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| Key Topic Concept (KTC) Number | 7 | KTC Title | Settlements for ESRs |
| Date Posted | | November 19, 2019 | |
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| Executive Summary | | This KTC recommends how Energy Storage Resources (ESRs) shall be settled in the Day-Ahead and Real-Time Market. | |
| Recommendation Description | | ESRs will be settled in the Day-Ahead and Real-Time Markets as described below. | |
| BESTF Discussion | | On 11/04/19, the BESTF discussed the concepts as presented in Power Point presentations.  On 11/15/19, the BESTF reached consensus on KTC 7. | |
| TAC Action Requested | | BESTF plans to request at the 1/29/20 TAC meeting a vote to approve KTC 7. | |
| TAC Action Summary | |  | |

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| Proposed KTC Recommendation Language |

# *Key Topic/Concept recommendation Language for TAC Approval*

1/29/20 TAC Meeting (Consensus from 11/15/19 BESTF meeting):

1. A new Base Point Deviation (BPD) Settlement will be created for ESRs.
   1. The ESR will be charged BPD for over performance if it has over generated or under consumed.
   2. The ESR will be charged BPD for under performance if it has under generated or over consumed.
   3. The BPD Settlement will mimic the existing settlements for Generation Resources.
   4. Deviation tolerances for BPD Settlement for ESRs will be set to 3MW or 3% of the Adjusted Aggregate Base Point (AABP). These thresholds will be reviewed biennially and changed as needed.
2. Negative quantity awards to an ESR in the DAM will be settled under current Protocols as Day Ahead Energy Purchases.
3. ESRs will not be eligible for DAM Make-Whole payments. With a null startup offer, a null minimum energy offer and no temporal constraints the DAM Make-Whole payment is not required.
4. ESRs will not receive RUC instructions, therefore RUC Make-Whole payments and Clawback Charges do not apply. In the event an ESR receives a Verbal Dispatch Instruction they will be considered for additional compensation via Emergency Operations Settlement.
5. The RUC Capacity Short calculation will count the full qualified capacity of the ESR from negative LSL to positive HSL when giving credit for AS capability. The calculation will count the capacity from 0 to HSL when determining the credit for energy capability.
6. ESR load will be separately metered from ESR generation. This is required in order to satisfy KTC 3.1, which requires the base-point weighted nodal price for settlement of ESRs.
7. The Emergency Operations Settlement rules will be extended to include negative Base Points. If the RTSPP is greater than the price on the Bid to Buy curve at the negative base point, the QSE for the ESR will be considered for additional compensation.
8. Load allocated Settlement charges will continue to be allocated to ESR load that is not eligible for WSL treatment.

# *Key Topic/Concept recommendation Language Previously Approved by tac*

None.

# *Key Topic/Concept recommendation Language IN DISCUSSION AT BESTF*

None.

# *Future Decision Points and Issues for Developing Key topic/Concept recommendation Language*

1. (Item 4) SODG /SOTG settled at Nodal pricing while charging and discharging.
2. (Item 6) ESR treatment during SCED Failures (RTCTF assigned) has been closed and is an RTC item
3. (New Item 7) Real-Time AS Imbalance for ESR.

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| Applicable Protocol Section(s) |  |
| Impacted System(s) / Application(s) |  |