

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**New England Winter Gas-Electric Forum     )**

**Docket No. AD22-9-000**

**POST-FORUM COMMENTS OF ACADIA CENTER**

Acadia Center submits these comments pursuant to the Commission’s Notice Inviting Post-Forum Comments in the above-captioned docket, dated July 10, 2023 (the “Post-Forum Invitation”).<sup>1</sup> Acadia Center works to advance a just and equitable clean energy economy that contributes to ensuring health and opportunity for all communities across New England and the Northeast. Critically, energy system reliability and decarbonization as required by state law are complementary goals that are essential to maintaining thriving communities while keeping them safe from harm. It is the responsibility of this Commission, ISO New England (“ISO-NE”), and the leaders of the six New England states to work together collaboratively to ensure that both goals are achieved on behalf of all New England residents. The Commission’s June 20 New England Winter Gas-Electric Forum in Portland, Maine (the “June Forum”), following on the Commission’s New England Winter Gas-Electric Forum September 8 in Burlington, Vermont (the “September Forum”), was an important further step to fulfill the responsibilities of that joint task.

With its Post-Forum Invitation, the Commission solicited comments on agenda items under discussion at the June Forum, and invited responses to provided questions. Acadia Center hereby provides responses to each of the questions posed.

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<sup>1</sup> eLibrary No. 20230710-3048

## **I. Should the Everett Marine LNG Terminal be Retained, and if so, how?**

It is not necessary to retain the Everett Marine LNG Terminal (“EMT”) to support electric grid reliability. Whether it is necessary to retain EMT to support the reliability of the fossil gas distribution system is a matter that has been taken up by the Massachusetts Department of Public Utilities (“MA DPU”): on June 30, 2023 the MA DPU sent a letter to each of Massachusetts’ five local fossil gas distribution companies (“LDCs”) as part of its effort “to assess the potential impact on reliability of service if [EMT] closes, as well as alternative supply sources, including demand-side resources, such as demand response and energy efficiency.”<sup>2</sup>

That the possible closure of EMT simultaneously poses questions regarding the reliability of the electric grid and fossil gas distribution system is testament to the dual role that fossil gas, including LNG, plays in providing energy services in New England. From an historic perspective that role has not been static, and neither has the role that has been played by EMT. The current transition to a clean energy economy is merely the most recent change in the role fossil gas has played in the region.

EMT, then Distrigas, received its first LNG shipment in 1971, more than half a century ago.<sup>3</sup> From that day forward EMT has served the incremental demand for fossil gas that has gone unmet due to the insufficient capacity of the fossil gas transmission system into the region: the very first LNG shipment delivered to EMT was sold to 11 natural gas distribution companies in

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<sup>2</sup> Massachusetts Department of Public Utilities, Impact of Possible Closure of Everett Marine Terminal on Massachusetts Gas Supply, Mass.gov, <https://www.mass.gov/lists/impact-of-possible-closure-of-everett-marine-terminal-on-massachusetts-gas-supply>

<sup>3</sup> U.S. Department of Energy, 1995 Focus Reports, *LNG Trade: Past, Present, and Future(?)*, December 1995, p. i. <https://fossil.energy.gov/programs/gasregulation/analyses/Focus/3rd95foc.pdf>

the Northeast to meet peak winter fossil gas demand.<sup>4</sup> The inability of fossil gas transmission capacity to serve peak winter demand that prevailed circa 1971 persisted as the region's demand for fossil gas increased over the course of the next five decades, even as new pipelines were built and the capacity of existing pipelines was expanded to serve that burgeoning demand. Circa 2014, estimates of contracted fossil gas pipeline capacity and physical pipeline capacity into New England were identical: 3,698 million cubic feet per day (MMcfd).<sup>5</sup> By the end of 2019 the U.S. Energy Information Administration estimated that fossil gas pipeline capacity into New England from Canada and New York equaled 5,200 MMcfd.<sup>6</sup> In the past three years additional projects have increased the aggregate capacity of the fossil gas transmission system. The Portland XPress Phase 3 project (2020), and the Westbrook Xpress Phase 2 (2021) and Phase 3 (2021) projects, increased the capacity of the Portland Natural Gas Transmission System (PNGTS) by 105 MMcfd.<sup>7</sup> Phase 2 of the Atlantic Bridge project (2021) increased the capacity of the Algonquin Gas Transmission and Maritimes & Northeast pipeline systems by 93 MMcfd.<sup>8</sup>

