

**EXPECTATIONS FOR CURRENT OPERATING PLAN DATA ENTRY BY QUALIFIED SCHEDULING ENTITIES**

**Version 0.2**

Document Revisions

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# Background and Purpose

Consistent with the ERCOT Nodal Protocols, the term “Resource” is used throughout this document, without qualification, to refer to both a Generation and Load Resources. Nodal Protocol Subsection 3.9 (1) requires each Qualified Scheduling Entity (QSE) representing Resources to submit a Current Operating Plan (COP). Protocol Section 3.9 includes the following requirements:

* The QSE must reflect in its COP the expected operating conditions for each Resource (including RMR, Black Start Units, Qualifying Facilities (QF), etc) that it represents for each hour in the next seven Operating Days [Subsections 3.9 (7) and (8) and 3.9.1 (1) and (2)].
* The QSE must update its COP to reflect changes in availability of any Resource as soon as reasonably practicable, but in no event later than 60 minutes after the event that caused the change [Subsection 3.9.1 (2)].
* The QSE must notify ERCOT, by means of the COP, of its plans to have a Resource On-Line by using the Resource Status codes listed in Section 3.9.1, Current Operating Plan (COP) Criteria. To reflect changes to a Resource’s capability, each QSE is required to report by exception, changes to the COP for all hours after the Operating Period through the rest of the Operating Day [Subsection 3.9 (5)]. When a QSE updates its COP to show changes in Resource Status, the QSE shall update for each On-Line Resource, either an Energy Offer Curve under Section 4.4.9, Energy Offers and Bids, or Output Schedule under Section 6.4.2, Output Schedules [Subsection 3.9 (6)].

Real Time telemetry provides information for the Operating Hour. COP entries always refer to forward hours beginning in the Operating Day with the prompt hour (the hour immediately following the Operating Period) and extending to all hours in the following six Operating Days (for a total of seven Operating Days). For these hours, the COP entries are determined solely by the QSE. The assignment of Resource Status, the operating parameters, High Sustained Limit (HSL), Low Sustained Limit (LSL), High Emergency Limit (HEL), Low Emergency Limit (LEL), and Ancillary Service Resource Responsibilities is expected to be consistent with the QSE’s expected or anticipated operating conditions for each Resource in each hour of the COP reporting period.

The purpose of this document is to communicate to the QSEs, ERCOT’s expectations regarding COP entries based on the usage of the COP data by the various ERCOT market and operations systems. The COP is an artifact created in the ERCOT Nodal Protocols that belongs wholly to the QSE, consequently, ERCOT does not proscribe COP entries made by QSE and it is not the intention of this document to do so.

# Principles and Definitions

1. ERCOT expects each QSE to submit a COP that is based on the QSE’s best estimate of the anticipated or expected operating conditions of each of its Generation Resources and Load Resources in each of the hours covered by the updated COP. The nature of the Protocol requirements related to the COP timeline and content suggests that each QSE should have an operator task that periodically (e.g. top of the hour) requires the operator(s) to review and update the COP.
2. QSEs are responsible for notifying ERCOT of a change in Resource Status (availability) via telemetry and through changes in the current COP as soon as practicable following the change [Protocol Subsection 6.5.5.1 (1)] but in no event later than 60 minutes after the event that caused the change. ERCOT suggests that the requirement “as soon as practicable” be interpreted consistent with Good Utility Practice.
3. QSE are responsible for assuring that COP entries and Outage Scheduler entries are consistent and meet Protocol requirements.
4. A Generation Resource is “unavailable” if that Generation Resource is unable to start or synchronize to the ERCOT Transmission Grid due to a physical or regulatory impairment. For example, a Generation Resource can be unavailable because it or the associated transmission equipment necessary to interconnect the Generation Resource to the grid is undergoing an outage. In other words, a Resource may be “unavailable” because of a forced or maintenance outage, 100% fuel curtailment, or emissions limit exceedance, etc.
5. A Load Resource is “unavailable” if it is not available for dispatch as determined by the Load Resource Owner and its QSE.
6. A Resource is “available” if it is not “unavailable”.
7. COP entries are used in ERCOT system applications for study periods that include the COP reporting period. These applications include Resource Adequacy Reporting, all Reliability Unit Commitment (RUC) studies (DRUC, HRUC and WRUC) and Network Security Analysis with extended time horizons (e.g. studies that are related to voltage support, dynamic system response, etc).
8. If a Generation Resource is offered into the DAM, the DAM will honor the Generation Resource’s temporal constraints including start times. The DAM implementation includes logic to initialize, for each Generation Resource, the startup temporal conditions at the beginning of the DAM study period (HE0001). The initialization logic implementation relies on EMS and COP Resource Status entries to determine the applicability of a temporal constraint for hours preceding HE0001.
9. Generation Resources with start times longer than 24 hours must be on-line prior to HE0001 for their Three Part Offer (3PO) to be considered in the DAM optimization.
10. The HRUC process will honor available Generation Resource temporal constraints, including start times. The HRUC implementation includes logic to initialize, for each Generation Resource, the startup temporal conditions at the beginning of the HRUC study period. HRUC relies on the Resource operating history from EMS for On-Line and Off-Line times to initialize Resource temporal constraints. HRUC uses the COP entries to determine the Resource Status during the HRUC study period. Protocols require the QSE to notify ERCOT that it plans to have a Resource On-Line by using the Resource Status codes for the COP. Similarly, Protocols require the QSE to request a Resource decommitment for the remaining hours in the Adjustment Period using the Resource Status codes in the COP. QSEs may also call ERCOT and request a decommitment if the decommitment is to occur in the Operating Period. In this context, decommitment applies either to the Resource as a whole or to the Resource’s Ancillary Service Resource Responsibility. In the Operating Period, if a QSE desires to change a Resource’s Ancillary Service Resource Responsibility, that responsibility can only be transferred within the QSE’s Resource portfolio.
11. ERCOT uses the information provided in the COP to calculate the High and Low Ancillary Service Limits (HASL and LASL) for each Resource including Load Resources in all of the RUC processes [Protocol subsection 3.9 (2)].
12. ERCOT uses the HSL and LSL Resource capability reported in the COP during the validation of DAM Resource Energy Offer Curves and Ancillary Service Offers. While the Resource Status reported in the COP is not used in the DAM, Resources reported as being OFF in a COP reporting hour that are offered in the DAM for that hour must have Resource capability entries consistent with the QSE DAM energy or Ancillary Service offers.

