Presenters

James Vasquez

Account Executive
CPower

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VP, Customer Experience
CPower

Housekeeping Items

01 | Webinar is in listen only mode

02 | Use the Q&A panel to submit questions

03 | This webinar is recorded

04 | Find this webinar, deck and program info at: 2024 CPower Seasonal Readiness

Agenda Items

01   2024 market overview

02   Program information review

03   Updating information

04   Curtailment plan review

05   Communications, alerts & notifications

06   Recap & meet the team

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Program Snapshots

ERCOT Demand Response Programs

- [Emergency Response Service (ERS)](#)

- [Load Resource (LR)](#)

- [Non-Spinning Reserve Service](#)

- [Centerpoint & Oncor Utility Demand Response Programs](#)

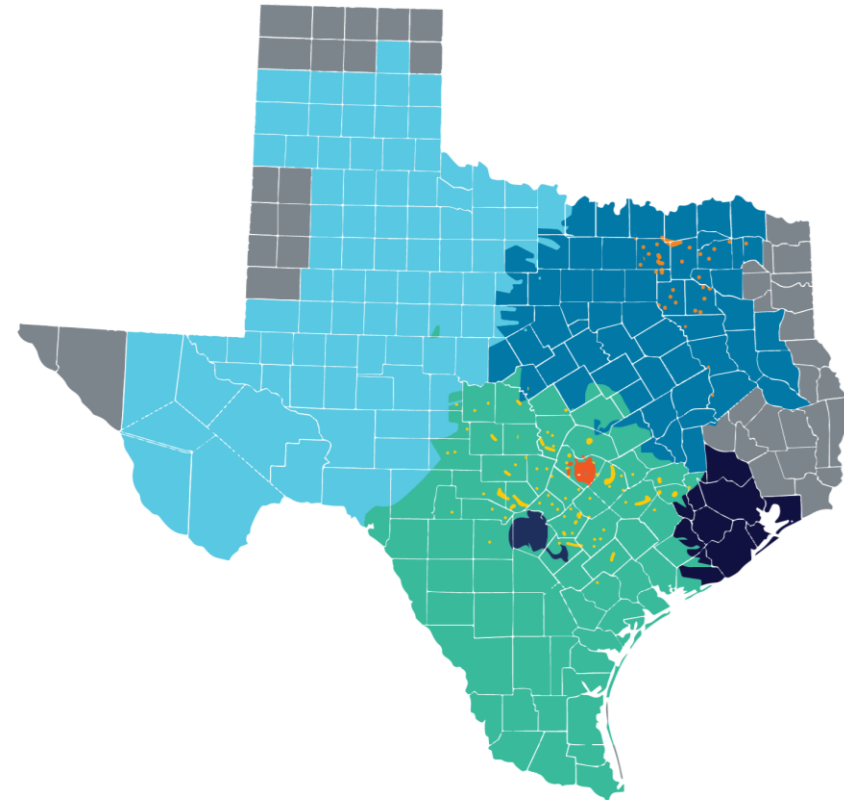- [CPS Demand Response Program](#)

Program snapshots provide a quick review of program rules and participation parameters.

ERCOT Service Area

ERCOT Load Zones

- ● North
- ● West
- ● South
- ● Houston
- ● Austin Energy (AEN)
- ● CPS Energy (CPS)
- ● Lower Colorado River Authority (LCRA)
- ● Rayburn Electric Cooperative (RAYB)

2024 ERCOT Market Updates

- ERS 10-30 budget has increased $50M to $75M - Customers have the potential to get paid more. Started Dec 2022.

- As a result of the winter storm Uri, the number of hours for ERS increased (winter from 12-to-24-hours per season). All other seasons stayed at 12 hours.

- Sunset Squeeze – Solar ramping off in the evening causing stress to the grid.

- New Ancillary Program - ERCOT Contingency Reserve Service (ECRS). This program is an ancillary, fast-acting program intended to support the ERCOT grid in times of stress. Participants must be available to actively drop their load when called upon within 10 minutes of an event signal. Participants offer into the market on a day-ahead basis and are awarded based on Day Ahead price, which sets the basis for incentive payment. RT telemetry required.

