

OpenADR Connectivity to DRAS



Your Questions. Answered.

What is Open Automated Demand Response (OpenADR)?

OpenADR is a worldwide adopted internet messaging protocol used by many utilities including SCE, to communicate with equipment at customer facilities. When you sign up for our Demand Response (DR) programs, we will use the OpenADR protocol to automatically drop demand during DR program events.

To learn more about the technology behind ADR, visit openadr.org.

How does OpenADR work? What is an OpenADR client?

It's pretty simple. We send you an OpenADR event notification through our Demand Response Automation Server (DRAS). To take advantage, you just need to install and set up a client device communications via the OpenADR protocol. Once you do, the client device logs into DRAS to establish connectivity. When we start a DR event, the DRAS sends a signal to your client and follows the response you programmed into it.

What is the Demand Response Automation Server and what are the system capabilities?

DRAS is the communication tool we use to communicate a DR event or price signal with your OpenADR equipment. You can configure your DRAS account to receive DR event notifications, adjust shed signals, and allow your OpenADR client to automatically signal your energy management system (EMS).

Does my OpenADR client need to be certified?

Yes, to work with a specific profile, it does. Make sure whatever client device you choose is certified "OpenADR 2.0" by the OpenADR Alliance.

Which SCE programs use OpenADR?

A lot of our programs use OpenADR. Here's a list:

RESIDENTIAL

- Save Power Day (SPD)
- Critical Peak Pricing (CPP)

COMMERCIAL AND INDUSTRIAL

- Critical Peak Pricing (CPP)
- Capacity Bidding Program (CBP)

- Base Interruptible Program (BIP)
- Real Time Pricing (RTP)

Visit [sce.com/drp](https://www.sce.com/drp) for more details.

Will you pay me to install OpenADR equipment?

We may have non-residential incentives through our Auto-DR program that could help. To be eligible, first enroll in our price-responsive program. Then go to [sce.com/drp](https://www.sce.com/drp) to review the Auto-DR program materials.

How much will it cost to install OpenADR equipment?

Costs depend a lot on your circumstances. We recommend that you get in touch with a third-party engineering or consulting firm to review your needs, budget, and operational requirements. At the very least, you'll want a client device that provides event notification. Typically, that will run you between \$3,000 to \$5,000 for purchase and installation. If you also want functions like real-time load monitoring or programmed load reductions, you'll likely need a more expensive, advanced system.



Where can I get OpenADR equipment and services?

If you have an EMS, get recommendations from your system's installer or the company that maintains it. We can also refer you to firms we use on Auto-DR programs. Since they work with our DRAS and are familiar with using OpenADR for DR programs, they're great assets.

Another option is to visit the OpenADR Alliance website. Just go to [openadr.org/certified-products](https://www.openadr.org/certified-products) for their list of certified vendors and OpenADR-compliant equipment.

Do you provide or install OpenADR equipment or services at SCE? Do you offer customer support for these systems?

No, we don't offer installation or service for OpenADR equipment. However, we do offer some perks to our Auto-DR program participants. We have financial incentives available, plus we can connect you with professionals who can help you choose and set up your devices.

If you are not part of the Auto-DR program, we can still offer you OpenADR connectivity and DRAS accounts as a courtesy notification. That's because we believe this technology is worthwhile for all of our customers. Unfortunately, we can't provide you with financial incentives and support due to the CPUC's requirements for cost effectiveness.



I have my equipment. How do I get started?

To start, contact your SCE Account Manager directly or call the Auto-DR Help Desk at **1-866-238-3605**. You can also email **autodr@sce.com** to learn how to set up your DRAS account.

How many service accounts can I control with an OpenADR client?

We advise you to only control one service account with your OpenADR client. You can contact our Auto-DR Help Desk at **1-866-238-3605** or email **autodr@sce.com** for more details.

Can I monitor my electrical load in real time?

Yes, there are a couple of ways to upload data in near real time to your DRAS account:

- Ask us to install an interface box. The box will translate your meter's KYZ output into a signal your OpenADR client can understand.

- Purchase an advanced OpenADR client with that functionality built-in

Before you begin, talk to a third-party consultant or technical coordinator for guidance. A pro can help you assess your needs and find the right solution.

What if my OpenADR client fails during an event? Is OpenADR an official form of event notification?

Since OpenADR is a courtesy notification, we're not liable for equipment malfunctions. If that happens, we suggest contacting the manufacturer or your installer for help.

For notification details, please refer to the tariff of each DR program to understand the program's compliance requirements and the means of event notification we will use for billing purposes.

**We're ready to answer any questions!
Contact our Auto-DR Help Desk
at 1-866-238-3605 or visit sce.com/drp.**

This fact sheet is meant to enhance your understanding of SCE's Open Automated Demand Response (OpenADR). This program/service is funded by California Utility ratepayers and administered by SCE under the auspices of the California Public Utilities Commission. Program/service may be modified or terminated without prior notice. ©2017 Southern California Edison. All rights reserved.



Southern California Edison

Energy Management Success Story



Nordstrom



Nordstrom and SCE's Automated Demand Response (Auto-DR): Showing That Saving Energy Is Always in Fashion

“The Right Thing to Do”

A national retailer that sells the finest apparel, shoes and accessories, Nordstrom always shows its customers the latest in fashion trends. But many customers may not know that the company also stays on top of the latest energy management trends, employing strategies that save energy, money and the environment while helping to ensure adequate electricity supplies for the region.

