



STORAGEIQ QUARTERLY SUMMARY – Q3 2020

Customized Energy Solutions (CES) and the U.S. Energy Storage Association (ESA) are pleased to provide the StorageIQ Q3 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 (ISO-NE, NYISO, PJM)

In the third quarter of 2020, ISO-NE called into question the current Capacity value of storage resource, which is currently based on just a two-hour duration, but also made significant progress on key Capacity market offer parameters and Order 841 compliance. ISO-NE announced they are doing an Effective Load Carrying Capability (ELCC) study to determine the Capacity value of storage and other technologies, and mentioned they plan to discuss with stakeholders in March. While discussion continued on the establishment of key Forward Capacity Market (FCM) parameters for energy storage, the default offer price for battery storage was established, and later reduced, though storage interests continued to criticize certain assumptions that overestimate the offer price. After FERC partially accepted ISO-NE’s revised Order 841 compliance filing and ordered another one, ISO-NE reviewed its compliance plans on Day Ahead State of Charge parameters, Transmission charges, and metering and accounting, which seems on track and very positive for storage resources. Stakeholders approved manual changes for metering requirements for co-located solar PV and storage projects. Discussion on the Future Grid study continued on two parallel tracks and expanded into transmission planning.

The Massachusetts Department of Energy Resource (DOER) launched the new phase of the Solar Massachusetts Renewable Target (SMART) Program, which includes a requirement for storage with larger solar systems. DOER also launched the first-of-its-kind Clean Peak Energy Standard (CPS), with many details yet to be worked out. CES began participating in a series of webinars on the MA CPS to share its insight with interested parties.

In Q3, NYISO advanced two key storage participation models, but Capacity market mitigation looks to remain a contentious issue for the foreseeable future. NYISO’s Energy Storage Resource (ESR) participation model was implemented at the end of August marking their compliance with FERC Order 841. Energy Storage can now participate in Capacity, Energy and Ancillary Services markets competing with all other resources. This model also offers two manners of storage state-of-charge (SOC) management, ISO-managed and self-managed, but the details on SOC and other things like Opportunity Costs make operating an ESR to its full potential a sophisticated undertaking.

Buyer Side Mitigation (BSM) remains a thorn in the side of the state’s desire to subsidize Public Policy Resources (PPRs) like renewables and storage in the down-state mitigated zones. NYISO and stakeholders had proposed changes to liberalize BSM tests making it easier for PPRs to gain exemptions, while limiting impacts to Capacity market prices. Though this was a middle-of-the-road proposal, in August FERC rejected the preference that the proposal would give PPRs. Projects currently being studied will be tested for BSM using the existing unchanged rules. Essentially, FERC is saying that state can choose its preferred resources, but must pay their full freight, and not expect to extract value from and impact the ICAP market. This FERC rejection adds fuel to the fire driving the NYS Public Service Commission (PSC) considering options for the state’s Resource Adequacy (RA). In July, the NY PSC held a Technical Conference lofting their concept that state-run RA could be more cost-effective when done in conjunction with REC procurements. Several voices pointed out fundamental faults in that train of thought and NYISO warned of substantial inefficiencies that would raise costs for rate payers.

NYISO made substantial progress this quarter detailing the implementation and tariffs of their proposed Collocated Storage Resource (CSR) participation model. In particular, NYISO described how it would deal with the point of interconnection (POI) that would be shared by a renewable and storage facility, particularly when that POI has a smaller throughput capacity than that sum of the two. NYISO also introduced a proposal that would make it possible to DC-couple the storage and renewable. Clearly there are important details that remain to be figured out, but this collocated approach, which is not “fully a hybrid system,” is an intriguing model that can be ready for 2021 leveraging the individual strengths of the ESR and Intermittent Power Resources (IRP) models.