- Payout last year from 6/10 - 12/31/23 was ~$286,000.

- Forecasted revenue for 2024 is $200,000.

ERCOT Programs Overview – ERS, LR-RRS, Non-Spinning Reserves, ECRS

ERCOT Program Parameters	ERS	LR-RRS	Non-Spin	ECRS
Notification Window	10 & 30-minute options	10-minute or instantaneous UFR trip	30-minutes	10-minute or instantaneous UFR trip if UFR is armed
Participation/Enrollment	4 seasons annually each comprised of 8 time periods	Day-ahead market. Enrollment is any time throughout the year.	Day-ahead market. Enrollment is any time throughout the year.	Day-ahead market. Enrollment is any time throughout the year.
Metering & Telemetry Requirements	15-minute utility interval meter	2-second telemetry UFR required	2-second telemetry NO UFR allowed	2-second telemetry Can have UFR or not
Dispatch Trigger	3,000 MW of reserves not expected to recover within 30 minutes. After Non-Spin deployment. Prior to public conservation notices	EEA 2 (1,750 MW reserves) or UFR trip at 59.7 Hz for 20 cycles	Varying conditions and can be deployed at ERCOT operator discretion. Partial Non-Spin deployment at 3,200MW; All deployed at 2,500MW	Varying conditions and can be deployed at ERCOT operator discretion. Typically dispatched to help with net load ramp. Manual deployment in EEA 1 (2,300 MW reserves).
Testing	Annual 30-min test	Annual 30-min test	Annual 30-min test	Annual 30-min test
Event Limitations	12 hour per season max in non-winter seasons. 24 hour per season max in winter.	Unlimited # of events, freq. or duration	Unlimited # of events, freq. or duration	Unlimited # of events, freq. or duration
Value	$70k/MW-year	$110K/MW-yr. midpoint $145K/MW-year in 2023 after proration.	$100K/MW-yr. midpoint $165K/MW-year in 2023	$200K/MW-yr. midpoint $286K/MW-year in 2023 (Jun-Dec)
Proration	No, but increased participation leads to decreased pricing	Yes	Potentially if significant MW of LR/NSRS participate	Potentially if significant MW of LR/ECRS participate
Non-Performance Consequence	Decreased payment. Potential PUC fines.	Deficiency MW buy-back at real-time pricing	Deficiency MW buy-back at real-time pricing	Deficiency MW buy-back at real-time pricing
Real Time Price Adder Charge During Events	No	Yes	Yes	Yes

Demand Response Programs Overview – Event History

ERCOT Programs

	2020	2021	2022	2023
ERS				
# of Events	0	ERS 10 (1), ERS 30 (1)	ERS 10 (1), ERS 30 (1)	ERS 10 (2), ERS 30 (1)
LR				
# of Events	0	1 System-wide VDI	1 System-wide UFR	1 System-wide VDI
Non-Spinning Reserves				
# of Events	1 (4.5 hrs.)	11 (Winter Storm URI)	Frequent calls, zone specific	Frequent calls, zone specific

Utility Programs

	2020	2021	2022	2023
Oncor & CenterPoint				
# of Events	3	3	4	5
CPS – Program 1				
# of Events	12	0	13	18
CPS – Program 2				
# of Events	16	21	25	25
CPS – Program 3				
# of Events	0	0	6	0
CPS – Program 4				
# of Events	16	21	25	25

