Emergency Load Reduction Program

In 2021, the California Public Utilities Commission (CPUC) created an innovative program, the Emergency Load Reduction Program (ELRP), to pilot a new Demand Response approach to help avoid rotating outages during peak summer electricity usage periods from May thru October. The ELRP started in 2021 with commercial customer participation. In December 2021, the CPUC expanded the program to include residential customers for Summer 2022 and beyond.

What is the Emergency Load Reduction Program (ELRP)?

The ELRP is a 5-year pilot program designed to pay electricity consumers for reducing energy consumption or increasing electricity supply during periods of electrical grid emergencies. The purpose of the ELRP pilot is to offer a new tool for the electric grid operators and utilities for reducing energy consumption during a grid emergency to reduce the risk of electricity outages when the available energy supply is not sufficient to satisfy the anticipated electricity demand.

- The ELRP is managed by the State's three large investor-owned utilities (IOUs) - Pacific Gas & Electric, San Diego Gas & Electric, and Southern California Edison.
- The ELRP Program is called upon only as a last resort during an emergency grid situation issued by the California Independent System Operator (CAISO).
- The ELRP pays customers who voluntarily reduce electricity demand during a grid emergency.
- The State's three IOUs handle customer enrollment, event communication, and per event compensation.
- The ELRP started in Summer 2021 with nearly 200 megawatts (MW) of enrolled non-residential customer participation. The program was called on four times in the early summer 2021, and customers received payments of approximately $1 million for voluntary reductions in demand achieved through the ELRP.
- In December 2021, the CPUC expanded the ELRP for Summers 2022 and beyond to include participation by residential customers. Nearly half of California consumers will be automatically enrolled in the residential program, and the CPUC ordered the IOUs to do special outreach to low-income customers enrolled in the CPUC's California Alternate Rates for Energy (CARE), the Energy Savings Assistance (ESA), Family Electric Rate Assistance (FERA), as well as households located in Disadvantaged Communities (as defined Health and Safety Code Section 39711).

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How does the ELRP get triggered?

An ELRP event is triggered or called by the IOUs only after declaration of a grid emergency by the California Independent System Operator's (CAISO's) Alert, Warning, or Emergency (AWE) process, or a CAISO-issued Flex Alert in some cases.

The CAISO's AWE declarations process involves multiple stages depending on the timing and severity of the grid's situation starting from Alert (issued in the day-ahead), Warning, and a Stage 1, 2, or 3 Emergency (issued in real time), per the CAISO Operating Procedure 4420. The CAISO emergency could be statewide, limited to a local area, called in the day-ahead of event, or day-of event.

When an ELRP is triggered enrolled customers may choose not to participate and there is no penalty for non-participation, nor is there any requirement to reduce load by a particular amount during the event. However, ELRP payment is calculated based on the load reduction measured on the customer's meter.

How are ELRP participants compensated?

Participants are compensated after-the-fact at a prefixed compensation rate of $2/kilowatt-hour for every kilowatt-hour of electricity consumption the customer reduces voluntarily during an ELRP event. The reduction in consumption during an ELRP event is measured relative to how much energy the customer typically used on other days preceding the event day during hours similar to the event hours. There are no penalties for not reducing energy consumption, or for increasing consumption, during an ELRP event.

When will ELRP be available?

The first season of the ELRP pilot started on May 1, 2021 and concluded in October 31, 2021. It will be available again from May through October in 2022. The ELRP pilot will continue each year through 2025. The ELRP is subject to revision by the CPUC in the Demand Response proceeding.

The ELRP can be called for an event from May thru October, during the hours of 4 PM to 9 PM, seven days a week. The ELRP event can last for a minimum of 1 hour on any given day, and a maximum of 5 hours per day. The ELRP can be used up to 60 hours per year, and there is no limitation to calling the program on consecutive days.

How can a customer participate in the ELRP Program?

Customers should contact their utility for more information and to enroll. Certain size, permitting, and other eligibility criteria apply to each customer type. Customers who have an existing arrangement with a third-party demand response provider should contact that entity for more information.

What are the different types of customers eligible to participate in ELRP?

ELRP participation is open to all customers, but there are distinct program offerings depending on whether a customer is already enrolled in an existing Demand Response program.

A. Customers that are not already participating in a Demand Response Program (Group A):

- Residential and Non-residential customers that are not currently participating in a CAISO market-integrated Demand Response program (except the Base Interruptible Program).
- Customers with distributed energy resources that can generate energy (e.g., behind-the-meter solar plus storage, electric vehicles, cogeneration, etc.) that have permission to export
- Aggregators of Virtual Power Plants, i.e. a company that can aggregate and control resources such as batteries across multiple customer locations.
- Aggregators of vehicle-to-grid resources that can provide managed charging services (V1G) or vehicle to grid (V2G) at multiple locations.

B. Customers enrolled in CAISO market-integrated Demand Response Programs (Group B):

- Non-residential and residential customers already subscribed to a demand response program operated by third-party providers or IOUs are eligible to participate in the ELRP via their aggregator, but only for incremental load reduction beyond what is already committed in market dispatch by the CAISO.
- Customers in third-party demand response programs or IOU capacity bidding programs that participate in ELRP have slightly different program participation and compensations rules.

Are customers allowed to use diesel backup generators (BUGs) under ELRP?

Diesel backup generators (BUGs) are a not allowed to be used as part of California's Demand Response Programs. However, during an ELRP event, Diesel BUGs may be used to achieve Incremental Load Reduction if there is an emergency order issued by the Governor and even then only if those BUGS are not located in a disadvantaged community.

The existing Prohibited Resources policy still applies to IOU and third-party managed DR programs, excluding ELRP.

How do enrolled customers get notified of an ELRP event?

