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| NPRR Number | [1096](http://www.ercot.com/mktrules/issues/NPRR1096) | NPRR Title | Require Sustained Six Hour Capability for ECRS and Non-Spin |
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| Date | | February 7, 2022 | |
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| Submitter’s Information | | | |
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| Market Segment | | Independent Generator | |

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| Comments |

Key Capture Energy, LLC (KCE) offers the following comments on top of the 11/3/21 ERCOT comments on Nodal Protocol Revision Request (NPRR) 1096.

ERCOT has identified a need for a four-hour duration requirement for Non-Spinning Reserve (Non-Spin). To ensure that Energy Storage Resources (ESRs) are capable of meeting this duration requirement, ERCOT proposes that ESRs offering Non-Spin be limited to offering the amount of Non-Spin capacity that is capable of being sustained for four hours.

Under this construct, a 40 MW / 40 MWh ESR could offer 10 MW of Non-Spin each hour for four consecutive hours, but it could not offer 40 MW of Non-Spin for one hour and 0 MW for the following three hours. In other words, ERCOT’s proposal sets an implicit requirement for ESRs to dispatch for four hours of Non-Spin even if the ESR is only carrying a single hour of Non-Spin responsibility.

This is problematic because it diminishes the ability of ESR owners to provide the full extent of their dispatchable capability to contribute to meeting ERCOT system needs while also reducing the flexibility of ESR owners to maximize the value of their investments.

In order to address this issue but ensure that the reliability objectives of the NPRR are still met, KCE offers the following proposal, with three components:

1. **ESRs must limit Day-Ahead Ancillary Service offers to ensure sufficient expected state of charge to cover a four-hour Non-Spin event**

Qualified Scheduling Entities (QSEs) managing ESRs must limit the amount of Non-Spin offered to less than or equal to the ESR’s expected state of charge available over any given four hour period. Under this construct, a 40 MW / 40 MWh ESR could offer 10 MW of Non-Spin each hour for four consecutive hours, but it could also offer 40 MW of Non-Spin for one hour and 0 MW for the following three hours.

1. **ERCOT will test ESRs to ensure compliance**

Upon request, ERCOT can perform an unannounced test to require the ESR to discharge up to the total MWh of Non-Spin obligation carried by the ESR over any consecutive four-hour period based on the ESR’s telemetered Non-Spin responsibility for the previous four hours or the ESR’s COP Non-Spin obligation for the four upcoming hours. For example, a 40 MW / 40 MWh ESR carrying 40 MW of Non-Spin for one hour and 0 MW for the following three hours would need to demonstrate 40 MWh state of charge during the test. Likewise, a 40 MW / 40 MWh ESR carrying 10 MW of Non-Spin each hour for four consecutive hours would need to demonstrate 40 MWh state of charge during the test.

1. **Compliance failures will result in strict penalties**

An ESR that fails the unannounced test will be restricted from selling more Non-Spin capacity than the four-hour discharge capacity of the ESR for one month following the first such failure, and 6 months following subsequent such failures. For example, a 40 MW / 40 MWh ESR that only demonstrates 30 MWh state of charge during a test would be restricted from selling more than 7.5 MW of Non-Spin during any given hour, but it would have the opportunity given a successful retest to be eligible to sell up to a maximum of 10 MW of Non-Spin during any given hour.

KCE believes it remains important to the future ERCOT system that investment continues to be made in ESRs, as approximately 73% of all dispatchable generation in the current ERCOT interconnection queue are ESRs. Therefore, the proposed language is designed to accomplish the reliability objectives offered by ERCOT with the lowest impact on the investment in and market participation of ESRs.

KCE appreciates the opportunity to offer comments on NPRR 1096 and looks forward to discussing with stakeholders.

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| Revised Cover Page Language |

