hampshire Department of Energy (“DOE”) in this investigative proceeding on May 26, 2023, Public Service Company of New Hampshire, d/b/a Eversource Energy (“Eversource” or the “Company”), submits these comments addressing the issues listed by the DOE in that request. These written comments are intended to memorialize and in certain cases amplify and expand upon the key points made by the Company during the technical session held virtually on May 15, 2023.

1. DOE Draft Schedule

Eversource believes that the proposed schedule for completing the portion of the investigation leading to submission of a final report to the House and Senate legislative committees, consistent with Senate Bill 262, is generally reasonable and appropriate. However, the Company believes that stakeholders should also have an opportunity to review and comment on the complete draft final report, and not just the report outline, following the final technical session tentatively scheduled for October 11, 2023.

2. General Feedback on Overall Meeting Discussion

Eversource appreciated the pointed input and candid feedback provided by a diverse group of interested stakeholders during the first technical session held on May 15<sup>th</sup>. In particular, the level of support for a robust stakeholder working group process to discuss interconnection application processes, timelines and fees, system impact study criteria and assumptions, and potential cost allocation approaches and alternatives, was encouraging and the Company strongly supports such initiatives.

3. Hosting Capacity Maps

Eversource provides this brief description of the criteria, assumptions, and methodology used to determine information provided on its New Hampshire hosting capacity (HC) map, and the frequency at which the map is updated. The Company has maintained an online HC map since December 2022, and the map is updated on a monthly basis.<sup>1</sup>

“Hosting capacity” is the estimated maximum amount of energy from a distributed generation resource, such as solar PV, that can be accommodated on the electric distribution

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<sup>1</sup> See <https://www.eversource.com/content/residential/about/doing-business-with-us/interconnections/new-hampshire/new-hampshire-hosting-capacity-map>.

system at a given location under existing grid conditions and operations without adversely impacting safety, power quality, reliability, or other performance measures, and without requiring significant infrastructure upgrades to maintain operational requirements. The posted level of hosting capacity assumes that the proposed distributed generation will operate on the circuit only in its normal or primary configuration and does not consider power flows from alternate circuits.

As shown on the HC map, Location Hosting Capacity is the amount of distributed energy resources (DER) a particular circuit can accommodate, which cannot exceed the Bulk Substation Hosting Capacity of the circuit's normal source substation. Bulk Station Hosting Capacity is the amount of DER a substation can accommodate, assuming that the largest transformer at the substation is offline (N-1), either for service or for repair.

The hosting capacity map provides some insight into the approximate value of hosting capacity measured in megawatts ("MW") at a particular point on the distribution system. The map is updated regularly; however, the information provided is not derived from a full system impact study (SIS) and therefore might not reflect all the constraints and considerations that are accounted for in a detailed study. All projects submitted for interconnection to the distribution system require individual analysis, taking into account all installed projects, all other queued projects, and details of the existing system. This analysis might include detailed engineering studies, conducted by Eversource and funded by the project proponent, to determine whether the DER can be safely and reliably accommodated on the system. A SIS, if required, will determine the scope of any upgrades required to interconnect the project to the system at the specific location. A key distinction between hosting capacity analysis and an SIS is that the hosting capacity analysis models the entire distribution system and determines the segment-level hosting capacity on each feeder and at the substation – as opposed to looking at the specific requirements for a particular project, with specified size and technology, at a given location, with known operational parameters. An SIS requires a much more detailed, accurate model than that used for general hosting capacity analysis, and could include additional analysis, such as a dynamic study, not included in the hosting capacity analysis.

Given these assumptions and restrictions, the HC map is provided for informational purposes or guidance only and does not guarantee interconnection of any particular project to the distribution system at any given location. The map also does not serve as a substitute for filing an interconnection application with Eversource and adhering to the Company's Standards for Interconnection of Distributed Generation. An interconnection application is needed to review the proposed project in detail and secure a queue position relative to other applications on the circuit. Depending on the project size and other factors, a detailed SIS may be required.

As discussed during the May 15<sup>th</sup> technical session, the Company intends to post online as an addition to its "Frequently Asked Questions" page, a brief summary description of the criteria and methodology used in generating HC maps for New Hampshire. That posting is currently expected to occur by the end of July 2023.

