

TAC Report

NPRR Number	633	NPRR Title	Removes Requirement for Confirmation of Ancillary Service Test Using Primary and Secondary Voice Circuits
Timeline	Normal	Action	Recommended Approval
Date of Decision	August 28, 2014		
Proposed Effective Date	November 1, 2014		
Priority and Rank Assigned	Not applicable.		
Nodal Protocol Sections Requiring Revision	8.1.1.2.1.1, Regulation Service Qualification 8.1.1.2.1.2, Responsive Reserve Service Qualification 8.1.1.2.1.3, Non-Spinning Reserve Qualification		
Other Binding Documents Requiring Revision or Related Revision Requests	None.		
Revision Description	This Nodal Protocol Revision Request (NPRR) removes the requirement to test the primary and secondary voice circuits for Ancillary Service qualification tests. This requirement is not needed since ERCOT performs tests on voice circuits with any new Qualified Scheduling Entity (QSE) to establish their operations for the first time. ERCOT brought this language as a discussion item to the 3/26/14 joint Performance Disturbance Compliance Working group (PDCWG) and QSE Managers Working Group (QMWG) meeting to solicit stakeholder feedback on this issue. The consensus within both groups was that the language is outdated and not needed as a part of Ancillary Service qualification and testing.		
Reason for Revision	<input checked="" type="checkbox"/> Addresses current operational issues. <input type="checkbox"/> Meets Strategic goals (tied to the ERCOT Strategic Plan or directed by the ERCOT Board). <input checked="" type="checkbox"/> Market efficiencies or enhancements <input type="checkbox"/> Administrative <input type="checkbox"/> Regulatory requirements <input type="checkbox"/> Other: (explain) <i>(please select all that apply)</i>		
Credit Work Group Review	ERCOT Credit Staff and the Credit Work Group (Credit WG) have reviewed NPRR633 and do not believe that it requires changes to credit monitoring activity or the calculation of liability.		

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Procedural History	<ul style="list-style-type: none"> ➤ On 6/23/14, NPRR633 and an associated Impact Analysis were posted. ➤ On 7/17/14, PRS considered NPRR633. ➤ On 8/14/14, PRS considered the 7/17/14 PRS Report and the Impact Analysis for NPRR633. ➤ On 8/28/14, TAC considered NPRR633.
PRS Decision	<p>On 7/17/14, PRS unanimously voted to recommend approval of NPRR633 as revised by PRS. All Market Segments were present for the vote.</p> <p>On 8/14/14, PRS unanimously voted to endorse and forward the 7/17/14 PRS Report and Impact Analysis for NPRR633 to TAC. All Market Segments were present for the vote.</p>
Summary of PRS Discussion	<p>On 7/17/14, ERCOT Staff explained, in response to questions from participants, that testing is done through different requirements and does not have to be performed while conducting Ancillary Service qualification testing.</p> <p>On 8/14/14, there was no discussion.</p>
TAC Decision	On 8/28/14, TAC unanimously voted to recommend approval of NPRR633 as recommended by PRS in the 8/14/14 PRS Report. All Market Segments were present for the vote.
Summary of TAC Discussion	On 8/28/14, there was no discussion.
ERCOT Opinion	ERCOT supports approval of NPRR633.

Business Case	
Qualitative Benefits	<ul style="list-style-type: none"> • Provides efficiency by removing unnecessary testing requirements from the Protocols.
Quantitative Benefits	
Impact to Market Segments	
Credit Implications	
Other	

Sponsor	
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Market Segment	Not applicable

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Comments Received	
Comment Author	Comment Summary
None.	

