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| NPRR Number | [1176](https://www.ercot.com/mktrules/issues/NPRR1176) | NPRR Title | Update to EEA Trigger Levels |
| Date of Decision | | June 27, 2023 | |
| Action | | Tabled | |
| Timeline | | Normal | |
| Proposed Effective Date | | Upon system implementation | |
| Priority and Rank Assigned | | Not Applicable | |
| Nodal Protocol Sections Requiring Revision | | 6.5.9.3.2, Advisory  6.5.9.4, Energy Emergency Alert  6.5.9.4.1, General Procedures Prior to EEA Operations  6.5.9.4.2, EEA Levels | |
| Related Documents Requiring Revision/Related Revision Requests | | Nodal Operating Guide Revision Request (NOGRR) 252, Related to NPRR1176, Update to EEA Trigger Levels  Nodal Operating Guide Section 4.5.3.3, EEA Levels | |
| Revision Description | | This Nodal Protocol Revision Request (NPRR) 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. This NPRR also 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](https://www.ercot.com/files/docs/2018/12/13/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 | | ERCOT currently targets to maintain 1,000 MW of PRC even during an EEA Level 3 when Load is being shed. The reason for maintaining PRC reserves during EEA Level 3 is to ensure that the system can withstand the loss of the largest single contingency without system frequency dropping to the point that the Under-Frequency Load Shed (UFLS) safety net is activated. However, ERCOT has determined that with the changing Resource mix the minimum level of reserves that must be maintained to withstand this largest single contingency should be guided by the inertia on the system at the time of the contingency. ERCOT has recently reviewed system inertia during the period January 2019 through June 2022 in which PRC on the system was 3,000 MW or less and identified a minimum inertia value during this period of 200 GW-seconds. ERCOT has performed simulations of the loss of the largest single unit contingency with 200 GW-seconds of system inertia and found that the system must maintain 1,500 MW of PRC reserves to avoid potential UFLS activation as a result of that contingency.  Therefore, ERCOT is proposing to revise its EEA procedures to require a declaration of EEA Level 3 when PRC cannot be maintained above 1,500 MW and to provide that ERCOT will shed firm Load to recover 1,500 MW of reserves within 30 minutes.  Because of this higher trigger for EEA Level 3 Load shed, ERCOT is also proposing to modify the trigger levels for EEA Level 1 and EEA Level 2 and implement a 500 MW spacing between each level of EEA. While each EEA situation is different, this spacing could allow about 15 minutes between each level of EEA in most cases based on past EEA events. This would result in a PRC trigger level of 2,000 MW for EEA Level 2 and 2,500 MW for EEA Level 1.  ERCOT currently declares an Advisory for PRC less than 3,000 MW and a Watch for PRC less than 2,500 MW. With the higher PRC trigger for EEA Level 1 under this NPRR, and the modification to the standards for deployment of Emergency Response Service (ERS) and distribution voltage reduction measures introduced in NPRR1105, Option to Deploy Distribution Voltage Reduction Measures Prior to Energy Emergency Alert (EEA), and NPRR1106, Deployment of Emergency Response Service (ERS) Prior to Declaration of Energy Emergency Alert (EEA), ERCOT intends to modify its procedures to issue a Watch when PRC drops below 3,000 MW and is not expected to recover within 30 minutes. This is also the level of PRC at which ERCOT could deploy the ERS and distribution voltage reduction programs. As such, the Advisory for PRC less than 3,000 MW would be superfluous and will be eliminated.  In keeping with this change, this NPRR also relocates language regarding the evaluation and use of alternative transmission ratings or configurations that may enable additional generation output from Section 6.5.9.3.2, which addresses Advisories, to Section 6.5.9.4.1, which addresses the actions ERCOT may take prior to EEA operations, and includes the language regarding the deployment and use of ERS and distribution voltage reduction. Also, to ensure that any testing activity on Resources is suspended prior to entering in EEA the requirement to suspend any ERCOT required Resource performance testing is being moved to the Watch section for when PRC drops below 3,000 MW.  Finally, this NPRR adds back a frequency trigger for the declaration of EEA Level 3, allowing for the declaration of EEA if the steady-state frequency drops below 59.8 Hz for any period of time. This allowance had previously been in the Protocols but was removed when North American Reliability Corporation (NERC) Reliability Standard BAL-001-2, Real Power Balancing Control Performance, requirements were added in NPRR824, Alignment of EEA Level 3 with NERC Reliability Standards EOP-011-1 and BAL-001-2. ERCOT believes it would be beneficial to declare EEA Level 3 sooner for a deeper frequency event that drops below 59.8 Hz, in addition to declaring an EEA Level 3 in the case of a longer duration frequency event to ensure compliance with BAL-001-2. | |
| PRS Decision | | On 5/10/23, PRS voted to recommend approval of NPRR1176 as submitted. There was one abstention from the Investor Owned Utility (IOU) (Lone Start Transmission) Market Segment. All Market Segments participated in the vote.  On 6/14/23, PRS voted unanimously to endorse and forward to TAC the 5/10/23 PRS Report and 4/25/23 Impact Analysis for NPRR1176. All Market Segments participated in the vote. | |
| Summary of PRS Discussion | | On 5/10/23, participants discussed whether NPRR1176 needed Urgent status and determined to maintain a normal timeline.  On 6/14/23, participants reviewed the Impact Analysis. | |
| TAC Decision | | On 6/27/23, TAC voted unanimously to table NPRR1176. All Market Segments participated in the vote. | |
| Summary of TAC Discussion | | On 6/2723, participants reviewed the ERCOT Opinion, ERCOT Market Impact Statement, and the Independent Market Monitor (IMM) Opinion for NPRR1176, and determined to table NPRR1176 to await the ROS recommendation for NOGRR252. | |

