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| NPRR Number | [1118](https://www.ercot.com/mktrules/issues/NPRR1118) | NPRR Title | Clarifications to the OSA Process |
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| Date | June 13, 2022 |
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| Submitter’s Information |
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| Cell Number |  |
| Market Segment | Not applicable |

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| Comments |

ERCOT staff appreciates the opportunity to submit comments to Nodal Protocol Revision Request (NPRR) 1118 to address additional items that came to light during the recent Outage Scheduler Adjustment (OSA) activity.

First, language related to a Qualified Scheduling Entity’s (QSE’s) obligation to submit an Energy Offer Curve at a price of $4,500/MWh is updated to state that the $4,500/MWh should be the price for all MW levels between 0 MW and High Sustained Limit (HSL), as oppose to just MW levels above Low Sustained Limit (LSL). This change is in alignment with the automated OSA Energy Offer Curve process that was approved but has not yet been implemented and will ensure that the Real-Time On-Line Reliability Deployment Price Adder outcomes are as expected, where the full capacity of the OSA Resource that received a Reliability Unit Commitment (RUC) instruction is accounted for.

Second, language is added to state that a QSE may not have a Three-Part Supply Offer offered into in the Day-Ahead Market (DAM) for the Resource for any hour in an OSA Period, in addition to not being able to opt out of RUC Settlement. When the OSA process was designed, the policy decision was that a QSE would not be allowed to opt an OSA Resource out of RUC Settlement. However, the current system design treats Resources that have a Three-Part Supply Offer cleared in the DAM as if they had opted out of RUC Settlement (if a RUC is issued for the same hour). ERCOT Staff believes this additional prohibition is appropriate to ensure that treatment of the Resource is consistent and in alignment with the original design.

Third, ERCOT provides clarification on the Settlement treatment of Resources during the OSA Period. Specifically, if a Resource is issued one or more RUC instructions during the OSA Period, the RUC Guarantee for the OSA Period is allocated to the hours of the RUC instructions. For a Resource without a RUC instruction during the OSA Period, ERCOT creates RUC instructions for all hours of the OSA Period for Settlement purposes only. The created RUC instructions will be assigned to the first RUC process of each Operating Day. This is done to ensure that all OSA Period costs incurred and costs of RUC instructions are allocated to capacity short QSEs, as required by Protocols.

Fourth, ERCOT provides additional clarification in how the OSA Make-Whole Cost (OSAMW) is calculated to provide market transparency.

Finally, ERCOT provides additional clarification in how ERCOT will issue a RUC instruction for the Resource intends to leave the Resource On-Line. Also, a change is added to clarify the required information provided to ERCOT if a specific Resource cannot be considered for an OSA.

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| Revised Cover Page Language |

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| Nodal Protocol Sections Requiring Revision  | 3.1.6.9, Withdrawal of Approval or Acceptance and Rescheduling of Approved or Accepted Planned Outages of Resource Facilities5.6.5.2, RUC Make-Whole Payment and RUC Clawback Charge for Resources Receiving OSAs |
| Revision Description | This Nodal Protocol Revision Request (NPRR) clarifies the Outage Schedule Adjustment (OSA) process based on lessons learned from performing this process during 2021, as well as other factors. The first set of changes improves the terminology and clarifies the process for issuing Advanced Action Notices (AANs) and OSAs. These changes include the following:* Change the “planning assessment” terminology in paragraph (7) to be the “preliminary Outage Adjustment Evaluation (OAE)” and any updates to this analysis to be an “updated OAE”;
* Change the time reference used in several places from “the time at which the OAE will be performed” to “the time at which an OSA may be issued”;
* Consolidate the requirements for Qualified Scheduling Entities (QSEs) to provide or update information related to the AAN into paragraph (2);
* Modify the source that ERCOT uses to check for whether a unit is on Outage from the unit’s Current Operating Plan (COP) to the Outage Scheduler, due to inaccuracy of COPs more than approximately one day in advance; and
* Require ERCOT to make a discrete notification that ERCOT will be issuing OSAs and clarify that once this notification is provided, the QSE for any Resource cannot modify a Planned Outage during the period covered by the AAN and is subject to the issuance of an OSA.

