|  |  |  |  |
| --- | --- | --- | --- |
| NPRR Number | [812](http://www.ercot.com/mktrules/issues/NPRR812) | NPRR Title | Alignment of Currently Published Reports |
| Date of Decision | | January 19, 2017 | |
| Action | | Recommended Approval | |
| Timeline | | Normal | |
| Proposed Effective Date | | To be determined | |
| Priority and Rank Assigned | | To be determined | |
| Nodal Protocol Sections Requiring Revision | | 3.2.3, System Adequacy Reports  3.2.5, Publication of Resource and Load Information  5.1, Introduction | |
| Related Documents Requiring Revision/ Related Revision Requests | | None | |
| Revision Description | | This Nodal Protocol Revision Request (NPRR) clarifies language related to short-term system adequacy reports, aligns Protocol language with current ERCOT practices and Public Utility Commission of Texas (PUCT) rules regarding the posting of Resource and Load information, and modifies the Protocol requirement to post a Reliability Unit Commitment (RUC) initial conditions report to only include the Hourly RUC (HRUC) process as originally intended in NPRR314, Requirement to Post Generation Resources Temporal Constraints. | |
| Reason for Revision | | Addresses current operational issues.  Meets Strategic goals (tied to the [ERCOT Strategic Plan](http://www.ercot.com/content/news/presentations/2013/ERCOT%20Strat%20Plan%20FINAL%20112213.pdf) or directed by the ERCOT Board).  Market efficiencies or enhancements  Administrative  Regulatory requirements  Other: (explain)  *(please select all that apply)* | |
| Business Case | | The current language of paragraph (3) in Section 3.2.3, System Adequacy Reports, implies there is a single “Short-Term System Adequacy Report” and specifies its content. As implemented, ERCOT publishes this content in separate reports.  Proposed revisions to 3.2.5, Publication of Resource and Load Information, better align the Nodal Protocols with current ERCOT practices and PUCT Substantive Rules.  The intent of NPRR314 was to require that ERCOT post the initial conditions for each HRUC execution. However, the language of NPRR314 requires that ERCOT post the initial conditions for both Day-Ahead RUC (DRUC) and HRUC processes. A DRUC report was created and temporarily released in 2016 Release 3; ERCOT suspended publication of the DRUC report on July 22, 2016 due to some values showing as zero or null for some Resources. The most cost-effective resolution that still meets the intent of NPRR314 is to modify the requirement so that only the HRUC initial conditions are posted. | |
| Credit Work Group Review | | To be determined | |
| PRS Decision | | On 1/19/17, PRS unanimously voted to recommend approval of NPRR812 as revised by PRS. All Market Segments were present for the vote. | |
| Summary of PRS Discussion | | On 1/19/17, ERCOT Staff, in response to participant questions, noted that it actively reviews to ensure Protected Information is not posted, and offered additional language to clarify that posted offer price information will pertain to those Ancillary Service Offers that are selected. | |

|  |  |
| --- | --- |
| Sponsor | |
| Name | Dave Maggio |
| E-mail Address | [David.Maggio@ercot.com](mailto:David.Maggio@ercot.com) |
| Company | ERCOT |
| Phone Number | 512-248-6998 |
| Cell Number |  |
| Market Segment | Not applicable |

|  |  |
| --- | --- |
| **Market Rules Staff Contact** | |
| **Name** | Brittney Albracht |
| **E-Mail Address** | [Brittney.Albracht@ercot.com](mailto:Brittney.Albracht@ercot.com) |
| **Phone Number** | 512-225-7027 |

|  |
| --- |
| Market Rules Notes |

Please note the following NPRR(s) also propose revisions to the following section(s):

* NPRR777, ERCOT-directed Dispatch of Price-Responsive Distributed Generation
  + Section 3.2.5

|  |
| --- |
| Proposed Protocol Language Revision |

3.2.3 System Adequacy Reports

(1) ERCOT shall publish system adequacy reports to assess the adequacy of Resources and Transmission Facilities to meet the projected Demand. ERCOT shall provide reports on a system-wide basis and by Forecast Zone, where applicable.

