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| NOGRR Number | [252](https://www.ercot.com/mktrules/issues/NOGRR252) | NOGRR Title | Related to NPRR1176, Update to EEA Trigger Levels |
| Date of Decision | | July 25, 2023 | |
| Action | | Recommended Approval | |
| Timeline | | Normal | |
| Proposed Effective Date | | Upon implementation of Nodal Protocol Revision Request (NPRR) 1176, Update to EEA Trigger Levels | |
| Priority and Rank Assigned | | Not Applicable | |
| Nodal Operating Guide Sections Requiring Revision | | 4.2.2, Advisory  4.5.3, Implementation  4.5.3.1, General Procedures Prior to EEA Operations | |
| Related Documents Requiring Revision/Related Revision Requests | | NPRR1176  Section 4.5.3.3, EEA Levels | |
| Revision Description | | This Nodal Operating Guide Revision Request (NOGRR) aligns Nodal Operating Guide language with NPRR1176, which revises the Energy Emergency Alert (EEA) procedures to require a declaration of EEA Level 3 when Physical Responsive Capability (PRC) cannot be maintained above 1,500 MW and will require ERCOT to shed firm Load to recover 1,500 MW of reserves within 30 minutes, modifies the trigger levels for EEA Level 1 and EEA Level 2, changes the trigger for ERCOT’s consideration of alternative transmission ratings or configurations from Advisory to Watch when PRC drops below 3,000 MW, and restores a frequency trigger for the declaration of EEA Level 3 if the steady-state frequency drops below 59.8 Hz for any period of time. | |
| Reason for Revision | | Addresses current operational issues  Meets Strategic goals (tied to the [ERCOT Strategic Plan](http://www.ercot.com/content/wcm/lists/144926/ERCOT_Strategic_Plan_2019-2023.pdf) or directed by the ERCOT Board).  Market efficiencies or enhancements  Administrative  Regulatory requirements  Other: (explain)  *(please select all that apply)* | |
| Business Case | | This NOGRR aligns Nodal Operating Guide language with Protocol language. | |
| ROS Decision | | On 6/8/23, ROS voted to recommend approval of NOGRR252 as submitted. There was one abstention from the Independent Generator (Calpine) Market Segment. All Market Segments participated in the vote.  On 7/6/23, ROS voted unanimously to endorse and forward to TAC the 6/8/23 ROS Report and 4/25/23 Impact Analysis for NOGRR252. All Market Segments participated in the vote. | |
| Summary of ROS Discussion | | On 6/8/23, ERCOT Staff reviewed NOGRR252. Participants discussed actions in steady state versus transient state, and noted that the Operations Working Group (OWG) has reviewed NOGRR252.  On 7/6/23, there was no discussion. | |
| TAC Decision | | On 7/25/23, TAC voted unanimously to recommend approval of NOGRR252 as recommended by ROS in the 7/6/23 ROS Report. All Market Segments participated in the vote. | |
| Summary of TAC Discussion | | On 7/25/23, TAC reviewed the ERCOT Opinion, ERCOT Market Impact Statement, and Independent Market Monitor (IMM) Opinion for NOGRR252. | |

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| Opinions | |
| Credit Review | Not applicable |
| Independent Market Monitor Opinion | IMM has no opinion on NOGRR252. |
| ERCOT Opinion | ERCOT supports approval of NOGRR252. |
| ERCOT Market Impact Statement | ERCOT Staff has reviewed NOGRR252 and believes it is necessary to increase the minimum PRC level that must be maintained so that the ERCOT grid can withstand the loss up to ERCOT’s single largest contingency and not trigger Under-Frequency Load Shed (UFLS) during the operating conditions the grid typically operates with lower reserves. |

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| Market Segment | Not Applicable |

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| **Comments Received** | |
| **Comment Author** | **Comment Summary** |
| None |  |

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| **Market Rules Notes** |

Please note the baseline language in the following section(s) has been updated to reflect the incorporation of the following NOGRR(s) into the Nodal Operating Guide:

* NOGRR237, Related to NPRR1106, Deployment of Emergency Response Service (ERS) Prior to Declaration of Energy Emergency Alert (EEA) (unboxed 6/9/23)
  + Section 4.5.3.1

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| Proposed Guide Language Revision |

4.2.2 Advisory

(1) An Advisory will be issued by ERCOT in accordance with Protocol Section 6.5.9.3.2, Advisory, when it recognizes that conditions are developing or have changed such that QSE and/or TO actions may be prudent in anticipation of possible Emergency Conditions.

