

Nodal Protocol Revision Request

NPRR Number		NPRR Title	Emergency Response Service (ERS) Weather Sensitive Loads
Date Posted			

Requested Resolution (Normal or Urgent, and justification for Urgent status)	Normal
Nodal Protocol Section(s) Requiring Revision (Include Section No. and Title)	
Market Guide Section Requiring Revision (If applicable)	
Revision Description	<p>This NPRR establishes rules for participation in ERS by Loads with demand response capability that is highly sensitive to weather conditions. It creates a new category of ERS Resource — Weather Sensitive ERS Load — and provides for their participation in ERS under the following conditions:</p> <ul style="list-style-type: none"> • ERS Weather Sensitive Loads would be eligible to participate as ERS WSLs only during ERS Time Periods that correlate to peak weather conditions (e.g., Business Hours 2 and Business Hours 3 during the June-September Contract Term). • QSEs representing ERS WSLs would be compensated for those Resources based solely on their performance during deployment events and during unannounced testing. • Because ERCOT expects this category of Resource to consist primarily of aggregations of small customer Loads which may be subject to growth and/or churn, QSEs representing ERS WSLs would be allowed to adjust the population of their aggregations on a monthly basis during a Contract Term. The NPRR establishes a structure of financial penalties for QSEs to protect against overly aggressive offers during the procurement process.
Reason for Revision	<p>ERS currently is procured for four-month Contract Terms and requires participating Loads to meet availability and performance requirements for a fixed capacity obligation for the entire term. This has limited the ability of weather-sensitive Loads to offer their full potential.</p> <p>Meanwhile, peak demand in ERCOT (both in summer and winter) is driven by weather-sensitive Loads, primarily residential and small commercial air conditioning (in the summer) and electric heat (in winter). This NPRR is expected to make ERS more accessible for HVAC-driven Loads, in turn enhancing grid reliability by establishing a less restrictive market for such Loads to participate in ERS.</p>

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Credit Implications (Yes or No, and summary of impact)	
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Business Case

Business Case instructions: To allow for comprehensive NPRR consideration, please fill out the Business Case section below and provide as much detailed information as possible. Wherever possible, please include reasons, explanations, and cost benefit calculation pertaining to the NPRR. Insert additional rows as needed.

Business Case	1	Describe qualitative benefits • Examples: regulatory requirement, data transparency enhancement, etc.
	2	Explain in detail possible benefit calculations to support quantifiable benefits • Example: change is expected to save 50 market participants 25 hours/week at \$65/hour
	3	Comment on impacts to market segments • Example: potential positive impact to consumer segment in the form of lower energy prices
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Sponsor

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Market Segment	n/a

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Proposed Protocol Language Revision

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2.1 DEFINITIONS

Emergency Response Service (ERS) Weather Sensitive Load

A type of ERS Load determined by ERCOT to have demand response capability that is influenced significantly by weather conditions.

3.14.3.5 ERS Weather-Sensitive Loads

- (1) ERCOT may procure ERS from ERS Weather Sensitive Loads under the provisions in this subsection. Unless specifically addressed in this subsection, ERS Weather Sensitive Loads are subject to the same market rules applicable to other ERS Resources.
- (2) In order to qualify as an ERS Weather Sensitive Load, an ERS Load must meet one of the following criteria:
 - (a) The ERS Load must consist exclusively of residential sites; or
 - (b) The ERS Load must consist exclusively of non-residential sites and must be designated by ERCOT as weather-sensitive.
- (3) ERCOT shall develop a process for determining whether an ERS Load qualifies as weather-sensitive and shall post a document describing the process on the ERCOT web site.
- (4) An ERS Weather Sensitive Load is eligible to participate as a Weather Sensitive Load during ERS Time Periods and ERS Standard Contract Terms designated by ERCOT in the ERS Request for Proposal.
- (6) An ERS Weather Sensitive Load may participate in other non-overlapping ERS Time Periods as a non-Weather Sensitive Load under applicable ERS market rules.
- (7) An ERS Weather Sensitive Load must be capable of meeting its event performance obligations relevant to its assigned baseline within XX minutes of an ERCOT Dispatch Instruction to its QSE.
- (8) The minimum capacity offer for an ERS Weather Sensitive Load is one-half (0.5) MW.
- (9) A QSE may adjust the population of an aggregated ERS Weather Sensitive Load once per month during an ERS Contract Term via a process defined by ERCOT. Such adjustments shall be effective on the first day of each month following the first month.
 - (a) The population of an aggregated ERS Weather Sensitive Load may increase by no

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Comment [pw1]: Need to discuss method and timing of dispatch.