(2) ERCOT shall generate and post a “Medium-Term System Adequacy Report” on the MIS Secure Area. ERCOT shall update the report monthly using the latest aggregate Generation Resource capacity and Load Resource capacity. The data will be provided for each week, starting with the second week, of a rolling 36-month period. The Medium-Term System Adequacy Report will provide:

(a) Generation Resource capacity at the time of forecasted weekly peak Demand;

(b) Load Resource capacity at the time of the forecasted weekly peak Demand;

(c) Weekly peak forecast Demand described in Section 3.2.2, Demand Forecasts;

(d) Calculated system reserve, highlighting any deficiency hours, that excludes Load Resource capacity;

(e) Calculated system reserve, highlighting any deficiency hours, that includes Load Resource capacity shown as a reduction in forecast Demand;

(f) Ancillary Service requirements; and

(g) Transmission constraints that have a high probability of being binding in the Security-Constrained Economic Dispatch (SCED) or Day-Ahead Market (DAM) given the forecasted system conditions for each week excluding the effects of any transmission or Resource Outages.

(3) ERCOT shall generate and post short-term adequacy reports on the MIS Public Area. ERCOT shall update these reports hourly following updates to the Seven-Day Load Forecast, except where noted otherwise. The short-term adequacy reports will provide:

(a) For Generation Resources, the available On-Line Resource capacity for each hour, using the COP for the first seven days;

(b) ERCOT shall post a total system-wide capacity of Resource Outages as reflected in the Outage Scheduler that are accepted or approved. The Resource Outage capacity amount shall be based from each Resource’s current Seasonal High Sustained Limit (HSL) and posted each hour for the top of each Operating Hour for the next 168 hours. The information provided by ERCOT shall be aggregated on a system-wide basis separating IRRs from other Resources, and shall include no specific Resource information, and will exclude Outages related to Mothballed Generation Resources;

(c) For Load Resources, the available capacity for each hour using the COP;

(d) Forecast Demand for each hour described in Section 3.2.2;

(e) Ancillary Service requirements for the Operating Day and subsequent days, updated daily;

(f) Transmission constraints that have a high probability of being binding in SCED or DAM given the forecasted system conditions for each week including the effects of any transmission or Resource Outages. The binding constraints may not be updated every hour; and

(g) For Generation Resources, the available Off-Line Resource capacity that can be started for each hour, using the COP for the first seven days.

3.2.5 Publication of Resource and Load Information

(1) Two days after the applicable Operating Day, ERCOT shall post on the MIS Public Area for the ERCOT System and, if applicable, for each Disclosure Area, the information derived from the first complete execution of SCED in each 15-minute Settlement Interval. The Disclosure Area is the 2003 ERCOT Congestion Management Zones. Posting requirements will be applicable to Generation Resources and Controllable Load Resources physically located in the defined Disclosure Area. This information shall not be posted if the posting of the information would reveal any individual Market Participant’s Protected Information. The information posted by ERCOT shall include:

(a) An aggregate energy supply curve based on non-IRR Generation Resources with Energy Offer Curves that are available to SCED. The energy supply curves will be calculated beginning at the sum of the Low Sustained Limits (LSLs) and ending at the sum of the HSLs for non-IRR Generation Resources with Energy Offer Curves, with the dispatch for each Generation Resource constrained between the Generation Resource’s LSL and HSL. The result will represent the ERCOT System energy supply curve economic dispatch of the non-IRR Generation Resources with Energy Offer Curves at various pricing points, not taking into consideration any physical limitations of the ERCOT System;

(b) An aggregate energy supply curve based on Wind-powered Generation Resources (WGRs) with Energy Offer Curves that are available to SCED. The energy supply curves will be calculated beginning at the sum of the LSLs and ending at the sum of the HSLs for WGRs with Energy Offer Curves, with the dispatch for each WGR constrained between the WGR’s LSL and HSL. The result will represent the ERCOT System energy supply curve economic dispatch of the WGRs with Energy Offer Curves at various pricing points, not taking into consideration any physical limitations of the ERCOT System;

(c) An aggregate energy supply curve based on PhotoVoltaic Generation Resources (PVGRs) with Energy Offer Curves that are available to SCED. The energy supply curves will be calculated beginning at the sum of the LSLs and ending at the sum of the HSLs for PVGRs with Energy Offer Curves, with the dispatch for each PVGR constrained between the PVGR’s LSL and HSL. The result will represent the ERCOT System energy supply curve economic dispatch of the PVGRs with Energy Offer Curves at various pricing points, not taking into consideration any physical limitations of the ERCOT System;