# Discussion and ERCOT Expectations

The Nodal Protocols provide the following definition of the COP in Section 2, “Definitions and Aconyms”:

“A plan by a QSE reflecting anticipated operating conditions for each of the Resources that it represents for each hour in the next seven Operating Days, including Resource operational data, Resource Status, and Ancillary Service Schedule.”

Furthermore, the Section 3.9.1(1) requires the following:

“Each QSE that represents a Resource must submit a COP to ERCOT that reflects expected operating conditions for each Resource for each hour in the next seven Operating Days.”

Common to both of these statements in the Nodal Protocols is the idea that the COP represents the QSE’s anticipated or expected operating conditions. The use of the terms “anticipated” and “expected” gives recognition to the nature of the uncertainty associated with any plan. The expectation is that the amount or level of uncertainty starts low and increases as the time horizon of the plan increases. This distinction is important, for example, the ERCOT Day-Ahead Market (DAM) and the Day-Ahead and Hourly Reliability Unit Commitment (DRUC & HRUC) applications use data from the COP as needed for the remaining hours in the current Operating Day and next or prompt Operating Day while other applications such as Resource Adequacy Reporting, WRUC, and Outage Evaluation, use data extending beyond the prompt Operating Day to the last COP reporting hour. The ability of these applications to provide solutions that best represent the Real Time conditions and meet reliability needs in each Operating Hour is directly related to the QSE’s diligence in keeping ERCOT informed of its current plans for the operation of its Resources for the next seven Operating Days.

The terms “availability, available, and unavailable” as used in the Protocols are intended to differentiate between Resources that can be operated versus those that cannot be operated because of a physical or regulatory impairment associated with the Resource itself, or the transmission equipment necessary to the interconnection of the Resource to the ERCOT Transmission Grid. The QSE is required to use the Resource Status in its COP to reflect the availability/unavailability of the Resource and provide the details concerning the nature and type of physical impediment to ERCOT through the Outage Scheduler. Generation Resource Outages extending longer than the COP timeframe are only reported in the Outage Scheduler. Consequently, for the COP, ERCOT interprets availability as follows: “A Resource is available if it is not unavailable”.

The term “resource capability” as used in the Protocols is intended to describe the injection limits reflected by the Resource’s HSL/LSL/HEL/LEL values. If the HSL/LSL/HEL/LEL values provided in the COP result from a Generation Resource derating, then the detail of the derating is provided to ERCOT through the Outage Scheduler. Generation Resource deratings that occur in Real Time are provided to ERCOT via telemetry of actual Generation Resource capability (i.e. the telemetered HSL/LSL/HEL/LEL values).

## Intermittent Resources – Wind Generation Resources (WGR)

The Nodal Protocol 3.13 (1) requires ERCOT to produce forecasts of Renewable Production Potential for Wind Generation Resources (WGRs) to be used as input into the Day-Ahead and Hour‑Ahead Reliability Unit Commitment processes (DRUC and HRUC). As described in Protocol 4.2.2 (1), ERCOT provides for each WGR a rolling Short Term Wind Power Forecast (STWPF) in the form of an hourly forecast for the next 48 hours. Protocol 3.9.1 (7) requires the QSE representing a WGR to enter in its COP an HSL no greater than the most recent STWPF provided by ERCOT. WGRs/QSEs are required to adjust the STWPF provided by ERCOT to account for WGR deratings or availability reductions due to outages, regulatory or physical impairments to the generation or transmission interconnection facilities. Updates to the STWPF are provided hourly by ERCOT, consequently, the QSE is required to make hourly updates to the WGR’s HSL and potentially it’s Resource Status in its COP.

The Protocol requirements noted above cover only the first 48 hours in the COP reporting period. As noted in Section 2, COP entries are the responsibility of the QSE and for the Resource parameters such as HSL, these entries represent the QSE’s best estimate of the anticipated or expected operating condition for the remaining hours in the COP reporting period. QSEs and WGR owners should provide their best estimate for HSL consistent with expected meteorological, regulatory, and physical conditions for the WGR(s) for all hours in the COP reporting period.

## COP Reporting for Combined Cycle Trains (CCT)

In ERCOT, the CCT owner must submit a Resource Asset Registration Form to register each of the operating configurations that will participate in the ERCOT market as an individual Combined Cycle Generation Resource with a unique Resource ID (i.e. each of the CCT registered configurations are referred to a Combine Cycle Generation Resource (CCGR)). For those CCGRs that are injecting power into the ERCOT Grid, the COP is expected to show an appropriate On-Line Resource Status such as ON.

The following rules should be applied by the QSE when reporting the Resource Status for CCGR configurations in its COP:

* For those COP reporting hours that the QSE expects to commit a CCGR configuration for ERCOT operations, the QSE should show the committed CCGR configuration to be in an appropriate On-Line Resource Status (i.e. ON, ONREG, etc). All other CCGRs configurations in the CCT should be shown with a Resource Status of OUT in that hour.
* If the QSE does not intend to commit a CCT in a COP reporting hour, the CCGR configurations that are available should be reported in the COP as OFF and those CCGR configurations that are unavailable should be reported as OUT.
* If a CCGR configuration is RUC committed in a COP reporting hour, the QSE should show the Resource Status for the committed CCGR configuration as ONRUC. All other CCGR configurations should be reported as OUT in a RUC committed hour.