ERCOT Programs Overview – ERS

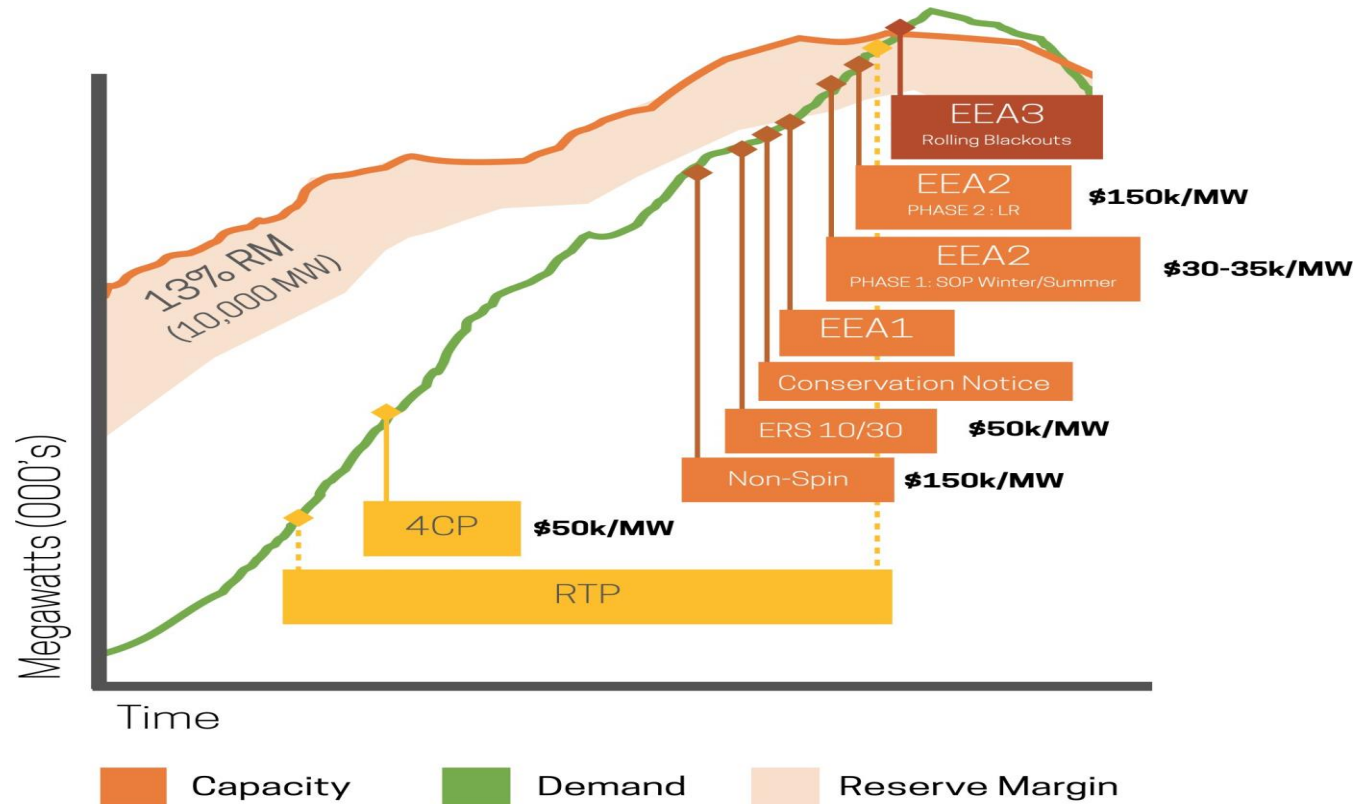|	
NOTIFICATION	Customers will be notified of an event via email, phone, text and/or electronic signal per customers' instructions and must fully curtail within 30 minutes of start of notification for ERS30 (30 Minute) program and 10 minutes for ERS10 (10 minute) program.
MINIMUM SIZE	**No minimum size; accounts of under 100 kW curtailment will be aggregated**.
PARTICIPATION	**4 contract periods starting October, December, April, and June. Each period contains 8 optional time slots:** ▪ **Weekdays: 5-9AM (TP1), 9AM-1PM (TP2), 1-4PM (TP3), 4-7PM (TP4), 7-10PM (TP5)** ▪ **Weekends: 5-9AM (TP6), 3-9PM (TP7),** ▪ **Weekends/nights/all other hours including ERCOT holidays (TP8).**
ENROLLMENT DEADLINE	One month before each contract period (Sept 1, Nov 1, March 1, May 1)
DISTRIBUTED GENERATION	Can participate independently or in conjunction with Load.
METERING / DIRECT LOAD CONTROL	**Each account must have at least a 15-minute interval or smart meter (per ERCOT).**
NUMBER & DURATION OF EVENTS	Customers may be called to curtail load for up to 12 hours per contract period in non-winter months (Apr-Nov) and up to 24 hours per contract period in winter months (Dec-Mar)
TESTING	At a minimum, a 15 to 30-minute test event will be called once per year absent a successful event deployment.
CAPACITY PAYMENTS	Customers are paid based upon the clearing price, contract capacity and participation hours. **$70,000 / MW-Yr. (Estimated)**
SETTLEMENTS	Customers receive payments within 90 days of the end of the contract period.
COMPLIANCE	Customers must meet their performance obligations during events and test events and must meet their availability requirements all other committed times.
CONSEQUENCES OF NON-PERFORMANCE	Availability and performance factors are taken into consideration and can reduce payments.