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| NPRR Number | [1096](http://www.ercot.com/mktrules/issues/NPRR1096) | NPRR Title | Require Two-Hour Capability for ECRS and Four-Hour Capability for Non-Spin |
| Nodal Protocol Sections Requiring Revision | | 2.1, Definitions  3.17.3, Non-Spinning Reserve Service  3.17.4, ERCOT Contingency Reserve Service  4.4.7.2.1, Ancillary Service Offer Criteria  8.1.1.2, General Capacity Testing Requirements  8.1.1.3.3, Non-Spinning Reserve Capacity Monitoring Criteria | |
| Revision Description | | This Nodal Protocol Revision Request (NPRR) requires Resources that provide ERCOT Contingency Reserve Service (ECRS) to limit their responsibility to a quantity of capacity that is capable of being sustained for two consecutive hours and to ensure sufficient state of charge to provide their full Non-Spinning Reserve (Non-Spin) responsibility over any four consecutive hours. Additionally, this NPRR requires ERCOT to conduct unannounced tests on Energy Storage Resources (ESRs) that are providing Non-Spin in Real-Time. | |
| Business Case | | ECRS and Non-Spin are Ancillary Services that are expected to be utilized to cover risks associated with net load forecast errors. ECRS and Non-Spin may also be deployed during low frequency events to restore Responsive Reserve (RRS) and reduce the burden on Regulation Up Service (Reg-Up) by restoring frequency to its scheduled value. Deployment of ECRS and/or Non-Spin is typically expected during system events that are driven by sustained ramps in net Load and is expected to last until other resources can be brought online. This NPRR proposes that the Energy Storage Resources (ESRs) that provide ECRS provide it using capacity that it is capable of being sustained for two consecutive hours and ESRs that provide Non-Spin ensure sufficient state of charge to provide their full responsibility over any four consecutive hours. Note that, with this change, ERCOT will allow a 300 MW - 600 MWh battery to provide up to 150 MW of its capacity as Non-Spin for four consecutive hours but also up to 300 MW of its capacity as Non-Spin for (no more than) two consecutive hours.  When Real-Time Co-optimization (RTC) is implemented, ERCOT proposes to reassess if the proposed duration requirement for ECRS and Non-Spin can be lowered.  In addition, based on stakeholder discussions, future design changes to Day-Ahead Market (DAM), Reliability Unit Commitment (RUC), and RTC clearing engines to consider state of charge for ESRs will also lead to a reassessment of the proposed duration requirement for ECRS and Non-Spin. | |

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| Revised Proposed Protocol Language |

## 2.1 DEFINITIONS

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| [NPRR863: Insert the following definition “ERCOT Contingency Reserve Service (ECRS)” upon system implementation:]  **ERCOT Contingency Reserve Service (ECRS)**  An Ancillary Service that provides operating reserves that is intended to:  (a) Restore Responsive Reserve (RRS) within ten minutes of a frequency deviation that results in significant depletion of RRS by restoring frequency to its scheduled value to return the system to normal;  (b) Provide energy or continued Load interruption to avoid or during the implementation of an Energy Emergency Alert (EEA);  (c) Provide backup regulation; and  (d) Be sustained at a specified level for two consecutive hours. |

Non-Spinning Reserve (Non-Spin)

An Ancillary Service that is provided through use of the part of Off-Line Generation Resources that can be synchronized and ramped to a specified output level within 30 minutes (or Load Resources that can be interrupted within 30 minutes) and that can operate (or Load Resources that can be interrupted) at a specified output level for at least one hour. Non-Spin may also be provided from unloaded On-Line capacity that meets the 30-minute response requirement, and that is reserved exclusively for use for this service.

3.17.3 Non-Spinning Reserve Service

(1) Non-Spinning Reserve (Non-Spin) Service is provided by using:

(a) Generation Resources, whether On-Line or Off-Line, capable of:

(i) Being synchronized and ramped to a specified output level within 30 minutes; and

(ii) Running at a specified output level for at least one hour; or

(b) Controllable Load Resources qualified for Dispatch by Security-Constrained Economic Dispatch (SCED) and capable of:

(i) Ramping to an ERCOT-instructed consumption level within 30 minutes; and

(ii) Consuming at the ERCOT-instructed level for at least one hour.

(2) The Non-Spin may be deployed by ERCOT to increase available reserves in Real-Time Operations.

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| ***[NPRR863: Insert Section 3.17.4 below upon system implementation:]***  ***3.17.4 ERCOT Contingency Reserve Service***  (1) ERCOT Contingency Reserve Service (ECRS) is a service that is provided using capacity that can be sustained at a specified level for two consecutive hours and is used to restore or maintain the frequency of the ERCOT System:  (a) In response to significant depletion of RRS;  (b) As backup Regulation Service; and  (c) By providing energy to avoid getting into or during an Energy Emergency Alert (EEA).  (2) ECRS may be provided through one or more of the following means:  (a) From On-Line or Off-Line Resources as prescribed in the Operating Guides following a significant frequency deviation in the ERCOT System; and  (b) Either manually or by using a four-second signal to provide energy on deployment by ERCOT.  (3) ECRS may be used to provide energy prior to or during the implementation of an EEA. ECRS provides Resource capacity, or capacity from interruptible Load available for deployment on ten minutes’ notice.  (4) ECRS may be provided by:  (a) Unloaded, On-Line Generation Resource capacity;  (b) Quick Start Generation Resources (QSGRs);  (c) Load Resources that may or may not be controlled by high-set, under-frequency relays;  (d) Controllable Load Resources; and  (e) Generation Resources operating in synchronous condenser fast-response mode as defined in the Operating Guides. |