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<sup>4</sup> Id. at p. iii. In fact, the first LNG shipment into New England antedated EMT: Boston Gas Company imported the first LNG shipment into the U.S. in 1968. U.S. Department of Energy, 1995 Focus Reports, *Market Penetration of Gas Imports Into New England*, June 1995, p. i. <https://fossil.energy.gov/programs/gasregulation/analyses/Focus/1st95foc.pdf>

<sup>5</sup> The estimate of Contracted Pipeline Capacity was based on pipelines' Index of Customer data as of Q4 2012 and capacity expansions due by the end of 2013. U. S. Department of Energy Office of Electricity Delivery and Energy Reliability Energy Infrastructure Modeling and Analysis Division *Assessment of the Adequacy of Natural Gas Pipeline Capacity in the Northeast United States*, November 2013, p. 9. <https://www.energy.gov/ceser/articles/assessment-adequacy-natural-gas-pipeline-capacity-northeast-united-states-november>

<sup>6</sup> U.S. Energy Information Administration, *EIA expects pipelines will increase natural gas deliverability in New England as a result of infrastructure upgrades*, March 6, 2020. <https://www.eia.gov/dashboard/newengland/commentary/20200306>

<sup>7</sup> Global Energy Monitor Wiki, [https://www.gem.wiki/Portland\\_Natural\\_Gas\\_Transmission\\_System\\_\(PNGTS\)](https://www.gem.wiki/Portland_Natural_Gas_Transmission_System_(PNGTS))

<sup>8</sup> Global Energy Monitor Wiki, [https://www.gem.wiki/Atlantic\\_Bridge\\_Gas\\_Project](https://www.gem.wiki/Atlantic_Bridge_Gas_Project)

Notwithstanding continuing capacity additions to the fossil gas transmission system into the region during the entire half century that EMT has been service, EMT LNG has continued to serve the region's incremental demand for fossil gas, though that incremental demand is only manifested seasonally during winter peaks. Given the consensus among the governments of the six New England states that their respective greenhouse gas (GHG) emissions must be reduced to avoid the worst effects of climate change—all six states have set either mandated or aspirational goals to reduce their GHG emissions 80% by 2050<sup>9</sup>—it is clear New England does not have a fossil gas supply problem, but a fossil gas *demand* problem. Pipeline capacity into the region has expanded significantly over the last half century, and the advent of hydraulic fracturing (“fracking”) has yielded ample supply, and demand continued to grow.

The question posed by the Commissioners regarding whether EMT should be retained is really a question regarding whether existing fossil gas pipeline transmission capacity and supply are sufficient to meet current demand in its absence. For the reasons stated in Section II below, it is Acadia Center's position that EMT is not needed to maintain electric grid reliability, either for the short-term (winters 2023/2024 and 2024/2025) or beyond (beginning winter 2025/2026 and thereafter). Presumably, the MA DPU will reach its conclusion regarding the ability of Massachusetts LDCs to operate the gas distribution system safely absent EMT after considering whether the Repsol LNG terminal in St. John, New Brunswick (“Repsol”) and/or the Northeast Gateway Floating Storage Regasification Unit in Massachusetts Bay (“Excelerate”) are

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<sup>9</sup> ISO New England Newswire, *The New England states' frameworks for reducing greenhouse gas emissions continue to evolve*, January 19, 2021. <https://isonewswire.com/2021/01/19/the-new-england-states-frameworks-for-reducing-greenhouse-gas-emissions-continue-to-evolve/>

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necessary and sufficient alternative sources of supply.<sup>10</sup> When the MA DPU concludes that EMT is no longer needed to maintain fossil gas distribution system reliability—whether it reaches that conclusion now as part of its current inquiry or does so at some point in the future once it is satisfied that sufficient alternatives to EMT have been implemented, or seasonal demand has been sufficiently reduced—then the time will be ripe to draw the curtain on EMT. That will represent a clear signal that the region has begun to bend the curve on fossil gas demand via state policies to electrify the energy services provided by the fossil gas distribution system. At that point—assuming the interconnection queue for the region’s future generating resources does not substantially increase the number of fossil gas generating resources, and that does not appear to be likely,<sup>11</sup>-- the region would not only have no further need for EMT, it would also have no further need to increase fossil gas transmission system capacity with new or expanded fossil gas pipelines. Thereafter, with a scant quarter century left to do so, the region will continue to reduce all sources of GHG emissions to meet its 2050 climate goals, including those emissions associated with the combustion of fossil gas.

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<sup>10</sup> See footnote 2.