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ERCOT Programs Overview – LR

Participation

Minimum Size	Minimum load reduction offer of 100 kW.
Participation	**Year-round, 24-hours per day.Flexible scheduling.**
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.
Duration of Load Response Events	Customers may be called to curtail load for several hours.
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. Deployments can be either all LRs currently committed or a subset. 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 Day Ahead 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.

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ERCOT Programs Overview – ECRS

ERCOT Program Parameters	ECRS
Notification Window	10-minute or instantaneous UFR trip if UFR is armed
Participation/Enrollment	Day-ahead market. Enrollment is any time throughout the year.
Metering & Telemetry Requirements	2-Second Telemetry - Can have UFR or not
Dispatch Trigger	Varying conditions and can be deployed at ERCOT operator discretion. Typically dispatched to help with net load ramp. Manual deployment in EEA 1 (2,300 MW reserves).
Testing	Annual 30-min test
Event Limitations	Unlimited # of events, freq. or duration
Historic # of Events	2023: ECRS called >50 times. Number of times Load Resources providing ECRS were called during those events is unknown.
Value	$200K/MW-yr. midpoint; $286K/MW-year in 2023 (Jun-Dec)
Proration	Potentially if significant MW of LR/ECRS participate Deficiency MW buy-back at real-time pricing
Non-Performance Consequences	Potentially if significant MW of LR/ECRS participate Deficiency MW buy-back at real-time pricing
Real Time Price Adder Charge During Events	Yes

EEA Conditions (Levers)

EEA Scenarios

Megawatts (000's) vs. Time

- 13% RM (10,000 MW)
- EEA3 — Rolling Blackouts
- EEA2 — PHASE 2 : LR — $150k/MW
- EEA2 — PHASE 1: SOP Winter/Summer — $30-35k/MW
- EEA1
- Conservation Notice
- ERS 10/30 — $50k/MW
- Non-Spin — $150k/MW
- 4CP — $50k/MW
- RTP

Legend: Capacity — Demand — Reserve Margin

Dispatch Conditions

Condition	Description
<3,000 MW Reserves For 30 Minutes	ERS 10/30 may be called at this point.
Conservation Alert	ERCOT may call upon consumers to take steps to consume power by reducing consumption.
EEA 1	Texas Electricity Conservation Needed: ERCOT operator's authority to call on all available power supplies.
EEA 2	Conservation Critical; Risk of Rotating Outages: ERCOT escalates to a Power Warning, which allows ERCOT operators to dispatch Load Resources providing Responsive Reserve Service
EEA3	Rolling blackouts to all areas of ERCOT grid: If the capacity shortage is not relieved using voluntary and contractual demand response, ERCOT will instruct utilities to rotate power outages to prevent statewide blackouts

ERCOT Programs Overview –
Utility Commercial Load Management Programs (CenterPoint & Oncor)