Application of the above rules will assure that the RUC process will not commit a different CCGR configuration in a RUC study period hour in which the QSE has indicated an intention to commit a CCGR configuration. The protocol requirements for the decommitment of a Resource apply.

The QSE should report an appropriate Resource Capability (HSL/LSL/HEL/LEL) and Ancillary Service Responsibility in its COP in accordance with the guidelines described in Section 4 below. The QSE/CCT Owner for facilities with the ability to interconnect to either ERCOT or another Control Area must assure that the combined commitment of its Generation Resource capacity in each Control Area is not greater than the actual capability of the generation facility.

## RUC Commitment for an Ancillary Services

For Resources that are committed in specific hours of an Operating Day by a RUC process for the purpose of meeting ERCOT System capacity requirements, the QSE must report a COP Resource Status of ONRUC in the commitment hours. In each RUC commitment hour the QSE must also report in its COP an Ancillary Service Resource Responsibility Capacity for each Ancillary Service equal to zero MW. Failure to do so will result in the COP update being rejected.

If the Resource is committed by a RUC process for the purpose of providing a specified Ancillary Service, the QSE must report a Resource Status of ONRUC in the commitment hours. In each RUC commitment hour the QSE must report in its COP the commitment specified Ancillary Service Resource Responsibility in the amount specified in the ERCOT RUC commitment. Failure to do so will result in the COP update being rejected. Resources that receive a RUC instruction to provide an Ancillary Service may not move that Ancillary Service (AS) Responsibility to another Resource or QSE during the RUC commitment period.

