
ERCOT Trending Topics

TOPIC: WEATHERIZATION

**Weather Emergency Preparedness Rule
Certified Weatherization Inspector (CWI) Certification
Weatherization Inspections: Winter and Summer**

In this ERCOT Trending Topic, we explain what weatherization is, the importance of ERCOT's Weatherization Inspection program, and how weatherization inspections of transmission and generation facilities are critical to support grid reliability during winter and summer seasons.



FACTS:

Background

In February 2021, during Winter Storm Uri, Texas experienced freezing temperatures for more than 100 consecutive hours. Power plants and natural gas infrastructure experienced availability problems in not providing energy or gas due to the extreme cold temperatures and freezing precipitation, resulting in a prolonged period of customer outages. Following the storm, on June 8, 2021, under Senate Bill 3 of the Texas Legislature, the Public Utility Commission of Texas (PUC) was mandated to require the weatherization of power facilities (generation and transmission), and the Railroad Commission of Texas was mandated to require the weatherization of natural gas infrastructure in the ERCOT region.

The PUC [Weather Emergency Preparedness Rule](#) (16 TAC § 25.55) established initial winter weather emergency standards for generation and transmission facilities in the ERCOT region.

The Weather Emergency Preparedness Rule was developed in two phases:

- **Phase I: Adopted October 19, 2021.** Established a first phase of winter weather emergency preparedness standards for generation and transmission facilities.
- **Phase II: Adopted September 29, 2022.** In addition to the Phase I winter weather emergency preparedness standards, Phase II **added summer weather standards** for generation and transmission facilities. Most parts of Phase II were effective upon adoption; however, several provisions were effective "beginning in 2023."

What are the summer and winter inspection requirements for facilities?

Effective June 1 (summer) and December 1, 2023 (winter), generation and transmission

facilities required to implement measures reasonably expected for them to ensure sustained (continuous) operation during cold and hot temperatures. In winter, facilities are expected to operate down to a specific wind chill temperature, which varies by ERCOT weather zone region.



In summer, these same facilities are expected to operate up to:

- the higher of the maximum ambient (surrounding air or environment) temperature at which they have experienced sustained operations, or
- the summer temperature, which is the 95th percentile maximum average 72-hour temperature, per the [rule requirements](#).

Temperature requirements vary per ERCOT weather zone region. Examples of these temperature requirements are shown in the chart below.

| | Lubbock (Panhandle) | Austin (South Central) |
|---|------------------------|---------------------------|
| Winter: Wind Chill Temperature | -17.6°F | 8.4°F |
| Summer: Ambient (varies) or Summer Temperature Shown | 90.3°F | 92.3°F |

During summer, for the majority of the facilities in the ERCOT region, the maximum ambient temperature at which the facilities have sustained operations will govern. Facilities are also required to create a list of hot and cold weather critical components by those indicated dates. At a minimum, generation and transmission facilities must meet the following summer or winter requirements.

|  Summer Requirements Effective June 1, 2023 |  Winter Requirements Effective December 1, 2023 |
|--|---|
| FACILITIES MUST: | |
| <ul style="list-style-type: none"> Prepare for sustained operation during the greater of maximum temperature the resource has experienced or the 95th percentile maximum average 72-hour temperatures for their weather zone Document a list of hot weather critical components for their site | <ul style="list-style-type: none"> Prepare for sustained operation at the established 95th percentile minimum average 72-hour wind chill temperatures for their weather zone Document a list of cold weather critical components for their site |

Why is weatherization important for grid reliability?

Effective weatherization of power generation and transmission facilities is crucial for system reliability during both summer and winter seasons in Texas. With significant electric demand (Load) growth on the ERCOT System, it is vital that ERCOT's power facilities' infrastructure components are protected and prepared to operate reliably during the summer and winter months when extreme weather conditions can cause electrical demand to peak.

Weatherization of generation and transmission facilities is not that different than what someone may do to prepare and protect their home during summer or winter seasons. For summer or winter, this may include checking the heating, ventilation, and air conditioning (HVAC) system, insulating pipes and garage doors, and sealing any cracks around pipes, windows, and doors. These actions are a form of weatherization preparedness.