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| **Opinions** | |
| Credit Review | ERCOT Credit Staff and the Credit Finance Sub Group (CFSG) have reviewed NPRR1176 and do not believe that it requires changes to credit monitoring activity or the calculation of liability. |
| Independent Market Monitor Opinion | IMM has no opinion on NPRR1176. |
| ERCOT Opinion | ERCOT supports approval of NPRR1176. |
| ERCOT Market Impact Statement | ERCOT Staff has reviewed NPRR1176 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 Protocol language in the following section(s) has been updated to reflect the incorporation of the following NPRR(s) into the Protocols:

* NPRR863, Creation of ERCOT Contingency Reserve Service and Revisions to Responsive Reserve (unboxed 6/9/23)
  + Section 6.5.9.4
  + Section 6.5.9.4.1
  + Section 6.5.9.4.2

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

* NPRR1143, Provide ERCOT Flexibility to Determine When ERSs May Charge During an EEA Level 3
  + Section 6.5.9.4.2

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| Proposed Protocol Language Revision |

6.5.9.3.2 Advisory

(1) An Advisory is the second of three levels of communication issued by ERCOT in anticipation of a possible Emergency Condition.

(2) ERCOT shall issue an Advisory for reasons such as, but not limited to, the following:

(a) When it recognizes that conditions are developing or have changed and more Ancillary Services will be needed to maintain current or near-term operating reliability;

(b) When weather or ERCOT System conditions require more lead-time than the normal DAM allows;

(c) When communications or other controls are significantly limited; or

(d) When ERCOT Transmission Grid conditions are such that operations within security criteria as defined in the Operating Guides are not likely or possible because of Forced Outages or other conditions unless a Constraint Management Plan (CMP) exists.

(3) The Advisory must communicate existing constraints. ERCOT shall notify TSPs and QSEs of the Advisory, and QSEs shall notify appropriate Resources and Load Serving Entities (LSEs). ERCOT shall communicate with TSPs as needed to confirm their understanding of the condition and to determine the availability of Transmission Facilities. For the purposes of verifying submitted information, ERCOT may communicate with QSEs.

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| [NPRR857: Replace paragraph (3) above with the following upon system implementation and satisfying the following conditions: (1) Southern Cross provides ERCOT with funds to cover the entire estimated cost of the project; and (2) Southern Cross has signed an interconnection agreement with a TSP and the TSP gives ERCOT written notice that Southern Cross has provided it with: (a) Notice to proceed with the construction of the interconnection; and (b) The financial security required to fund the interconnection facilities:]  (3) The Advisory must communicate existing constraints. ERCOT shall notify TSPs, DCTOs, and QSEs of the Advisory, and QSEs shall notify appropriate Resources and Load Serving Entities (LSEs). ERCOT shall communicate with TSPs and DCTOs as needed to confirm their understanding of the condition and to determine the availability of Transmission Facilities. For the purposes of verifying submitted information, ERCOT may communicate with QSEs. |

(4) Although an Advisory is for information purposes, ERCOT may exercise its authority, in such circumstances, to increase Ancillary Service requirements above the quantities originally specified in the Day-Ahead in accordance with procedures. ERCOT may require information from QSEs representing Resources regarding the Resources’ fuel capabilities. Requests for this type of information shall be for a time period of no more than seven days from the date of the request. The specific information that may be requested shall be defined in the Operating Guide. QSEs representing Resources shall provide the requested information in a timely manner, as defined by ERCOT at the time of the request.