<sup>11</sup> ISO New England, Resource Mix, <https://www.iso-ne.com/about/key-stats/resource-mix> As of January 2023, more than 30,000 MW of generating resources have been proposed in the ISO New England Interconnection Request Queue. Approximately 97% of resources currently proposed are grid-scale wind, solar, and battery projects. The remaining 3% represents 762 MW of fossil gas generation. While not all the proposed resources will ultimately be placed into service, the preponderance of clean energy resources in the queue indicates that fossil gas generation will play a diminishing role in the future.

## II. Reactions to the EPRI Studies<sup>12</sup>

The ISO-NE/EPRI study presented at the June Forum titled “Opening Presentation: Winters 2023/2024 and 2024/2025” (the “Winter 2023-25 Study”) and the ISO-NE/EPRI study titled “Preliminary Results of Energy Adequacy Studies for Winter 2032” (the “Winter 2032 Study”) employed the same three-steps in developing the framework: weather modeling (performed by EPRI), risk screening model development and scenario generation (performed by EPRI), and energy assessments (performed by ISO-NE).<sup>13</sup> As stated at the June Forum by ISO-NE’s Director of Operational Performance, Training, and Integration, Stephen George, the Winter 2023-25 Study indicated that during winter 2023-2024 (i) under moderate conditions there would be sufficient capacity and energy to meet peak loads and energy demands, and (ii) under severe winter conditions capacity deficiency actions could be possible across just a few days with energy shortfalls very unlikely.<sup>14</sup> Mr. George further stated that during winter 2024-2025 (i) under moderate conditions with EMT there would be no energy shortfall, and without EMT any shortfall would be fully mitigated with increased amounts of fuel oil inventory; and (ii) under severe conditions with EMT there would be no energy shortfall, and in cases without EMT

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<sup>12</sup> References to the ISO New England-Electric Power Research Institute (EPRI) probabilistic energy-security studies in these Comments refer to (i) Opening Presentation: Winters 2023/2024 and 2024/2025, June 20, 2023, [https://www.iso-ne.com/static-assets/documents/2023/06/ad22-9\\_winter\\_gas-electric\\_forum\\_opening\\_presentation.pdf](https://www.iso-ne.com/static-assets/documents/2023/06/ad22-9_winter_gas-electric_forum_opening_presentation.pdf), and (ii) Preliminary Results of Energy Adequacy Studies for Winter 2032, August 15, 2023, [https://www.iso-ne.com/static-assets/documents/2023/08/a10\\_operational\\_impact\\_of\\_extreme\\_weather\\_events.pdf](https://www.iso-ne.com/static-assets/documents/2023/08/a10_operational_impact_of_extreme_weather_events.pdf).

<sup>13</sup> See the Winter 2032 Study at page 3, [https://www.iso-ne.com/static-assets/documents/2023/08/a10\\_operational\\_impact\\_of\\_extreme\\_weather\\_events.pdf](https://www.iso-ne.com/static-assets/documents/2023/08/a10_operational_impact_of_extreme_weather_events.pdf) and the comments of Stephen George, Final Transcript of the June Forum, eLibrary No. 20230721-4000, at p. 75.

<sup>14</sup> Comments of Stephen George, Final Transcript of the June Forum, eLibrary No. 20230721-4000, at p. 21.

any potential energy shortfall would be mostly mitigated with increased fuel inventories.<sup>15</sup> In short, during winters 2023-2024 and 2024-25, under either moderate or severe weather conditions, it would not be necessary to retain EMT to maintain the reliability of the grid in the ISO-NE control area. There has been a notable difference of opinion regarding whether fuel inventories could be maintained at sufficient levels to maintain system reliability during the 2023-24 and 2024-25 winters. Specifically, Constellation Energy Corporation, EMT's owner, has offered its conclusion that the ISO-NE/EPRI study underestimates the difficulty of maintaining sufficient fuel levels absent EMT, and for that reason "the results of the ISO-NE/EPRI study with respect to the impact of EMT retirement are not credible."<sup>16</sup> While panelists at the June Forum acknowledged that maintaining fuel inventories at sufficient levels would be more difficult absent EMT, none was willing to go so far as to say that it couldn't be done.<sup>17</sup> In short, there was no indication during the course of the June Forum that the ISO-NE/EPRI study failed to provide, or failed to consider, information needed to make decisions about energy risks in New England during the 2023-24 and 2024-25 winters absent EMT.

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<sup>15</sup> Id. at pp. 21-22.