Comments

Please note that the following NPRRs also propose revisions to the following sections:

- NPRR340, Introduction and Definition of Duration-Limited Resources
 - Section 8.1.1.2.1.1
- NPRR640, As-Built Clarification of Load Resource Participation in SCED and Non-Spin Qualification
 - Section 8.1.1.2.1.3

Proposed Protocol Language Revision

8.1.1.2.1.1 Regulation Service Qualification

- (1) A QSE control system must be capable of receiving Regulation Up Service (Reg-Up) and Regulation Down Service (Reg-Down) control signals from ERCOT's Load Frequency Control (LFC) system, and of directing its Resources to respond to the control signals, in an upward and downward direction to balance Real-Time Demand and Resources. A QSE providing Reg-Up or Reg-Down shall provide communications equipment to receive telemetered control deployments of power from ERCOT.
- (2) A QSE shall demonstrate to ERCOT that they have the ability to switch control to constant frequency operation as specified in the Operating Guides. ERCOT's direction to the QSE to operate on constant frequency will be considered a Dispatch Instruction.

Comment [LT1]: Please note that NPRR340 also proposes revisions to this Section.

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- (3) A QSE providing Reg-Up or Reg-Down shall provide ERCOT with the data requirements of Section 6.5.5.2, Operational Data Requirements. Resources providing Reg-Up or Reg-Down must be capable of delivering the full amount of regulating capacity offered to ERCOT within five minutes.
- (4) A Resource providing Fast Responding Regulation Service (FRRS) shall be capable of independently detecting and recording system frequency with an accuracy of at least one mHz and a resolution of no less than 32 samples per second. The Resource shall also be capable of measuring and recording MW output with a resolution of no less than 32 samples per second.
- (5) A Reg-Up and Reg-Down qualification test for each Resource is conducted during a continuous 60-minute period agreed on in advance by the QSE and ERCOT. QSEs may qualify a Resource to provide Reg-Up or Reg-Down, or both, in separate testing. ERCOT shall administer the following test requirements:
 - (a) ERCOT shall confirm the date and time of the test with the QSE ~~to validate the voice circuits.~~
 - (b) For the 60-minute duration of the test, when market and reliability conditions allow, the ERCOT Control Area Operator shall send a random sequence of increasing ramp, hold, and decreasing ramp control signals to the QSE for a specific Resource. ERCOT shall maintain a duration interval, for each increasing ramp, hold, or decreasing ramp sequence, of no less than two minutes. The control signals may not request Resource performance beyond the HSL, LSL, and ramp rate limit agreed on prior to the test. During the test, ERCOT shall structure the test sequence such that at least one five-minute test interval is used to test the Resource's ability to achieve the entire amount of Reg-Up or Reg-Down requested for qualification.
 - (c) ERCOT shall measure and record the average real power output for each minute of the Resource(s) being tested represented by the QSE. During at least one five minute duration interval selected to evaluate each of the Reg-Up and Reg-Down amounts being tested, the Generation/Controllable Load Resource Energy Deployment Performance (GREDP/CLREDP) calculated in accordance with Section 8.1.1.4.1, Regulation Service and Generation Resource/Controllable Load Resource Energy Deployment Performance, over the entire five minute interval must be less than or equal to 3.5%. Additionally, in all other test sequence intervals, the Resource's measured GREDP/CLREDP must be less than or equal to 5% as calculated for the entire duration of each test interval.
 - (d) On successful demonstration of the above test criteria, ERCOT shall qualify that the Resource is capable of providing Regulation Service and shall provide a copy of the certificate to the QSE and the Resource.
- (6) A QSE may also qualify a Resource to provide Fast Responding Regulation Up Service (FRRS-Up), Fast Responding Regulation Down Service (FRRS-Down), or both. In

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addition to the test criteria described in paragraph (5) above, ERCOT shall verify the following capabilities through testing:

- (a) The Resource will be required to demonstrate that it can deploy within 60 cycles of either (i) receipt of a deployment signal from ERCOT, or (ii) a deviation of frequency in excess of ± 0.09 Hz from 60 Hz.
- (b) Upon deployment, the Resource will be required to demonstrate that it can sustain the deployment for a minimum of eight minutes at a minimum level of 95% and a maximum level of 110% of the proposed maximum capacity obligation.
- (c) ERCOT shall use the Resource's high-resolution recorded frequency and MW output data to determine whether the Resource met its performance obligations during the test.
- (d) On successful demonstration of the above test criteria, ERCOT shall qualify that the Resource is capable of providing FRRS and shall provide a copy of the certificate to the QSE and the Resource.
- (e) A QSE representing a Resource qualified to provide FRRS shall not offer to provide more FRRS than the maximum capacity obligation that the Resource is qualified to provide, as shown in the certificate provided to the QSE and the Resource.

