



STORAGEIQ QUARTERLY SUMMARY – Q1 2020

Customized Energy Solutions (CES) and the U.S. Energy Storage Association (ESA) are pleased to provide the StorageIQ Q1 2020 Quarterly Summary. Subscribers to the CES “StorageIQ” Service receive monthly in-depth reports detailing relevant RTO/ISO actions, rulemaking, key changes, as well as state and regulatory proceedings that impact the energy storage industry. At a fraction of the cost of in-house experts, “StorageIQ” allows you to stay ahead of the curve and capitalize on evolving storage markets. [Find out more](#) about “StorageIQ” today!

NORTHEAST (PJM, NYISO, ISO-NE)

Developments for storage across the Northeast have generally moved in a positive direction as work on FERC Order 841 compliance and additional components of storage participation models continued in Q1 2020. Regarding capacity market resource adequacy valuation, FERC approved NYISO’s Distributed Energy Resource (DER) filing that set the Capacity Value for storage at 2, 4, and 6-hour durations based on a capacity study and stakeholder negotiation. PJM filed a request with FERC to replace the current 10-hour duration requirement for Capacity with an Effective Load Carrying Capability (ELCC) methodology, and created a new task force dedicated to its development. ISO-NE has yet to propose ELCC for valuing storage Capacity, but retains its 2-hour duration requirement.

Capacity market mitigation continued to be an important issue for storage as FERC issued several unfavorable rulings in ISO-NE and NYISO. FERC rejected complaints about mistreatment of storage in ISO-NE’s recent capacity market auction, but directed the market monitor to work to improve its practices. FERC ruled not to exempt storage from NYISO Buyer Side Mitigation (BSM) as NY State requested. However, NYISO and its stakeholders approved favorable changes to BSM for “Public Policy Resources,” which would make storage more likely to pass NYISO’s BSM test, if approved by FERC. PJM submitted their compliance filing for the Capacity Market Expanded Minimum Offer Price Rule (MOPR) for Capacity Resources with “state subsidies.” Storage with a subsidy may be required to offer a price that would likely not clear in the market because the initial net Cost of New Entry (CONE) values for storage could be “out of the money.”

After almost three years, FERC approved the Frequency Regulation Settlement between PJM and parties impacted by the 2017 Regulation signal change, which provides compensation to affected parties for about three and a half years.

All three Northeastern ISOs recently began discussing hybrid resource market participation with stakeholders. NYISO kicked off stakeholder engagement on the full participation of hybrids. ISO-NE shared a training presentation, and FAQs are expected to follow. PJM is creating a new task force to create new rules for solar-battery hybrids.

The state of New York continued to lead in terms of funding awarded for storage projects having committed over \$200M to proposed projects. NYSERDA also opened existing incentives to Bulk storage projects in the ConEdison territory. York City and the lower Hudson Valley continue to be the biggest target market for storage in New York due higher Capacity prices, transmission constraints and expected retirements of existing fossil and nuclear generation.

In New England, Massachusetts continued to lead on storage, with constant activity at the Department of Public Utilities (DPU) on Distributed Generation (DG) Interconnection, and at the Department of Energy Resource (DOER) on the Clean Peak Energy Standard (CPS). Aside from Massachusetts, more states are taking on regulation of storage resources, with both Vermont and Rhode Island opening proceedings.

In PJM, Virginia led the states in notable developments for storage as it passed legislation to establish an energy storage deployment target of 3,100 MW by 2035. Aside from Virginia, Maryland passed legislation that reauthorized and improved an energy storage tax credit program, a first-in-the-nation program for businesses and households installing energy storage systems for resilience and bill savings.

CENTRAL (ERCOT, SPP, MISO)

The ERCOT Battery Energy Storage Task Force (BESTF) advanced four Key Topic & Concept (KTCs) in March, most notably KTC-11: DC-Coupled systems, which covers registration, market operations and settlements for these projects. Some questions remain for details such as what specific, minimum revenue-grade metering requirements will be necessary for certain project configurations. However, the advancement of these Concepts affords more certainty in ERCOT than perhaps any other RTO/ISO, other than perhaps CAISO, with regards to treatment of hybrid storage. The BESTF also continues to make positive progress on Self-Limiting Resources, which should allow developers to reflect the actual utilization of a hybrid project for studies and market participation. Finally, technical requirements for storage have moved out of the Reliability and Operations Subcommittee (ROS).

MISO is experiencing some delays in their review of hybrid storage, with these discussions now not taking place until the summer. The industry now awaits a technical conference on storage-as-wires prior to a FERC decision on MISO's Storage as a Transmission Asset (SATA) filing, with little certainty on how active SATA projects will be treated in the interim. Finally, SPP has formed a standalone storage Steering Committee, though issues will continue to be delegated to other sub-groups. SPP continues to work on an ELCC method for capacity accreditation of storage.

WEST (CAISO, EIM)

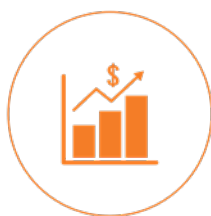
Storage activity in the West—particularly at the CAISO—continued at a brisk pace during Q1 2020. At the beginning of March, the CAISO engaged in a two-day Energy Storage and Distributed Energy Resources Phase 4 (ESDER 4) workshop that brought discussion around a revised CAISO proposal for storage and demand response. Additionally, in early January, the CAISO filed energy storage model revisions in further compliance with Order 841 as required by FERC. Other Q1 storage-related activity at the CAISO included broader topics such as the Resource Adequacy (RA) Enhancements, the Day-Ahead Market Enhancements (DAME), and the Extended Day-Ahead Market (EDAM) initiatives.

On the California state side, numerous proceedings moved forward at the CPUC on critical topics like the future of Resource Adequacy, Integrated Resource Planning (IRP), the Self-Generation Incentive Program (SGIP), and microgrids. While diverse, these proceedings all highlight a common theme of energy storage—both distributed and grid-connected—being considered one of the primary electric resource types in future generation mixes. The IRP proceeding is providing a particularly clear illustration of how the state sees storage's role over the next decade, as the recently approved Reference System Portfolio calls for almost 9 GW of new battery storage resources and nearly another 1 GW of pumped storage or similar long-duration technologies statewide by 2030. Supporting this expansion of the role of storage beyond early-stage applications, multiple state, utility, and other load-serving entity funding opportunities were announced to procure storage and enable next-generation storage-related research and development.

The broader EIM also continued its region-wide coordinating efforts in the first quarter. EIM discussions have emphasized the significant cumulative benefits the market has brought to ratepayers, as well the ongoing addition of new members as it continues to grow. These developments, while enabling better region-wide economics, do put some (so far minimal) downward pressure on the need for storage within California. Finally, outside of California, Nevada became the latest state in the EIM footprint to have finalized an energy storage target, consisting of 1,000 MW by 2030.

ABOUT CES

Customized Energy Solutions (CES) is a consulting and services company with over 20 years of diversified experience across North American energy markets. CES's Emerging Technologies group provides a range of products and services to help project developers, investors, technology companies and other clients understand the evolving market rules and value proposition of new energy storage technologies. Combining our practical experience running daily operations of over 270 MW of energy storage facilities and our experience advising clients on policy developments in energy markets provides our team with superior credentials that sets our consulting services apart from other providers.



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Monthly regional market intelligence reports to keep the readers abreast of ISO/RTO market updates, state and federal proceedings that may affect the energy storage industry. StorageIQ reports are available for the following regions:

Northeast
ISO-NE, NYISO, PJM

Central
MISO, SPP, ERCOT

West
CAISO, EIM

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