Key Principle 3 – Reliability Unit Commitment

To better project Real-Time conditions on the grid and determine the potential need for Resource commitments, Reliability Unit Commitment (RUC) will be modified to be consistent with how energy and Ancillary Services (AS) will be awarded in the Real-Time Market (RTM). To facilitate this change under Real-Time Co-Optimization (RTC), RUC will review Resources scheduled to be available to determine whether additional Resource commitments are needed to meet the Load forecast and minimum AS requirements, and resolve transmission congestion.

# Principle Concepts

# *Approved Principle Concepts*

None

#  *Principle Concepts for Voting*

1. RUC will continue to ensure adequate capacity for Real-Time to meet energy and AS needs, and resolve transmission constraints; since it is designed to distribute AS across all available Resources, it has the additional flexibility for resolving transmission constraints as well as AS needs and should result in fewer RUC commitments for congestion.
2. RUC will not use Ancillary Service Demand Curves (ASDCs) in RTM. Rather, RUC will attempt to solve for a Resource commitment that meets the Load forecast and AS Plan considering Resources’ COPs and using a defined constant penalty value. This is similar to the current process, except in the current process the aggregate AS Plan capacity is within a Resource’s Current Operating Plan (COP).
3. Modifications will be made to the existing set of data elements provided by Qualified Scheduling Entities (QSEs) in their COPs to accommodate changes to RUC optimization.
4. QSEs will have a mechanism in their COPs to indicate, for each hour, the physical ability/inability of a Resource to provide AS (i.e., the Resource Status).
5. The amount of AS that can be provided by a Resource will be constrained by its qualifications and capabilities.
6. Proxy AS Offers will be used in RUC for determining a co-optimized solution to meet the AS Plan.
7. In addition to online qualified Resources, the RUC engine will consider a COP Resource Status of OFFQS (Off-Line but available for SCED deployment) for a Resource that is qualified for ERCOT Contingency Reserve Service (ECRS), as being able to provide ECRS.
8. In addition to online qualified Resources, the RUC engine will consider a COP Resource Status of OFF (Off-Line but available for commitment in the DAM and RUC) for a Resource that is qualified for Non-Spinning Reserve (Non-Spin), as being able to provide Non-Spin.
9. The current process under which ERCOT Operators review recommendations from the RUC optimization and make commitment instruction decisions will remain in place. This process includes:
10. ERCOT Operators will give the RTM ample time to respond to postings of capacity shortages for future hours
11. If a generation commitment is recommended by RUC for a future hour, ERCOT Operators will delay any Dispatch Instruction until that Resource’s start-up time is less than the current time and the recommended start time for the RUC commitment recommendation thus giving QSEs a chance to self-commit.

Note: For non-consensus items, opposing key principle or principle concept language would be provided in this form to TAC for their review.

# *Future Decision Points and Issues for Developing Principle Concepts*

Functionality and Process Concepts

1. COP changes; alternative sources of Resource information
2. Potential floors for AS Offers on Resources committed through the RUC process
3. Process for determining the amount of individual AS products that can be provided by a Resource
4. QSEs instructed to be committed by RUC may elect to forgo such instruction if they agree to a self-commitment.

Settlement Concepts

1. RUC Capacity-Short Charge
2. RUC Make-Whole Payment
3. RUC Clawback Charge

# Applicable Protocol Sections

*Placeholder*