The second set of changes clarify offer submission and Reliability Unit Commitment (RUC) procedures after an OSA is issued. These changes include the following:* The Energy Offer Curve floor for an OSA Resource must be set to Low System-Wide Offer Cap (LCAP) when the LCAP is effect.
* The Energy Offer Curve floor applies to all OSA Resources whether the Resource is On-Line or not and should apply to the full capacity of the Resource from zero the High-Sustained Limit (HSL) of the Resource.
* An OSA Resource will receive a RUC instruction irrespective of whether it chooses to be On-Line or ERCOT requires it to be On-Line during an OSA period. This ensures accurate pricing outcomes in terms of the Reliability Deployment Price Adder.
* Further clarification that an OSA Resource cannot opt out of a RUC instruction and must telemeter an ONRUC status while On-Line during the OSA period. To keep this a no-impact NPRR, ERCOT wants to clarify that a Resource receiving an OSA due to a planned derate will receive a RUC instruction. This means that the Resource will: (i) have its full limits considered in the calculation of the Real-Time Reliability Deployment Price Adder, (ii) have the same Energy Offer Curve requirements as a non-derate OSA Resource; (iii) be treated as a RUC Resource in terms of the calculation of the Real-Time Online Price Adder; and (iv) will be treated as a RUC Resource in terms of Settlement.
* Language is added to state that a QSE may not have a Three-Part Supply Offer offered into in the Day-Ahead Market (DAM) for the Resource for any hour in an OSA period, in addition to not being able to opt out of RUC Settlement
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| Business Case | This NPRR provides clarity to the AAN and OSA processes, including the Energy Offer Curve floor application and issuance of RUC during the OSA period. |

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| Market Rules Notes |

Please note that the baseline language in the following section(s) has been updated to reflect the incorporation of the following NPRR(s) into the Protocols:

* NPRR1108, ERCOT Shall Approve or Deny All Resource Planned Outage Requests (incorporated 6/1/22)
	+ Section 3.1.6.9

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| Revised Proposed Protocol Language |

**3.1.6.9 Withdrawal of Approval or Acceptance and Rescheduling of Approved or Accepted Planned Outages of Resource Facilities**

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| ***[NPRR1108: Replace Section 3.1.6.9 title above with the following upon system implementation:]*****3.1.6.9 Withdrawal of Approval and Rescheduling of Approved Planned Outages of Resource Facilities** |

(1) If ERCOT believes it cannot meet applicable reliability standards and has exercised all other reasonable options, and any actions taken pursuant to Section 3.1.4.6, Outage Coordination of Potential Transmission Emergency Conditions, have not resolved the situation, then ERCOT shall conduct a preliminary Outage Adjustment Evaluation (OAE) and issue an Advance Action Notice (AAN) pursuant to Section 6.5.9.3.1.1, Advance Action Notice.

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| ***[NPRR1108: Replace paragraph (1) above with the following upon system implementation:]***(1) If ERCOT believes it cannot meet applicable reliability standards and has exercised all other reasonable options, and any actions taken pursuant to Section 3.1.4.6, Outage Coordination of Potential Transmission Emergency Conditions, have not resolved the situation, then ERCOT shall conduct a preliminary Outage Adjustment Evaluation (OAE) and issue an Advance Action Notice (AAN) pursuant to Section 6.5.9.3.1.1, Advance Action Notice. |

(a) The AAN shall describe the reliability problem, the date and time that the possible Emergency Condition would begin, the date and time that the possible Emergency Condition would end, and a summary of the actions ERCOT believes it might take, including, if applicable, the amount of capacity it would seek from one or more OSAs based on the preliminary OAE. The AAN must state the earliest time at which ERCOT will issue OSAs, if an OSA is deemed necessary.

(b) ERCOT shall issue the AAN a minimum of 24 hours prior to issuing any OSA. Additionally, unless impracticable pursuant to paragraph (3)(f) below, OSAs should not be issued until eight Business Hours have elapsed following issuance of the AAN. ERCOT shall not issue an OSA under this Section unless it has first completed an updated OAE after these time periods have passed.

(c) Following the AAN, ERCOT may communicate with Market Participants about the reliability problem, however, ERCOT may not provide information about market conditions to a subset of Market Participants that is not generally available to all Market Participants.

(d) As conditions change, ERCOT shall, to the extent practicable, update the AAN in order to provide simultaneous notice to Market Participants.

(e) This section does not limit Transmission and/or Distribution Service Provider (TDSP) access to ERCOT data and communications.

(2) Before the time stated in the AAN when ERCOT will issue any OSAs, each QSE shall:

(a) Update its Resource COPs and the Outage Scheduler to the best of its ability to reflect any decisions to voluntarily delay or cancel any Outage so as to remove the Outage from updated OAE and OSA consideration;

(b) Notify ERCOT if a specific Resource cannot be considered for an OSA, for all or part of the period covered by the AAN, due to Resource reliability, compliance with contractual warranty obligations, or other reasons beyond the Resource’s control; and

(c) Notify ERCOT of any Resource that is currently on Outage that the QSE agrees could be returned to service, upon receipt of an OSA, for all or part of the period covered by the AAN.