4.4.7.2.1 Ancillary Service Offer Criteria

(1) Each Ancillary Service Offer must be submitted by a QSE and must include the following information:

(a) The selling QSE;

(b) The Resource represented by the QSE from which the offer would be supplied;

(c) The quantity in MW and Ancillary Service type from that Resource for this specific offer and the specific quantity in MW and Ancillary Service type of any other Ancillary Service offered from this same capacity;

(d) An Ancillary Service Offer linked to a Three-Part Supply Offer from a Resource designated to be Off-Line for the offer period in its COP may only be struck if the Three-Part Supply Offer is struck. The total capacity struck must be within limits as defined in item (4)(c)(iii) of Section 4.5.1, DAM Clearing Process;

(e) An Ancillary Service Offer linked to other Ancillary Service Offers or an Energy Offer Curve from a Resource designated to be On-Line for the offer period in its COP may only be struck if the total capacity struck is within limits as defined in item (4)(c)(iii) of Section 4.5.1;

(f) The first and last hour of the offer;

(g) A fixed quantity block, or variable quantity block indicator for the offer:

(i) If a fixed quantity block, not to exceed 150 MW, which may only be offered by a Load Resource controlled by high-set under-frequency relay providing RRS, and which may clear at a Market Clearing Price for Capacity (MCPC) below the Ancillary Service Offer price for that block, the single price (in $/MW) and single quantity (in MW) for all hours offered in that block; or

(ii) If a variable quantity block, which may be offered by a Generation Resource or a Load Resource, the single price (in $/MW) and single “up to” quantity (in MW) contingent on the purchase of all hours offered in that block; and

(h) The expiration time and date of the offer.

(2) A valid Ancillary Service Offer in the DAM must be received before 1000 for the effective DAM. A valid Ancillary Service Offer in an SASM must be received before the applicable deadline for that SASM.

(3) No Ancillary Service Offer price may exceed the System-Wide Offer Cap (SWCAP) (in $/MW). No Ancillary Service Offer price may be less than $0 per MW.

(4) The minimum amount per Resource for each Ancillary Service product that may be offered is one-tenth (0.1) MW.

(5) A Resource may offer more than one Ancillary Service.

(6) Offers for Load Resources may be adjusted to reflect Distribution Losses in accordance with Section 8.1.1.2, General Capacity Testing Requirements.

(7) A Load Resource that is qualified to perform as a Controllable Load Resource may not offer to provide Ancillary Services as a Controllable Load Resource and a Load Resource controlled by high-set under-frequency relay simultaneously behind a common breaker.

(8) A QSE shall ensure that any ESR offering Non-Spin shall have expected stored energy greater than or equal to the total quantity of Non-Spin offered for all possible consecutive four-hour periods of the Operating Day.

