Demand Response Opportunities in ERCOT

Prepared for: CleanTX
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DR is GRID SUPPORT – Paying Customers to be the last line of defense

Emergency

- Commercial Load Management (CLM)
- Emergency Response Service (ERS)
- Load Resources (LR)

Economic

- Four Coincident Peak (4CP)
- Economic Demand Response
Participation in DR is Widespread

Data Centers  
Manufacturing  
Oil & Gas  
Schools  
Hospitals  
Water Districts
ERCOT’s Use of Emergency DR

- DR is tightly integrated into ERCOT reliability mix in order to keep the lights on.
- ERCOT dispatches demand response in effort to prevent rolling brown outs.
- When demand response is called, your risk of a power interruption — *without compensation* — is at its highest.

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**ERCOT: Rotating power outages no longer expected**

By Claudia Grisales

American-Statesman Staff

9:35 a.m. update: The state’s power grid operator has canceled all of its emergency alerts that had urged consumers to reduce their electricity usage out of concerns of rotating power outages.

The Electric Reliability Council of Texas said it has canceled its “Energy Emergency Alert Level 1,” but a power watch still remains in effect.

*“Conservation should still be considered,”* Austin Energy officials said, *such as keeping home thermostats no higher than 68 degrees and turning off or unplugging nonessential lights and appliances.*

Update: The Electric Reliability Council of Texas (ERCOT) now says it is not expecting to have to implement rotating outages this morning.

*“We have brought on all available electric generation and have deployed all demand-response programs that have contracted with ERCOT to reduce electric use in emergency situations,”* Dan Woodfin, ERCOT director of System Operations, said in a press release. *“Conditions appear to be improving elsewhere, and we do not expect to implement rotating outages this morning.”*

However, a “power watch” remains in effect for Texas until further notice extended.

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DR is called on average 2 hours per year, but must perform an annual test.
# ERCOT Energy Emergency Alert

## Normal Conditions
- Reserves > 3,000 MW
- Normal Operations

## Control Room Advisory
- Reserves < 3,000 MW
- Advisory Only

## Control Room Watch
- Reserves < 2,500 MW
- Quick-start capacity & non-spinning reserves (30 min)

## Conservation Alert
- Encourage conservation; operating reserves a concern
- Monitor for additional generation

## Energy Emergency Alert 1
- POWER WATCH; Reserves < 2,300 MW
- Utilize all available generation and import capacity; **May deploy ERS 30**

## Energy Emergency Alert 2
- POWER WARNING; Reserves < 1,750 MW
- Deploy all demand response

## Energy Emergency Alert 3
- POWER EMERGENCY; Reserves continue trend downward and/or frequency at or below 59.8 Hz
- **Rotating outages**
Load Resource (LR)

Approximately $110,000 per MW/year

- Be available for instantaneous interruption via UFR; under 1/3 second

Index based, fixed price, heat rate or electricity rate reduction is available.
Emergency Response Service (ERS)

Up to $65,000 per MW/year
- Less limited in budget
- Only deployed during grid emergencies

Two options – respond in 10 or 30 minutes

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Commercial Load Management (CLM)

Up to $40,000 per MW/summer

-Limited in budget
-First-come, first-serve

While the programs are similar, each utility differs slightly
Real-Time Management Tools

Customized One-Line Diagram: Real-Time Network Flows

Customized SCADA Screen: Manage Gen/Load

GRID: Real-Time and Historical Data Historian. Live forward power prices.

Customized Customer Portal and/or Data Feed to Facility DCS.

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