# Specific COP Protocol Requirements and ERCOT Expectations

| **Protocol Requirement** | **ERCOT Discussion** | **Resource Status Expectation** | **Resource Capability Expectation** |
| --- | --- | --- | --- |
|  |  |  |  |
| 2.0 Definitions |  |  |  |
| Ancillary Service Schedule -  The MW of each Ancillary Service that each Resource is providing in Real-Time and the MW of each Ancillary Service for each Resource for each hour in the Current Operating Plan (COP). |  | ERCOT expects the QSE to report, through its COP, the expected MW of each Ancillary Service that a Resource is required or expected to provide for each hour in the COP.  Note: In accordance with Nodal Protocol requirements, Resources that are awarded Ancillary Service Resource Responsibility in the DAM or Resources that are designated as providing self-arranged Ancillary Service Resource Responsibility in the COP immediately preceding the DRUC are required to provide that service in each awarded hour of the Operating Day unless the QSE, subject to ERCOT concurrence, moves that Ancillary Service Resource Responsibility from the COP designate Resource to another Resource or QSE. |  |
|  |  |  |  |
| Current Operating Plan (COP) -  A plan by a QSE reflecting anticipated operating conditions for each of the Resources that it  represents for each hour in the next seven Operating Days, including Resource operational data,  Resource Status and Ancillary Service Schedule. | Note the use of the term “anticipated operating conditions”.  Anticipated means  1. To give advance thought, discussion or treatment to;  2. To meet (an obligation) before a due date;  3. To foresee and deal with in advance. |  |  |
|  |  |  |  |
| Resource Status -  The operational state of a Resource as provided in Section 3.9, Current Operating Plan (COP). |  |  |  |
|  |  |  |  |
| 3.9 Current Operating Plan (COP) |  |  |  |
| (1) Each Qualified Scheduling Entity (QSE) that represents a Resource must submit a Current Operating Plan (COP) under this Section. |  |  |  |
| (2) ERCOT shall use the information provided in the COP to calculate the High Ancillary Service Limit (HASL) and Low Ancillary Service Limit (LASL) for each Resource for the Reliability Unit Commitment (RUC) processes. | ERCOT RUC applications use the COP reported HSL less the total of On-Line Ancillary Service Resource Responsibility for Non-Spin, RRS, and Reg-Up to set the Resource’s HASL during the RUC study periods.  ERCOT RUC applications use the COP reported LSL plus On-Line Ancillary Service Resource Responsibility for Reg-Down to set the Resource’s LASL during the RUC study periods. |  |  |
| (3) ERCOT shall monitor the accuracy of each QSE’s COP as outlined in Section 8, Performance Monitoring. |  |  |  |
| (4) A QSE must notify ERCOT that it plans to have a Resource On-Line by means of the COP using the Resource Status codes listed in Section 3.9.1, Current Operating Plan (COP) Criteria, paragraph (4)(b)(i). The QSE must show the Resource as On-Line with a Status of “ONRUC,” indicating a RUC process committed the Resource for all RUC-Committed Intervals. A QSE may only use a RUC-committed Resource during that Resource’s RUC-Committed Interval to meet the QSE’s Ancillary Service Supply Responsibility if the Resource has been committed by the RUC process to provide Ancillary Service. | Also, see the discussion for the ONRUC Resource Status. | The QSE is expected to use one of the Protocol designated Resource Status for each hour in the COP reporting period that most nearly describes the planned/expected operation of each of its Resources.  It is imperative that the availability of each Resource be accurately represented in the QSE’s COP.  During the Operating Day, the MMS validates changes to the COP against Resource Status, and Ancillary Service Resource Responsibilities for those hours in the current and next Operating Day. |  |
| (5) To reflect changes to a Resource’s capability, each QSE shall report by exception, changes to the COP for all hours after the Operating Period through the rest of the Operating Day. |  |  | Resource capabilities reported in the COP are the HSL/LSL/HEL/LEL and the Ancillary Service Resource Responsibility values for each Resource.  The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit during the remaining hours in the Operating Day. |
| (6) When a QSE updates its COP to show changes in Resource status, the QSE shall update for each On-Line Resource, either an Energy Offer Curve under Section 4.4.9, Energy Offers and Bids, or Output Schedule under Section 6.4.2, Output Schedules. |  |  |  |
| (7) Each QSE, including QSEs representing Reliability Must-Run (RMR) Units, or Black Start Resources, shall submit a revised COP reflecting changes in Resource availability as soon as reasonably practicable, but in no event later than 60 minutes after the event that caused the change. | The DRUC and HRUC applications are most sensitive to availability changes within the study periods for each of these applications. Consequently, the 60-minute update time limit is critical to allowing ERCOT the maximum amount of time to recognize the loss of previously committed capacity and react as needed to such loss. |  |  |
| (8) Each QSE representing a Qualifying Facility (QF) must submit a Low Sustained Limit (LSL) that represents the minimum energy available, in MW, from the unit for economic dispatch based on the minimum stable steam delivery to the thermal host plus a justifiable reliability margin that accounts for changes in ambient conditions. |  |  |  |
| 3.9.1 Current Operating Plan (COP) Criteria |  |  |  |
| (1) Each QSE that represents a Resource must submit a COP to ERCOT that reflects expected operating conditions for each Resource for each hour in the next seven Operating Days. |  | Except for Forced Outages, QSE’s are expected to honor the Resource’s temporal constraints when designating a Resource Status in the COP (e.g. the designated hour in which a Resource Status changes from OFF to ON is reachable from the current Resource operational condition). |  |
| (2) Each QSE that represents a Resource shall update its COP reflecting changes in availability of any Resource as soon as reasonably practicable, but in no event later than 60 minutes after the event that caused the change. | The DRUC and HRUC applications are most sensitive to availability changes within the study periods for these applications. Consequently, the 60-minute update time limit is critical to allowing ERCOT the maximum amount of time to recognize the loss of previously committed capacity and react as needed to such loss. |  |  |
| (3) The Resource capacity in a QSE’s COP must be sufficient to supply the Ancillary Service Supply Responsibility of that QSE. |  |  |  |
| (4) A COP must include the following for each Resource represented by the QSE: |  |  |  |
| (a) The name of the Resource; |  |  |  |
| (b) The expected Resource Status:  (i) Select one of the following for Generation Resources synchronized to the ERCOT System that best describes the Resource’s status: |  |  |  |