8.1.1.2.1.2 Responsive Reserve Service Qualification

- (1) Responsive Reserve (RRS) service may be provided by:
 - (a) Unloaded Generation Resources that are On-Line;
 - (b) Load Resources controlled by high-set under-frequency relays;
 - (c) Hydro Responsive Reserves;
 - (d) Direct Current Tie (DC Tie) response that stops frequency decay; or
 - (e) Controllable Load Resources.
- (2) The amount of RRS provided by individual Generation Resources and Controllable Load Resources is specified in the Operating Guides. Each Resource providing RRS must be On-Line and capable of ramping the Resource's Ancillary Service Resources. Responsibility for RRS within ten minutes of the notice to deploy RRS, must be immediately responsive to system frequency, and must be able to maintain the scheduled level of deployment for the period of service commitment. The amount of RRS on a Generation Resource may be further limited by requirements of the Operating Guides.

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- (3) A QSE's Load Resource must be loaded and capable of unloading the scheduled amount of RRS within ten minutes of instruction by ERCOT and must either be immediately responsive to system frequency or be interrupted by action of under-frequency relays with settings as specified by the Operating Guides.
- (4) Any QSE providing RRS shall provide communications equipment to receive ERCOT telemetered control deployments of RRS.
- (5) Generation Resources providing RRS shall have their governors in service.
- (6) Load Resources on high-set under-frequency relays providing RRS must provide a telemetered output signal, including breaker status and status of the under-frequency relay.
- (7) Each QSE shall ensure that each Resource is able to meet the Resource's obligations to provide the Ancillary Service Resource Responsibility. Each Generation Resource and Load Resource providing RRS must meet additional technical requirements specified in this Section.
- (8) A qualification test for each Resource to provide RRS is conducted during a continuous eight-hour period agreed to by the QSE and ERCOT. ERCOT shall confirm the date and time of the test with the QSE ~~using both the primary and alternate voice circuits to validate the voice circuits~~. ERCOT shall administer the following test requirements:
 - (a) At any time during the window (selected by ERCOT when market and reliability conditions allow and not previously disclosed to the QSE), ERCOT shall notify the QSE it is to provide an amount of RRS from its Resource to be qualified equal to the amount that the QSE is requesting qualification. The QSE shall acknowledge the start of the test.
 - (b) For Generation Resources desiring qualification to provide Responsive Reserve, ERCOT shall send a signal to the Resource's QSE to deploy a Responsive Reserve, indicating the MW amount. ERCOT shall monitor the QSEs telemetry of the Resource's Ancillary Service Schedule for an update within 15 seconds. ERCOT shall measure the test Resource's response as described under Section 8.1.1.4.2, Responsive Reserve Service Energy Deployment Criteria. ERCOT shall evaluate the response of the Generation Resource given the current operating conditions of the system and determine the Resource's qualification to provide Responsive Reserve.
 - (c) For Controllable Load Resources desiring qualification to provide Responsive Reserve, ERCOT shall send a signal to the Resource's QSE to deploy Responsive Reserve, indicating the MW amount. ERCOT shall measure the test Resource's response as described under Section 8.1.1.4.2. ERCOT shall evaluate the response of the Controllable Load Resource given the current operating conditions of the system and determine the Controllable Load Resource's qualification to provide Responsive Reserve.

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- (d) For Load Resources, excluding Controllable Load Resources, desiring qualification to provide Responsive Reserve, ERCOT shall deploy Responsive Reserve, indicating the MW amount. ERCOT shall measure the test Resource's response as described under Section 8.1.1.4.2.
- (e) On successful demonstration of all test criteria, ERCOT shall qualify that the Resource is capable of providing RRS and shall provide a copy of the certificate to the QSE and the Resource Entity.