#### 4. Priorities for Various Efforts, Tasks, and Issues

Eversource strongly supports the formation of a stakeholder working group to address relevant distributed generation interconnection issues, as that has proven to be a useful process in

other states such as Connecticut and Massachusetts. Broad rather than narrow participation in the working group is preferable, and the group should be led and facilitated by DOE staff. The Company also believes that less formal rather than more formal internal process and governance principles for the working group would be most efficient.

The working group should meet monthly to start and then determine whether more or less frequent meetings are warranted. In Eversource's view, the group could begin meeting to discuss issues and scope process prior to the utilities or any other stakeholders producing a draft set of interconnection procedures for review. The Company also supports the formation of a separate subcommittee to address technical and engineering standards and reliability, redundancy, and safety criteria, such as the N-1 standard,<sup>2</sup> that are applicable to larger distributed generation project interconnection studies.

With respect to application processes and timelines, Eversource agrees with the need for updated interconnection procedures to better define the process, timeframes, and respective responsibilities of the utility and the applicant. With greater automation of the application and review processes, such as through the PowerClerk system in the process of being implemented by Eversource, many of the current procedures, related screening, and pre-application requirements, including many of those that would apply under the IREC 2019 model, have been rendered out-of-date and inefficient. Therefore, the time is ripe to consider updated processes for interconnection applications and utility review of proposed distributed generation projects.

The Company believes that interconnection application and review processes should be updated and standardized by each utility, provided that related costs are properly allocated and recovered from applicants through reasonable fees and charges. However, it remains unclear whether statewide standardization is necessary or desirable, in particular where different utilities face different application volumes and use different tools and processes. Standardization should not be seen as a goal in and of itself, but should be pursued only if and to the extent it makes sense under the circumstances. For example, it may be beneficial to achieve consistency regarding the size thresholds for distributed generation resources (whether expressed in kW or kVA) subject to various levels of utility interconnection review and impact study, in particular for those smaller resources that need not be studied at all and the larger size projects that will almost always be studied.

With respect to interconnection application fees, Eversource is considering changes to its current study costs that would involve moving to uniform application fees for small generators and a somewhat different approach for larger projects. Those fees would be designed to at least partially recover incremental capital and/or operations and maintenance costs related to the interconnection application and review process. The Company believes that the details and timing of any such changes should be addressed through the stakeholder working group process in the first instance. In order to ensure that interconnection application fees and related charges are not double-counted or subject to multiple recovery, the Company has implemented specific

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<sup>2</sup> The N-1 planning standard ensures that substations can sustain any single contingency event without a loss of load. Eversource notes that the N-1 criterion has been in effect since 2011 and represents an evolution of dynamic study approaches to ensuring distribution system reliability; it is a standard that is widely accepted in the industry.

and detailed accounting and allocation processes, as described in its response to DOE 1-004 provided on February 1, 2023.

#### 5. Cost Allocation for Distribution System Upgrades

Eversource is willing to consider grouping, clustering, and initially socialized cost allocation alternatives for distribution system upgrade construction, such as the Capital Investment Project (“CIP”) infrastructure upgrade program recently implemented in Massachusetts that generally employs a “beneficiary pays” approach to cost allocation.

Under the Massachusetts CIP program, electric distribution utilities are permitted to file CIP proposals for specific system locations with the Department of Public Utilities (“DPU”). These CIP proposals were designed to limit the interconnection costs for common distribution system modifications allocated to each individual distributed generation facility to \$500/kW or less. Utility customers as a whole help to fund the initial construction of the system upgrades and are later “reimbursed” over time for a portion of the CIP costs from fees charged to future distributed generation facilities that are able to interconnect due to the system upgrades constructed. The DPU reviews each CIP on a case-by-case basis for approval, denial, or modification. To date, only the CIP proposal for the Marion-Fairhaven DER group has been approved, in Docket D.P.U. 22-47. Once the Marion-Fairhaven CIP build is complete, approximately 45 MW of new renewable clean energy will come on-line, but equally important an additional 91 MW of new renewable clean energy will be enabled to come on-line over the next 20 years. The CIPs for a number of other DER groups are currently being adjudicated before the DPU. Similar alternatives are currently under consideration in Connecticut, as described in the response to DOE 1-003 provided on February 1, 2023.