| (A) ONRUC – On-Line and the hour is a RUC-Committed Interval; | Resources that receive a RUC dispatch Instruction to provide an Ancillary Service may not move that AS Responsibility to another Resource or QSE during the RUC commitment period. | Use ONRUC for Resources that are committed in response to an ERCOT RUC instruction for capacity or ERCOT directed Ancillary Services.  ONRUC cannot be an expected Resource Status for hours beyond the current and next Operating Day, unless the QSE is directed otherwise by ERCOT. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  For those hours in the COP reporting period with an ONRUC Resource Status, the Ancillary Service Resource Responsibility for each AS must equal 0 unless the Resource is subject to a RUC Dispatch Instruction to provide a specified Ancillary Service. In this case, the Resource must report an Ancillary Service Resource Responsibility for that service in the amount specified in the ERCOT Dispatch Instruction. |
| (B) ONREG – On-Line Resource with Energy Offer Curve providing Regulation Service; |  | Use ONREG for Resources that the QSE expects to commit with an Energy Offer Curve and designates as providing Regulation Ancillary Service (either self-arranged or purchased by ERCOT) during the current and next Operating Day.    Do not use ONREG for Resources committed to provide Regulation Service by the RUC process.  The Resource may also be providing RRS and on-line Non-Spin AS.  ERCOT assumes that an ONREG Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource, with an Energy Offer Curve, to provide self-arranged and/or ERCOT purchased Regulation Ancillary Services in the amounts reported for Ancillary Service Resource Responsibilities. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for Regulation Up and/or Regulation Down equals the amount of QSE assigned Regulation Service.  The QSE may also assign Ancillary Service Resource Responsibility for RRS and On-Line Non-Spin.    For each Resource, (HSL – LSL) must be ≥ total of all AS Resource Responsibilities assigned by the QSE. |
| (C) ON – On-Line Resource with Energy Offer Curve; |  | Use ON for Resources that are available or expected to be available in a forward COP hour and that the QSE expects to commit with an Energy Offer Curve.  Do not use ON Resource Status for Resources committed by the RUC process.  Do not use the ON Resource Status if the Resource is assigned Regulation Up and/or Down Responsibility.  ERCOT assumes that an ON Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource, with an Energy Offer Curve, to provide self-arranged and/or ERCOT purchased Ancillary Services in the amounts reported for Ancillary Service Resource Responsibilities. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for RRS and On-Line Non-Spin equals the amount of the QSE assigned service    For each Resource, (HSL – LSL) must be ≥ total of all AS Resource Responsibilities assigned by the QSE. |
| (D) ONDSR – On-Line Dynamically Scheduled Resource; |  | Use ONDSR for Resources that are available or expected to be available and that are being used by the QSE as a DSR in the current Operating Day or that the QSE expects to operate as a DSR in the next Operating Day and beyond.  Do not use ONDSR if the Resource is assigned Regulation Service Responsibility.  ERCOT assumes that an ONDSR Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available DSR, to provide self-arranged and/or ERCOT purchased Regulation Ancillary Services in the amounts reported for Ancillary Service Resource Responsibilities. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for RRS and On-Line Non-Spin equals the amount of the QSE assigned service    For each Resource, (HSL – LSL) must be ≥ total of all AS Resource Responsibilities assigned by the QSE. |
| (E) ONOS – On-Line Resource with Output Schedule; |  | Use ONOS for Resources that are available or expected to be available in a forward COP hour and that the QSE expects to commit with an Output Schedule.  Do not use ONOS Resource Status for Resources committed by the RUC process.  Do not use the ONOS Resource Status if the Resource is assigned Regulation Up and/or Down Responsibility.  The Resource may be designated to provide RRS and On-Line Non-Spin.  ERCOT assumes that an ONOS Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource, with an Output Schedule, to provide self-arranged and/or ERCOT purchased Regulation Ancillary Services in the amounts reported for Ancillary Service Resource Responsibilities. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for RRS and on-line Non-spin equals the amount of the QSE assigned service    For each Resource, (HSL – LSL) must be ≥ total of all AS Resource Responsibilities assigned by the QSE.  . |
| (F) ONOSREG – On-Line Resource with Output Schedule providing Regulation Service; |  | Use ONOSREG for Resources that the QSE expects to commit with an Output Schedule and designates as providing Regulation Ancillary Service (either self-arranged or purchased by ERCOT) during the current and next Operating Day.    Do not use ONOSREG Resource Status for Resources committed to provide capacity or Regulation Service by the RUC process.  The Resource may also be providing RRS and On-Line Non-Spin AS.  ERCOT assumes that an ONOSREG Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource, with an Output Schedule, to provide self-arranged and/or ERCOT purchased Regulation Ancillary Services in the amounts reported for Ancillary Service Resource Responsibilities. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for Regulation Up and/or Regulation Down equals the amount of QSE assigned Regulation Service.  The QSE may also assign Ancillary Service Resource Responsibility for RRS and On-Line Non-Spin.    For each Resource, (HSL – LSL) must be ≥ total of all AS Resource Responsibilities assigned by the QSE.  . |
| (G) ONDSRREG – On-Line Dynamically Scheduled Resource providing Regulation Service; |  | Use ONDSRREG for Resources that the QSE expects to commit as a DSR unit and designates as providing Regulation Ancillary Service (either self-arranged or purchased by ERCOT) during the current and next Operating Day.    Do not use ONDSRREG for Resources committed to provide capacity or Regulation Service by the RUC process.  The Resource may also be providing RRS and On-Line Non-Spin AS.  ERCOT assumes that an ONDSRREG Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource as a DSR unit and to provide self-arranged and/or ERCOT purchased Regulation Ancillary Services in the amounts reported for Ancillary Service Resource Responsibilities. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for Regulation Up and/or Regulation Down equals the amount of QSE assigned Regulation Service.  The QSE may also assign Ancillary Service Resource Responsibility for RRS and On-Line Non-Spin.    For each Resource, (HSL – LSL) must be ≥ total of all AS Resource Responsibilities assigned by the QSE.  . |
| (H) ONTEST – On-Line Test with Output Schedule; | For Resources with a telemetered Resource Status of ONTEST, the SCED implementation sends a Base Point equal to the Resource’s current telemetered output (HDL=LDL=RT Telemetered Output).  An NPRR will be submitted by ERCOT to remove the reference to an Output Schedule. | Use ONTEST for Resources that the QSE expects to be On-Line in an hour solely for the purpose of conducting a specific test (e.g., initial startup test for new units, QSE scheduled performance testing, or units returning from an outage).  Do not use ONTEST if the Resource has assigned AS Resource Responsibility. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility should be set to 0 for all of the Ancillary Services. |