	CenterPoint	Oncor
Notification	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.	
Minimum Size	50 kW minimum. Load can be aggregated.	100 kW minimum. Load can be aggregated.
Participation	**June – Nov. 24 - hours per day / 7 - days per week. Cannot be stacked with ERCOT Programs.**	
Enrollment Deadline	**April 26**	**May 24**
Metering/Direct Load Control (DLC)	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.	
Number and Duration of Events	Up to 4 unscheduled events, up to 4 hours each. Two test requirements (3 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 minimun 1 hour and max 4 hours.
Testing	**Two scheduled tests for (3) hours per test**	**One (3)-hour required test between Jun – Nov (summer period)**
Baseline Measurement	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.	
Capacity Payments	**Customers are paid $33 (Oncor) - $40/kW (CenterPoint) – depending on the program, based upon the average performance across all event hours.**	
Settlements	Customers receive payments in Jan / Feb.	
Compliance	Customers must meet their performance obligations during events and test events and must meet their availability requirements all other committed times.	
Consequence of Non-compliance	Payment reductions based upon actual performance	Payment reductions based upon average actual performance (minimum of 25% performance required to receive payment)

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Review & Update Information

Reviewing and updating your organization's contact information

- **Responsible Parties for Notifications: Make sure all relevant contacts are up to date**
  - Make sure to send the persons' names, email addresses and phone numbers
  - Any changes to former or added staff on your current notification group
  - Make CPower aware of any contact changes or additions as soon as possible

- **Ensure that you have CPower Dispatch information updated and accessible**
  - CPowerDispatch@mg.cpowerenergymanagement.com
  - Add the CPower Dispatch number to your cell phones – "Demand Response Notification"
    - 410-346-5907

- **Have a Plan:**
  - Ensure that you have a well-communicated plan for executing your curtailment strategy
  - Talk to your account manager if you would like to discuss a curtailment plan with our engineering team

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CPower Dispatch Team

100% in house Dispatch Operations
ensures accuracy and helps identify and resolve issues in real
time so you can perform to your potential.

Curtailment Review

Check with your account manager to:
- Ensure bid amounts are accurate
- Ensure contacts are up to dates
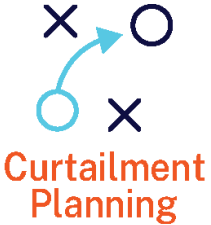
Do you have a Curtailment Plan
- CPower curtailment plans outline the various curtailment strategies that your facility may implement during a demand response event.
- Let us know if you need to update an existing plan!
- If you don't already have a curtailment plan, we can schedule a meeting with CPower Engineering to review your strategy and develop a plan.

Dispatch Notification

Dispatch notifications will come from:

- CPowerDispatch@mg.cpowerenergymanagement.com

- No need to respond to emails

- Provides detailed information about the dispatch

- Includes company, facility, and account

Example Notification:

ERCOT has informed CPower of a *ERS10 - TP5 Event starting immediately on Wednesday, September 06, 2023*. Please curtail your load immediately and ren another notification once the event has ended.

- Dispatch Alert For: **ERCOT - ERS10 - TP5**
- Event will Start at: **IMMEDIATELY**
- Event will End at: **Remain down until notified by CPower**

Below you will find the list of specific facilities impacted by this dispatch.

Facility Name	Address	Account Number	Dispatch Target
CPower Dispatch Desk 1	111 Market Place, Baltimore MD 21202-____	CPower Testing	PJM
CPower PJM vLink Test site	Juniper Rd, Baltimore MD 21218-____	CPowerTestAccount	PJM

If you have any questions about this event please do not reply to this email.

Please Email: CPowerDispatch@CPowerEnergyManagement.com or call the CPower Dispatch Team at 410-346-5907 right away. We're here to help.

Thank you,

CPower Dispatch Team

24x7 Phone: (410) 346-5907

Email: CPowerDispatch@CPowerEnergyManagement.com

Example Only

Communications Drill

- Communication Drill: Wed. May 29, 2024 [2 PM CT] – **Tomorrow!**
  - There will only be one comms test for all programs.
  - This is only a test. DO NOT curtail.

- **The All Call System utilizes:**

  - Phone

  - Email

  - Text message

  - The System notifies all relevant contacts based on the program notification requirements

- **The All Call System will:**

  - Be activated by CPower Dispatch Operators

  - For both test and real events

 - Send important preparation, start and completion notifications by utility, zone, or ISO.