6.5.9.4 Energy Emergency Alert

(1) At times it may be necessary to reduce ERCOT System Demand because of a temporary decrease in available electricity supply. To provide orderly, predetermined procedures for curtailing Demand during such emergencies, ERCOT shall initiate and coordinate the implementation of the EEA following the steps set forth below in Section 6.5.9.4.2, EEA Levels.

(2) The goal of the EEA is to provide for maximum possible continuity of service while maintaining the integrity of the ERCOT System to reduce the chance of cascading Outages.

(3) ERCOT’s operating procedures must meet the following goals:

(a) Use of market processes to the fullest extent practicable without jeopardizing the reliability of the ERCOT System;

(b) Use of RRS, ECRS, other Ancillary Services, and ERS to the extent permitted by ERCOT System conditions;

(c) Maximum use of ERCOT System capability;

(d) Maintenance of station service for nuclear-powered Generation Resources;

(e) Securing startup power for Generation Resources;

(f) Operation of Generation Resources during loss of communication with ERCOT;

(g) Restoration of service to Loads in the manner defined in the Operating Guides; and

(h) Management of Interconnection Reliability Operating Limits (IROLs) shall not change.

(4) ERCOT is responsible for coordinating with QSEs, TSPs, and DSPs to monitor ERCOT System conditions, initiating the EEA levels, notifying Market Participants, and coordinating the implementation of the EEA levels while maintaining transmission security limits.

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| [NPRR857: Replace paragraph (4) above with the following upon system implementation and satisfying the following conditions: (1) Southern Cross provides ERCOT with funds to cover the entire estimated cost of the project; and (2) Southern Cross has signed an interconnection agreement with a TSP and the TSP gives ERCOT written notice that Southern Cross has provided it with: (a) Notice to proceed with the construction of the interconnection; and (b) The financial security required to fund the interconnection facilities:]  (4) ERCOT is responsible for coordinating with QSEs, DCTOs, TSPs, and DSPs to monitor ERCOT System conditions, initiating the EEA levels, notifying Market Participants, and coordinating the implementation of the EEA levels while maintaining transmission security limits. |

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

(6) During the EEA, ERCOT has the authority to obtain energy from non-ERCOT Control Areas using the DC Ties or by using 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 NERC scheduling guidelines.

(7) Some of the EEA steps are not applicable if transmission security violations exist. There may be insufficient time to implement all EEA levels in sequence, however, to the extent practicable, ERCOT shall use Ancillary Services that QSEs have made available in the market to maintain or restore reliability.

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| [NPRR1010: Replace paragraph (7) above with the following upon system implementation of the Real-Time Co-Optimization (RTC) project:]  (7) Some of the EEA steps are not applicable if transmission security violations exist. There may be insufficient time to implement all EEA levels in sequence, however, to the extent practicable, ERCOT shall use Ancillary Service capabilities of Resources in the market to maintain or restore reliability. |

(8) 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 EEA Level 3 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 EEA Level 3 any time the steady-state frequency is below 59.5 Hz for any duration.

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

(10) During EEA Level 2 or 3, for those constraints that meet the criteria identified in paragraph (3)(a) of Section 6.5.9.4.1, General Procedures Prior to EEA Operations, ERCOT may control the post-contingency flow to within the 15-Minute Rating in SCED. 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, 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.

(11) During EEA Level 2 or 3, for those constraints that meet the criteria identified in paragraph (3)(b) of Section 6.5.9.4.1, 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 6.5.9.4.1, 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.

6.5.9.4.1 General Procedures Prior to EEA Operations

(1) Prior to declaring EEA Level 1 detailed in Section 6.5.9.4.2, 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 PRC 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 HRUC process;

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

(d) Utilize available Resources providing RRS, ECRS, and Non-Spin services as required;

(e) Instruct TSPs and 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 ERS-10 and ERS-30 via an XML message followed by a 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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| [NPRR857: Replace paragraph (a) above with the following upon system implementation and satisfying the following conditions: (1) Southern Cross provides ERCOT with funds to cover the entire estimated cost of the project; and (2) Southern Cross has signed an interconnection agreement with a TSP and the TSP gives ERCOT written notice that Southern Cross has provided it with: (a) Notice to proceed with the construction of the interconnection; and (b) The financial security required to fund the interconnection facilities:]  (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 to allow 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:

(A) Restoring Transmission Elements that are out of service;

(B) Reconfiguring the transmission system; or

(C) 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.