| (I) ONEMR – On-Line EMR (available for commitment or dispatch only for ERCOT-declared Emergency Conditions; the QSE may appropriately set LSL and HSL to reflect operating limits); and | ONEMR Resources are not considered in the ERCOT RUC and SCED applications.  ONEMR Resources require ERCOT/QSE Operator action before commitment. | Use ONEMR for a Resource that is or will be connected to the ERCOT Grid but is available for dispatch by ERCOT systems only during an ERCOT declared Emergency Condition.  An example of a Resource that could use this Resource Status is a Hydro facility that is On-Line with limiting water conditions for some period of time. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for all Ancillary Services must be set equal to 0. |
| (J) ONRR – On-Line as a synchronous condenser (hydro) providing Responsive Reserve but unavailable for dispatch by SCED and available for commitment by RUC. | Note:  For Resource Status = ONRR, the SCED sends a Base Point = 0 MW if RRS is not deployed,  Otherwise, the BP equals the current telemetered power output. | Use ONRR for Hydro-Resources that the QSE expects to be On-Line and connected to the ERCOT Transmission Grid to provided RRS but that is not available for SCED dispatch .  ERCOT assumes that an ONRR Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource in synchronous condenser mode to provide self-arranged and/or ERCOT purchased Responsive Reserve Ancillary Service in the amounts reported for Ancillary Service Resource Responsibilities. | For those hours in the COP reporting period with an ONRR Resource Status, the Ancillary Service Resource Responsibility Capacity for RRS must equal the RRS Capacity responsibility and the HSL and LSL for each Resource must meet the criteria (HSL-LSL) ≥ RRS.  All other Ancillary Service Resource Responsibilities must be set equal to 0. |
| (ii) Select one of the following for Off-Line Generation Resources not synchronized to the ERCOT System that best describes the Resource status: |  |  |  |
| (A) OUT – Off-Line and unavailable; | ERCOT expects this Resource Status to be used for Resources that meet the description of unavailable described in Sections 2 and 3 above.  ERCOT systems do not use the resource capabilities reported in the COP for Generation Resources reported as OUT.  Consequently, ERCOT suggests that providing COP HSL/LSL/HEL/LEL values that would be expected if the Resource were available reduces reporting churn, which will help reduce errors and will help quantify the amount of unavailable capability on an ongoing basis. | Use OUT only for Resources that the QSE knows to be unavailable to ERCOT or expects to be unavailable at some time in the COP reporting period. | Set HSL=HEL=LSL=LEL = normal expected values if the Resource were available and all Ancillary Service Resource Responsibility for each AS type = 0. |
| (B) OFFNS – Off -Line but reserved for Non-Spin; |  | Use OFFNS for a Resource that is available and that the QSE expects to be Off-Line during the current and next Operating Day and designated to provide Off-Line Non-Spin Ancillary Service (either self-arranged or purchased by ERCOT).  ERCOT assumes that an OFFNS Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource (such as a fast start Off-Line Generation Resource or Load Resources ) to provide self-arranged and/or ERCOT purchased OFF-Line Non-Spin Ancillary Service in the amounts reported for Ancillary Service Resource Responsibilities. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for Off-Line Non-Spin Ancillary Services must equal the amount of Non-Spin AS capacity assigned to the Resource by the QSE.  For each Resource, (HSL – LSL) must be ≥ amount of Non-Spin AS Resource Responsibility. |
| (C) OFF – Off-Line but available for commitment by DAM and RUC; and |  | Use OFF for Resources that is available (or is expected to be available by the QSE in a forward COP hour) but that the QSE is not planning for the Resource to be On-Line. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for all Ancillary Services should be equal to 0. |
| (D) EMR – Available for commitment only for ERCOT-declared Emergency Condition events; the QSE may appropriately set LSL and HSL to reflect operating limits; and | ONEMR Resources are not considered in the ERCOT RUC and SCED applications.  ONEMR Resources require Operator action before commitment. | EMR is an expected Resource Status to indicate:   1. the Resource is available but expected to be Off-Line; and 2. upon an ERCOT declaration of emergency, the Resource is capable of being connected to the ERCOT Transmission Grid.   Examples of Resources that may use this Resource Status includes:  Hydro facilities that can operate around water limiting conditions for some period of time.  Facilities that have fully exhausted environmental emissions limits but could operate under a regulatory exemption. Alternately, without a Regulatory, exemption the QSE could report Resource Status of OUT. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The Ancillary Service Resource Responsibility for all Ancillary Services should equal 0. |
| (iii) Select one of the following for Load Resources: |  |  |  |
| (A) ONRGL – Available for dispatch of Regulation Service; |  | Use ONRGL for a Controllable Load Resource that is available for dispatch to provide the amount of Regulation Service indicated by the Ancillary Service Resource Responsibility for Regulation in the current and next operating Day.  ERCOT assumes that an ONRGL Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Controllable Load Resource to provide self-arranged and/or ERCOT purchased Regulation Ancillary Service in the amounts reported for Ancillary Service Resource Responsibilities.  This Resource Status should only be used for Controllable Load Resources.  Use ONRGL if Regulation Service is being provided along with RRS. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The QSE should report HSL and LSL such that for each Resource, (HSL-LSL) is ≥ total amount of Ancillary Service Resource Responsibilities.  The Ancillary Service Resource Responsibility for Reg-Up and Reg-Down must equal the amount of Regulation AS Responsibility that is provided or expected to be provided. |
| (B) ONRRCLR – Available for dispatch of Responsive Reserve Service as a Controllable Load Resource; |  | Use ONRRCLR for a Controllable Load Resource that is available for dispatch to provide the amount of Responsive Reserve Service Responsibility in the current and next operating Day.  Do not use this Resource code if the Controllable Load Resource will also provide Regulation Service.  ERCOT assumes that an ONRRCLR Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource to provide self-arranged and/or ERCOT purchased RRS Ancillary Services in the amounts reported for Ancillary Service Resource Responsibilities for RRS. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The QSE should report HSL and LSL such that for each Resource, (HSL-LSL) is ≥ total amount of Ancillary Service Resource Responsibilities. |
