



## ERCOT Emergency Response Service (ERS)

### Program parameters in the [ERCOT service area](#)

	10 Minute Demand Response Program (ERS 10)	30 Minute Demand Response Program (ERS30)
<b>Notification</b>	Customers will be notified of an event via email, phone, text and/or electronic signal per customers' instructions and must fully curtail within 10 minutes of start of event.	Customers will be notified of an event via email, phone, text and/or electronic signal per customers' instructions and must fully curtail within 30 minutes of start of event.
<b>Minimum Size</b>	No minimum size; accounts of under 100 kW curtailment will be aggregated.	
<b>Participation</b>	4-month contract periods starting February, June and October. Each period contains 6 optional time slots: weekdays 5-8AM (TP1), 8AM-1PM (TP2), 1-4PM (TP3), 4-7PM (TP4), 7-10PM (TP5), weekends/nights/all other hours including ERCOT holidays (TP6).	
<b>Enrollment Deadline</b>	One month before each contract period (January 1st, May 1st, September 1st).	
<b>Distributed Generation</b>	Can participate independently or in conjunction with Load.	
<b>Metering / Direct Load Control (DLC)</b>	Each account must have at least a 15-minute interval or smart meter (per ERCOT) and may also require CPower's metering solution, which provides one-minute usage data.	
	Customers over 1 MW of curtailable load Encouraged to use DLC via CPower's monitoring solutions.	No DLC requirement.
<b>Number &amp; Duration of Load Response Events</b>	Customers may be called to curtail load for up to 12 hours per contract period.	
<b>Testing</b>	At a minimum, a 15 to 30-minute test event will be called once per year absent a successful event deployment.	
<b>Capacity Payments</b>	Customers are paid based upon the clearing price, contract capacity and participation hours.	
<b>Settlements</b>	Customers receive payments within 60 days of the end of the contract period.	
<b>Compliance</b>	Customers must meet their performance obligations during events and test events, and must meet their availability requirements all other committed times.	
<b>Consequences of Non-Performance</b>	Availability and performance factors are taken into consideration and can reduce payments.	

### ERCOT Service Territory



### Event History

Year	# of ERS10 Events	# of ERS30 Events
2008	0	N/A
2009	0	N/A
2010	0	N/A
2011	2	N/A
2012	0	0
2013	0	0
2014	1	1
2015	0	0
2016	0	0
<b>Avg.</b>	0.3	0.2

## ERCOT Load Resource (LR)

### 10 Minute Responsive Reserve Ancillary Service Program

Minimum Size	Minimum load reduction offer of 100 kW.
Participation	Year-round, 24 hours per day.
Enrollment Deadline	No deadline; Customer must first be registered as a Resource with ERCOT which can take 90+ days
Metering / Direct Load Control (DLC)	Two second demand data (provided by CPower monitoring solution) and an under-frequency relay are ERCOT requirements. Customers must have DLC via CPower monitoring solution.
Number & Duration of Load Response Events	Customers may be called to curtail load for several hours. Deployments can be either all LRs currently committed or a subset.
Notification	Customers will be notified of certain events via email, phone, and/or electronic signal per customers' contracted instructions and must fully curtail within 10 minutes of start of event. Immediate curtailment via Under Frequency Relay (UFR) upon system frequency reaching 59.7 Hz for 20 cycles.
Testing	At a minimum, a 15- to 30-minute test event will be called once a year absent successful event deployment.
Compliance	Customers must meet their performance obligations during events and test events and availability requirements all other committed times.
Capacity Payments	Customers receive recurring monthly payments for committing load to the program. The payment is based on either a fixed price or hourly market rates varying by market conditions and ERCOT curtailable load requirements.
Settlements	Customers receive monthly payments within 30 days of end of month.
Consequences of Non-Performance	Customer failure to curtail load results in suspension, termination and/or penalties. Fixed Price customers will be required to pay replacement costs if unable to participate in the market.