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| ***[NPRR863, NPRR1008, NPRR1014, and NPRR1093: Replace applicable portions of Section 4.4.7.2.1 above with the following upon system implementation for NPRR863, NPRR1014, or NPRR1093; or upon system implementation of the Real-Time Co-Optimization (RTC) project for NPRR1008:]***  4.4.7.2.1 Resource-Specific Ancillary Service Offer Criteria  (1) Each Resource-Specific Ancillary Service Offer must be submitted by a QSE and must include the following information:  (a) The selling QSE;  (b) The Resource represented by the QSE from which the offer would be supplied;  (c) The quantity in MW and Ancillary Service type from that Resource for this specific offer and the specific quantity in MW and Ancillary Service type of any other Ancillary Service offered from this same capacity;  (d) A Resource-Specific Ancillary Service Offer linked to a Three-Part Supply Offer from a Resource designated to be Off-Line for the offer period in its COP may only be struck if the Three-Part Supply Offer is struck. The total capacity struck must be within limits as defined in item (4)(c)(iii) of Section 4.5.1, DAM Clearing Process;  (e) A Resource-Specific Ancillary Service Offer linked to other Resource-Specific Ancillary Service Offers or an Energy Offer Curve or Energy Bid/Offer Curve from a Resource designated to be On-Line for the offer period in its COP may only be struck if the total capacity struck is within limits as defined in item (4)(c)(iii) of Section 4.5.1;  (f) The first and last hour of the offer;  (g) A fixed quantity block or variable quantity block indicator for the offer:  (i) If a fixed quantity block, not to exceed 150 MW, which may only be offered by a Load Resource that is not a Controllable Load Resource and that is offering to provide RRS, ECRS, or Non-Spin, and which may clear at a Market Clearing Price for Capacity (MCPC) below the Resource-Specific Ancillary Service Offer price for that block, the single price (in $/MW) and single quantity (in MW) for all hours offered in that block. This fixed quantity block indicator will only be considered in the DAM and will be ignored for awarding of Ancillary Services in the Real-Time Market (RTM); or  (ii) If a variable quantity block, which may be offered by a Generation Resource, an ESR, or a Load Resource, the single price (in $/MW) and single “up to” quantity (in MW) contingent on the purchase of all hours offered in that block. This variable quantity block indicator will only be considered in the DAM and will be ignored for awarding of Ancillary Services in the RTM; and  (h) The expiration time and date of the offer.  (2) A valid Resource-Specific Ancillary Service Offer in the DAM must be received before 1000 for the effective DAM.  (3) No Resource-Specific Ancillary Service Offer received before 1000 in the Day-Ahead may contain a price exceeding the Day-Ahead System-Wide Offer Cap (DASWCAP) (in $/MW). No Resource-Specific Ancillary Service Offer received after 1430 in the Day-Ahead may contain a price exceeding the Real-Time System-Wide Offer Cap (RTSWCAP) (in $/MW). No Ancillary Service Offer price may be less than $0 per MW.  (4) The minimum amount per Resource for each Ancillary Service product that may be offered is one-tenth (0.1) MW.  (5) A Resource may offer more than one Ancillary Service.  (6) A Load Resource, that is not a Controllable Load Resource, may simultaneously offer RRS, ECRS, and Non-Spin in a DAM and be awarded RRS, ECRS, and Non-Spin for the same Operating Hour in the DAM, but will not be awarded Non-Spin and RRS on the same Load Resource simultaneously in Real-Time.  (7) Offers for Load Resources may be adjusted to reflect Distribution Losses in accordance with Section 8.1.1.2, General Capacity Testing Requirements.  (8) A Load Resource that is qualified to perform as a Controllable Load Resource may not offer to provide Ancillary Services as a Controllable Load Resource and a Load Resource controlled by high-set under-frequency relay simultaneously behind a common breaker.  (9) A QSE shall ensure that any ESR offering Non-Spin shall have expected stored energy greater than or equal to the total quantity of Non-Spin offered for all possible consecutive four-hour periods of the Operating Day. |

8.1.1.2 General Capacity Testing Requirements

(1) Within the first 15 days of each Season, each QSE shall provide ERCOT a Seasonal HSL for any Generation Resource with a capacity greater than ten MW that will be operated during that Season. ERCOT shall provide an appropriate form for QSEs to submit their Seasonal HSL data. The Seasonal HSL form shall take into account auxiliary Load and gross and net real power capability of the Generation Resource. Each QSE shall update its COP and telemetry, as necessary, to reflect the HSL of each of its Generation Resources in a given operating interval as well as other operational limitations. The HSL shown in the COP for a Generation Resource may not be ramp rate-limited while the Real-Time telemetered value of HSL for the Generation Resource may be ramp rate-limited by the QSE representing the Generation Resource in order for the Generation Resource to meet its HSL using the testing process described in paragraph (2) below.

(2) To verify that the HSL reported by telemetry is achievable, ERCOT may, at its discretion, conduct an unannounced Generation Resource test. At a time determined solely by ERCOT, ERCOT will issue a Verbal Dispatch Instruction (VDI) to the QSE to operate the designated Generation Resource at its HSL as shown in the QSE’s telemetry at the time the test is initiated. The QSE shall immediately upon receiving the VDI release all Ancillary Service obligations carried by the unit to be tested and shall telemeter Resource Status as “ONTEST.” The QSE shall not be required to start the designated Generation Resource if it is not already On-Line when ERCOT announces its intent to test the Resource. If the designated Generation Resource is operating at its LSL when ERCOT sends the VDI to begin the test, the QSE shall have up to 60 minutes to allow the Resource to reach 90% of its HSL as shown by telemetry and up to an additional 20 minutes for the Resource to reach the HSL shown by telemetry at the time the test is initiated. This time requirement does not apply to nuclear-fueled Generation Resources. If the designated Generation Resource is operating between its LSL and 50% of its HSL shown by telemetry when ERCOT begins the test, the QSE shall have 60 minutes for the Resource to reach its HSL. If the Resource is operating at or above 50% of its HSL shown by telemetry when ERCOT begins the test, the QSE shall have 30 minutes for the Resource to reach its HSL. Once the designated Generation Resource reaches its HSL, the QSE shall hold it at that output level for a minimum of 30 minutes. The HSL for the designated Generation Resource shall be determined based on the Real-Time averaged MW telemetered by the Resource during the 30 minutes of constant output. After each test, the QSE representing the Generation Resource will complete and submit the test form using the Net Dependable Capability and Reactive Capability (NDCRC) application located on the Market Information System (MIS) Secure Area within two Business Days.