| (C) ONRL – Available for dispatch of Responsive Reserve Service or Non-Spin, excluding Controllable Load Resources; and |  | Use ONRL for a Load Resource (excluding Controllable Load Resources) that is available for dispatch to provide Responsive Reserve or Non- Spin Ancillary Service in the current and next operating Day.  ONRL may not be used for Controllable Load Resources  ERCOT assumes that an ONRL Resource Status in hours beyond the current and next Operating Day indicates the intention of the QSE to use the available Resource to provide self-arranged and/or ERCOT purchased Responsive Reserve and/or Non-spin Ancillary Services in the amounts reported for Ancillary Service Resource Responsibilities. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resource’s capability at each limit.  The QSE should report HSL and LSL such that for each Resource (HSL-LSL) is ≥ total amount of Ancillary Service Resource Responsibilities.  For Load Resources:  HSL=HEL=MPC ; LSL=LEL=LPC  Ancillary Service Resource Responsibility for RR and Non-Spin Services must equal the amount of RRS and/or Non--Spin Service that the QSE expects the Load Resource to provide. |
| (D) OUTL – Not available; | ERCOT systems use the Resource Status OUTL in conjunction with the Resource Capabilities reported in the COP. Consequently, ERCOT suggests that providing HSL/LSL/HEL/LEL values that would be expected if the Resource is available reduces churn and will help quantify the amount of unavailable capability on an ongoing basis. | Use OUTL for a Load Resource that is not available for interruption or control. | ERCOT requests that the QSE report the HSL/HEL/LSL/LEL values that would normally be expected if the Resource were available  Load Resources that that are not struck for AS in DAM and that desire to have their AS offers considered in a SASM must use a Resource Status of OUTL with HSL/LSL/HEL/LEL values consistent with their AS offers. |
| (c) The High Sustained Limit (HSL); | Section 2 Definitions  High Sustained Limit (HSL) for a Generation Resource  The limit established by the QSE, continuously updated in Real-Time that describes the maximum sustained energy production capability of the Resource.  High Sustained Limit (HSL) for a Load Resource  The limit calculated by ERCOT, using the QSE-established Maximum Power Consumption (MPC). |  | ERCOT expects the QSE to report HSL values that always represent the QSE’s expected Generation Resource maximum sustained energy production capability in each COP hour.  For Load Resources, ERCOT expects the QSE to report HSL values that always represent the QSE’s expected Maximum Power Consumption in each COP hour. |
| (d) The Low Sustained Limit (LSL); | Section 2 Definition  Low Sustained Limit (LSL) for a Generation Resource  The limit established by the QSE, continuously updatable in Real-Time, that describes the minimum sustained energy production capability of a Resource.  Low Sustained Limit (LSL) for a Load Resource  The limit calculated by ERCOT, using the QSE-established LPC. |  | ERCOT expects the QSE to report LSL values, whether through the COP that always represents the QSE’s expected Generation Resource minimum sustained energy production capability in each COP hour.  For Load Resources, ERCOT expects the QSE to report LSL values that always represent the QSE’s expected Minimum Power Consumption in each COP hour. |
| (e) The High Emergency Limit (HEL); | Section 2 Definition  High Emergency Limit (HEL)  The limit established by the QSE describing the maximum temporary unsustainable energy production capability of a Resource. This limit must be achievable for a time stated by the QSE, but not less than 30 minutes.  Protocols do not define HEL as applicable to Load Resources. However, ERCOT expects the QSE to report HEL for Load Resources as equal to the HSL for consistency purposes. |  | HEL values are used by ERCOT as informational input to the ERCOT Operators for their use in evaluating potential maximum capabilities that can be called upon if needed during emergency or off- normal operations. QSE action is required o extend an HSL to the HEL.  ERCOT expects the HEL values reported by the QSE in the COP reporting period to be equal to or greater than the reported HSL value for each Resource. |
| (f) The Low Emergency Limit (LEL); and | Section 2 Definition  Low Emergency Limit (LEL)    The limit established by the QSE describing the minimum temporary unsustainable energy production capability of a Resource. This limit must be achievable for a period of time indicated by the QSE but not less than 30 minutes.  Protocols do not define LEL as applicable to Load Resources. However, ERCOT expects the QSE to report LEL for Load Resources as equal to the LSL for consistency purposes. |  | LEL values are used by ERCOT as informational input to the ERCOT Operators for their use in evaluating potential minimum capabilities that can be called upon if needed during emergency or off-normal operations. QSE action is required o extend an LSL to the LEL.  ERCOT expects the LEL values reported by the QSE in the COP reporting period to be equal to or less than the reported LSL value for each Resource. |
| (g) Ancillary Service Resource Responsibility capacity in MW for: |  |  |  |
| (i) Reg-Up; |  |  | During the current and next Operating Day hours, this is the amount of MW of Reg-Up Ancillary Service that the Resource is responsible to provide in Real-Time rounded to the nearest MW.  In hours beyond the current and next Operating Day ERCOT assumes this indicates the intention of the QSE to use the available Resource to provide self-arranged and/or ERCOT purchased Regulation Ancillary Service. |
| (ii) Reg-Down; |  |  | During the current and next Operating Day hours, this is the amount of MW of Reg-Down Ancillary Service that the Resource is responsible to provide in Real-Time rounded to the nearest MW.  In hours beyond the current and next Operating Day ERCOT assumes this indicates the intention of the QSE to use the available Resource to provide self-arranged and/or ERCOT purchased Regulation Ancillary Service. |
| (iii) Responsive Reserve Service; and |  |  | During the current and next Operating Day hours, this is the amount of MW of Responsive Reserve Ancillary Service that the Resource is responsible to provide in Real-Time rounded to the nearest MW.  In hours beyond the current and next Operating Day ERCOT assumes this indicates the intention of the QSE to use the available Resource to provide self-arranged and/or ERCOT purchased Responsive Reserve Ancillary Service. |
| (iv) Non-Spin |  |  | During the current and next Operating Day hours, this is the amount of MW of Non-Spin Ancillary Service that the Resource is responsible to provide in Real-Time rounded to the nearest MW.  In hours beyond the current and next Operating Day ERCOT assumes this indicates the intention of the QSE to use the available Resource to provide self-arranged and/or ERCOT purchased Non-Spin Ancillary Service. |
| (5) For combined-cycle Resources, the above items are required for each operating configuration. | Refer to Subsection 3.2. |  |  |
| (6) ERCOT may accept a COP only from QSEs. |  |  |  |