(2) ERCOT may require information from QSEs and TOs. Typical information requested may include, but is not limited to:

(a) Resource fuel capabilities;

(b) Resource condition details; and

(c) Actual weather conditions.







(3) ERCOT shall provide verbal notice of an Advisory to TOs and QSEs representing Resources through the TO and QSE Hotlines and shall post the message electronically to the ERCOT website. When an Advisory is issued, it does not place ERCOT in an Emergency Condition. QSEs shall notify, as appropriate, their represented QSEs, Resources, REPs and LSEs of Advisories. TOs should notify, as appropriate, their represented TSPs and DSPs of Advisories.

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| ***[NOGRR177: Replace paragraph (3) above with the following upon system implementation of NPRR857:]***  (3) ERCOT shall provide verbal notice of an Advisory to TOs and QSEs representing Resources through the TO and QSE Hotlines and shall post the message electronically to the ERCOT website. When an Advisory is issued, it does not place ERCOT in an Emergency Condition. QSEs shall notify, as appropriate, their represented QSEs, Resources, REPs, and LSEs of Advisories. TOs should notify, as appropriate, their represented TSPs, DSPs and/or DCTOs of Advisories. |

4.5.3 Implementation

(1) ERCOT shall be responsible for monitoring system conditions, initiating the EEA levels below, notifying all Qualified Scheduling Entities (QSEs) representing Resources and Transmission Operators (TOs), and coordinating the implementation of the EEA conditions while maintaining transmission security limits. QSEs and TOs will notify all the Market Participants they represent of each declared EEA level.

(2) During the EEA, ERCOT has the authority to obtain energy from non-ERCOT Control Areas using Direct Current Tie(s) (DC Tie(s)) or by using Block Load Transfers (BLTs) to move load to non-ERCOT Control Areas. ERCOT maintains the authority to curtail energy schedules flowing into or out of the ERCOT System across the DC Ties in accordance with North American Electric Reliability Corporation (NERC) scheduling guidelines.

(3) ERCOT, at management’s discretion, may at any time issue an ERCOT-wide appeal through the public news media for voluntary energy conservation.

(4) There may be insufficient time to implement all levels in sequence. ERCOT may immediately implement EEA Level 2 when clock-minute average system frequency falls below 59.91 Hz for 15 consecutive minutes. ERCOT may immediately implement Level 3 of the EEA any time the clock-minute average system frequency falls below 59.91 Hz for 20 consecutive minutes or when steady-state frequency falls below 59.8 Hz for any duration of time. ERCOT shall immediately implement Level 3 any time the steady-state frequency is below 59.5 Hz for any duration.

(5) Percentages for Level 3 Load shedding will be based on the previous year’s TSP peak Loads, as reported to ERCOT, and will be reviewed by ERCOT and modified annually.

(6) The ERCOT System Operator shall declare the EEA levels to be taken by QSEs and TSPs. QSEs and TSPs shall implement actions under that level (and all above if not previously accomplished) and if ordered by the ERCOT shift supervisor or his designate, shall report back to the ERCOT System Operator when the requested level has been completed.

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| ***[NOGRR177: Replace paragraph (6) above with the following upon system implementation of NPRR857:]***  (6) The ERCOT System Operator shall declare the EEA levels to be taken by QSEs, TSPs, and DCTOs. QSEs, TSPs, and DCTOs shall implement actions under that level (and all above if not previously accomplished) and if ordered by the ERCOT shift supervisor or his designate, shall report back to the ERCOT System Operator when the requested level has been completed. |

(7) During EEA Level 3, ERCOT must be capable of shedding sufficient firm Load to arrest frequency decay and to prevent generator tripping. The amount of firm Load to be shed may vary depending on ERCOT Transmission Grid conditions during the event. Each TSP will be capable of shedding its allocation of firm Load, without delay. The maximum time for the TSP to interrupt firm Load will depend on how much Load is to be shed and whether the Load is to be interrupted by Supervisory Control and Data Acquisition (SCADA) or by the dispatch of personnel to substations. Since the need for firm Load shed is immediate, interruption by SCADA is preferred. The following requirements apply for an ERCOT instruction to shed firm Load:

