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| Key Topic Concept (KTC) Number | 10 | KTC Title | ESR - Study & Capacity Assumptions |
| Date Posted | | December 10, 2019 | |
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| Executive Summary | | This KTC recommends a process to appropriately include ESR capacity in operations and planning studies, including the ERCOT Capacity, Demand and Reserves (CDR) Report and other resource adequacy reports. | |
| Recommendation Description | | ERCOT together with stakeholders participating in the Supply Analysis Working Group (SAWG) will develop a threshold above which ESRs will be included in the CDR report, as well as a methodology for calculating the appropriate percentage of total ESR capacity to include in the CDR as ESRs’ Peak Average Capacity Contribution.  This KTC also proposes near- and longer-term methodologies for considering ESR capacity in Outage coordination studies, operations studies other than Reliability Unit Commitment (RUC), and transmission planning studies. | |
| BESTF Discussion | | On 10/18/19, ERCOT staff presented material related to RUC studies and processes.  On 11/4/19, the BESTF reached consensus on KTC 10 item 3.  On 11/15/2019, ERCOT presented a proposal related to ESR Peak Average Capacity Contribution for the CDR report. | |
| TAC Action Requested | | BESTF plans to request a vote to approve KTC 10 Item 3 at the 11/20/19 TAC meeting.  BESTF plans to request a vote to approve this KTC 10 Item 1 at a future TAC meeting. | |
| TAC Action Summary | |  | |

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| Proposed KTC Recommendation Language |

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

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

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

1. (Item 1) Define “Storage Peak Average Capacity Percentage” to be used in CDR for various batteries:

ERCOT together with the Supply Analysis Working Group (SAWG) will develop a methodology for ESR capacity to be accounted for in resource adequacy reports.

1. (Item 2) Outage Coordination Studies:

Item 2 does not require Protocol language revisions; however, below is a summary of near and longer term assumptions;

* 1. ESRs will continue to be excluded from Outage coordination studies. Exceptions to the exclusions will be considered based on study criteria and best engineering practices.
  2. ERCOT will monitor ESR growth trends to determine if changes to this approach are needed and work with stakeholders to develop appropriate outage coordination study assumptions.

1. (Item 4) Operations Studies (other than RUC):

* Generic Transmission Limit study for the Day-Ahead Market: this is a two-day ahead study to determine transfer limits on all existing Generic Transmission Constraints (GTCs), including the North to Houston Interconnection Reliability Operating Limit (IROL).
* Next Day study: this study evaluates the forecasted peak of the next Operating Day to ensure ERCOT has both sufficient generation to serve the load and mitigation plans on all issues that may come up. The generation input for this study is the result of the DRUC study.
* Gap Study: this study is a supplement of the Next Day study, using up to date information. The generation input for this study is the result of the most recent HRUC study.

Item 4 does not require Protocol language revisions, however below is a summary of near and longer term assumptions:

* 1. ESRs will continue to be considered "offline” in operations studies and ERCOT will issue guidance on ESR COP submittal expectations. Exceptions to the exclusions will be considered based on study criteria and best engineering practices.
  2. ERCOT will monitor ESR growth trends and COP submittals and work with stakeholders to determine if operations studies should use COP information.

1. (Item 5) Transmission Planning Studies:

* Quarterly Stability Assessment: stability study, conducted every three months to assess newly planned generation, with the purpose of identifying any stability operating limits and to establish Generic Transmission Constraints (GTC) and Generic Transmission Limits (GTL) if needed.
* Regional Transmission Planning study: yearly planning study that focuses on meeting system needs within a six-year planning horizon.
* Long-Term System Assessment: biennial planning study, providing a scenario-based view of long-term needs (10-15 years into the future). The LTSA identifies upgrades that provide benefits across a range of possible future scenarios and provides a longer-term view that can inform and improve the shorter-term Regional Transmission Plan
* Regional Planning Group Studies: studies for proposed transmission improvement projects with estimated costs above $15 million.
* Other select dynamic studies; for example, Dynamic Stability Assessment of High Penetration of Renewable Generation in the ERCOT Grid, carried out in spring 2018.

Item 5 does not require Protocol language revisions, however below is a summary of near and longer term assumptions:

* 1. ESRs will continue to be considered “offline” in transmission planning studies. Exceptions to the exclusions will be considered based on study criteria and best engineering practices.
  2. ERCOT will monitor ESR growth trends to determine if changes to this approach are needed and will work with stakeholders to develop appropriate transmission planning study assumptions.

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

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