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| [NPRR1011: Replace paragraph (2) above with the following upon system implementation of the Real-Time Co-Optimization (RTC) project:]  (2) To verify that the HSL reported by telemetry is achievable, ERCOT may, at its discretion, conduct an unannounced Generation Resource test. At a time determined solely by ERCOT, ERCOT will issue a Verbal Dispatch Instruction (VDI) to the QSE to operate the designated Generation Resource at its HSL as shown in the QSE’s telemetry at the time the test is initiated. Immediately upon receiving the VDI, the QSE shall telemeter Resource Status as “ONTEST.” The QSE shall not be required to start the designated Generation Resource if it is not already On-Line when ERCOT announces its intent to test the Resource. If the designated Generation Resource is operating at its LSL when ERCOT sends the VDI to begin the test, the QSE shall have up to 60 minutes to allow the Resource to reach 90% of its HSL as shown by telemetry and up to an additional 20 minutes for the Resource to reach the HSL shown by telemetry at the time the test is initiated. This time requirement does not apply to nuclear-fueled Generation Resources. If the designated Generation Resource is operating between its LSL and 50% of its HSL shown by telemetry when ERCOT begins the test, the QSE shall have 60 minutes for the Resource to reach its HSL. If the Resource is operating at or above 50% of its HSL shown by telemetry when ERCOT begins the test, the QSE shall have 30 minutes for the Resource to reach its HSL. Once the designated Generation Resource reaches its HSL, the QSE shall hold it at that output level for a minimum of 30 minutes. The HSL for the designated Generation Resource shall be determined based on the Real-Time averaged MW telemetered by the Resource during the 30 minutes of constant output. After each test, the QSE representing the Generation Resource will complete and submit the test form using the Net Dependable Capability and Reactive Capability (NDCRC) application located on the Market Information System (MIS) Secure Area within two Business Days. |

(3) ERCOT may test multiple Generation Resources within a single QSE within a single 24-hour period. However, in no case shall ERCOT test more than two Generation Resources within one QSE simultaneously. All Resources On-Line in a Combined-Cycle Configuration will be measured on an aggregate capacity basis. All QSEs associated with a jointly owned unit will be tested simultaneously. Hydro, wind, and PhotoVoltaic (PV) generation will be excluded from unannounced generation capacity testing. ERCOT shall not perform an unannounced Generation Resource test during a Watch or Energy Emergency Alert (EEA) event. If an unannounced Generation Resource test is underway when a Watch or EEA event commences, ERCOT may cancel the test.

(4) Should the designated Generation Resource fail to reach its HSL shown in its telemetry within the time frame set forth herein, the Real-Time averaged MW telemetered during the test shall be the basis for the new HSL for the designated Generation Resource for that Season. The QSE shall have the opportunity to request another test as quickly as possible (at a time determined by ERCOT) and may retest up to two times per month. The QSE may also demonstrate an increased value of HSL by operating the Generation Resource at an Output Schedule for at least 30 minutes. In order to raise an output schedule above the Seasonal HSL, the QSE may set the Resource telemetered HSL equal to its output temporarily for the purposes of the demonstration tests. After either a retest or a demonstration test, the MW capability of the Generation Resource based on the average of the MW production telemetered during the test shall be the basis for the new HSL for the designated Generation Resource for that Season. Any requested retest must take place within three Business Days after the request for retest.

(5) The telemetered value of HSL for the Generation Resource shall only be used for testing purposes as described in this Section or for system reliability calculations.

(6) A Resource Entity owning a hydro unit operating in the synchronous condenser fast response mode to provide hydro RRS shall evaluate the maximum capability of the Resource each Season.

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| [NPRR863: Replace paragraph (6) above with the following upon system implementation:]  (6) A Resource Entity owning a Generation Resource operating in the synchronous condenser fast response mode to provide RRS or ECRS shall evaluate the maximum capability of the Resource each Season. |

(7) ERCOT shall maintain historical records of unannounced Generation Resource test results, using the information contained therein to adjust the Reserve Discount Factor (RDF) subject to the approval of the appropriate TAC subcommittee. ERCOT shall report to the Reliability and Operations Subcommittee (ROS) annually or as requested by ROS the aggregated results of such unannounced testing (excluding retests), including, but not limited to, the number and total capacity of Resources tested, the percentage of Resources that met or exceeded their HSL reported by telemetry, the percentage that failed to meet their HSL reported by telemetry, and the total MW capacity shortfall of those Resources that failed to meet their HSL reported by telemetry.