<sup>16</sup> The Northbridge Group on behalf of Constellation Energy Corporation, presentation to the NEPOOL Reliability & Transmission Committee Summer Meeting: *The ISO-NE/EPRI Study's conclusions with respect to the impact of the retirement of EMP are not credible due to a fundamental flaw*, July 18, 2023, [https://www.iso-ne.com/static-assets/documents/2023/07/a13b\\_emt\\_assumptions.pdf](https://www.iso-ne.com/static-assets/documents/2023/07/a13b_emt_assumptions.pdf)

<sup>17</sup> See, e.g., the comments of Richard Levitan, Final Transcript of the June Forum, eLibrary No. 20230721-4000, at p. 33. "...If we don't see a breakdown in electric infrastructure, in particular the loss of hydro from Quebec, the potential constraint or trip of a nuclear power plant. There are three that typically operate reliably during the critical heating season. If the Saint John facility and/or the Excelerate buoy submersible system operate reliably and there are contracts that are formed to welcome timely arrival. And finally, if the trucks on the region's highway system emanating from Quebec and/or Pennsylvania arrive on time. It's a lot of ifs."

It is worth noting that among all the contingencies cited at the June Forum as threats to the regional grid during the winters of 2023-24 and 2024-25, none considered the contingency that might result if EMT were still in service during the period, but itself suffered an operational failure and outage. That contingency is not a mere a hypothetical, it is a contingency that has already occurred: on Labor Day 2018 a power line fault interrupted the power supply to EMT, preventing EMT from delivering fuel to Mystic Generating Station.<sup>18</sup> The fact that EMT itself has failed emphasizes the fact that no system—no matter how well equipped or appointed—is fail safe. Keeping EMT in service will not render the New England electric grid fail safe. Rather, many of the comments offered at the June 20 Forum suggested that keeping EMT in service would keep the regional electric grid *safer*. That point is arguable considering the alternative sources of fuel that the ISO-NE/EPRI study considered and relied upon to offer the conclusion that during extreme weather events over the next two winters the New England electric grid could be operated reliably absent EMT. Assuming, however, that EMT’s continued operation would make the electric grid safer from the occurrence of forced outages even though, per the ISO-NE/EPRI study, the grid can be operated over the next two winters without it, the question is at what cost the region’s ratepayers—who already pay some of the nation’s highest electricity rates—purchase that added level of insurance?<sup>19</sup> It must be acknowledged, too, that the cost of

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<sup>18</sup> Utility Dive, *Outage at Exelon’s Mystic plant drove tight ISO-NE Labor Day conditions*, September 21, 2018, <https://www.utilitydive.com/news/outage-at-exelons-mystic-plant-drove-tight-iso-ne-labor-day-conditions/532968/>

<sup>19</sup> The cost of grid reliability insurance is never inexpensive. The first 13 months Mystic Generating Station operated under its out-of-market cost of service agreement cost ratepayers more than half a billion dollars. Out of those 13 months the plant operated for one month, was “predominantly offline” for five months, and engaged in “tank congestion management” at EMT (drawing down LNG to make way for new tanker shipments) for seven months. Commonwealth Magazine, *Everett grid ‘insurance’ cost \$536m over first 13 months*, <https://commonwealthmagazine.org/energy/everett-grid-insurance-cost-536m-over-first-13-months->



the added level of insurance provided by keeping EMT in service is not measured solely in terms of cents added to each electric customer's monthly bill. A portion of the cost of that insurance is also externalized to the people who live in proximity to EMT. The Commission did not provide the residents of Everett with an opportunity to be heard at the June Forum. Until the residents of Everett are permitted to speak on the record regarding the direct effects EMT has on them individually and as a community, any assessment of the cost of keeping EMT in service will remain incomplete and will fail to reflect the true cost of EMT's continuing operation.

The principal differences in estimated energy shortfalls presented in the ISO-NE/EPRI Winter 2023-25 Study and the Winter 2032 Study are the result of using 2022 Capacity, Energy, Loads, and Transmission ("CELT") data for baseline analysis, and 2023 CELT data Forward Capacity Auction (FCA) 17 data for sensitivity analysis.<sup>20</sup> The introduction of 2023 CELT and FCA 17 data significantly increases the estimates of energy shortfalls for the "worst case (low oil/LNG/imports), Jan. 22 1961 (W1) event."<sup>21</sup> One "key takeaway" of the Winter 2032 Study is that, "[i]n terms of magnitude and probability, baseline studies of 2032 winter events indicate an energy shortfall risk profile similar to that of the 2027 winter event studies."<sup>22</sup> Another key takeaway of the Winter 2032 Study specifically attributes the elevated magnitude of Winter 2023

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[2/#:~:text=According%20to%20a%20recently%20released,congestion%20management%E2%80%9D%20for%20seven%20months.](#)

<sup>20</sup> Preliminary Results of Energy Adequacy Studies for Winter 2032, August 15, 2023, at p. 46 [https://www.iso-ne.com/static-assets/documents/2023/08/a10\\_operational\\_impact\\_of\\_extreme\\_weather\\_events.pdf](https://www.iso-ne.com/static-assets/documents/2023/08/a10_operational_impact_of_extreme_weather_events.pdf).