| (7) A QSE representing a Wind-Powered Generation Resource (WGR) must enter an HSL value that is less than or equal to the amount for that Resource from the most recent Wind-Powered Generation Resource Production Potential provided by ERCOT. | The expectation is that the WGR will enter HSL values for Wind Resources that are available for ERCOT dispatch consistent with the most current 48 Hr Short Term Wind Power Forecast provided to the QSE by ERCOT.  For hours beyond the 48-hour STWPF, the QSE should provide its best estimate of the HSL based on the expected meteorological, regulatory or physical limitations associated with the WGR. |  | HSL/HEL/LSL/LEL = the QSE’s expected limit.  HSL must be less than or equal to the amount for the WGR from the most recent STWPF provided by ERCOT.  ERCOT expects the following resource capability ranges:    LSL ≥ 0  For each Resource, HEL HSL and LEL ≤ LSL |
| (8) A QSE representing a Resource that has a Resource Status of ONTEST must self-commit the Resource and must submit an Output Schedule for the Resource. | For Resources with a telemetered Resource Status of ONTEST, the SCED implementation sends a Base Point equal to the Resource’s current telemetered output. (HDL=LDL=RT Telemetered Output)  An NPRR will be submitted to remove the reference to an Output Schedule. |  | HSL/HEL/LSL/LEL = the QSE’s expected sustainable limit.  All AS Resource Responsibilities = 0 |
| 3.9.2 Current Operating Plan Validation |  |  |  |
| (1) ERCOT shall verify that each COP, on its submission, complies with the criteria described in Section 3.9.1, Current Operating Plan (COP) Criteria. ERCOT shall notify the QSE by means of the Messaging System if the QSE’s COP is rejected or considered invalid for any reason. The QSE must then resubmit the COP within the appropriate market timeline. | NOTE: NPRR228 revises this Protocol to read as follows:  “ERCOT shall verify that each COP, on its submission, complies with the criteria described in Section 3.9.1, Current Operating Plan (COP) Criteria. ERCOT shall notify the QSE by means of the Messaging System if the QSE’s COP fails to comply with the criteria described in Section 3.9.1 and this Section 3.9.2 for any reason. The QSE must then resubmit the COP within the appropriate market timeline.” |  |  |
| (2) ERCOT must reject a COP that does not meet the criteria described in Section 3.9.1, Current Operating Plan (COP) Criteria. | NOTE: NPRR228 revises this Protocol to read as follows:  “ERCOT may reject a COP that does not meet the criteria described in Section 3.9.1.” |  |  |
| (3) If a Resource is designated in the COP to provide Ancillary Service, then ERCOT shall verify that the COP complies with Section 3.16, Standards for Determining Ancillary Service Quantities. The Ancillary Service Supply Responsibilities as indicated in the Ancillary Service Resource Responsibility submitted immediately before the end of the Adjustment Period are physically binding commitments for each QSE for the corresponding Operating Period. | The ERCOT MMS system performs this validation for the hours in the current Operating Day and the next Operating Day.  QSEs are encouraged to validate the remaining entries in the COP for errors similar to ERCOT’s error checking systems. |  |  |
| (4) ERCOT shall notify the QSE if the sum of the Ancillary Service capacity designated in the COP for each hour, by service type) is less than the QSE's Ancillary Service Supply Responsibility for each service type for that hour. If the QSE does not correct the deficiency within one hour after receiving the notice from ERCOT, then ERCOT shall follow the procedures outlined in Section 6.4.8.1, Evaluation and Maintenance of Ancillary Service Capacity Sufficiency. |  |  |  |
| (5) A QSE may change Ancillary Service Resource designations by changing its COP, subject to Section 6.4.8.1, Evaluation and Maintenance of Ancillary Service Capacity Sufficiency. | Movement of an Ancillary Service Resource Responsibility from one Resource to another requires ERCOT approval.  During the Adjustment Period, a QSE requests that an Ancillary Service Resource Responsibility be moved from one Resource to another by changing its COP and updating the Resource Status Code, if necessary, and Ancillary Service Resource Responsibility entries for the losing and gaining Resources. Note: Ancillary Service Resource Responsibility can be transferred to another QSE via an Ancillary Service Trade.  The AS transfer is deemed approved unless ERCOT rejects the change by notifying the QSE typically through the ERCOT Messaging System. |  |  |
| (6) If ERCOT determines that it needs more Ancillary Service during the Adjustment Period, then the QSE’s allocated portion of the additional Ancillary Service may be Self-Arranged. |  |  |  |
| (7) ERCOT systems must be able to detect a change in status of a Resource shown in the COP and must provide notice to ERCOT operators of changes that a QSE makes to its COP. |  |  |  |
| (8) A QSE representing a Resource that has an Energy Offer Curve valid for an hour of the COP may not designate a Resource Status of ONTEST, ONOS or ONDSR for that hour for that Resource. | The MMS validation checks in the current and next Operating Day hours alarm the ERCOT Operator and the QSE if this validation test fails. |  |  |
|  |  |  |  |
| 6.4.6.2 QSE Request to decommit Resources in the Adjustment Period  (1) To decommit an otherwise available Resource for hours other than the Operating Period, the QSE must update the COP indicating the change in Resource Status for each hour in the COP for the remaining hours in the Adjustment Period. On detection of a change from On-Line to Off-Line Available state in future hours for a Resource, ERCOT shall review all requests for decommitment using the next scheduled HRUC. The Resource must be shown as available for HRUC commitment. The next HRUC commitment must consider the Resource’s Minimum-Energy Offer excluding the Resource’s Startup Offer from the Three-Part Supply Offer.  (2) If HRUC continues to require the Resource to be committed, ERCOT shall notify the QSE, using the process described in Section 5.5.3, Communication of RUC Commitments and Decommitments, that the decommitment has been denied, and the affected intervals become RUC-Committed Intervals instead of QSE-Committed Intervals for RUC Settlement purposes. The QSE must update its COP to denote the RUC-Committed Intervals. | The QSE enters its request to decommit a previous committed Generation Resource (either by QSE commitment or an ERCOT directed RUC commitment) in a COP reporting period hour by changing the COP Resource Status from ON [see Protocol 3.9.1 (4)(b)(i)] to the “OFF” Resource Status.  Except for Forced Outages, the QSE is expected to honor the Generation Resource’s temporal constraint for startup time. In other words, the status change hour must be sufficiently far in the future such that if ERCOT rejects the decommitment sufficient time remains to start the Generation Resource if needed by RUC. | If ERCOT disapproves the decommitment, the QSE must update its COP prior to the end of the Adjustment Period and the Generation Resource will be considered RUC committed. In such cases, the QSE will use a Resource Status of ONRUC. | The HSL/LSL/HEL/LEL values are the QSE’s expectation for the Resources ‘capability at each limit.  For those hours in the COP reporting period with an ONRUC Resource Status, the Ancillary Service Resource Responsibility Capacity for each AS must equal 0 unless the Resource is being dispatched by RUC to provide a specified Ancillary Service. In this case, the Resource must report an Ancillary Service Resource Responsibility for the service and amount specified in the ERCOT Dispatch Instruction. |