

NYISO BSM Comprehensive Review Comments
Natural Resources Defense Council and Sustainable FERC Project
January 3, 2020

As currently structured, NYISO's capacity market is a significant obstacle to achieving the requirements of New York's recently enacted Climate Leadership and Community Protection Act (CLCPA). We support NYISO's proposed expanded objective, as outlined in its December 13, 2019 presentation to stakeholders, that accurately describes the need to reform NYISO's capacity market in a way that supports the goals of the CLCPA while ensuring reliability.

We have short-term and long-term views of how this reform should occur, which we explain in more detail below. In the near-term (beginning now), NYISO should consider adopting a seasonal capacity construct, given that supply and demand vary significantly by season. NYISO should also improve capacity accreditation for renewable and distributed energy resources and improve design flaws in the capacity market that make it difficult for renewable resources to compete on a level playing field.

In the longer term, the NYISO's current capacity market is incompatible with New York's future resource adequacy needs. Capacity markets were designed to serve a system dominated by thermal generation, and so emphasize the value of guaranteed power supply and focus on commitments of individual generation stations. Nearly all studies of a deeply decarbonized electric grid emphasize that reliability comes from portfolios of renewable resources bound together by energy storage and flexible load.¹ NYISO should examine alternatives to the current capacity market to ensure that its resource adequacy construct facilitates the zero-carbon grid mandated by the CLCPA.

- **CLCPA's clean energy targets require a comprehensive review of NYISO's capacity market, not just a review of Buyer-Side Mitigation (BSM)**
 - The CLCPA requires 70% renewable electricity by 2030 and 100% emissions-free electricity by 2040. These legally binding standards will require significant changes to NYISO's market design.
 - Given these requirements, focusing solely on reforming BSM is too narrow a scope. NYISO should examine the current deficiencies of the capacity market that will impede achieving the goals of the CLCPA before determining whether BSM reform is the right fix.
 - NYISO's proposed expanded objective is consistent with its mission to serve the public interest by "planning for the power system of the future" and "maintaining and enhancing regional reliability."

¹ See, e.g., J. Jenkins, M. Luke, S. Thernstrom, *Getting to Zero Carbon Emissions in the Electric Power Sector*, COMMENTARY (Dec. 19, 2018), DOI: <https://doi.org/10.1016/j.joule.2018.11.013>; National Renewable Energy Laboratory, *Renewable Electricity Futures Study*, <https://www.nrel.gov/analysis/re-futures.html>.

- **NYISO’s current capacity market is incompatible with a high-renewables grid envisioned by the CLCPA**
 - The current capacity market inherently favors large, traditional “always available” generation, which is becoming ill-suited to a more dynamic grid that includes increasing amounts of intermittent clean energy generation that can provide significant grid reliability value.
 - The current capacity market focuses solely on bulk supply of energy and neglects the flexibility services needed to support a high-renewables grid. This will require a greater variety and quantity of ancillary services to respond to renewable resources’ characteristics,² including reserves that can respond to the inherent variability of renewable resources and a greater value placed on dispatchable resources.
 - BSM devalues capacity from clean energy resources and instead requires payment to fossil generators for redundant capacity, raising consumer costs unnecessarily.
 - Any market construct that does not recognize capacity added by clean energy resources will force customers to overpay for capacity.

- **A redesign of the capacity market is warranted**
 - We support the exploration of new market models designed to ensure reliability in New York’s high-renewable future. This includes an in-depth review of Forward Clean Energy Markets and Tranches, as suggested by NYISO.
 - Any capacity market that NYISO considers should be run seasonally. Because a 70% renewable grid will vary significantly in load profile by season, more granular markets can better value resources and ensure reliability.
 - NYISO should consider using co-optimization as a market redesign option.
 - A co-optimization model optimizes over several variables in a single model. This could utilize transmission constraints, state clean energy requirements (i.e., the CLCPA), forecasted peak load and reserve margins, and reliability standards as constraints for the model, and then optimize for the least cost set of resources that would meet all constraints.
 - This model would be able to utilize the load profiles of bidding resources as inputs to ensure that the portfolio of selected resources is able to meet performance standards under a range of weather and climate scenarios. Notably, this ensures that the system is prepared for extreme weather and accounts for the fact that a portfolio of resources has higher Effective

² See National Renewable Energy Laboratory, *Effective Ancillary Services Market Designs on High Wind Power Penetration Systems* (Dec. 2011), <https://www.nrel.gov/docs/fy12osti/53514.pdf>.

Load Carrying Capacity (ELCC) values than the sum of individual resource's ELCC values.³

- As all constraints would be modeled in a single optimization, it avoids several problems that exist in models that run separate markets for specific “desired” attributes.
- Below we provide additional responses to the ideas outlined in NYISO’s December 13th presentation:
 - **Enhancements to the capacity market through BSM exemptions are insufficient to meet the requirements of the CLCPA**
 - BSM exemption redesign could better compensate renewables for their capacity, but a redesign alone doesn’t address whether the current capacity market construct is well-suited for ensuring resource adequacy in the high renewable future required under the CLCPA.
 - FERC’s December 19, 2019 PJM minimum offer price rule Order signals that it is unlikely to accept limited exemptions or a “workaround” for BSM, despite the necessity of BSM reform to meet state law.
 - A wider lens is necessary to consider additional mechanisms that could better align wholesale markets with CLCPA mandates.
 - **Existing contractual models should be studied as possible options for NYISO to consider**
 - The California Model can provide market participants with certainty, which can help lower costs by securing a long-term revenue stream. The contractual model also avoids FERC’s imposition of BSM into the market; however, it does require credit-worthy utilities that are able to enter into long-term contracts. An alternative to consider is for a centralized entity, like NYSERDA, to enter into long-term contracts and recover costs from LSEs, as it does with RECs today.
 - New York may look to ERCOT for useful lessons on how a greater focus on real-time reserve products can provide reliable service with ICAP reserve margins that are much lower than those deemed necessary under a model that relies solely on capacity markets to incent resource adequacy.
 - A resource-specific FRR (FRR-RS) approach may prevent the worst outcomes of applying BSM to state-supported resources. In October 2018,

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https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy/Energy_Programs/Electric_Power_Procurement_and_Generation/Procurement_and_RA/RA/R.1709020%20ELCC%20Proposal%202019_02_05.pdf, Slide 4.

NRDC, Sustainable FERC and several other organizations proposed a model FRR-RS to FERC in the then-pending PJM minimum offer price rule proceeding that would facilitate state public policy goals, protect consumer interests, and preserve the capacity market framework.⁴ As the paper explains, the load to be removed from the ICAP market auction in connection with an FRR-RS election could be identified to NYISO in a variety of ways. Resources that anticipate eligibility for FRR-RS could attempt to reach agreement with entities that have capacity purchase obligations (LSEs) to assign some or all of their capacity.

⁴ This model FRR-RA is available at <https://gridprogress.files.wordpress.com/2018/09/fr-rs-proposal-07-27-18-final.pdf>.