

April 10, 2021

From: Reliable Energy Analytics LLC (REA)
To: ISO New England Market Development

Reliable electricity is the life blood that nourishes our economy, sustains our standard of living and helps humanity achieve health and happiness. Electrification is the only viable solution to reduce Greenhouse gases (GHG) from all sectors of the economy, including transportation, heating, manufacturing and construction. Ensuring the reliable flow of electricity is an uncontested requirement, that cannot be compromised by poor market designs, as was experienced in Texas, February 2021 that resulted in \$9,000/MWh energy prices and California during the August 2020 heat wave, as indicated by this statement in the final root cause analysis report issued by CAISO, et al: ***"The Final Analysis confirms there was no single root cause of the August outages, but rather, finds that the three major causal factors contributing to the outages were related to extreme weather conditions, resource adequacy and planning processes, and market practices."*** ^[1]

REA proposes the following "litmus test" for each Pathway option under consideration within ISO-NE's study plans, and additional objectives to consider for all "Pathways to the Future Grid" that are under consideration by NEPOOL, [Potential Future Market Framework Options \(A, B, C\)](#):

1. Does the market design prioritize and achieve the acquisition of capacity resources and essential grid services needed for reliability, balancing, and "energy adequacy"? The following findings by Dr. Frank Felder in his report to NEPOOL on 1/6/2021 [2] provide some useful insights, in this regard.
 - a. [2] *"The reliability criteria and metrics should be specified in order to establish the balancing services needed to plan and reliably operate the bulk power system given increasing penetration of VRERs, perhaps as part of the NEPOOL's ongoing Future Grid Reliability Study effort"*
 - b. [2] *"Pathways may not procure sufficient amounts and types of balancing resources that the region needs to operate the grid reliably or if they do, it is not clear that they do so in the most cost-effective manner."*
 - c. [2] *"If a pathway avoids or minimizes the double capacity payment issue, that does not, however, mean that the pathway necessarily efficiently procures and/or retains the necessary balancing resources that are needed for reliability."*
 - d. [2] *"Finally, neither the FCEM nor the ICCM explicitly address the balancing resource issue."*
 - e. [2] *"Net carbon pricing does not explicitly address the balancing resource issue. "*
2. REA proposes the following objective guidelines for all "Pathways to the Future Grid" market designs, that may be considered by ISO New England and/or NEPOOL:
 - a. Achieve State Energy Goals as a top priority, that properly charges the beneficiaries of each State, without burdening other States' consumers with the costs of another States' program
 - b. Engage State regulators, local utilities and other stakeholders in the pursuit of a market solution for energy adequacy that requires the approval of State representatives, NEPOOL and parties responsible for grid reliability in the final design
 - c. Be flexible enough to integrate new technologies to generate electricity and manage grid operations

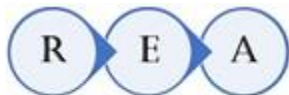
- d. Be market based so that each resource is properly valued for the benefits/services it provides to grid operations, consumers, the environment and society at large
- e. Efficiently secures future capacity grid services using a just-in-time approach that eliminates the excessive over-buying of capacity that occurs today by ISO's while supporting new, long term capacity construction projects
- f. Incentivizes investment in the most beneficial and cost-effective technologies used to generate electricity and manage grid operations reliably (including DR) that achieves Societal and Environmental goals determined by each individual State, such as clean air and water, while ensuring grid reliability and resilience
- g. Provide a vibrant, 24x7, marketplace for Green Energy Buyers, including States and local utilities, to secure PPA's and Investors to trade, which supports the acquisition of Capacity, Energy and REC's.
- h. Ensure the acquisition of sufficient grid services capacity needed to ensure a reliable electrical system for all, at a just and reasonable cost to consumers that provides adequate revenues to resource owners that commit to provide their valuable services, when called upon by the ISO
- i. Shift from purchasing "plain old capacity" to acquiring "essential grid services" from DER, to support FERC Order 2222, and traditional generators, as determined by ISO New England based on reliability requirements
- j. The market solution for resource adequacy and power system operational needs must coexist in a symbiotic relationship to produce an optimal outcome for a reliable electric grid, in harmony with State goals and objectives, at a just and reasonable cost and avoid the market design flaws that plagued California during the 2020 heat wave and Texas in the February 2021 extreme weather conditions that led to \$9,000/MWh electricity prices.

[1] <http://www.caiso.com/Documents/Final-Root-Cause-Analysis-Mid-August-2020-Extreme-Heat-Wave.pdf>

[2] https://nepool.com/wp-content/uploads/2021/01/NPC_20210107_Felder_Report_on_Pathways_rev1.pdf

Thanks,

Dick Brooks



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