



FERC Order Regulation Settlement Agreement

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Market Implementation Committee
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- On January 14th 2017, PJM implemented a 30 minute conditional neutrality Regulation signal to correct the operational impact of Regulation D resources moving in the opposite direction of ACE (Area Control Error) control
- The implementation of the new signal increased the energy throughput of storage assets, which in turn impacted the life of the storage bank
- ESA (Energy Storage Association), RES and Invenergy filed separate complaints in April 2017 (EL17-64, EL17-65) resulting in a settlement proceeding commencing in June of 2017 facilitated by a FERC-appointed settlement judge

- 16 impacted storage resources, 6 owners
- Impacted storage resources: energy limited storage resources that were operational prior to 1/9/17 and continued to participate in regulation market as of 8/27/18
- The duration of the settlement term is 42 months
- The term of the settlement will commence on July 1st 2020



Settlement Agreement - Participation

- The impacted storage resources may participate in the Regulation Market under the settlement Regulation Signal (30 minute conditional neutrality)
- The impacted storage resources may not offer MW into the Regulation Market above the original tested regulation capability
- The impacted storage resources must adhere to the performance evaluation requirement per the settlement agreement to receive settlement term compensation



Settlement Agreement - Evaluation

- During the settlement, PJM will evaluate each impacted storage resource's performance based on the resource-specific 100-hour average performance score under the 30 minute conditional neutrality regulation signal
- A Baseline Performance Score will be established using the resource-specific 100-hour average performance score under the 30 minute conditional neutrality regulation signal operated as of Oct 1, 2018
- The impacted storage resource will be under settlement term suspension when their Performance Score drops by 7% or more compared to the Baseline Performance Score



Settlement Agreement - Suspension

- An impacted storage resource will remain in suspension until such time when its 100-hour average performance score returns to greater than or equal to the Baseline Performance Score
- Under suspension, the impacted storage resource's participation in the Regulation Market will be governed by the Tariff and the Operating Agreement and relevant Manuals that exist while the suspension period occurs
- Under suspension, the impacted storage resource is not eligible for compensation under the terms of the settlement agreement



Settlement Agreement - Compensation

- If the impacted storage resource is not under suspension, as long as the resource has a zero price offer it will be treated as if it was cleared in the market and will be compensated under the terms of the settlement, if it performed as required
- The impacted storage resource for participation in the Regulation Market will be compensated by utilizing the greater of (1) the impacted storage resource's current five-minute interval performance score or (2) the impacted storage resource's resource-specific rolling average actual hourly performance score for the last 100 hours a resource operated prior to the January 9, 2017 implementation of the 30-minute conditional neutrality of PJM's frequency regulation signal (the "Historic Performance Score")