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| Key Topic Concept (KTC) Number | 3 | KTC Title | ESR Dispatch, Pricing and Mitigation; and Charging Restrictions During Emergency Conditions |
| Date Posted | | December 10, 2019 | |
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| Executive Summary | | This KTC recommends how Energy Storage Resources (ESRs) shall be priced, dispatched and mitigated; and recommends charging restrictions during emergency conditions. | |
| Recommendation Description | | ESRs shall be dispatched by Security-Constrained Economic Dispatch (SCED) using nodal shift-factors and settled using nodal pricing both when charging and discharging.  Additionally, the Mitigated Offer Cap (MOC) for ESRs is recommended to be set at the System Wide Offer Cap (SWCAP). ERCOT and stakeholders shall provide a report to TAC by Dec. 31, 2023, that includes a recommendation to continue the current approach or a proposal to implement an alternative approach.  During all levels of an Energy Emergency Alert, ESRs shall suspend charging unless instructed otherwise by ERCOT. An ESR behind a POI with excess capacity from onsite generation that otherwise would be incapable of exporting to ERCOT grid may continue to charge.  In the case of an ERCOT-declared local transmission emergency, ERCOT may instruct one or more ESRs to suspend charging if the ESR(s) are capable of mitigating the constraint. | |
| BESTF Discussion | | These issues received some discussion at the Wholesale Market Working Group meeting on 9/16/19.  On 10/18/19, the BESTF discussed the concepts as presented in Power Point presentations.  On 11/4/19, the BESTF reached consensus on KTC 3 items 1, 2 and 3. ERCOT staff presented information about charging restrictions during emergency conditions (item 4 of this KTC document).  On 12/6/19, the BESTF reached consensus on KTC 3 item 4 following discussion and minor edits. | |
| TAC Action Requested | | BESTF plans to request at the 11/20/19 TAC meeting a vote to approve KTC 3 items 1, 2 and 3.  BESTF plans to request at the 1/29/20 TAC meeting a vote to approve KTC 3 item 4. | |
| TAC Action Summary | | On 11/20/19, TAC approved KTC 3 items 1,2 and 3. | |

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| Proposed KTC Recommendation Language |

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

1/29/20 TAC Meeting:

During all levels of an Energy Emergency Alert, ESRs shall suspend charging unless instructed otherwise by ERCOT. Such instructions may be in the form of, but not limited to SCED Base Points, Load Frequency Control deployment, manual Dispatch including Verbal Dispatch Instruction, andPrimary Frequency Response. One exception to this provision is an ESR behind a POI with excess capacity from onsite generation that otherwise would be incapable of exporting to the ERCOT grid; in this case the ESR may continue to charge as long as maximum output to the grid is maintained.

In the case of an ERCOT-declared local transmission emergency, ERCOT may instruct one or more ESRs to suspend charging if ERCOT determines that a Load reduction by the ESR(s) is capable of mitigating the constraint.

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

11/20/19 TAC Approved (Consensus from 11/4/19 BESTF meeting):

1. ESRs shall be settled using a SCED length-weighted and base point-weighted nodal price whether discharging (injecting) or charging (withdrawing).
2. ESRs shall be dispatched by SCED for both charging and discharging.
3. ESRs shall be dispatched by SCED on its nodal shift factor whether charging or discharging.
4. The MOC for ESRs will be set at the SWCAP. No later than December 31, 2023, ERCOT and stakeholders shall provide a report to TAC that includes a recommendation to continue the current approach or a proposal to implement an alternative approach. ERCOT will provide periodic reporting to Congestion Management Working Group (CMWG) and the Independent Market Monitor (IMM) will monitor.

# *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) |  |