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more than 100 percent of its initial size during an ERS Contract Term.

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(b) Any sites added to an ERS Weather Sensitive Load are subject to the same requirements for historical meter data as the other sites in the aggregation, as described in Section 8.1.3.1.5.1 (1).

(10) A QSE may base the ERS Offer for an aggregated ERS Weather Sensitive Load on the amount of demand response capability it anticipates the ERS Weather Sensitive Load will have during the final month of the ERS Contract Term and during peak weather conditions. As part of the Offer, the QSE shall provide ERCOT with its projection for the number of sites in the aggregation during the final month of the ERS Contract Term.

(a) Over-estimation by the QSE of the final size of an aggregation or of the average demand response capability for the members of the aggregation may subject the QSE to reduced payment for the ERS Weather Sensitive Load, as described in Section 8.1.3.1.5.2.

(11) An ERS Weather Sensitive Load shall be subject to a maximum number of deployment events equal to two times the number of months of obligation in an ERS Contract Term. The duration of the Sustained Response Period for each deployment event shall be a maximum of three hours.

(12) ERS Weather Sensitive Loads are not subject to the renewal opt-in provisions that apply to other ERS Resources.

8.1.3.1.5 Performance Criteria for ERS Weather-Sensitive Loads

(1) ERS Weather Sensitive Loads are subject to event performance, test performance, and availability requirements as described in this subsection. Unless specifically addressed in this subsection, ERS Weather Sensitive Loads are subject to the same event performance, test performance, and availability criteria for that apply to other ERS Resources.

8.1.3.1.5.1 Baseline Assignments for ERS Weather-Sensitive Loads

(1) ERCOT shall assign an ERS Weather Sensitive Load to either the Regression Baseline performance evaluation methodology or the Control Group Baseline performance evaluation methodology. Both methodologies are described in the document entitled "Default Baseline Methodologies" posted to the ERCOT website.

(a) At least nine months of interval data for all sites within an ERS Weather Sensitive Load are required for the load to be eligible for the Regression Baseline evaluation methodology.. If one or more sites lack sufficient interval data, the ERS Weather Sensitive Load will either be evaluated using the Control Group Baseline performance evaluation methodology or will be disqualified from

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participation as an ERS Weather Sensitive Load.

(b) If ERCOT determines that the ERS Weather Sensitive Load may be assigned to either baseline methodology, the QSE may select its preferred option.

(c) If the ERS Weather Sensitive Load consists of non-residential sites, the ERS Load must qualify for the Regression Baseline.

(2) For an ERS Weather Sensitive Load assigned to the Regression Baseline, ERCOT will assign each site in the ERS Weather Sensitive Load to one of two numbered groups. Group designations are subject to change if the QSE adjusts the population of the ERS Weather Sensitive Load during the ERS Contract Term, as described in Section 3.14.3.5 (9).

(3) For an ERS Weather Sensitive Load assigned to the Control Group Baseline, ERCOT will divide the aggregation into multiple randomly assigned numbered groups, one or more of which will be designated as the control group(s) at time of dispatch. ERCOT will strive to minimize control group size while preserving the ability to achieve accurate demand response measurement and verification.

(a) The number of groups, group size and group designations are subject to change if the QSE adjusts the population of the ERS Weather Sensitive Load during the ERS Contract Term, as described in Section 3.14.3.5 (9).

(b) Sites in an ERS Weather Sensitive Load assigned to the Control Group Baseline are not required to have historical meter data.