(a) Load interrupted by SCADA will be shed without delay and in a time period not to exceed 30 minutes;

(b) Load interrupted by dispatch of personnel to substations to manually shed Load will be implemented within a time period not to exceed one hour;

(c) The initial clock on the firm Load shed shall apply only to Load shed amounts up to 1000 MW total. Load shed amount requests exceeding 1000 MW on the initial clock may take longer to implement; and

(d) If, after the first Load shed instruction, ERCOT determines that an additional amount of firm Load should be shed, another clock will begin anew. The time frames mentioned above will apply.

(8) Each TSP, or its designated agent, will provide ERCOT a status report of Load shed progress within 30 minutes of the time of ERCOT’s instruction or upon ERCOT’s request.

(9) During EEA Level 2 or 3, for those constraints that meet the criteria identified in paragraph (3)(a) of Section 4.5.3.1, General Procedures Prior to EEA Operations, ERCOT may control the post-contingency flow to within the 15-Minute Rating in Security-Constrained Economic Dispatch (SCED). After Physical Responsive Capability (PRC) is restored to at least 3,000 MW or the Emergency Condition has ended, whichever is later, and ERCOT has determined that system conditions have improved such that the chance of re-entering into an EEA Level 2 or 3 is low, ERCOT shall restore control to the post-contingency flow to within the Emergency Rating for these constraints that utilized the 15-Minute Rating in SCED.

(10) During EEA Level 2 or 3, for those constraints that meet the criteria identified in paragraph (3)(b) of Section 4.5.3.1, ERCOT shall continue to enforce constraints associated with double-circuit contingencies throughout an EEA if the double-circuit failures are determined to be at high risk of occurring, due to system conditions. For all other double-circuit contingencies identified in paragraph (3)(b) of Section 4.5.3.1, ERCOT will enforce only the associated single-circuit contingencies during EEA Level 2 or 3. ERCOT shall resume enforcing such constraints as a double-circuit contingency after PRC is restored to at least 3,000 MW or the Emergency Condition has ended, whichever is later, and ERCOT has determined that system conditions have improved such that the chance of re-entering into an EEA Level 2 or 3 is low. For constraints related to stability limits that are not IROLs, ERCOT may elect not to enforce double-circuit contingencies during EEA Level 3 only.

4.5.3.1 General Procedures Prior to EEA Operations

(1) Prior to declaring EEA Level 1 detailed in Section 4.5.3.3, EEA Levels, ERCOT may perform the following operations consistent with Good Utility Practice:

(a) Provide Dispatch Instructions to QSEs for specific Resources to operate at an Emergency Base Point to maximize Resource deployment so as to increase Responsive Reserve (RRS) levels on other Resources;

(b) Commit specific available Resources as necessary that can respond in the timeframe of the emergency. Such commitments will be settled using the Hourly Reliability Unit Commitment (HRUC) process;

(c) Start Reliability Must-Run (RMR) Units available in the time frame of the emergency. RMR Units should be loaded to full capability;

(d) Utilize available Resources providing RRS, ERCOT Contingency Reserve Service (ECRS), and Non-Spinning Reserve (Non-Spin) services as required;

(e) Instruct TSPs and Distribution Service Providers (DSPs) or their agents to reduce Customer Load by using existing, in-service distribution voltage reduction measures if ERCOT determines that the implementation of these measures could help avoid entering into EEA and ERCOT does not expect to need to use these measures to reduce the amount of Load shedding that may be needed in EEA Level 3. A TSP, DSP, or their agent shall implement these instructions if distribution voltage reduction measures are available and already installed. If the TSP, DSP, or their agent determines in their sole discretion that the distribution voltage reduction would adversely affect reliability, the voltage reduction measure may be reduced, modified, or otherwise changed from maximum performance to a level of exercise that has no negative impact to reliability; and

(f) ERCOT shall use the PRC and system frequency to determine the appropriate Emergency Notice and EEA levels.

(2) When PRC falls below 3,000 MW and is not projected to be recovered above 3,000 MW within 30 minutes following the deployment of Non-Spin, ERCOT may deploy available contracted Emergency Response Service (ERS)-10 and ERS-30 via an Extensible Markup Language (XML) message followed by a Verbal Dispatch Instruction (VDI) to the QSE Hotline. The ERS-10 and ERS-30 ramp periods shall begin at the completion of the VDI.