DISPATCH OPERATOR · NOTIFICATION · REPEAT NOTIFICATION · FOLLOW THROUGH · RESPONSE

EVENT

All Call System Functionality

Understanding The CPower Dispatch System

▪ Phone Number for Events and Tests

- 410-346-5907
  - ▪ Also sends text message alerts
- This is the direct line of our 24x7 dispatch service desk

▪ Emails for Events and Tests

- cpowerdispatch@mg.cpowerenergymanagement.com
- Ensure this address is listed as a safe sender for your organization.

ACKNOWLEDGE

ALL CALL REPORT

CUSTOMER FOLLOW-UP
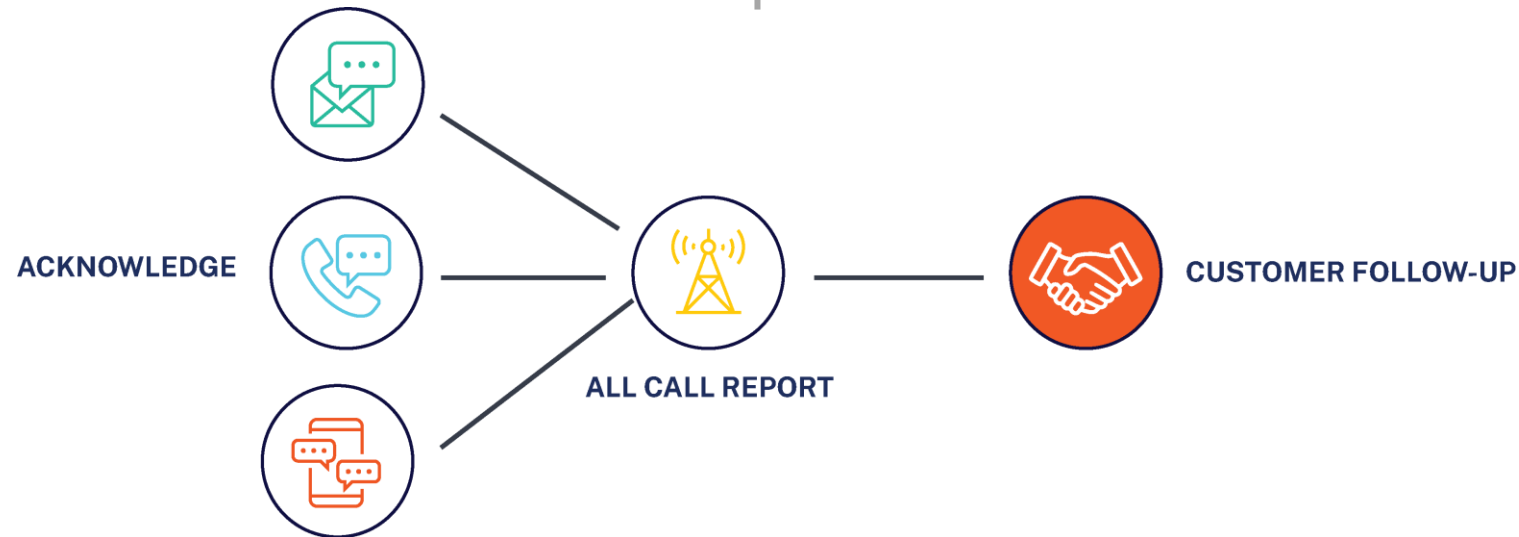
All Call System Functionality

- **Phone Call Message**
  - Greeting and prompt to play message
  - The entire message must be heard before confirmation
  - Upon message completion, "did you understand?" will be asked
  - Press **(1)** for yes, **(2)** for no. **(1)** will end the notifications to that contact, **(2)** Will repeat the message