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8.1.3.1.5.2 Event Performance Criteria for ERS Weather Sensitive Loads

- (1) ERCOT shall compute an event performance factor for an ERS Weather Sensitive Load using the methodology described in Section 8.1.3.1.4. The contracted capacity value (OFFERMW) used will be the value submitted by the QSE in its offer, representing the QSE's projection for the size of its aggregation during the final month of the ERS Contract Term and during peak weather conditions.

8.1.3.1.5.3 Testing of ERS Weather Sensitive Loads

- (1) ERCOT shall conduct unannounced testing of each ERS Weather Sensitive Load no more than twice per month during an ERS Contract Term.
 - (a) For no more than two of the tests of an ERS Weather Sensitive Load in an ERS Contract Term, the Sustained Response Period of the test will have a duration of at least one hour.
 - (b) The remaining tests will be conducted according to normal ERCOT ERS testing procedures.
 - (c) At the time of dispatch during a test, ERCOT will not advise the QSE of the test duration.
 - (d) ERCOT may conduct a test during any of an ERS Weather Sensitive Load's obligated hours. However, tests will generally be targeted toward periods of peak weather conditions.
 - (e) For an ERS Weather Sensitive Load assigned to the Regression Baseline, tests will be conducted by group.
 - (e) For an ERS Weather Sensitive Load assigned to the Control Group Baseline, tests will target one or more of the designated groups.
 - (ii) Non-tested groups will serve as the control group.
 - (iii) Selection of groups to be tested will be random and will cycle through the groups within the ERS Weather Sensitive Load.
- (2) ERCOT shall calculate a Test Performance Factor for each test of an ERS Weather Sensitive Load, using the event performance methodology described in Section 8.1.3.1.4.
- (3) The QSE is responsible for managing group assignments and for deploying only the group(s) designated for a test.
- (4) ERCOT will strive to test an individual site no more than once per month, nor more than four times in an ERS Contract Term.

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- (5) When possible, ERCOT will reduce the number of tests administered by the number of deployment events during the ERS Contract Term.

8.1.3.1.5.4 Availability Calculation for ERS Weather Sensitive Loads

- (1) The availability factor methodologies described in Section 8.1.3.1.3 are not applicable to ERS Weather Sensitive Loads.
- (2) ERCOT shall compute an ERS Weather Sensitive Load's availability factor for an ERS Contract Term by calculating the time-weighted average of all Test Performance Factors and all Event Performance Factors, each capped at one.

8.1.3.1.5.5 ERS Weather Sensitive Load Payments and Penalties

- (1) An ERS Weather Sensitive Load's availability factor for an ERS Contract Term shall be the basis for the QSE's payment for that ERS Weather Sensitive Load. An ERS Weather Sensitive Load's event performance factor for an ERS Contract Term shall always be set to 1.
- (2) Notwithstanding the aforementioned, a QSE's payment for an ERS Weather Sensitive Load may be reduced as follows:
- (a) If the actual number of sites in the ERS Weather Sensitive Load during the final month of the ERS Contract Term is less than 90 percent of the number of sites projected by the QSE at the time of Offer submission, as described in Section 3.14.3.5 (10), the availability factor shall be squared.
- (b) If the average demand reduction value per site within the ERS Weather Sensitive Load for all tests and deployment events during the ERS Contract Term is less than 90 percent of the value projected by the QSE at the time of Offer submission, the availability factor shall be squared. ERCOT shall adjust the results of each test and deployment event to normalized peak weather conditions before making this calculation.
- (c) If both (a) and (b) above require the availability factor to be squared, the availability factor shall be cubed.
- (d) ERCOT may waive all or part of the payment reductions described in (a) through (d) above if the ERS Weather Sensitive Load has a capacity obligation of less than 2 MW and/or is participating in its first ERS Contract Term.
- (3) For purposes of calculating the QSE's payment for an ERS Weather Sensitive Load, the ERS Weather Sensitive Load's availability factor shall be included in the calculation of the QSE's portfolio-level availability factor, as described in Section 8.1.3.3.1.

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Notwithstanding this provision, an ERS Weather Sensitive Load's availability factor shall not be included in the calculation of portfolio-level availability for determining whether the QSE has met its availability requirements for an ERS Standard Contract Term, as described in Section 8.1.3.3.1 (1)(a)(iii).

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