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Study Finds Valuable Role for Energy Storage and Demand Response in Providing Reliability for New York’s Electric Grid

Value increases as renewable energy is added to the electric grid

(Albany, NEW YORK, March 19, 2019) – A new study released by the New York Battery and Energy Storage Technology Consortium (NY-BEST), in partnership with Astrapé Consulting, shows that energy storage and demand response resources can provide New York’s electric grid with the same level of reliability as that of conventional power plants and that energy storage will become more valuable for reliability as renewable energy is added to the electric grid.

The study, conducted by Astrapé Consulting, examined the value of “energy limited resources”, such as energy storage and demand response, in ensuring the reliability of the state’s electric grid and found that resources with at least 4 hours of continuous energy provide a reliability or “capacity” value that is comparable to conventional resources. The study also found that the value of these resources increases as renewable energy comprises more of the state’s total energy mix. The study comes at a time when the New York Independent System Operator (NYISO), which is responsible for managing the state’s power grid and energy markets, is evaluating the value of energy limited resources in the state’s wholesale electric capacity market.

“The Astrapé study clearly illustrates that energy storage and demand response resources are valuable keys to ensuring the reliability of the electric grid and should be treated as such in the State’s wholesale capacity market. The study also shows that the value of storage and demand response will increase over time as we work toward the State’s mandate of 50 percent renewable energy by 2030,” said Dr. William Acker, Executive Director of NY-BEST, “It is important that we value energy storage and demand response resources accurately now or we will risk undermining our ability to achieve our clean energy and environmental goals and instead continue our reliance on fossil-fueled generation.”

In the Fall of 2018, NYISO proposed reducing the capacity value of energy limited resources with a 4-hour duration to 50 percent of that of conventional generation. NYISO recently released a revised proposal that would value energy limited resources with 4-hour duration at 90 percent capacity value for the first 1,000 MW of energy limited resources, then dropping to a 75 percent capacity value. However, these values are below the values supported by the Astrapé study which found the capacity value of 4-hour energy limited resources is 97.8 percent today and will reach 100 percent as renewable energy resources are added to the grid. As more renewable resources are added to the electric system, the duration of system peaks and reliability events is expected to decrease, making energy limited resources even more valuable.

The New York State Public Service Commission (PSC) has adopted a Clean Energy Standard which requires that 50 percent of the state’s electricity must be derived from renewable energy resources by 2030. In December 2018, PSC adopted an Energy Storage Order with a goal of deploying 1,500 MW of energy storage by 2025 and 3,000 MW by 2030, largely in support of the state’s renewable energy and climate change goals. In January
2019, Governor Cuomo announced in his State of the State address a commitment to increase the clean energy standard to 70 percent renewable by 2030 and he announced a goal of achieving 100 percent carbon free electricity in New York State by 2040.

The Astrapé study of Capacity Values of Energy Limited Resources in NYISO can be viewed at this link: https://www.ny-best.org/resource/astrape-consulting-report-nyiso-elr-capacity-values

About NY-BEST

The New York Battery and Energy Storage Technology (NY-BEST) Consortium is a non-profit corporation and industry-led consortium with more than 170 organizational members. NY-BEST’s mission is to catalyze and grow the energy storage industry and establish New York State as a global leader in the energy storage industry. Learn more at www.ny-best.org

About Astrapé Consulting

Astrapé Consulting is an experienced energy consulting firm that has provided electric system planning services and resource adequacy studies for many of the largest utilities and regulators in the US and Europe. Astrapé has been performing energy-limited resource valuations across the world for 15 years, and its principals have been performing these studies even longer. Many of the largest utilities in the nation and entities including MISO, SPP, and ERCOT rely on Astrapé and its SERVM model for their resource adequacy analysis. Visit www.astrape.com for more information.

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