ELRP will utilize both **DAY-AHEAD** and **DAY-OF** event notifications to reduce load.

The **DAY-AHEAD** trigger is tied to a day-ahead Alert declaration by the CAISO per the Alert, Warning and Emergency escalation process, which is declared by 3pm the day before the day of concern. Following the Alert, the IOUs have complete discretion to activate Group A customers—either all participants simultaneously or in a selectively staggered manner—and ask them to prepare to reduce electricity demand during the designated event period. In the case of Residential ELRP, the program is triggered in response to a day-ahead Flex Alert issued by the CAISO.

The **DAY-OF** trigger follows any Warning or Emergency declaration by the CAISO. As with the day-ahead trigger, the IOUs exercise discretion in calling an ELRP event based on anticipated grid conditions and activating participants to reduce electricity demand during the event.

In either the day-ahead or day-of case, Group B customers will be activated by the operator of the demand response program they are enrolled in and asked to reduce electricity demand during the ELRP event.

Program-at-a-Glance

Program Duration	2021 - 2025 Adding Residential starting in 2022
Program Compensation	$2 per kWh (increase from $1 per kWh in 2021)
Program Eligibility	Commercial and Residential Customers served by PG&E, SCE, or SDG&E
Program Availability	May – October; seven days a week; 4 p.m. – 9 p.m.
Program Trigger	All program triggers relate to the CAISO Grid AWE process: Alert, Warning or Emergency (Stage 1,2, or 3), but the triggers can vary slightly depending on whether notice is provided in the Day Ahead or Day Of timeframe
Event Duration	1-hour minimum; 5-hour maximum
Annual Dispatch Limit	Program can be called up to 60 hours in a single year
Consecutive Day Dispatches	No constraints, Program can be called multiple days consecutively
Minimum Dispatch	Aggregators of ELRP resources are eligible for some number of minimum dispatch hours

What is the Role of the CAISO vs. the IOUs in the ELRP?

The California ISO is a nonprofit, public benefit corporation, which manages the flow of electricity along the high-voltage electric grid for 80 percent of California. The CAISO can call a Flex Alert, and the CAISO also can issue a Grid Emergency as an Alert, Warning, or Emergency (Stage 1, 2, or 3).

The state's three investor-owned utilities (IOUs), Pacific Gas & Electric, San Diego Gas & Electric, and Southern California Edison, are responsible for delivering electricity from the high-voltage grid to its customers. The IOUs sign up consumers for the ELRP program, communicate in advance of an imminent ELRP event, and compensate customers based on actual demand reduction achieved during an ELRP event.

What can cause an Electrical Grid Emergency?

An electrical grid emergency can happen at any time despite careful planning for sufficient electricity supply and electric grid transmission and distribution infrastructure. Common reasons for grid emergencies are when extremely hot weather drives up electricity use in summer, making the available power supply scarce. This usually happens in the early evening hours when the energy output from variable renewable energy resources is declining, but temperatures remain high and consumers are returning home and switching on air conditioners, lights, and appliances.

Other times grid emergencies can be caused by unplanned power plant outages, severe fires that threaten or affect transmission lines, or extended hot weather and heat storms.

How common are Grid Emergencies?

Prior to 2020, the CAISO issued a total of 20 Flex Alerts over a 10-year period. By comparison, the CAISO issued a total of eight grid emergency declarations (Alerts, Warnings, or Emergency (Stage 1, 2, or 3) that would have triggered ELRP over the same period, if ELRP had existed in those earlier years.

Electric grid emergencies might affect a large region or the entire State, and they are relatively uncommon events due to extensive planning for many different types of events. Distribution grid outages caused by weather, damaged equipment or extremely localized issues are more frequently experienced by consumers, but they are not usually considered an electrical grid emergency.

What should consumers do when the ELRP program is called or a Flex Alert is issued?

If the ELRP program is called or if a Flex Alert notice is received, it is important for consumers to shift their energy use, if possible. Examples include:

- Reduce air conditioning usage,
- Set air conditioner thermostats to 78 degrees, if health permits
- Close blinds and drapes to keep the sun from heating up the home
- Turn off unnecessary lights
- Avoid the use of dishwashers, washing, ovens and other major electrical appliances
- Delay charging electric vehicles
- Delay using pool pumps
- Use fans when possible

In the event of a grid emergency leading to outages, how are rotating outages managed?

When there is not enough energy to meet the demand, the California ISO will direct the investor-owned utilities to initiate power outages within their service areas to avoid the wide-scale collapse of the entire grid, and the possibility of the power being out for a much longer period of time. These types of managed power outages are called rotating outages because the utility can isolate the outage to target a group of customers for an hour or less, and then restore power and rotate off a second group of customers. By rotating the outage to different customers, but hopefully limiting it to less than an hour per block, the utilities can minimize service disruptions.

The investor-owned utilities are responsible for determining the location and duration of the rotating outage within their service areas in accordance with emergency plans. Because the utilities are responsible for managing the rotating outages, consumers experiencing a power outage need to contact their electric power provider to learn when power will be restored.

ELRP coordination between the IOUs and the CAISO

The IOUs have been directed to form a "Joint ELRP Operations Board" with representatives from each IOU's grid operations group and an invited representative from the CAISO's grid operations group. The Board will facilitate continuous dialogue and coordination among the IOUs and the CAISO in the exercise of discretion for declaring an ELRP event and activating Group A customers. Following an AWE declaration by the CAISO, the Board will periodically assess the current and forecasted grid conditions and provide guidance on target electricity demand reductions to be sought by the IOUs from ELRP-enrolled customers.

More information

For more information, please see the CPUC's Summer Readiness website.

For information on how to enroll in the Emergency Load Reduction Program, click here.