<sup>21</sup> Id.

<sup>22</sup> Preliminary Results of Energy Adequacy Studies for Winter 2032, August 15, 2023, at p. 47 [https://www.iso-ne.com/static-assets/documents/2023/08/a10\\_operational\\_impact\\_of\\_extreme\\_weather\\_events.pdf](https://www.iso-ne.com/static-assets/documents/2023/08/a10_operational_impact_of_extreme_weather_events.pdf).

energy shortfalls to the study's sensitivity analysis, which relied upon the inclusion of forecasts included in the 2023 CELT report.<sup>23</sup>

Building upon the baseline study, the Winter 2032 Study sensitivity analysis incorporates variations based on three key factors: the FCA 17 resource mix, the retirement of additional at-risk resources, and the 2023 CELT report heating and transportation electrification forecast.<sup>24</sup> The result of the FCA 17 auction and the identity of at-risk resources are known. The load estimate in the 2023 CELT report thus depends to a significant degree on ISO-NE's heating and transportation electrification forecast.<sup>25</sup> Before addressing the heating and transportation electrification forecast, however, it is worth looking back at the assumptions made in previous CELT reports—specifically the 2014 CELT Report. The 2014 CELT report forecasted 2022-23 winter load net of passive demand resources (energy efficiency) alone and did not include reductions in load due to solar photovoltaic ("PV") systems. Conspicuously, neither did the 2014 CELT report forecast summer 2022 load net of PV.<sup>26</sup> Nevertheless, the 2014 CELT report was the first to include a new one-page section (Section 3.1) captioned "Interim Forecast of Solar

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<sup>23</sup> Id. "Sensitivity analysis of 2032 worst-case scenarios indicate an increasing energy shortfall risk profile between 2027 and 2032—This increasing risk profile is particularly observable with the 2023 CELT load forecast."

<sup>24</sup> Preliminary Results of Energy Adequacy Studies for Winter 2032, August 15, 2023, at p. 36 [https://www.iso-ne.com/static-assets/documents/2023/08/a10\\_operational\\_impact\\_of\\_extreme\\_weather\\_events.pdf](https://www.iso-ne.com/static-assets/documents/2023/08/a10_operational_impact_of_extreme_weather_events.pdf)

<sup>25</sup> ISO New England, CELT Report and Related Materials, 2023 CELT Report, Section 1.7 <https://www.iso-ne.com/system-planning/system-plans-studies/celt>

<sup>26</sup> ISO-NE assigns a zero-value to solar when calculating winter load net of passive demand and PV because daily PV production has ceased when evening winter peaks are reached. PV does contribute to reducing peak summer load. The fact that ISO-NE did not calculate PV's contribution to reduction of peak summer loads suggests that it believed that PV's contribution was *de minimis*. ISO New England, CELT Report and Related Materials, 2014 CELT Report, p. 1.1.1 <https://www.iso-ne.com/system-planning/system-plans-studies/celt>

Photovoltaic (PV) Resources by State.”<sup>27</sup> Section 3.1 of the 2014 CELT report includes a hyperlink to ISO-NE’s 2014 Interim Forecast of Solar Photovoltaic (PV) Resources.<sup>28</sup> The 2014 Interim Forecast of PV Resources estimated that by 2023 the region would have 1,806.5 Annual Total MW (AC nameplate rating) of PV resources.<sup>29</sup> ISO-NE’s Winter 2023-25 Study presented at the June Forum reported that through the end of 2022 the region had 5,473 MWac of PV—more than three times the PV capacity ISO-NE forecasted nine years ago.<sup>30</sup> More than the energy PV provides directly it contributes to grid stability when the sun isn’t shining by displacing the combustion of liquid fuels to generate electricity, minimizing the need to replenish fuel stocks. The Winter 2023-25 Study stated that 700 MW of PV, the amount of capacity currently being added to the New England grid *each year*, is equivalent to 7-10 million gallons of fuel oil, or 1.0-1.5 Bcf of fossil gas.<sup>31</sup>

While it is essential to forecast future capacity and future additions to load to support grid planning, the numbers yielded by such analyses are exactly that—forecasts. It is a certainty that load will increase as the result of the electrification of heating and transportation, a principal strategy in the transition to a clean energy economy. Forecasted increases in annual load due to the electrification heating and transportation in the 2023 CELT report, which forms the basis for the sensitivity analysis in the Winter 2032 Study, are significant: the peak 21-day load for the

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<sup>27</sup> Id. at p. 3.1.1.