(8) QSEs who receive a VDI to operate the designated Generation Resource for an unannounced Generation Resource test may be considered for additional compensation under Section 6.6.9, Emergency Operations Settlement. Any unannounced Generation Resource test VDI that ERCOT issues as a result of a QSE-requested retest will not be considered for additional compensation under Section 6.6.9.

(9) All unannounced Generation Resource test VDIs will be considered as an instructed deviation for compliance purposes.

(10) Before the start of each Season, a QSE shall provide ERCOT a list identifying each Controllable Load Resource that is expected to operate in a Season as a provider of Ancillary Service. Prior to the beginning of each Season, QSEs shall identify the Controllable Load Resources to be tested during the Season and the specific week of the test if known. Any Controllable Load Resource for which the QSE desires qualification to provide Ancillary Services shall have its Net Dependable Capability verified prior to providing Ancillary Services.

(11) ERCOT shall verify the telemetry attributes of each qualified Load Resource as follows:

(a) ERCOT shall annually verify the telemetry attributes of each Load Resource providing RRS using a high-set under-frequency relay. In addition, once every two years, any Load Resource qualified to provide RRS using a high-set under-frequency relay shall test the correct operation of the under-frequency relay or the output from the solid-state switch, whichever applies. However, if a Load Resource’s performance has been verified through response to an actual event, the data from the event can be used to meet the annual telemetry verification requirement for that year and the biennial relay-testing requirement.

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| [NPRR863: Replace paragraph (a) above with the following upon system implementation:]  (a) ERCOT shall annually verify the telemetry attributes of each Load Resource providing RRS or ECRS using a high-set under-frequency relay. In addition, once every two years, any Load Resource qualified to provide RRS or ECRS using a high-set under-frequency relay shall test the correct operation of the under-frequency relay or the output from the solid-state switch, whichever applies. However, if a Load Resource’s performance has been verified through response to an actual event, the data from the event can be used to meet the annual telemetry verification requirement for that year and the biennial relay-testing requirement. |

(b) ERCOT shall periodically validate the telemetry attributes of each Controllable Load Resource. In the case of an Aggregate Load Resource (ALR), ERCOT will follow the validation procedures described in the document titled “Requirements for Aggregate Load Resource Participation in the ERCOT Markets.” If a QSE fails to meet its telemetry validation requirements, ERCOT may suspend the QSE and/or the Controllable Load Resource from participation in the applicable services or markets. If disqualified pursuant to this paragraph, a QSE or Controllable Load Resource may reestablish its qualification by submitting a corrective action plan to ERCOT that identifies actions taken to correct performance deficiencies and by successfully passing a new ERCOT telemetry validation test.

(12) Telemetry values of a Load Resource may be adjusted to reflect Distribution Losses, based on the ERCOT-forecasted Distribution Loss Factors (DLFs). Load Resources may be adjusted for Distribution Losses using the same distribution loss code as assigned to the ESI ID.

(13) A specific Load Resource to be used for the first time to provide Regulation, RRS, Non-Spin or energy by following Security-Constrained Economic Dispatch (SCED) Base Points, must be tested to ERCOT’s reasonable satisfaction using actual Demand response as part of its qualification. The test must take place at a time mutually selected by the QSE representing the Load Resource and ERCOT. ERCOT shall make available its standard test document for Load Resource qualification required under this Section on the ERCOT website.

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| [NPRR863: Replace paragraph (13) above with the following upon system implementation:]  (13) A specific Load Resource to be used for the first time to provide Regulation, RRS, ECRS, Non-Spin or energy by following Security-Constrained Economic Dispatch (SCED) Base Points, must be tested to ERCOT’s reasonable satisfaction using actual Demand response as part of its qualification. The test must take place at a time mutually selected by the QSE representing the Load Resource and ERCOT. ERCOT shall make available its standard test document for Load Resource qualification required under this Section on the ERCOT website. |

(14) Any changes to a Load Resource including changes to its capability to provide Ancillary Service requires updates by the Load Resource to the registration information detailing the change. For Non-Opt-In Entities (NOIEs) representing specific Load Resources that are located behind the NOIE Settlement Metering points, the NOIE shall provide an alternative unique descriptor of the qualified Load Resource for ERCOT’s records.

(15) Qualification of a Resource, including a Load Resource, remains valid for that Resource in the event of a change of QSE for the Resource, provided that the new QSE demonstrates to ERCOT’s reasonable satisfaction that the new QSE has adequate communications and control capability for the Resource.