(d) The sum of LSLs, sum of Output Schedules, and sum of HSLs for Generation Resources without Energy Offer Curves;

(e) The sum of the Base Points, High Ancillary Service Limit (HASL) and Low Ancillary Service Limit (LASL) of non-IRR Generation Resources with Energy Offer Curves, sum of the Base Points, HASL and LASL of WGRs with Energy Offer Curves, sum of the Base Points, HASL and LASL of PVGRs with Energy Offer Curves, and the sum of the Base Points, HASL and LASL of all remaining Generation Resources dispatched in SCED;

(f) The sum of the telemetered Generation Resource net output used in SCED; and

(g) An aggregate energy Demand curve based on the Real-Time Market (RTM) Energy Bid curves available to SCED. The energy Demand curve will be calculated beginning at the sum of the Low Power Consumptions (LPCs) and ending at the sum of the Maximum Power Consumptions (MPCs) for Controllable Load Resources with RTM Energy Bids, with the dispatch for each Controllable Load Resource constrained between the Controllable Load Resource’s LPC and MPC. The result will represent the ERCOT System Demand response capability available to SCED of the Controllable Load Resources with RTM Energy Bids at various pricing points, not taking into consideration any physical limitations of the ERCOT System.

(2) Two days after the applicable Operating Day, ERCOT shall post on the MIS Public Area for the ERCOT System the following information derived from the first complete execution of SCED in each 15-minute Settlement Interval:

(a) Each telemetered Dynamically Scheduled Resource (DSR) Load, and the telemetered DSR net output(s) associated with each DSR Load; and

(b) The actual ERCOT Load as determined by subtracting the Direct Current Tie (DC Tie) Resource actual telemetry from the sum of the telemetered Generation Resource net output as used in SCED.

(3) Two days after the applicable Operating Day, ERCOT shall post on the MIS Public Area the following information for the ERCOT System and, if applicable, for each Disclosure Area from the DAM for each hourly Settlement Interval:

(a) An aggregate energy supply curve based on all energy offers that are available to the DAM, not taking into consideration Resource Startup Offer or Minimum-Energy Offer or any physical limitations of the ERCOT System. The result will represent the energy supply curve at various pricing points for energy offers available in the DAM;

(b) Aggregate minimum energy supply curves based on all Minimum-Energy Offers that are available to the DAM;

(c) An aggregate energy Demand curve based on the DAM Energy Bid curves available to the DAM, not taking into consideration any physical limitations of the ERCOT System;

(d) The aggregate amount of cleared energy bids and offers including cleared Minimum-Energy Offer quantities;

(e) The aggregate Ancillary Service Offers (prices and quantities) in the DAM, for each type of Ancillary Service regardless of a Resource’s On-Line or Off-Line status. For Responsive Reserve (RRS) Service, ERCOT shall separately post aggregated offers from Generation Resources, Controllable Load Resources, and non-Controllable Load Resources. Linked Ancillary Service Offers will be included as non-linked Ancillary Service Offers;

(f) The aggregate Self-Arranged Ancillary Service Quantity, for each type of service, by hour;

(g) The aggregate amount of cleared Ancillary Service Offers; and

(h) The aggregate Point-to-Point (PTP) Obligation bids (not-to-exceed price and quantities) for the ERCOT System and the aggregate PTP Obligation bids that sink in the Disclosure Area for each Disclosure Area.

(4) ERCOT shall post on the MIS Public Area the following information for each Resource for each 15-minute Settlement Interval 60 days prior to the current Operating Day:

(a) The Generation Resource name and the Generation Resource’s Energy Offer Curve (prices and quantities):

(i) As submitted;

(ii) As submitted and extended (or truncated) with proxy Energy Offer Curve logic by ERCOT to fit to the operational HSL and LSL values that are available for dispatch by SCED; and

(iii) As mitigated and extended for use in SCED, including the Incremental and Decremental Energy Offer Curves for DSRs;

(b) The Generation Resource name and the Generation Resource’s Output Schedule;

(c) For a DSR, the DSR Load and associated DSR name and DSR net output;

(d) The Generation Resource name and actual metered Generation Resource net output;

(e) The self-arranged Ancillary Service by service for each QSE;

(f) The following Generation Resource data using a single snapshot during the first SCED execution in each Settlement Interval:

(i) The Generation Resource name;

(ii) The Generation Resource status;