(3) If, after the earliest OSA issuance time has passed as noted in paragraph (1)(b) above, ERCOT continues to forecast an inability to meet applicable reliability standards after the updates to the Resource COPs and Outage Schedules, ERCOT may issue one or more OSAs.

(a) ERCOT may contact QSEs representing Resources for more information prior to conducting any updated OAE or issuing an OSA.

(b) ERCOT may not consider nuclear-powered Generation Resources for an OSA.

(c) ERCOT will not consider any Resource for an OSA if the Resource’s QSE notified ERCOT prior to the earliest issuance time of any OSA stated in the AAN that the Resource cannot be considered for an OSA for the reasons specified in paragraph (2)(b) above.

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| ***[NPRR1108: Replace paragraph (c) above with the following upon system implementation:]***(c) ERCOT will not consider any Resource for an OSA if the Resource’s QSE notified ERCOT prior to the earliest issuance time of any OSA stated in the AAN that the Resource cannot be considered for an OSA for the reasons specified in paragraph (2)(b) above. |

(d) In order to determine which Outages to delay, ERCOT shall first consider the Outage duration, dividing the Outages in categories of zero to two days, two to four days, four to seven days, or more than seven days, then withdraw approval or acceptance on a last in, first out basis within that duration category, so that shorter Outages are delayed first, and the timing of Outage submissions is considered within that category.

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| ***[NPRR1108: Replace paragraph (d) above with the following upon system implementation:]***(d) In order to determine which Outages to delay, ERCOT shall first consider the Outage duration, dividing the Outages in categories of zero to two days, two to four days, four to seven days, or more than seven days, then withdraw approval on a last in, first out basis within that duration category, so that shorter Outages are delayed first, and the timing of Outage submissions is considered within that category. |

(e) After the earliest issuance time of the OSAs stated in the AAN, if the updated OAE shows that one or more OSAs is still necessary, ERCOT shall post a message to the ERCOT website stating that it will issue one or more OSAs and shall provide verbal notice to TSPs and QSEs via the Hotline. Subsequent to this notification, and for the entire period identified in the AAN, the QSE may not voluntarily modify the Resource’s Outage, but is subject to the issuance of an OSA.

(f) ERCOT may only issue an OSA to the QSE for a Resource that has a Resource Outage in the Outage Scheduler during the timeframe of the forecasted Emergency Condition described above in this section.

(g) If the Resource Outage for which the OSA would be issued is scheduled to begin before eight Business Hours have elapsed following issuance of the AAN, ERCOT may issue the OSA prior to the beginning of the Resource Outage after the end of the 24-hour notice period.

(h) Following the receipt of an OSA, for the OSA Period: (i) The QSE for the Resource may choose to show the Resource as OFF in the COP or may elect to leave the Resource On-Line due to equipment or reliability concerns or if the Resource Category is coal or lignite. If the QSE for the Resource intends to leave the Resource On-Line, it must communicate to the ERCOT control room the anticipated start and end time of the On-Line period. ERCOT will issue one or multiple RUC instructions to the QSE of the Resource for the anticipated On-Line period within the OSA Period for each Operating Day. While On-Line, the Resource must utilize a status of ONRUC and cannot opt out of RUC Settlement;

(ii) If the Resource remains On-Line pursuant to paragraph (i) above, it must remain at Low Sustained Limit (LSL) unless deployed above LSL by Security-Constrained Economic Dispatch (SCED);

(iii) If the Resource has a COP Resource Status of OFF at any point during the OSA Period, and ERCOT requires the Resource to be On-Line, or if ERCOT requires a Resource with a planned derate to maintain its capacity, ERCOT will issue a RUC instruction to the Resource’s QSE for the required commitment period. While On-Line, the Resource must utilize a status of ONRUC and cannot opt out of RUC Settlement;

(iv) The QSE must update the Resource’s Energy Offer Curve to $4,500/MWh for all MW levels from 0 MW to the High Sustained Limit (HSL) when HCAP is in effect. If LCAP is in effect, the QSE must update the Resource’s Energy Offer Curve equal to LCAP for all MW levels from 0 MW to HSL; and

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| ***[NPRR930: Replace paragraph (iv) above with the following upon system implementation:]***(iv) ERCOT shall create proxy Energy Offer Curves for the Resource under paragraph (4)(d)(iii) of Section 6.5.7.3, Security Constrained Economic Dispatch; and  |

(v) The QSE for the Resource cannot submit a Three Part Supply Offer into the Day-Ahead Market (DAM) for any Operating Day during the OSA Period.