- **Email**
  - An event email will be sent by the system (if you have email set up for notification)
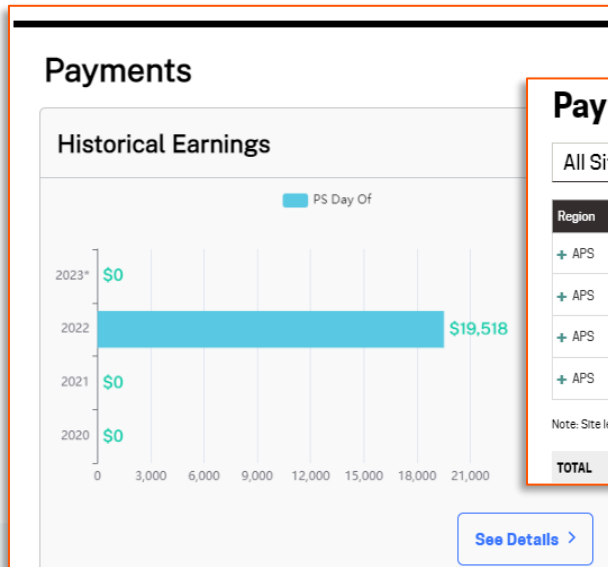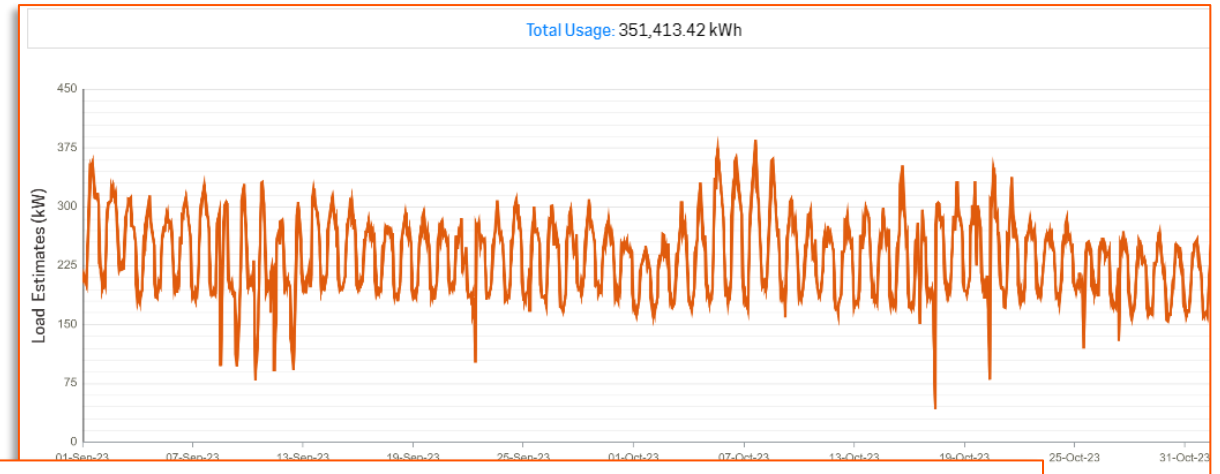 - There is no need to reply to the email

- **Text/SMS (smartphones only)**
  - An event notification text will be sent to your phone (if you have text notification set up).
  - You will reply and type the word "yes" into the body of the text and send.
  - We must receive TXT acknowledgments back within 2 hours of sending dispatch notices.
  - After that time, the system closes down, and we will not register an acknowledgement.

CPower Portal

Energy Management at Your Fingertips

- CPower Portal provides real time:
  - Energy usage (with meter)
  - Payments & Statements

Recap

Important things to remember

- Respond to the Comms Drill (May 29, 2 PM CT)
- ERS Season Begins June 1, 2024
- LR enroll at any time of the year
- Be sure to update contacts
- Make sure you have back up personnel in case of emergency
- Ensure everyone reviews this training
- Review curtailment plan and/or curtailment strategy
- Make sure metering is up and running and accurate

Additional Resources

One Stop Shop for Demand Side Energy Management

Download white papers, webinars, blogs, case studies and more at
CPower's online publication,
The Current

View this webinar and content as well as all other markets we serve on our Seasonal Readiness Portal

CPower's ERCOT Team

Meet Your Local Team!

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Thank You!

Questions & Answers