8.1.1.2.1.3 Non-Spinning Reserve Qualification

Comment [LT2]: Please note that NPRR640 also proposes revisions to this section.

- (1) Each Resource providing Non-Spin must be capable of being synchronized and ramped to its Ancillary Service Schedule for Non-Spin within 30 minutes. Non-Spin may be provided from Generation Resource capacity that can ramp within 30 minutes or Load Resources capable of unloading within 30 minutes. Non-Spin may only be provided from capacity that is not fulfilling any other energy or capacity commitment.
- (2) A Load Resource providing Non-Spin must provide a telemetered output signal, including breaker status.
- (3) Each Generation Resource and Load Resource providing Non-Spin must meet additional technical requirements specified in this Section.
- (4) QSEs using a Load Resource to provide Non-Spin must be capable of responding to ERCOT Dispatch Instructions in a similar manner to QSEs using Generation Resource to provide Non-Spin.
- (5) Each QSE shall ensure that each Resource is able to meet the Resource's obligations to provide the Ancillary Service Resource Responsibility. Each Generation Resource and Load Resource providing Non-Spin must meet additional technical requirements specified in this Section.
- (6) For any Resource requesting qualification for Non-Spin, a qualification test for each Resource to provide Non-Spin is conducted during a continuous eight hour period agreed to by the QSE and ERCOT. ERCOT shall confirm the date and time of the test with the QSE ~~using both the primary and alternate voice circuits to validate the voice circuits.~~ ERCOT shall administer the following test requirements.
 - (a) At any time during the window (selected by ERCOT when market and reliability conditions allow and not previously disclosed to the QSE), ERCOT shall notify the QSE by using the messaging system and requesting that the QSE provide an amount of Non-Spin from each Resource equal to the amount for which the QSE is requesting qualification. The QSE shall acknowledge the start of the test.
 - (b) For Generation Resources: during the test window, ERCOT shall send a message to the QSE representing a Generation Resources to deploy Non-Spin. ERCOT shall monitor the adjustment of the Generation Resource's Non-Spin Ancillary

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Service Schedule within five minutes for Resources On-Line. ERCOT shall measure the test Resource's response as described under Section 8.1.1.4.3, Non-Spinning Reserve Service Energy Deployment Criteria. ERCOT shall evaluate the response of the Generation Resource given the current operating conditions of the system and determine the Resource's qualification to provide Non-Spin.

- (c) For Load Resources, including Controllable Load Resources, ERCOT shall send an instruction to deploy Non-Spin. ERCOT shall measure the test Resource's response as described under Section 8.1.1.4.3.

~~(d) ERCOT shall qualify a Load Resource to provide Non-Spin based on an evaluation of historic meter data that takes into account the Load Resource's Load characteristics and Load shape predictability. Such qualification will designate the Load Resource for one or both of the measurement and verification methodologies described in paragraph (3)(f) of Section 8.1.1.4.3. On successful completion of this review and demonstration of all test criteria, ERCOT shall qualify that the Resource is capable of providing Non-Spin and shall provide a copy of the certificate to the QSE and the Resource Entity. ERCOT may review the Load Resource's Non-Spin qualification periodically and may revoke the qualification if it determines the criteria for measurement and verification are no longer being met.~~

(d) ERCOT shall qualify a Load Resource to provide Non-Spin based on an evaluation of historic meter data that takes into account the Load Resource's Load characteristics and Load shape predictability. Such qualification will designate the Load Resource for one or both of the measurement and verification methodologies described in paragraph (3)(f) of Section 8.1.1.4.3. On successful completion of this review and demonstration of all test criteria, ERCOT shall qualify that the Resource is capable of providing Non-Spin and shall provide a copy of the certificate to the QSE and the Resource Entity. ERCOT may review the Load Resource's Non-Spin qualification periodically and may revoke the qualification if it determines the criteria for measurement and verification are no longer being met.