Union of Concerned Scientists

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George Twigg
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New England Conference of Public Utilities Commissioners
P.O. Box 9111
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Subject: Design of Retail Demand Response Programs to Address New England's Winter Energy Adequacy Issues

Dear Mr. Twigg,

Please accept the following comments from the Union of Concerned Scientists (UCS) regarding wholesale market considerations for the design of retail demand response programs focused on winter energy adequacy.

1. Retail demand response programs to mitigate New England's winter energy adequacy issues should be designed to reflect the findings of ISO-NE's Probabilistic Energy Adequacy Tool study. Program design should be informed by the fact that, within ISO-NE's energy adequacy modeling framework, ***modeled energy shortfall risk is extremely sensitive to changes in modeled load profiles***. For example:

   - Increased load resulting from electrification of heating and transportation significantly increases the magnitude of energy shortfall (*ISO-NE, Operational Impact of Extreme Weather Events, December 2023, Slides 193-194 and 198-201*)
   - Modeled reductions of 10% and 20% in the load profile significantly reduce energy shortfall risk. (Slide 209) *Note: It is our understanding that the modeled load reductions were applied uniformly across all hours of the 21-day period; intra-day and inter-day demand flexibility have not yet been modeled.*

2. Retail demand response programs should be designed to be compatible with ISO-NE's planned approach to address forecasted energy shortfalls above the (future) Regional Energy Shortfall Threshold, or REST, metric. Retail demand response is among the potential solutions that ISO-NE plans to consider to address any exceedance of the Regional Energy Shortfall Threshold:

> "Following the establishment of the REST, a subsequent effort will evaluate if adherence to the REST requires development of specific regional solutions – Examples of possible solutions include…*responsiveness by end-use consumers*" (*ISO-NE, "Establishment of the Regional Energy Shortfall Threshold: 2024 Scope of Work," December 2023, at 3, emphasis added)*

3. In connection with establishment of the REST metric, ISO-NE's forthcoming revised estimate of load relief obtainable through conservation appeals may provide a useful indicator of the type and magnitude of energy shortfall relief that could be incentivized through new retail demand response programs. (*ISO-NE, "Establishment of the Regional Energy Shortfall Threshold (REST)," August 2024, at 16)*

Respectfully submitted,

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