(4) ERCOT shall work in good faith with the QSEs to reschedule any delayed or canceled Outages resulting from an AAN under paragraph (1) above, regardless of whether the Resource took voluntary actions or received an OSA. The Outage must be rescheduled so that it is completed within 120 days of the end of the OSA Period.

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| ***[NPRR1108: Replace paragraph (4) above with the following upon system implementation:]***(4) ERCOT shall work in good faith with the QSEs to reschedule any delayed or canceled Outages resulting from an AAN under paragraph (1) above, regardless of whether the Resource took voluntary actions or received an OSA. The Outage must be rescheduled so that it is completed within 120 days of the end of the OSA Period. ERCOT, in its sole discretion, may approve any Outage that is rescheduled due to an AAN or OSA even if it would cause the aggregate MW of approved Resource Outages to exceed the Maximum Daily Resource Planned Outage Capacity. |

(a) If ERCOT issues an OSA, the QSE may submit a new request for approval of the Planned Outage schedule, however the new Outage may not begin prior to the end time of the OSA Period.

(b) If a transmission Outage was scheduled in coordination with a Resource Outage that is delayed, ERCOT shall also delay that transmission Outage when necessary.

(5) If insufficient capacity to meet the need described in the AAN is made available through the processes described in paragraphs (2) and (3) above, ERCOT may contact QSEs with Resources that are currently on Outage in the Outage Scheduler and that the QSE has agreed could be returned to service upon receipt of an OSA. ERCOT may issue an OSA to the QSE for any Resource that the QSE agrees can feasibly be returned to service during the period of the possible Emergency Condition described in the AAN.

(6) If system conditions change such that the need described in the AAN increases, ERCOT shall update the AAN and may repeat the process described in this section. For any subsequent iterations of this process, ERCOT shall issue the updated AAN with as much lead time as is practical prior to starting any subsequent OAE, but with a minimum of two hours’ notice.

(7) The preliminary OAE may not assume total renewable production lower than the sum of the selected Wind-powered Generation Resource Production Potential (WGRPP) and PhotoVoltaic Generation Resource Production Potential (PVGRPP) forecasts for each hour less any reasonably expected severe weather impacts. The available capacity in ERCOT’s planning assessment must include targeted reserve levels and include forecasted capacity available through DC Tie imports or curtailment of DC Tie exports, forecasted capacity provided from Settlement Only Distributed Generators (SODGs) and Settlement Only Transmission Generators (SOTGs), and forecasted capacity from price-responsive Demand based on information reported to ERCOT in accordance with Section 3.10.7.2.1, Reporting of Demand Response. ERCOT must post the following inputs to the preliminary OAE to the ERCOT website within an hour of issuing an AAN, including but not limited to:

(a) The Load forecast;

(b) Load forecast vendor selection;

(c) Wind forecast;

(d) Wind forecast vendor selection;

(e) Solar forecast;

(f) Solar forecast vendor selection;

(g) Expected severe weather impacts forecast;

(h) Targeted reserve levels;

(i) DC Tie import forecast;

(j) DC Tie export curtailment forecast;

(k) SODG and SOTG forecasts;

(l) The forecast of capacity provided by price-responsive Demand;

(m) Any aggregate derating of Resource(s) and/or Forced Outage assumptions in total MWs; and

(n) Any aggregate fuel derating assumptions in total MWs.

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| ***[NPRR995: Replace paragraph (7) above with the following upon system implementation:]***(7) The preliminary OAE may not assume total renewable production lower than the sum of the selected Wind-powered Generation Resource Production Potential (WGRPP) and PhotoVoltaic Generation Resource Production Potential (PVGRPP) forecasts for each hour less any reasonably expected severe weather impacts. The available capacity in ERCOT’s a preliminary OAE must include targeted reserve levels and include forecasted capacity available through DC Tie imports or curtailment of DC Tie exports, forecasted capacity provided from Settlement Only Distributed Generators (SODGs), Settlement Only Transmission Generators (SOTGs), Settlement Only Distribution Energy Storage Systems (SODESSs), and Settlement Only Transmission Energy Storage Systems (SOTESSs), and forecasted capacity from price-responsive Demand based on information reported to ERCOT in accordance with Section 3.10.7.2.1, Reporting of Demand Response. ERCOT must post the following inputs to the preliminary OAE to the ERCOT website within an hour of issuing an AAN, including but not limited to:(a) The Load forecast; (b) Load forecast vendor selection;(c) Wind forecast;(d) Wind forecast vendor selection;(e) Solar forecast;(f) Solar forecast vendor selection;(g) Expected severe weather impacts forecast;(h) Targeted reserve levels;(i) DC Tie import forecast;(j) DC Tie export curtailment forecast;(k) SODG, SOTG, SODESS, and SOTESS forecasts; (l) The forecast of capacity provided by price-responsive Demand;(m) Any aggregate derating of Resource(s) and/or Forced Outage assumptions in total MWs; and(n) Any aggregated fuel derating assumptions in total MWs. |