(16) For purposes of qualifying Quick Start Generation Resources (QSGRs), ERCOT shall issue a unit-specific VDI for the MW amount that the QSE is requesting to qualify its QSGR to provide. The QSE shall telemeter an ONTEST Resource Status. The QSGR will only be qualified to provide an amount not to exceed the observed output at the end of a ten-minute test period.

(17) ERCOT may revoke the QSGR qualification of any QSGR for failure to comply with the following performance standard:

(a) A QSGR, available for deployment by SCED, is deemed to have failed to start for the purpose of this performance measure if the QSGR fails to achieve at least 90% of the minimum ERCOT SCED Base Point, including zero Base Points, within ten minutes of the initial ERCOT SCED Base Point that dispatched the QSGR above zero MW output.

(b) ERCOT may revoke a QSGR’s qualification if within a rolling 90-day period the number of QSGR failures to start, as determined by paragraph (a) above, exceeds the higher of three failures or 10% of the number of quick start mode startups made in response to SCED deployments.

(18) If disqualified pursuant to paragraph (17) above, a QSGR may reestablish its QSGR qualification by submitting a corrective action plan to ERCOT that identifies actions taken to correct performance deficiencies and by successfully passing a new ERCOT QSGR test.

(19) If an Energy Storage Resource (ESR) is telemetering a non-zero Non-Spin Ancillary Service Responsibility, to verify that the Ancillary Service Responsibility reported by telemetry is achievable based on the state of charge the Resource is maintaining in Real-Time, ERCOT may, at its discretion, conduct an unannounced Non-Spin capability test. At a time determined solely by ERCOT, ERCOT will issue a Verbal Dispatch Instruction (VDI) to the QSE to operate the designated ESR at an output level that delivers the total state of charge the ESR was obligated to provide based on either (a) the Non-Spin Ancillary Service Responsibility as shown in the ESR’s telemetry over the four hours prior to the initiation of the test or (b) based on the ESR’s Current Operating Plan Non-Spin Ancillary Service Responsibility for the following four hours. If the ESR has received a non-zero Base Point in the prior four-hour period and ERCOT chooses to request an unannounced test based on the telemetered Non-Spin Ancillary Service Responsibility, then the ESR shall have the option to request a later test date and time, but such test shall not be unreasonably delayed. Upon the beginning of the unannounced Non-Spin capability test, the QSE shall immediately upon receiving the VDI release all Ancillary Service Obligations carried by the ESR to be tested and shall telemeter Resource Status as “ONTEST.” Once the designated ESR reaches the target output level, the QSE shall hold at that output level for a minimum duration required to verify ESR’s state of charge capability to meet the Non-Spin Ancillary Service Responsibility based on either the prior four hours of telemetered Non-Spin Ancillary Service Responsibility or the next four hours of COP Non-Spin Ancillary Service Responsibility. After each test, the QSE representing the ESR will complete and submit the test form using the Net Dependable Capability and Reactive Capability (NDCRC) application located on the Market Information System (MIS) Secure Area within two Business Days. Should the designated ESR fail to demonstrate the state of charge level needed to meet the Non-Spin Ancillary Service Responsibility shown (a) in its telemetry during the four hours prior to the test or (b) in the COP for the following four hours, the Real-Time averaged MW telemetered during the test shall be the basis for the Non-Spin capacity that the Resource may provide for the following one month upon the first such failure to demonstrate the state of charge needed to meet the Non-Spin Ancillary Service Responsibility and six months upon the second such failure, and any failure thereafter. The QSE shall have the opportunity to request another test as quickly as possible (at a time determined by ERCOT) and may retest up to two times per month. After either a retest or a demonstration test, the average of the MW output telemetered during the test shall be the basis for the new Non-Spin capability for the designated ESR. Any requested retest must take place within three Business Days after the request for retest or a mutually agreeable date.