<sup>28</sup> ISO New England, 2014 Interim Forecast of Solar Photovoltaic (PV) Resources, [https://www.iso-ne.com/committees/comm\\_wkgrps/othr/distributed\\_generation\\_frcst/2014\\_pv\\_frcst/2014\\_final\\_solar\\_forecast.pdf](https://www.iso-ne.com/committees/comm_wkgrps/othr/distributed_generation_frcst/2014_pv_frcst/2014_final_solar_forecast.pdf).

<sup>29</sup> Id. at p. 23.

<sup>30</sup> Opening Presentation: Winters 2023/2024 and 2024/2025, June 20, 2023, p.3. [https://www.iso-ne.com/static-assets/documents/2023/06/ad22-9\\_winter\\_gas-electric\\_forum\\_opening\\_presentation.pdf](https://www.iso-ne.com/static-assets/documents/2023/06/ad22-9_winter_gas-electric_forum_opening_presentation.pdf)

<sup>31</sup> Id.

January 21, 1961 event increases to 26,515 MW from 23,144 MW, an increase of 3,371 MW.<sup>32</sup> To return to the Post-Forum Invitation question posed by the Commission regarding the EPRI studies, the Winter 2032 Study does not, and indeed cannot, “provide the information needed to make decisions about winter energy risks in New England.” Much as the 2014 CELT report relied on the 2014 Interim Forecast of PV Resources, which grossly underestimated future behind-the-meter solar deployments—an expression of consumer preference—the Winter 2032 Study relies on the 2023 CELT report, which provides a forecast of electrification load growth without being able to quantify how and to what extent that load growth may be mitigated. For example, to what extent will consumers who install air and ground-source heat pumps A/GSHPs install PV to reduce the cost of heating and cooling their homes with electricity? To what extent will consumers who heat and cool their homes with electricity (A/GSHPs) also install residential-scale battery storage so that they can remain comfortable in the event of an outage? To what extent will EV manufacturers design their vehicles to enable bidirectional charging so that mobile storage can be discharged to support those same electrified residential loads? How rapidly will electric distribution companies implement time varying rates to shift EV charging and other domestic loads away from peak hours? Just as electrification and corresponding increases in loads are an inevitability, so too are the continuing development and deployment of energy products and services that will reduce the magnitude of peak loads. The uncertainty inherent in the 2023 CELT report load forecast, and thus the Winter 2032 Study sensitivity analysis, does not provide the information needed to make specific decisions about how to address winter energy risks in New England a decade hence. Certainly, it is not a basis for

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<sup>32</sup> Preliminary Results of Energy Adequacy Studies for Winter 2032, August 15, 2023, at p. 38 [https://www.iso-ne.com/static-assets/documents/2023/08/a10\\_operational\\_impact\\_of\\_extreme\\_weather\\_events.pdf](https://www.iso-ne.com/static-assets/documents/2023/08/a10_operational_impact_of_extreme_weather_events.pdf).

recommending that EMT be retained to support electric grid reliability. What the Winter 2032 Study does provide is sufficient information to plan for sufficient capacity additions to serve forecasted load growth, and to plan the infrastructure investments and market solutions necessary to continue to operate the grid reliably. As ISO-NE emphasized at the June Forum, the risk screening model development and scenario generation analysis embodied in the Winter 2023-25 Study and the Winter 2032 Study is a valuable tool, and as such should be considered a platform for continuous study that is performed no less than annually to augment planning to support the reliable operation of New England's electric grid.

### **III. Path to Sustainable Solutions—Infrastructure**

It is beneficial to think of infrastructure in the broadest possible terms. For example, the continuing deployment of PV in the region, particularly BTM PV, and the continuing implementation of energy efficiency measures were cited as reasons why, in the near term, winter reliability risk in New England had abated.<sup>33</sup> Infrastructure should thus encompass distributed energy resources, including energy efficiency measures. Infrastructure should also include major new sources of generating capacity and energy services, such as wind, including offshore wind, PV, and battery storage—the three resources that together account for 97% of pending projects in the ISO-NE Interconnection Request Queue.<sup>34</sup> Finally, of course, infrastructure must also include new transmission to accommodate new sources of generation and increase transfer capacity between NYISO and Canada, as well as grid enhancing technology to maximize the transmission of electricity across the existing transmission system.

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<sup>33</sup> Comments of Gordon van Welie, Final Transcript of the June Forum, eLibrary No. 20230721-4000, at p. 219.

<sup>34</sup> See footnote 11.