Under the Weather Emergency Preparedness Rule, facilities are required to create lists of [cold weather critical components \(CWCCs\)](#) prior to the beginning of the winter season and hot weather critical components (HWCCs) prior to the beginning of the summer season. Each critical component on the list must be protected adequately for the rigors of the season, maintained, and monitored to ensure that it remains in working condition.

When does ERCOT inspect facilities?

Most inspections of facilities occur during the winter season (December – February) and the summer season (June – September). Facilities must maintain seasonal preparation measures throughout the winter or summer.

- **Winter inspections:** By December 1 each year, a facility must complete winter weather emergency preparation measures.
- **Summer inspections:** By June 1 each year, a facility must complete summer weather emergency preparation measures.

Who performs weatherization inspections?

ERCOT has in-house weatherization inspectors who work with Market Participants to inspect power facilities to ensure that they meet PUCT rule requirements and can reliably provide generation and transmission services during extreme conditions. ERCOT has developed a Certified Weatherization Inspector (CWI) program, which requires staff to develop a deep understanding of weatherization principles, techniques, and standards to ensure expertise in support of ERCOT's winter and summer preparedness inspections. ERCOT also supplements its internal staff with contracted support when necessary.

How many facilities has ERCOT inspected?

Since inception in December 2021, the Weatherization Inspection Program successfully met the PUCT requirement to conduct 1,800 inspections over a three-year period. As of the end of January 2025, ERCOT completed 3,222 weatherization inspections of generation and transmission facilities as shown in the chart below. Winter 2024-2025 weatherization inspections are currently underway.

| Generation Facilities | Transmission Facilities | Total Weatherization Inspections |
|-----------------------|-------------------------|----------------------------------|
| 2,160 | 1,062 | 3,222 |

What does ERCOT do to comply with the weatherization inspections rule?

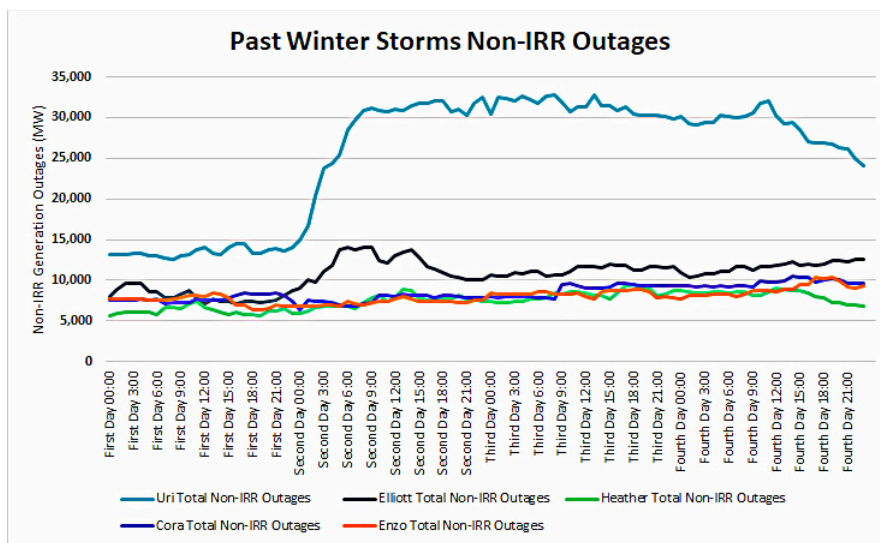
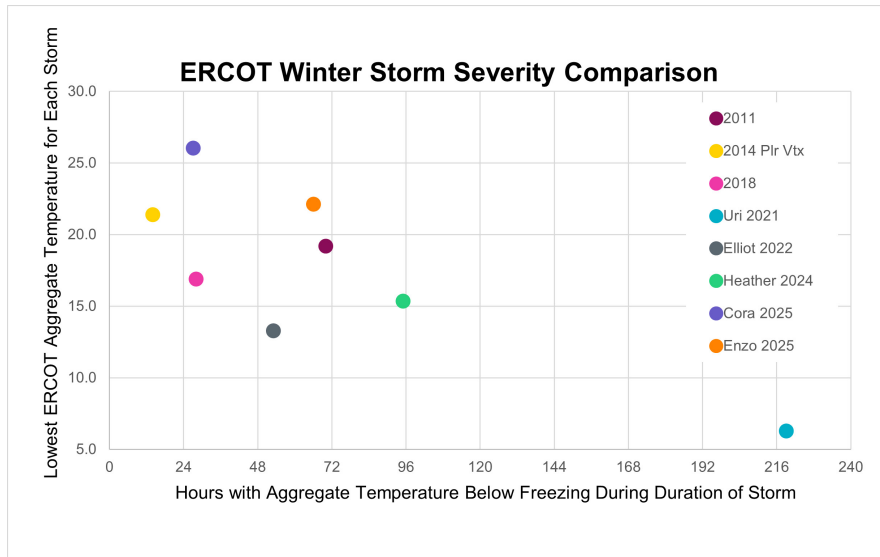
ERCOT must:

- Provide to the PUCT semiannual reports of submissions of Market Participant Declarations of Weather Preparedness
- Develop and maintain checklists for inspections
- Prescribe a form for Declarations of Weather Preparedness
- Inspect Market Participants' facilities to determine compliance (every resource at least once in a three-year period and 10% of transmission facilities at least once in a three-year period)
- Provide inspection reports and establish cure periods for deficiencies
- Report to PUCT any Market Participants not correcting deficiency(ies) within cure period
- File a historical weather study every five years with the next due in 2026

How do weatherization inspections benefit the grid during extreme weather?

ERCOT utilizes a risk-based approach (identifying, assessing, and prioritizing) to conduct weatherization inspections of generation and transmission facilities. Weatherization inspections are critical to support grid reliability during winter and summer seasons. The benefits of the weatherization standard have been demonstrated through the grid's strong performance during recent winter storms Texas experienced between 2022 and 2025.

Winter Storms Enzo and Cora (2025) were less severe than historical winter storms. Winter Storm Heather (2024) was the third coldest and second longest lasting of the significant winter storms shown on following page.



Historical Non-Intermittent Renewable Resource (Non-IRR) outages stayed at a consistent level across the past three winter storms. Non-IRRs are dispatchable generation Resources (coal, natural gas, nuclear) that are readily available on the grid and are more consistent and predictable compared to intermittent Resources like wind and solar. Non-IRR outages during Winter Storm Heather remained lower than during Winter Storms Elliott and Uri.

During the recent winter storms shown above, the ERCOT grid did not experience any reliability impacts. This strong performance is attributed to the many reforms and improvements made since 2021, including weatherization, which has made a positive impact on grid reliability.

What is ERCOT's approach to inspecting transmission facilities?

ERCOT inspects equipment within the fence lines of substations and switchyards. Typically, that equipment includes transformers, breakers, and electronic equipment that supports the operation of the transmission facility. This would include HVAC systems, control cabinet heaters, and seals on cabinets. ERCOT does not inspect transmission lines per se, just the equipment within the transmission substation/switchyard facility. In determining which facilities to inspect, ERCOT considers factors such as criticality for electric grid reliability, having vulnerabilities associated with extreme weather, having experienced a forced outage or other failure related to previous weather emergency conditions, and length of time since last inspection. ERCOT also ensures that adequate records are maintained that demonstrate compliance with various parts of the rule.

What is ERCOT's approach to inspecting generation resources?

ERCOT ensures that rule provisions are met by reviewing records and inspecting weather emergency preparation measures that protect critical equipment that could fail during extreme weather conditions. Wind breaks, insulation, enclosures, heat tracing, and other measures are checked to ensure the capability to sustain operation during extreme weather conditions. ERCOT inspects each generation resource at least once every three years but may inspect resources more frequently if they are critical for grid operation, have had compliance deficiencies, or have experienced a forced outage or other failure related to previous extreme weather conditions.

What happens if facilities are not compliant?

Under the Weather Emergency Preparedness Rule, if a generation or transmission facility does not meet weatherization requirements, ERCOT will provide a cure period during which the facility must remedy each deficiency. If the facility cannot remedy a deficiency within the cure period, ERCOT will report the entity to the PUCT, who will determine next steps as part of the PUCT enforcement process.

What is next?

Continued diligence in complying with rule provisions and seeking to apply best practices will deliver greater reliability when it is needed most. For more information, visit ERCOT's [Winter Weather Readiness](#) and [Summer Weather Readiness](#) pages.