(8) Notwithstanding anything in this Section, ERCOT need not comply with any other requirement in this Section if the occurrence of an unforeseen Real-Time condition requires that ERCOT withdraw approval of one or more Resource Outages in order to meet applicable reliability standards. The unforeseen Real-Time condition cannot be the result of changes that Ancillary Services are procured to address. In exercising its discretion under this paragraph, ERCOT is not required to issue an AAN or OAE before issuing an OSA, but shall:

(a) Issue the OSA to the QSE of the Resource for the purpose of make whole compensation; and

(b) Present the justification for the out of market action to the Technical Advisory Committee (TAC) at its next meeting that is at least 14 Business Days after the OSA.

5.6.5.2 RUC Make-Whole Payment and RUC Clawback Charge for Resources Receiving OSAs

(1) To compensate QSEs representing Resources that submitted a timely Settlement and billing dispute, ERCOT shall calculate a RUC Guarantee for an Operating Day for the OSA Period to be used in the RUC Settlements process andallocated to each RUC instructed Operating Hour as follows:

(a) For a Resource with RUC instructions issued for hours during the OSA Period, the RUC Guarantee calculated for the RUC-Committed Hours shall include the following:

(i) Eligible Startup costs per Section 5.6.2, RUC Startup Cost Eligibility;

(ii) Minimum-energy costs;

(iii) 10% of both Startup costs and minimum-energy costs; and

(iv) Approved net financial loss as defined in Section 5.6.5.1, Make-Whole Payment for Canceled or Delayed Outages for OSAs.

(b) For a Resource without RUC Instructions issued for hours during the OSA Period, ERCOT shall create RUC instructions for all hours of the OSA Period for Settlement purposes only. The created RUC instructions will be assigned to the first RUC process of each Operating Day. The RUC Guarantee shall include only the following:

(i) Approved net financial loss as defined in Section 5.6.5.1.

(c) For a Resource that rescheduled an Outage within 120 days of the end of the OSA Period under paragraph (4) of Section 3.1.6.9, Withdrawal of Approval or Acceptance and Rescheduling of Approved or Accepted Planned Outages of Resource Facilities, the RUC Guarantee determined in paragraphs (a) and (b) above must include an OSA Make-Whole Cost (OSAMW), calculated for the same corresponding OSA Period hours, when the Outage is rescheduled due to the OSA, starting with the first day of the rescheduled Outage period. The OSAMW calculated for the rescheduled Outage hours shall be allocated to the corresponding RUC instructed hours, in paragraphs (a) or (b) above, on a day-by-day basis. The OSAMW shall be calculated as follows:

OSAMW *q, r, d* = (Max (0, (RTSPP – MOC *q, r, h*)) \* HSL *q, r, h* \* (¼))

The above variables are defined as follows:

| **Variable** | **Unit** | **Definition** |
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| OSAMW *q, r, d*  | $ | OSA Make-Whole Cost—The OSA Make-Whole cost for Resource *r* represented by QSE *q* during the eligible rescheduled Outage Hours, for the Operating Day *d*. When one or more Combined Cycle Generation Resources receive an OSA, the Make-Whole cost is calculated for the Combined Cycle Train for the OSA Period. |
| RTSPP | $/MWh | Real-Time Settlement Point Price—The Real-Time Settlement Point Price at the Settlement Point for the 15-minute Settlement Interval of an eligible rescheduled Outage Hour. |
| MOC *q, r, h* | $/MWh | Mitigated Offer Cap per Resource—The MOC for Resource *r* represented by QSE *q*, for the eligible rescheduled Outage hour *h* at the High Sustained Limit (HSL) as submitted in the COP. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train. |
| HSL *q, r, i* | MW | High Sustained Limit—The HSL of a Generation Resource *r* represented by QSE *q* as submitted in the COP, for the hour that includes the Settlement Interval *i*. Where for a combined cycle Resource, *r* is a Combined Cycle Generation Resource. |
| *q* | none | A QSE. |
| *r* | none | A Generation Resource. |
| *d* | none | The Operating Day. |
| *h* | none | The Operating Hour.  |
| *i* | none | A 15-minute Settlement Interval within the hour. |

(2) Notwithstanding the clawback provisions described in Section 5.7.2, RUC Clawback Charge, the clawback percentage shall be set at 100%.