Storage-related policy developments in PJM continued to trend in a positive direction in Q3, as PJM was generally supportive of efforts from the storage industry to re-evaluate the Capacity value of storage and to create rules for Storage-as-Transmission. After months of deliberation, PJM and stakeholders approved a proposal that includes a new Capacity valuation methodology to replace the “10-hour rule”. This is, overall, a huge win for the storage industry as the approved package includes the implementation of a 4-hour duration class for limited-duration resources and the establishment of 10-year minimum ELCC values for new Capacity Storage Resources. PJM is currently holding meetings with stakeholders to finalize proposed tariff revisions, developed by the PJM Board, and manual changes in time to submit a filing by the October 30th deadline. It’s likely that these new Capacity rules for storage will not be fully approved (by FERC) and implemented until Q1 2021 due to the complex nature and scope of the filing. PJM, and stakeholders, also approved the creation of a new DER & Inverter-Based Resource Subcommittee which will evaluate and identify necessary rule changes for hybrid resources, in particular solar+storage. The PJM Planning Committee used the additional guidance it received from the conclusion of MISO’s Storage-as-Transmission technical conference to continue the development of Storage as a Transmission Asset Only.

Also in Q3, Virginia utilities took additional steps to meet the state’s storage deployment target, 3,100 MWs of energy storage by 2035, associated with the Virginia Clean Energy Economy Act (VCEA). These steps included proposing interim targets of 250 MWs by 2025 for Dominion and 125 MWs by 2030 for Appalachian Power.

CENTRAL (ERCOT, MISO, SPP)

The key focus, for stakeholders and Staff in ERCOT, regarding storage in Q3 was the completion and approval of a myriad of Nodal Protocol Revision Requests (NPRRs) still under discussion across the various ERCOT working groups. More attention was also given to integrating and aligning storage NPRRs with structures that are moving forward for Real Time Co-Optimization (RTC). ERCOT maintains that market changes for storage and RTC will be finalized and approved by the ERCOT Board as we close out 2020, and work will commence immediately to have ERCOT systems prepared for a 2024 rollout of all new market structures. To the frustration of some stakeholders, a few scheduled changes to the ancillary services market have been delayed to better align with and prioritize the broader market overhaul, but generally speaking, progress continues to be made.

Along with the overall structure for the single model era for energy storage, ERCOT made more progress on unique programs such as Settlement-Only and Self-Limiting Energy storage, and the Demand Side Working Group is now working to clear up many of the questions associated with behind-the-meter storage and Controllable Load Resources.

Finally, after nearly a year of impressive progress on the development of market structures to accommodate energy storage, ERCOT staff and a number of stakeholders ran into a contentious matter regarding ERCOT staff’s proposal to publicize the state-of-charge (SOC) of individual storage assets in the 60-day SCED Report. While many ERCOT market participants welcome the publication of such intelligence, many storage-specific entities are concerned about the disclosure of intellectual property and other commercially sensitive information. A vote on Staff’s proposal should take place at the November Protocol Revision Subcommittee (PRS).

On August 10, 2020 FERC accepted MISO's proposed tariff revisions for storage-as-transmission, effective August 11, 2020 subject to a compliance filing. All aspects of operation and state-of-charge management will be formalized in a unique operating agreement for each project. MISO is going to use existing parts of the tariff to allow for cost recovery, which continues to be a primary issue of contention with certain MISO stakeholders. Any costs or revenues that are generated by the operation of SATOA will go into the transmission rates for the balancing area.

Also in Q3, MISO commenced stakeholder engagement on the treatment of hybrid resources with respect to participation models and capacity accreditation. The Market Subcommittee identified registration options that include co-located resources, where each hybrid component is treated as a separate resource and offers separately into the market, as well as a number of options where a hybrid can register as a single integrated resource.

MISO also detailed its approach for Surplus Interconnection under FERC Order 845, specifically for participation in the upcoming Planning Resource Auction (PRA). Accreditation for resources will be similar to hybrids, with capacity available up to the total interconnection service level at that POI. If total accreditation calculation for both resources utilizing Surplus Interconnection exceeds the POI Interconnection Service (IS), the Market Participant must inform MISO how total interconnection will be split between resources to determine capacity credits so as not to exceed the IS.

In SPP, an Effective Load Carrying Capability (ELCC) methodology for stand-alone storage has been finalized. This new structure will incorporate a tiered structure for 4, 6, and 8-hour storage and it will go in to effect in the 2023 study year. The Supply Adequacy Working Group (SAWG) continued the development of a process for the accreditation of hybrid resources. A hybrid ESR accreditation and allocation whitepaper is expected before the end of 2020, with a goal to present an associated whitepaper at the January 2021 Markets and Operations Policy Committee (MOPC).