(a) ERS-10 and ERS-30 may be deployed at any time in a Settlement Interval. ERS-10 and ERS-30 may be deployed either simultaneously or separately, and in any order, at the discretion of ERCOT operators.

(b) Upon deployment, QSEs shall instruct their ERS Resources in ERS-10 and ERS-30 to perform at contracted levels consistent with the criteria described in Section 8.1.3.1.4, Event Performance Criteria for Emergency Response Service Resources, until either ERCOT releases the ERS-10 and ERS-30 deployment or the ERS-10 and ERS-30 Resources have reached their maximum deployment time.

(c) ERCOT shall notify QSEs of the release of ERS-10 and ERS-30 via an XML message followed by VDI to the QSE Hotline. The VDI shall represent the official notice of ERS-10 and ERS-30 release.

(d) Upon release, an ERS Resource shall return to a condition such that it is capable of meeting its ERS performance requirements as soon as practical, but no later than ten hours following the release.

(3) When a Watch is issued for PRC below 3,000 MW and ERCOT expects system conditions to deteriorate to the extent that an EEA Level 2 or 3 may be experienced, ERCOT shall evaluate constraints active in SCED and determine which constraints have the potential to limit generation output.

(a) Upon identification of such constraints, ERCOT shall coordinate with the TSPs that own or operate the overloaded Transmission Facilities associated with those constraints, as well as the Resource Entities whose generation output may be limited, to determine whether:

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| ***[NOGRR177: Replace paragraph (a) above with the following upon system implementation of NPRR857:]***  (a) Upon identification of such constraints, ERCOT shall coordinate with the TSPs and DCTOs that own or operate the overloaded Transmission Facilities associated with those constraints, as well as the Resource Entities whose generation output may be limited, to determine whether: |

(i) A 15-Minute Rating is available that allows for additional transmission capacity for use in congestion management, if an EEA Level 2 or 3 is declared, and post-contingency actions can be taken within 15 minutes to return the flow to within the Emergency Rating. Such actions may include, but are not limited to, reducing the generation that increased output as a result of enforcing the 15-Minute Rating rather than the Emergency Rating;

(ii) Post-contingency loading of the Transmission Facilities is expected to be at or below Normal Rating within two hours; or

(iii) Additional transmission capacity could allow for additional output from a limited Generation Resource by taking one of the following actions:

1. Restoring Transmission Elements that are out of service;
2. Reconfiguring the transmission system; or
3. Making adjustments to phase angle regulator tap positions.

If ERCOT determines that one of the above-mentioned actions allows for additional output from a limited Generation Resource, ERCOT may instruct the TSPs to take the action(s) during the Advisory to allow for additional output from the limited Generation Resource.

(b) ERCOT shall also coordinate with TSPs who own and operate the Transmission Facilities associated with the double-circuit contingencies for the constraints identified above to determine whether the double-circuit failures are at a high risk of occurring due to system conditions, which may include: severe weather conditions forecasted by ERCOT in the vicinity of the double-circuit, weather conditions that indicate a high risk of insulator flashover on the double-circuit, repeated Forced Outages of the individual circuits that are part of the double-circuit in the preceding 48 hours, or fire in progress in the right of way of the double-circuit.

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| ***[NOGRR177: Replace paragraph (b) above with the following upon system implementation of NPRR857:]***  (b) ERCOT shall also coordinate with TSPs and DCTOs who own and operate the Transmission Facilities associated with the double-circuit contingencies for the constraints identified above to determine whether the double-circuit failures are at a high risk of occurring due to system conditions, which may include: severe weather conditions forecasted by ERCOT in the vicinity of the double-circuit, weather conditions that indicate a high risk of insulator flashover on the double-circuit, repeated Forced Outages of the individual circuits that are part of the double-circuit in the preceding 48 hours, or fire in progress in the right of way of the double-circuit. |

(c) The actions detailed in this Section shall be supplemental to the development and maintenance of Constraint Management Plans (CMPs) as otherwise directed by the Protocols or Operating Guides.

(4) When a Watch is issued for PRC below 3,000 MW, QSEs shall suspend any ongoing ERCOT-required Resource performance testing.