

## Concepts for Improving ERS Access for Weather-Sensitive Loads

ERCOT Staff Proposal, Version 2

1. Create new category of ERS Load, limiting participation to residential and weather sensitive non-residential
  - a. Weather-sensitivity test performed by ERCOT for commercial sites
    - i. May use existing weather-sensitivity test in Protocols (applies to Load Profiles), although preference is to create new test
  - b. Residential resources will be presumed weather sensitive
  - c. Aggregations would be residential only or non-residential only
2. Time Periods and Seasons
  - a. Two Time Periods for Summer (Jun – Sep):
    - i. 1 PM – 8 PM, weekdays
    - ii. 1 PM - 8 PM weekends and holidays
  - b. Two Time Periods for Winter (Dec. – Feb), procured through separate auction
    - i. 6 AM – 9 AM weekdays
    - ii. 6 AM – 9 AM weekends and holidays
  - c. Loads may participate in regular ERS (following all rules for regular ERS) for any regular ERS contract term but may not double-dip during any hours
    - i. IE, if offering into weekend/holiday blocks, ineligible for NBH but could offer into BH1 as regular ERS
  - d. Ramp Period of 30 minutes with a disincentive for pre-cooling/pre-heating
    - i. If X percent above baseline during Ramp Period, demand response value during Sustained Response Period derated by Y
3. QSE offers capacity based on planned maximum number of sites during the final month of the contract term and peak day weather conditions
4. Portfolio-first compliance is not applicable for event performance, testing or availability:
  - a. Test and event performance factors based on the maximum offer amount specified on the offer but are capped at one
  - b. Availability factor based on the time-weighted average of all test and event performance factors across the contract term, capped at one

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5. As part of Offer submission, QSEs required to report planned number of sites on which the offer amount is based (based on final month of Contract Term), factoring in growth of aggregation. ERCOT will compute average kW reduction per site based on capacity offered and planned number of sites.
  - a. If actual number of sites at end of Contract Term is less than 90 percent of planned number, availability and event performance/test factors will be squared
  - b. If weather-normalized average kW reduction per site at the end of the contract term is less than 90 percent of original offer, availability and event performance/test factors will be squared
  - c. If both number of sites and weather-normalized average kW reduction are less than 90 percent of offer, both factors shall be cubed rather than squared
  - d. If both the actual number of sites and the weather-normalized average kW reduction at end of Contract Term fall below 70 percent, ERCOT may zero out payment for the ERS Load
  - e. 90 percent threshold may be waived based on small MW reductions (to avoid punishing small start-up aggregations)
6. All Sites in WS ERS Loads must have interval metering
7. Two options for measurement & verification of event/test performance, determined by ERCOT: regression baseline or control group, based on DR population size
  - a. Regression Baseline
    - i. participation limited to sites with 9 months of interval history prior to the beginning of the contract term
    - ii. offer  $\geq$  500 kW so that there is sufficient representation for group level testing
    - iii. Sites will be randomly assigned one of two group numbers
    - iv. Site additions are allowed and take effect on the first of the following month (e.g., maximum of three updates to aggregation per Contract Term) and will be assigned to groups
    - v. Site additions must meet interval history in i. above
  - b. Control group method
    - i. Aggregation divided into numbered groups assigned randomly by ERCOT; ERCOT will evaluate and minimize control group size while yielding sufficient accuracy for load reduction estimates; ERCOT will re-evaluate group sizes as DR population grows and reassign sites to groups accordingly.

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ii. Site additions are allowed and take effect on the first of the following month (e.g., maximum of three updates to aggregation per Contract Term)

iii. Site additions must have interval metering but do not have to meet interval history threshold and will be assigned to groups

iv. Alternatively: Can ERCOT pay based on the full aggregation (with Control Group included)? Assume control group would have followed instruction and performed.

v. Control group methodology may apply only to residential aggs.

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## 8. Testing

- a. ERCOT will schedule two tests per month for all months of contract term
- b. Two of the tests during the contract term will run for at least 1 hour of sustained response
- c. QSEs will not be told test duration prior to test day nor at time of test dispatch
- d. Remaining tests will be less than 30 minutes of sustained response
- e. Tests can occur any time during period of obligation but will generally be targeted to weather more likely to be critical for system reliability
- f. For regression baseline resources, monthly tests will be by group ... no group will be tested more than 4 times in a contract term.
- g. For ERS Loads assigned to the control group methodology, monthly tests will target one or more groups
  - i. Non-tested groups will be used as the control group
  - ii. Test group selection will be random and will cycle through groups.
  - iii. No group will be tested more than four times in a Contract Term

## 9. Deployments

- a. WS ERS Loads are subject to a maximum of 8 actual event deployments per contract term
  - i. To the extent possible, each event deployment shall eliminate at least one future test deployment
- b. Event deployments limited to 3 hours or less of sustained response