However, the Company emphasizes that, in the absence of implementation of any such cost allocation alternative, the default rule for cost allocation must be that each applicant is studied individually and must agree to fund all necessary interconnection facilities and related system upgrades at its own up-front cost, in effect based on the cost-causation principle. It should be noted that, in most situations where a distributed generation project is able to interconnect without paying for system upgrades because there is sufficient hosting capacity, that hosting capacity exists because the costs of the existing system infrastructure were borne entirely by utility customers or by a previous project that proceeded with its required interconnection upgrades.

Eversource does not support the use of distributed generation facility static or dynamic curtailment as an alternative to system upgrade investments funded by the project developer to ensure continued system reliability. Although static curtailment of distributed resources, using equipment limitations that effectively reduce their peak power capability, is currently permitted, the Company does not see static curtailment as a method to avoid saturated substation upgrades or associated implications for cost allocation calculations, nor would static curtailment guarantee avoidance or reduction of interconnection upgrades and related costs. In addition, it would be very difficult to fairly implement a static curtailment plan acceptable to developers as this would impact their financial models.

On the other hand, dynamic curtailment of distributed generation resources would require implementation and operation of a distributed energy resources management system

(“DERMS”),<sup>3</sup> presumably funded by all utility customers, as well as the determination of the specific conditions and contingencies under which curtailment would be undertaken. Depending on the specific circumstances, dynamic curtailment could impact system reliability. For example, if the Company were to agree to “trip” distributed generation resources off-line during N-1 contingency events, the combination of monitoring for such an event with the need to identify and trip specific distributed resources would create unnecessary additional operator burden, potentially delay responses, and negatively impact reliability for all customers, including both those with and those without distributed generation. Furthermore, the Company could not guarantee a maximum down time and frequency of resources tripped, posing a significant financial planning risk to projects.

The Company believes it is more equitable and more efficient to construct the distribution system upgrades necessary to preserve reliable operations for the benefit of all utility customers under specified operational conditions. That said, Eversource is prepared to consider potential cost allocation alternatives such as the Massachusetts CIP program described above, if such alternatives are grounded in sound “beneficiary pays” principles.

Eversource supports stakeholder review and consideration of alternative cost allocation approaches through the interconnection working group process. The working group would be the most suitable forum in which to discuss the complex details regarding design and implementation of any such alternatives, with the objective of reaching consensus, if possible, on a reasonable balance of the competing priorities of a cost-effective and timely project interconnection process, while minimizing related costs and achieving an appropriate level of interconnection cost accuracy and certainty.

## 6. Suggestions on What Can be Discussed and/or Determined

The DOE has requested stakeholder comment on what can be discussed and/or determined by interested parties over three relevant time frames: near-term (without statutory changes), mid-term, and long-term. Eversource notes that the time periods listed are not defined and may be open to differing interpretations. The Company respectfully suggests, however, that stakeholders should focus on needed process updates and other changes that can be achieved in the relatively near-term timeframe of one to two years. The stakeholder working group process holds great promise to address those potential enhancements, and that process should be enabled and encouraged to achieve its promise over a reasonable period of time.

The Company’s view is that significant progress can be made through the stakeholder-led process, facilitated by state agency guidance, without the need for any legislation in the foreseeable future. That viewpoint is supported by the positive experience of Eversource affiliates participating in stakeholder working group processes in other jurisdictions. Accordingly, the Company believes the working group process should begin soon and well before the final report required by Senate Bill 262 is submitted by the DOE to the legislative committees in December.

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<sup>3</sup> Eversource currently does not have a DERMS platform, and scoping and implementing a DERMS capable of dynamically integrating high distributed energy resource penetration likely would be a very complicated and protracted process that would take many years to specify, procure, test, and implement.

7. Suggestions for Next Technical Session Agenda

Eversource suggests that the agenda for the July 18<sup>th</sup> technical session focus on the issues covered in the stakeholder comments submitted on or before June 29<sup>th</sup>, in order to identify areas of general consensus and those where significant differences may exist. The two overriding goals of the investigation process going forward should be to organize and commence the stakeholder interconnection working group process and to review and finalize the report to be submitted to the legislature pursuant to Senate Bill 262.

In conclusion, the Company looks forward to the next technical session and to further engagement with the DOE and interested stakeholders regarding the important issues to be addressed through this investigatory proceeding.