Infrastructure, as broadly defined above, plays various roles in maintaining future electric grid reliability. Distributed energy resources can help mitigate future load growth attributable to electrification of heating and transportation. New sources of generation capacity such as the planned development of gigawatts of offshore wind, and the introduction of greater quantities of hydropower from Quebec, will further diversify the region's resource mix, reducing the region's current reliance on fossil gas and liquid fuel generation.<sup>35</sup> These changes in the composition of the region's generation portfolio will result in the need for additional transmission. Those transmission needs must be identified by developing long-term scenarios.

By now it is apparent that these Comments have taken up a theme that was often repeated at the June Forum: that maintaining future grid reliability year-round during a period when heating and transportation are being electrified will require long-term planning. The development of the risk screening model and scenario generation that is the basis of the ISO-NE/EPRI studies is clear evidence that ISO-NE has taken a longer view in determining how best to minimize reliability risk while this transition is underway. This long-term planning must also take assessments of the adequacy of the transmission system into account with a view to securing investments in transmission that simultaneously ameliorate current constraints and provide capacity for future power flows. At a minimum, the benefit of investments in transmission upgrades and expansion should be valued for a period of 20 years following the in-service date

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<sup>35</sup> ISO New England, Letter to New England Stakeholders regarding High-Level Assessment of Potential Impacts of Offshore Wind Additions to the New England Power System During the 2017-2018 Cold Spell, December 17, 2018, [https://www.iso-ne.com/static-assets/documents/2018/12/2018\\_iso-ne\\_offshore\\_wind\\_assessment\\_mass\\_cec\\_production\\_estimates\\_12\\_17\\_2018\\_public.pdf](https://www.iso-ne.com/static-assets/documents/2018/12/2018_iso-ne_offshore_wind_assessment_mass_cec_production_estimates_12_17_2018_public.pdf). The High-Level Assessment performed by ISO-NE, which relied on offshore wind production forecasts developed by the Massachusetts Clean Energy Center, indicated that increments of 400 MW, 800 MW, and 1,600 MW of offshore wind would avoid .25 Bcf, .83 Bcf, and 1.81 Bcf of fossil gas, respectively, or 96,300 BBL, 102,300 BBL, and 160,200 BBL of oil, respectively.

of those assets. That longer-term valuation should also be the basis for developing cost allocation methods that fairly allocate the financial obligation to pay for those expenditures. Assuming the states can agree on the method used to allocate costs, the criteria for selecting transmission projects must be transparent and non-discriminatory. These and other topics are the subject of the Commission's notice of proposed rulemaking examining Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection,<sup>36</sup> and the Commission's stated approach is aligned with the region's current needs.

The body of comments provided at the June Forum regarding EMT make it clear that it functions to meet incremental seasonal demand that is not served by the fossil gas transmission system. For the reasons stated in these comments Acadia Center does not believe EMT is needed to maintain electric grid reliability. Whether it is needed to maintain the reliability of the fossil gas distribution system is a question that will ultimately be answered by the MA DPU. EMT's retirement, whether it arrives sooner or later, will signal that the entirety of the region's demand for fossil gas, both for electric generation, heating, and other thermal services, can be served by existing fossil gas transmission capacity. As continuing progress is made electrifying heating, more fossil gas should become available for fossil gas generators, easing the seasonal scarcity of fossil gas that now prevails. In the absence of significant amounts of new fossil gas generation, which seems unlikely,<sup>37</sup> and with declining demand for fossil gas for heating, the need for capacity additions to the fossil gas transmission system to bring greater volumes into the region will disappear.

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<sup>36</sup> Docket No. RM21-17-000.

<sup>37</sup> See footnote 11.

#### **IV. Path to Sustainable Solutions—Market Design**

Markets deliver resource adequacy, and therefore are determinative of the level of reliability risk. As new assessments of reliability risk are made, markets are designed and redesigned in iterative fashion. That process continues today, and with seeming greater urgency to account for changes in the generation portfolio, and perceived seasonal risk. ISO-NE's markets account for billions of dollars in transactions, all conducted to ensure the timely and uninterrupted delivery of power. The question, of course, is whether for the sake of ratepayers the aggregate amounts paid in ISO-NE's markets are no more than are necessary to maintain reliability.<sup>38</sup>

ISO-NE is currently undertaking several market innovations to ensure the timely delivery of resources and services. These balance long-term resource adequacy planning with nearer-in-time assessments of capacity requirements. The implementation of a seasonal capacity market would encourage resources to be available for dispatch depending upon the amount of seasonal reliability benefit they can deliver. This “prompt” capacity market allowing capacity commitments to be made over the nearer term, rather than the current three-year longer term, would ensure that capacity procurements are closer in line to actual, rather than projected need.