With the approval of MISO's tariff changes for the treatment of storage as a transmission asset, SPP has commenced their own discussion on storage-as-wires. Staff and stakeholders have decided that storage-as-transmission should be exempt from requirement for transmission service or ancillary charges related to charging activities.

The SPP Electric Storage Resource Steering Committee (ESRSC) continued to guide stakeholder groups on the progress of task items outlined in the ESR Whitepaper. A great majority of the items assigned to the Working Groups will be delayed from the previous delivery target of October 2020 to January 2021.

WEST (CAISO, EIM)

During Q3 2020, activity in the energy storage space was widespread, particularly in California where both the CAISO and state regulators pursued numerous initiatives and proceedings related to the role of storage and renewables on the electric grid. A handful of CAISO initiatives reached or neared finalization in the quarter. Most notably, the final proposal for Energy Storage and Distributed Energy Resources Phase 4 (ESDER 4), minus the now-separate work on Default Energy Bids (DEB) for storage, was approved and the CAISO filed its Hybrid Resources Phase 1 tariffs, while continuing to work on Phase 2. The CAISO also provided final tariff language for the Flexible Ramping Product (FRP) refinements, presented more refinements to Resource Adequacy (RA) Enhancements (though further discussion is still needed on the controversial Minimum Charge Requirement for storage), and has updated its Transmission Planning Process to identify storage MW and MWh upper limits in certain subareas. The CAISO also issued and received comments on an emergency Proposed Revision Request (PRR) that may preserve storage state-of-charge (SOC) to protect future schedules, raising questions about whether the ISO changes might restrict the services storage can provide at times in the name of SOC preservation. These developments came amidst a backdrop of emergency conditions over several days during an August heatwave that reduced supply margins and ultimately required rolling blackouts to preserve contingency reserves for the first time since 2001. These emergencies have motivated the ISO, along with state agencies, to place closer scrutiny on the reliability and deliverability of electric resources, including energy storage, and will likely factor heavily into storage-related discussions going forward considering the rapidly growing use of storage in the RA program.

The CPUC similarly had a very busy quarter, with progress across-the-board on most major proceeding of relevance to storage. Through the Integrated Resource Planning (IRP) process, the state's load serving entities (LSEs) made their individual IRP filings, showing procurement activities for the next decade to fulfill their share of the CPUC's Reference System Portfolio for new resources—which includes multiple GW of new battery storage and nearly 1 GW of long-duration storage by 2030. Proposals, reports, and schedule adjustments for proceeding considering the future of RA also gradually moved forward, although the proceeding is now not likely to conclude until June 2021. Behind-the-meter storage stakeholders could also benefit from a proposal to permit reallocation of self-generation incentive program (SGIP) funds to oversubscribed budget categories. Other recent rulings include one opening a new proceeding on the next generation of net energy metering (NEM), a decision making major modifications to Rule 21 interconnection requirements for DERs, and the renewal of the Electric Program Investment Charge (EPIC) for another 10 years. Final AB 2514 (storage mandate) procurement compliance, and a final report on Vehicle-Grid Integration (VGI) rounded out the busy quarter of major developments related to storage at the CPUC.

Beyond the CAISO and CPUC, joint agency SB100 Study Draft Results were presented during the quarter, paralleling the IRP's showing of an enormous need for storage and solar to achieve the 2045 state goal of a carbon-neutral grid. Also, the CEC has opened new storage funding opportunities, and LSE procurement of storage continued. Carbon-reduction goals have also led Governor Newsom to issue an executive order for the state to stop selling fossil-fuel passenger vehicles by 2035, which will drive further use of electric vehicles (EVs) and expand their impact on the electric grid.

Outside of California, regional activity in the EIM footprint was somewhat more muted, but certainly not nonexistent. The EIM Governing Body has provided advisory support to several CAISO proposals, including ESDER 4, while its Governance Review Committee released and discussed its straw proposal to change EIM governance structures. And some state development were noteworthy for their incorporation of storage, such as the approval of a new residential battery program from APS, and various project approvals and other progress on storage and renewable development in multiple western states.

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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Central
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CAISO, EIM

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