(c) The actions detailed in this Section shall be supplemental to the development and maintenance of 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.

6.5.9.4.2 EEA Levels

(1) ERCOT will declare an EEA Level 1 when PRC falls below 2,500 MW and is not projected to be recovered above 2,500 MW within 30 minutes without the use of the following actions that are prescribed for EEA Level 1:

(a) ERCOT shall take the following steps to maintain steady state system frequency near 60 Hz and maintain PRC above 2,000 MW:

(i) Request available Generation Resources that can perform within the expected timeframe of the emergency to come On-Line by initiating manual HRUC or through Dispatch Instructions;

(ii) Use available DC Tie import capacity that is not already being used;

(iii) Issue a Dispatch Instruction for Resources to remain On-Line which, before start of emergency, were scheduled to come Off-Line; and

(iv) Instruct QSEs to deploy undeployed ERS-10 and ERS-30.

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| [NPRR1010: Insert paragraph (v) below upon system implementation of the Real-Time Co-Optimization (RTC) project:]  (v) At ERCOT’s discretion, manually deploy, through ICCP, available RRS and ECRS capacity from Generation Resources having a Resource Status of ONSC and awarded RRS or ECRS. |

(b) QSEs shall:

(i) Ensure COPs, telemetered status, and telemetered HSLs are updated and reflect all Resource delays and limitations; and

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| [NPRR1010: Replace paragraph (i) above with the following upon system implementation of the Real-Time Co-Optimization (RTC) project:]  (i) Ensure COPs, telemetered status, and telemetered HSLs, Normal Ramp Rates, Emergency Ramp Rates, and Ancillary Service capabilities are updated and reflect all Resource delays and limitations; and |

(ii) Ensure that each of its ESRs suspends charging until the EEA is recalled, except under the following circumstances:

(A) The ESR has a current SCED Base Point Instruction, LFC Dispatch Instruction, or manual Dispatch Instruction to charge the ESR;

(B) The ESR is actively providing Primary Frequency Response; or

(C) The ESR is co-located behind a POI with onsite generation that is incapable of exporting additional power to the ERCOT System, in which case the ESR may continue to charge as long as maximum output to the ERCOT System is maintained.

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| [NPRR995: Replace paragraph (ii) above with the following upon system implementation:]  (ii) Ensure that each of its ESRs and SOESSs suspends charging until the EEA is recalled, except under the following circumstances:  (A) The ESR has a current SCED Base Point Instruction, LFC Dispatch Instruction, or manual Dispatch Instruction to charge the ESR;  (B) The ESR or SOESS is actively providing Primary Frequency Response; or  (C) The ESR or SOESS is co-located behind a POI with onsite generation that is incapable of exporting additional power to the ERCOT System, in which case the ESR may continue to charge as long as maximum output to the ERCOT System is maintained. |

(2) ERCOT may declare an EEA Level 2 when the clock-minute average system frequency falls below 59.91 Hz for 15 consecutive minutes. ERCOT will declare an EEA Level 2 when PRC falls below 2,000 MW and is not projected to be recovered above 2,000 MW within 30 minutes without the use of the following actions that are prescribed for EEA Level 2:

(a) In addition to the measures associated with EEA Level 1, ERCOT shall take the following steps to maintain steady state system frequency at a minimum of 59.91 Hz and maintain PRC above 1,500 MW:

(i) Instruct TSPs and DSPs or their agents to reduce Customer Load by using existing, in-service distribution voltage reduction measures that have not already been implemented. 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.

(ii) Instruct TSPs and DSPs to implement any available Load management plans to reduce Customer Load.

(iii) Instruct QSEs to deploy ECRS or RRS (controlled by high-set under-frequency relays) supplied from Load Resources. ERCOT may deploy ECRS or RRS simultaneously or separately, and in any order. ERCOT shall issue such Dispatch Instructions in accordance with the deployment methodologies described in paragraph (iv) below.

(iv) Load Resources providing ECRS that are not controlled by high-set under-frequency relays shall be deployed prior to Group 1 deployment. ERCOT shall deploy ECRS and RRS capacity supplied by Load Resources (controlled by high-set under-frequency relays) in accordance with the following:

(A) Instruct QSEs to deploy RRS with a Group 1 designation and all of the ECRS that is supplied from Load Resources (controlled by high-set under-frequency relays) by instructing the QSE representing the specific Load Resources to interrupt Group 1 Load Resources providing ECRS and RRS. QSEs shall deploy Load Resources according to the group designation and will be given some discretion to deploy additional Load Resources from any of the groups not designated for deployment if Load Resource operational considerations require such. ERCOT shall issue notification of the deployment via XML message. ERCOT shall follow this XML notification with a QSE Hotline VDI, which shall initiate the ten-minute deployment period;