(iii) The Generation Resource HSL, LSL, HASL, LASL, High Dispatch Limit (HDL), and Low Dispatch Limit (LDL);

(iv) The Generation Resource Base Point from SCED;

(v) The telemetered Generation Resource net output used in SCED;

(vi) The Ancillary Service Resource Responsibility for each Ancillary Service; and

(vii) The Generation Resource Startup Cost and minimum energy cost used in the Reliability Unit Commitment (RUC); and

(g) The following Load Resource data using a single snapshot during the first SCED execution in each Settlement Interval:

(i) The Load Resource name;

(ii) The Load Resource status;

(iii) The Maximum Power Consumption (MPC for a Load Resource);

(iv) The Low Power Consumption (LPC for a Load Resource);

(v) The telemetered real power consumption; and

(vi) The Ancillary Service Resource Responsibility for each Ancillary Service.

(5) If any Real-Time Locational Marginal Price (LMP) exceeds 50 times the Fuel Index Price (FIP) during any 15-minute Settlement Interval for the applicable Operating Day, ERCOT shall post on the MIS Public Area the portion of any Generation Resource’s as-submitted and as-mitigated and extended Energy Offer Curve that is at or above 50 times the FIP for each 15-minute Settlement Interval seven days after the applicable Operating Day.

(6) ERCOT shall post on the MIS Public Area the offer price and the name of the Entity submitting the offer for the highest-priced offer selected or Dispatched by SCED 48 hours after the end of the applicable Operating Day. If multiple Entities submitted the highest-priced offers selected, all Entities shall be identified on the MIS Public Area.

(7) ERCOT shall post on the MIS Public Area the bid price and the name of the Entity submitting the bid for the highest-priced bid selected or Dispatched by SCED 48 hours after the end of the applicable Operating Day. If multiple Entities submitted the highest-priced bids selected, all Entities shall be identified on the MIS Public Area.

(8) ERCOT shall post on the MIS Public Area the offer price and the name of the Entity submitting the offer for the highest-priced Ancillary Service Offer selected for each Ancillary Service 48 hours after the end of the applicable Operating Day. If multiple Entities submitted the highest-priced offers selected, all Entities shall be identified on the MIS Public Area.

(9) ERCOT shall post on the MIS Public Area for each Operating Day the following information for each Resource:

(a) The Resource name;

(b) The names of the Entities providing information to ERCOT;

(c) The names of the Entities controlling each Resource. ERCOT shall determine whether the Entity is in control of each Resource in accordance with subsection (e) of P.U.C. Subst. R. 25.502, Pricing Safeguards in Markets Operated by the Electric Reliability Council of Texas; and

(d) Flag for Reliability Must-Run (RMR) Resources.

(10) ERCOT shall post on the MIS Public Area the following information from the DAM for each hourly Settlement Interval for the applicable Operating Day 60 days prior to the current Operating Day:

(a) The Generation Resource name and the Generation Resource’s Three-Part Supply Offer (prices and quantities), including Startup Offer and Minimum-Energy Offer, available for the DAM;

(b) For each Settlement Point, individual DAM Energy-Only Offer Curves available for the DAM and the name of the QSE submitting the offer;

(c) The Resource name and the Resource’s Ancillary Service Offers available for the DAM;

(d) For each Settlement Point, individual DAM Energy Bids available for the DAM and the name of the QSE submitting the bid;

(e) For each Settlement Point, individual PTP Obligation bids available to the DAM that sink at the Settlement Point and the QSE submitting the bid;

(f) The awards for each Ancillary Service from DAM for each Generation Resource;

(g) The awards for each Ancillary Service from DAM for each Load Resource;

(h) The award of each Three-Part Supply Offer from the DAM and the name of the QSE receiving the award;

(i) For each Settlement Point, the award of each DAM Energy-Only Offer from the DAM and the name of the QSE receiving the award;

(j) For each Settlement Point, the award of each DAM Energy Bid from the DAM and the name of the QSE receiving the award; and

(k) For each Settlement Point, the award of each PTP Obligation bid from the DAM that sinks at the Settlement Point, including whether or not the PTP Obligation bid was Linked to an Option, and the QSE submitting the bid.

5.1 Introduction

(1) Transmission security analysis and Reliability Unit Commitment (RUC) are used to ensure ERCOT System reliability and to ensure that enough Resource capacity, in addition to Ancillary Service capacity, is committed in the right locations to reliably serve the forecasted Load on the ERCOT System including Direct Current Tie (DC Tie) Load that has not been curtailed.