The determination of seasonal reliability benefit, among other resource attributes, will be aided by ISO-NE's capacity accreditation initiative. The initiative is a welcome acknowledgement that not all resources are created equal, even resources of the same generation type. The accuracy of accreditation will depend on it being resource-specific, taking into

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<sup>38</sup> See footnote 19. Reliability is also maintained via out-of-market mechanisms, such as the cost-of-service agreement supporting Mystic Generating Station's continuing operation. The value of these arrangements—the benefit of the added insurance considering the premium paid—is open to question.



consideration access to fuel, capacity factors, even past performance in the case of resources that in the past were called upon but failed to dispatch. Models will serve as the basis for accreditation, and so the accuracy of accreditations will depend on the accuracy of the relevant models. The success of resource accreditation will depend on continuous refinement of the factors that are used to assign values. The capacity values assigned to resources should therefore be periodically recertified to ensure they correspond to actual performance.

The effect of the Day-Ahead Ancillary Services Initiative (“DASI”)—procuring real-time reserves in a day-ahead market rather than in the real-time market—may, as ISO-NE intends, match next-day reserves to next day energy commitments, leaving the real-time market to gap fill failed commitments. If Day-Ahead and Real-Time energy markets are any indication, a Day-Ahead ancillary services market will be more expensive than a Real-Time ancillary market, and in light of incurring greater cost for the same commodity, ISO-NE should be required to define and quantify the resulting system benefits.

More generally, ISO-NE markets need to properly value non-generating resources that also provide grid services, such as energy efficiency, battery storage, and demand response programs. That is, markets should reflect the need to balance load and generation more actively, and resources that can increase or reduce load over various time periods—seasonally, daily, hourly, minute-by-minute—should also be accredited for the services they provide, and compensated accordingly. Demand side resources—load—should be valued for its potential to contribute to system reliability on an equal footing with generation.

## **V. Closing Roundtable**

By June of next year, it will have become clear whether those Massachusetts LDCs that rely on EMT have successfully negotiated long-term contracts with its owner, Constellation, and

have had those contracts approved by the MA DPU. It should thus also have become clear whether the MA DPU believes EMT is necessary to maintain fossil gas distribution system reliability. In any case, whether EMT continues in operation beyond next year or not, its eventual retirement is a certainty, assuming as ISO-NE and EPRI do that the electrification of heating and transportation will proceed apace. The electrification of heating will reduce demand for the energy services that are currently being provided by the fossil gas distribution system. Indeed, the MA DPU's "Future of Gas" docket<sup>39</sup> invites the question of whether the fossil gas distribution system hasn't in fact become a redundant distribution system, since all the energy services it provides can now be provided by the electric distribution system.

The substance of the September Forum and the June Forum were largely about ensuring that fossil gas supplies are sufficient to maintain grid reliability. That is, the Forums addressed the issue of winter gas-electric reliability as a fossil gas supply problem. The GHG reduction goals embraced by all six New England states reframe the question as a fossil gas *demand* problem. ISO-NE and EPRI assume that fossil gas demand will decrease due to the electrification of the services provided by the fossil gas distribution system. ISO-NE is preparing for this transition with longer term planning and market refinements. Going forward, as the region makes further progress introducing significant amounts of clean energy resources, and proceeds with the electrification of heating and transportation, the assessment of seasonal reliability risk should become a continuous exercise.

ISO-NE has concluded that EMT is not necessary to maintain reliability during the 2023-2024 and 2024-2025 winters. By that time the region likely will have added 1.4 GW of BTM PV, 1 GW of hydropower via the New England Clean Energy Connect project, and at least 800 MW

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<sup>39</sup> Massachusetts Department of Public Utilities Docket No. 20-80.

of offshore wind power from Vineyard Wind I. The spring of 2025 thus seems the best time to reevaluate winter reliability risk for winter 2032. The Winter 2032 Study sensitivity analysis currently predicts an elevated risk for energy shortfalls. Considering the conditions that are expected to prevail on the grid after the winter of 2025, the spring of 2025 should reveal whether the winter 2032 modeling remains unchanged.

## **VI. Conclusion**

Acadia Center appreciates the opportunity to participate in these important discussions. We look forward to continued engagement as solutions are considered, developed and implemented to advance the transition to a clean energy economy in a manner that also fosters the reliability of the regional electric grid. We strongly encourage the Commission to continue its work with state leadership, ISO-NE, and stakeholders across the region to resolve New England's winter reliability challenges as quickly as possible while protecting communities from harm and advancing the clean energy transition.

Respectfully submitted,

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