(B) At the discretion of the ERCOT Operator, instruct QSEs to deploy RRS that is supplied from Load Resources (controlled by high-set under-frequency relays) by instructing the QSE representing the specific Load Resource to interrupt additional Load Resources providing RRS based on their group designation. ERCOT shall issue notification of the deployment via XML message. ERCOT shall follow this XML notification with a QSE Hotline VDI, which shall initiate the ten-minute deployment period;

(C) The ERCOT Operator may deploy Load Resources providing only ECRS (not controlled by high-set under-frequency relays) and all groups of Load Resources providing RRS and ECRS at the same time. ERCOT shall issue notification of the deployment via XML message. ERCOT shall follow this XML notification with a QSE Hotline VDI, which shall initiate the ten-minute deployment period; and

(D) ERCOT shall post a list of Load Resources on the MIS Certified Area immediately following the DRUC for each QSE with a Load Resource obligation which may be deployed to interrupt under paragraph (A) and paragraph (B). ERCOT shall develop a process for determining which individual Load Resource to place in each group based on a random sampling of individual Load Resources. At ERCOT’s discretion, ERCOT may deploy all Load Resources at any given time during EEA Level 2.

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| [NPRR1010: Replace paragraph (D) above with the following upon system implementation of the Real-Time Co-Optimization (RTC) project:]  (D) ERCOT shall post a list of Load Resources on the MIS Certified Area immediately following the DRUC for each QSE with a Load Resource RRS or ECRS award, which may be deployed to interrupt under paragraph (A) and paragraph (B). ERCOT shall develop a process for determining which individual Load Resource to place in each group based on a random sampling of individual Load Resources. At ERCOT’s discretion, ERCOT may deploy all Load Resources at any given time during EEA Level 2. |

(v) Unless a media appeal is already in effect, ERCOT shall issue an appeal through the public news media for voluntary energy conservation; and

(vi) With the approval of the affected non-ERCOT Control Area, TSPs, DSPs, or their agents may implement transmission voltage level BLTs, which transfer Load from the ERCOT Control Area to non-ERCOT Control Areas in accordance with BLTs as defined in the Operating Guides.

(b) Confidentiality requirements regarding transmission operations and system capacity information will be lifted, as needed to restore reliability.

(3) ERCOT may declare an EEA Level 3 when 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. ERCOT will declare an EEA Level 3 when PRC cannot be maintained above 1,500 MW or when the clock-minute average system frequency falls below 59.91 Hz for 25 consecutive minutes. Upon declaration of an EEA Level 3, ERCOT shall take any of the following measures as necessary to recover frequency or PRC to the minimum required levels:

(a) Instruct ESRs to suspend charging via a SCED Base Point instruction, or, if otherwise necessary, via a manual Dispatch Instruction. An ESR shall suspend charging unless providing Primary Frequency Response or LFC issues a charging instruction to ESRs that are carrying Reg-Down. However, an ESR co-located behind a POI with onsite generation that is incapable of exporting additional power to the ERCOT System may continue to charge as long as maximum output to the ERCOT System is maintained.

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| [NPRR995: Replace paragraph (a) above with the following upon system implementation:]  (a) Instruct ESRs and SOESSs to suspend charging. For ESRs, the instruction shall be issued via a SCED Base Point, or, if otherwise necessary, via a manual Dispatch Instruction. An ESR or SOESS shall suspend charging unless providing Primary Frequency Response or LFC issues a charging instruction to an ESR that is carrying Reg-Down. However, an ESR or SOESS co-located behind a POI with onsite generation that is incapable of exporting additional power to the ERCOT System may continue to charge as long as maximum output to the ERCOT System is maintained. |

(b) Direct all TOs to shed firm Load, in 100 MW blocks, distributed as documented in the Operating Guides in order to maintain a steady state system frequency at a minimum of 59.91 Hz and to recover 1,500 MW of PRC within 30 minutes.

(i) TOs and TDSPs may shed Load connected to under-frequency relays pursuant to an ERCOT Load shed directive issued during EEA Level 3 so long as each affected TO continues to comply with its Under-Frequency Load Shed (UFLS) obligation as described in Nodal Operating Guide Section 2.6.1, Automatic Firm Load Shedding, and its Load shed obligation as described in Nodal Operating Guide Section 4.5.3.4, Load Shed Obligation.

(c) Implement any appropriate measures associated with EEA Levels 1 and 2 that have not already been implemented.