

Winter 2022 Energy Emergency Alert Overview

When electric supply and demand can't be balanced with normal procedures, ERCOT begins emergency operations using three levels of Energy Emergency Alerts (EEAs). Each level provides access to resources that can only be deployed when an energy emergency is declared. These tools are in place to protect the reliability of the electric system and prevent an uncontrolled system-wide outage. ERCOT currently has about 2,300 MW of additional capacity available to address tight grid conditions and can also issue a conservation request to help reduce demand at any time. One megawatt (MW) is enough to power about 200 Texas homes during peak demand.

As part of the ERCOT system improvements made over the past six months to enhance grid reliability, the Public Utility Commission has approved policy changes that allow ERCOT to deploy some of the 2,300 MW of resources prior to declaring an energy emergency. The decision to deploy these resources sooner is based on real time grid conditions.

Resource Deployments Prior to an Energy Emergency

If operating reserves drop below 3,000 MW and are not expected to recover within 30 minutes:

- Bring all available generation online and release any unused reserves
- Deploy Emergency Response Service (commercial/small industrial customers who are contractually paid to reduce their power within either 10 or 30 minutes): 1,020 MW
- Voltage reduction by transmission companies if controlled outages are NOT expected: 100-200 MW

EEA Levels and Actions

Level 1

If operating reserves drop below 2,300 MW and are not expected to recover within 30 minutes:

Increase other generation supplies and use demand response to lower electric demand, including:

- Imports from neighboring electric grids, if available: up to 1,220 MW
- Switchable generation that can serve multiple electric grids, if available: up to 568 MW
- Remaining Emergency Response Service if applicable (commercial/small industrial customers who are paid to reduce their power during emergencies): 1,020 MW

Level 2

If operating reserves drop below 1,750 MW and are not expected to recover within 30 minutes:

Request energy conservation from public (if not already in effect): MW vary

Reduce power by deploying remaining demand response programs, including:

- Deploy operating reserves carried by Load Resources (large industrial customers who are paid to reduce their power): 1,691 MW
- Load management programs from transmission companies: 211 MW for winter season

- Voltage reduction by transmission companies if not already deployed: 100-200 MW

Level 3

If operating reserves drop below 1,375 MW, ERCOT moves into level 3. If operating reserves drop below 1,000 MW and are not expected to recover within 30 minutes and/or the grid's frequency level cannot be maintained at 60 Hz:

As a last resort, ERCOT will instruct transmission companies to reduce demand on the electric system. These are controlled outages.

Note: Some steps may occur simultaneously and do not include additional voluntary demand response programs, where electric service from other ERCOT business and residential customers is interrupted during emergencies.

Controlled Outages

Controlled outages are electric service interruptions, ordered by ERCOT but implemented by utilities, to quickly reduce electric demand and prevent an uncontrolled system-wide outage. They are used as a last resort to bring operating reserves back to a safe level and maintain system frequency. Each utility is responsible for deciding how to decrease demand in their area and are required to reduce demand based on their percentage of historic peak demand.

ERCOT has initiated controlled outages four times since the grid operator was established:




December 22, 1989: 500 MW April 17, 2006: 1,000 MW
 February 2, 2011: 4,000 MW February 15-18, 2021: 20,000 MW

Seasonal Factors Affecting Tight Grid Conditions

During winter, load peaks in the early morning and then again in the early evening. Winter peak demand records generally occur after two to three consecutive days of cold build up in the ERCOT region and are driven largely by a combination of low temperatures across the region's largest urban load centers.

During the winter months, extreme cold weather combined with windy conditions and/or icing on wind turbine blades may result in tight grid conditions. Other factors may include gas restrictions and derates/outages at some power plants in north Texas during peak load periods.

Winter peak demand weather conditions in the ERCOT region, based on historical data:

	Dallas	Austin/San Antonio	Houston
 Normal Temperatures	20°	26°	30°
 Below-normal Temperatures	15°	21°	25°
 Extreme Temperatures	10°	20°	20°