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| Key Topic Concept (KTC) Number | 5 | KTC Title | Single Model Energy Storage Resource Energy Deployment Performance (ESREDP) |
| Date Posted | November 19, 2019 |
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| Executive Summary | This KTC recommends performance metrics and tolerances for measuring Energy Storage Resources (ESRs) ability to follow ERCOT instructions.  |
| Recommendation Description | ESR performance will be scored using ESR Energy Deployment Performance (ESREDP) % and ESREDP MW. The tolerance for ESREDP is recommended to be the greater of 3 % or 3 MW. These thresholds will be reviewed biennially and changed as needed. |
| BESTF Discussion  | On 11/04/19, ERCOT staff presented material related to proposed ESREDP calculations.On 11/15/19, the BESTF reached consensus on KTC 5. |
| TAC Action Requested | BESTF plans to request at the 1/29/20 TAC meeting a vote to approve KTC 5. |
| 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. Energy Storage Resource (ESR) performance will be scored using ESR Energy Deployment Performance (ESREDP) % and ESREDP MW, using the same formulas that apply to Generation Resource Energy Deployment Performance (GREDP) % and GREDP MW.

$$ESREDP \left(\%\right)= ABS\left[\left(\frac{ATPF-AEPFR}{ABP+ARI}\right)-1.0\right]\*100$$

$$ESREDP \left(MW\right)=ABS(ATPF-ABP-ARI-AEPFR)$$

ATPF = Average Telemetered Power Flow

ARI = Average Regulation Instruction

AEPFR = Average Estimated Primary Frequency Response

ABP = Average Base Point

1. New performance threshold variables, V % and W MW, as specified in ERCOT comments to NPRR 963 submitted on 10/11/2019, will continue to be used for Single Model ESRs and will initially be set to V = 3% and W = 3MW.
2. Like GREDP, a passing interval must have an ESREDP less than the greater of V % or W MW. Intervals that will be excluded from scoring will also match those intervals excluded from GREDP scoring.
3. These thresholds will be reviewed biennially and changed as needed.

# *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*

None.

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