Year	# of System-wide VDI Events	# of System-wide UFR Events	# of Local UFR Events
2008	3	0	1
2009	0	0	0
2010	2	0	2
2011	3	0	4
2012	0	0	3
2013	0	0	3
2014	1	0	1
2015	0	0	1
2016	0	0	0
Avg. #	1	0	1.7
Avg. Duration (minutes)	133	0	21

Levels	Responsive Reserves	Description
Conservation Alert	< 3,000 MW	ERCOT may call upon consumers to take steps to conserve power by reducing consumption
EEA 1	<2,300 MW	<b>Texas Electricity Conservation Needed</b> ERCOT operator's authority to call on all available power supplies. ERS 30 can be called at this point.
EEA 2	<1,750 MW	<b>Conservation Critical; Risk of Rotating Outages</b> ERCOT escalates to a Power Warning, which allows ERCOT operators to dispatch Load Resources providing Responsive Reserve Service, as well as ERS 30 & ERS 10
EEA 3	Rolling Blackouts	<b>Rolling blackouts to all areas of ERCOT grid</b> If the capacity shortage is <u>not</u> relieved using voluntary and contractual demand response, ERCOT will instruct utilities to rotate power outages to prevent statewide blackouts.

## Utility Commercial Load Management Programs

	Centerpoint	Oncor
<b>Notification</b>	Customers will be notified of an event via email, phone, text and/or electronic signal per customers' instructions and must fully curtail within 30 minutes of start of event.	Customers will be notified of an event via email, phone, text and/or electronic signal per customers' instructions and must fully curtail within 30 minutes of start of event.
<b>Minimum Size</b>	Participants are required to have a normal aggregate peak demand of 750 kW or greater, with each participating site having at least 250 kW normal peak demand and capable of curtailing at least 100 kW. Participants must be non-residential customers taking service at the distribution level and/or be a non-profit customer or government entity, including educational installations.	Minimum of 100kW in demand saving for each project with min of 100kW peak per meter; Commercial customers with Oncor Meter or advanced meter. non residential, non transmission (unless government/non-profit/educational institution).
<b>Participation</b>	June - Sept; 1 - 7 p.m. CST; Mon-Fri (excludes Federal holidays).	June - Sept; 1 - 7 p.m. CST; Mon-Fri (excludes Federal holidays)
<b>Enrollment Deadline</b>	December 17 <sup>th</sup>	April 20 <sup>th</sup>
<b>Metering/Direct Load Control (DLC)</b>	Each account must have at least a 15 minute interval or smart meter (per ERCOT) and may also require CPower's monitoring solution, which provides one-minute usage data.	Each account must have at least a 15 minute interval or smart meter (per ERCOT) and may also require CPower's monitoring solution, which provides one-minute usage data.
<b>Number &amp; Duration of Load Response Events</b>	Up to 4 unscheduled events, up to 4 hours each. Called during ERCOT-declared EEA2, or in anticipation of an EEA2 or called at Centerpoint's discretion for local needs. Maximum is six curtailments (including testing described below) and 22 hrs/yr	Min 1 hour and Max 25 hours during the performance period; events min 1 hour and max 4 hours.
<b>Testing</b>	1 or 2 scheduled test(s) of 1-3 hours	One 3 hour required test in May or June. The kW average performed will be contracted kW for June-Sept.
<b>Baseline Measurement</b>	Average of the like hours from top 5 of the last 10 program days. There is a potential day-of adjustment (capped at +/- 20%) that looks at the two hours leading up to an event notification and the like hours from the same top 5 of the previous 10 program days that can adjust the baseline up or down depending on the usage on the day of the event.	Average of the like hours from top 5 of the last 10 program days. There is a potential day-of adjustment (capped at +/- 20%) that looks at the two hours leading up to an event notification and the like hours from the same top 5 of the previous 10 program days that can adjust the baseline up or down depending on the usage on the day of the event.
<b>Capacity Payments</b>	Customers are paid \$31.50/kW, based upon the average performance across all event hours.	Customers are paid \$40/kW, based upon the average performance across all event hours
<b>Settlements</b>	Customers receive payments by the end of November.	Customers receive payments by the end of November.
<b>Compliance</b>	Customers must meet their performance obligations during events and test events, and must meet their availability requirements all other committed times.	Customers must meet their performance obligations during events and test events, and must meet their availability requirements all other committed times.
<b>Consequence of Non-compliance</b>	Payment reductions based upon actual performance	Payment reductions based upon average actual performance (minimum of 25% performance required to receive payment)