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| [NPRR1096: Replace paragraph (19) above with the following upon system implementation of NPRR863 and NPRR1096:]  (19) If an Energy Storage Resource (ESR) is telemetering a non-zero Non-Spin Ancillary Service Responsibility, to verify that the Ancillary Service Responsibility reported by telemetry is achievable based on the state of charge the Resource is maintaining in Real-Time, ERCOT may, at its discretion, conduct an unannounced Non-Spin capability test. At a time determined solely by ERCOT, ERCOT will issue a Verbal Dispatch Instruction (VDI) to the QSE to operate the designated ESR at an output level that delivers the total state of charge the ESR was obligated to provide based on either (a) the Non-Spin Ancillary Service Responsibility as shown in the ESR’s telemetry over the four hours prior to the initiation of the test or (b) based on the ESR’s Current Operating Plan Non-Spin Ancillary Service Responsibility for the following four hours. If the ESR has received a non-zero Base Point in the prior four-hour period and ERCOT chooses to request an unannounced test based on the telemetered Non-Spin Ancillary Service Responsibility, then the ESR shall have the option to request a later test date and time, but such test shall not be unreasonably delayed. Upon the beginning of the unannounced Non-Spin capability test, the QSE shall immediately upon receiving the VDI release all Ancillary Service Obligations carried by the ESR to be tested and shall telemeter Resource Status as “ONTEST.” Once the designated ESR reaches the target output level, the QSE shall hold at that output level for a minimum duration required to verify ESR’s state of charge capability to meet the Non-Spin Ancillary Service Responsibility based on either the prior four hours of telemetered Non-Spin Ancillary Service Responsibility or the next four hours of COP Non-Spin Ancillary Service Responsibility. After each test, the QSE representing the ESR will complete and submit the test form using the Net Dependable Capability and Reactive Capability (NDCRC) application located on the Market Information System (MIS) Secure Area within two Business Days. Should the designated ESR fail to demonstrate the state of charge level needed to meet the Non-Spin Ancillary Service Responsibility shown (a) in its telemetry during the four hours prior to the test or (b) in the COP for the following four hours, the Real-Time averaged MW telemetered during the test shall be the basis for the Non-Spin capacity that the Resource may provide for the following 3 months upon the first such failure to demonstrate the state of charge needed to meet the Non-Spin Ancillary Service Responsibility and 12 months upon the second such failure, and any failure thereafter. The QSE shall have the opportunity to request another test as quickly as possible (at a time determined by ERCOT) and may retest up to two times per month. After either a retest or a demonstration test, the average of the MW output telemetered during the test shall be the basis for the new Non-Spin capability for the designated ESR. Any requested retest must take place within three Business Days after the request for retest or a mutually agreeable date. |

8.1.1.3.3 Non-Spinning Reserve Capacity Monitoring Criteria

(1) ERCOT shall continuously monitor the capacity of each Resource to provide Non-Spin. ERCOT shall consider for each Resource providing Non-Spin capacity, the actual generation, or Load, the Ancillary Service Schedule for Non-Spin, the HSL/Maximum Power Consumption (MPC), the LSL/Low Power Consumption (LPC), ramp rates, and any other commitments of Ancillary Service capacity. ERCOT shall also monitor Non-Spin provided on Resources with OFFNS status.

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| [NPRR1011: Replace paragraph (1) above with the following upon system implementation of the Real-Time Co-Optimization (RTC) project:]  (1) ERCOT shall continuously monitor the capacity of each Resource to provide Non-Spin. ERCOT shall consider for each Resource the Resource Status, the actual generation or Load, the Ancillary Service award for Non-Spin, the HSL/Maximum Power Consumption (MPC), the LSL/Low Power Consumption (LPC), ramp rates, and the Resource’s qualification to provide Non-Spin. ERCOT shall also monitor Non-Spin available from and awarded to qualified Resources with an OFF status.  (2) For the Non-Spin capability provided for a Resource to ERCOT by the Resource’s QSE, the amount of Non-Spin reflected in that capability must be limited to the amount of Non-Spin that can be sustained by the Resource for at least one hour. |

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| [NPRR863 and NPRR1011: Insert applicable portions of Section 8.1.1.3.4 below upon system implementation for NPRR863; or upon system implementation of the Real-Time Co-Optimization (RTC) project for NPRR1011:]  **8.1.1.3.4 ERCOT Contingency Reserve Service Capacity Monitoring Criteria**  (1) ERCOT shall continuously monitor the capacity of each Resource to provide ECRS. ERCOT shall consider for each Resource the Resource Status, the On-Line versus Off-Line status, actual generation or Load, the Ancillary Service award for ECRS, the HSL, the LSL, ramp rates, relay status, and the Resource’s qualification to provide ECRS.  (2) For the ECRS capability provided for a Resource to ERCOT by the Resource’s QSE, the amount of ECRS reflected in that capability must be limited to the amount of ECRS that can be sustained by the Resource for at least two consecutive hours.  (3) For Load Resources, excluding Controllable Load Resources, that have an ECRS award, the amount of ECRS capacity provided must be measured as the Load Resource’s average Load level in the last five minutes.  (4) A Resource that is capable of providing ECRS and that has a Resource Status code of ONSC and an ECRS award is considered to be providing capability to the extent that it is not using that capacity to provide energy or other Ancillary Services. |