(2) ERCOT shall conduct at least one Day-Ahead RUC (DRUC) and at least one Hourly RUC (HRUC) before each hour of the Operating Day. ERCOT, in its sole discretion, may conduct a RUC at any time to evaluate and resolve reliability issues.

(3) The DRUC must be run after the close of the Day-Ahead Market (DAM).

(4) The DRUC uses Three-Part Supply Offers, capped at the maximum of generic or verifiable minimum energy and Startup Costs, submitted before the DAM by Qualified Scheduling Entities (QSEs) that were considered in the DAM but not awarded in the DAM. A QSE may not submit a Three-Part Supply Offer to be considered in the DRUC unless the offer was also submitted for consideration in the DAM.

(5) ERCOT must initiate the HRUC process at least one hour before the Operating Hour to fine-tune the Resource commitments using updated Load forecasts and updated Outage information.

(6) The RUC Study Period for DRUC is the next Operating Day. The RUC Study Period for HRUC is the balance of the current Operating Day plus the next Operating Day if the DRUC for the Operating Day has been solved.

(7) HRUC may decommit Resources only to maintain the reliability of the ERCOT System.

(8) For each RUC Study Period, the RUC considers capacity requirements for each hour of the RUC Study Period with the objective of minimizing costs based on Three-Part Supply Offers and while substituting a proxy Energy Offer Curve for the Energy Offer Curve. The proxy Energy Offer Curve is calculated in a way that minimizes the effect of the proxy Energy Offer Curves on optimization.

(9) The calculated Resource commitments arising from each RUC process, and a list of Off-Line Available Resources having a start-up time of one hour or less, must be reviewed by ERCOT before issuing Dispatch Instructions to QSEs to commit, extend, or decommit Resources.

(10) The Security Sequence is a set of prerequisite processes for RUC that describes the key system components and inputs that are required to support the RUC process, the RUC process itself, and the ERCOT review of the Resource commitment recommendations made by the RUC process.

(11) The RUC process may not be used to buy Ancillary Service unless the Ancillary Service Offers submitted in the DAM are insufficient to meet the requirements of the Ancillary Service Plan.

(12) After the use of market processes to the fullest extent practicable without jeopardizing the reliability of the ERCOT System, any ERCOT Dispatch Instructions for additional capacity that order a QSE to commit a specific Generation Resource to be On-Line shall be considered a RUC Dispatch for the purpose of the Settlement of payments and charges related to the committed Generation Resource. An Operating Condition Notice (OCN), Advisory, Watch, or Emergency Notice requesting the available capacity of any currently available Generation Resources but not naming specific Generation Resources is not considered a RUC Dispatch for purposes of Settlement.

(13) ERCOT shall post on the Market Information System (MIS) Certified Area, for each Off-Line Generation Resource that may be selected by an HRUC process, the current time since the Generation Resource last went Off-Line (in hours) and the corresponding start-up times ERCOT is using for each such Off-Line Generation Resource. The time since the Generation Resource last went Off-Line and start-up times shall be updated at least hourly.

(14) Prior to 1330 in the Day-Ahead, ERCOT may issue a Weekly Reliability Unit Commitment (WRUC) Verbal Dispatch Instruction (VDI) to inform a QSE that a Resource is required to be On-Line for all or part of a future Operating Day. Following the receipt of a WRUC:

(a) The QSE may self-commit the Resource for the WRUC-instructed hours by updating the Resource’s Current Operating Plan (COP) to reflect the appropriate On-Line Resource Status for the WRUC-instructed hours prior to the DRUC process execution for the associated Operating Day. Resources that have been self-committed by a QSE in accordance with a WRUC:

(i) May have a Three-Part Supply Offer submitted into the DAM, and any of the WRUC-instructed hours in which the Three-Part Supply Offer is awarded in the DAM become DAM-Committed Intervals for the Resource and are settled accordingly; and

(ii) Will not be issued a RUC commitment for the WRUC-instructed hours that were self-committed or DAM-committed.

(b) ERCOT will commit the Resource as part of the DRUC process for the relevant Operating Day for all WRUC-instructed hours not DAM-committed or QSE self-committed. For all purposes, including RUC Settlement, the Resource will be considered as committed by the DRUC for these hours.