In the early 2000s, during California's energy crisis, Nordstrom began a voluntary load curtailment program on days when the state reported low operating electricity reserves. Starting with shutting off display window lights, cove lighting, individual merchandise spotlights and some cooling load, Nordstrom stores reduced their energy demand in tiers.

This commitment eventually evolved into participation in Southern California Edison's (SCE's) technology incentives program for Auto-DR. Auto-DR allows customers with an automated load control system, such as an energy management system (EMS), to participate in SCE's Demand

Response (DR) Programs with no manual intervention, while providing flexibility, scalability and ease of use.

Customers pre-select their level of participation based on their energy management strategies and program their energy management systems to automatically drop a set energy load during DR events. This earns incentives for peak-period energy load reductions, which help ensure adequate electricity supplies and additional environmental benefits.

Customers also may qualify for incentives of up to \$300 per kilowatt (kW) of tested load reduction for system upgrades and technologies that enable Auto-DR. Nordstrom's incentive from SCE totaled more than \$526,000. These funds allowed the retailer to install an EMS in stores within SCE's service territory.

Nordstrom uses Auto-DR enabling technologies to participate in the Critical Peak Pricing (CPP) program, which rewards customers for reducing or shifting electricity usage during a few peak periods from June 1 to October 1 when electricity prices climb or demand is high.

Estimated Savings by Managing Energy

- *Industry:* Retail
- *Description:* A leading fashion specialty retailer, with 11 full-line and seven Nordstrom Rack stores in Southern California Edison's service territory
- *SCE Programs Utilized:* Automated Demand Response (Auto-DR) technology incentives, Critical Peak Pricing (CPP)
- *Results:* A technology incentive of more than \$526,000 to pay for Auto-DR equipment, 20 percent load reduction during CPP events in summer 2010 and 3.5% reduction in energy use per square foot annually

SCE TEChNology INCENTIVES

\$526,000+

Energy Management Success Story

Nordstrom and SCE's Automated Demand Response Program: Showing That Saving Energy Is Always in Fashion

"The primary driver behind this project was social responsibility," says Nordstrom National Facilities Director Bill McQueen. "We want to do our part during those critical peak times just like we did voluntarily. This local community effort does save a few kilowatt-hours and helps offset rolling blackouts. It's the right thing to do."

He adds, "Demand Response is really about making sure we don't have to build more power plants or tap into the higher-emitting coal plants. We know that in California, where we have customers and do business, it makes sense to use less energy on those critical peak days" to help avoid rolling blackouts and ensure customers have power at their workplaces and homes.

Auto-DR: 20 Percent load Reduction

With Auto-DR, when a DR event (such as CPP) takes place, a central system sends a signal to the EMS units in Nordstrom stores to reduce load in a pre-scheduled manner. Nordstrom retains the ability to override the automated signals and change its load reduction strategies at any time.

McQueen says that before Nordstrom installed the new EMS units to enable Auto-DR, the circuits for some stores affected multiple areas — including some the stores did not want off, such as restrooms. Now, with the EMS units, only selected non-critical lights and equipment are affected during events. Devices can be added and removed from EMS control as needed.

"We can be assured through the automated element that we only turn off what we want," McQueen notes.

During CPP events in summer 2010, Nordstrom stores in SCE's service territory reduced load by 20 percent, which equated to a reduction of over 2 megawatts.

Upon receiving a day-ahead CPP event notification, Nordstrom sends out e-mails to its stores. Then during the event, store employees post door signs and make periodic announcements to keep customers informed about what's happening in the stores. Nordstrom also educates its salespeople about how to answer customer concerns.

"We're not trying to hide from customers that we're curtailing usage," McQueen says. "In essence our customers take part in the event with us. The response has been positive."

Annual Energy Reductions of 3.5 Percent

For Nordstrom, embracing Auto-DR technology is only part of its ongoing energy management strategy. Through use of new technologies in lighting, heating, cooling and other systems, the company has lowered energy use per square foot by 3.5 percent annually since 2008, a rate it aims to continue meeting each year, reports McQueen.



Energy Management Success Story

A major project involves a company-wide conversion to more energy-efficient store spotlight systems, which has the potential to reduce 45 million kilowatt-hours of energy usage across 110 stores by the end of 2012.

"We have an ongoing strategy to explore technologies and energy use in new stores and to retrofit existing stores," McQueen says. Other options being evaluated for widespread implementation include:

- Motion sensors with infrared technology for stockrooms
- LED (light-emitting diode) can lights with optics
- Technologies to reduce escalator motor demand when no one is on the escalators

"We're able to frame up projects in a way that they do have a good rate of return but still keep delivering that 3.5 percent annual energy reduction," McQueen says.

Working with partners like SCE helps Nordstrom continue its long-term commitment to saving energy, money and the environment.

"Through all of our partnerships we always learn a lot," McQueen notes. "We're glad programs like this exist. It's been a good experience for us to learn this way."



This case study is provided for your general information and is not intended as a recommendation or endorsement of any particular product or company. Funding for this case study is provided by California utility customers and administered by SCE under the auspices of the California Public Utilities Commission. The information contained in this case study does not replace CPUC-approved tariffs. Please refer to the individual rate schedule of interest for a complete listing of terms and conditions of service, which can be viewed online at www.sce.com.

© 2011 Southern California Edison. All rights reserved.
NR-770-V1-0111

More About Auto-DR

Auto-DR utilizes automated load control systems, such as an EMS or Supervisory Control and Data Acquisition (SCADA) system, to simplify participation in DR Programs and to automatically achieve specified energy demand reductions (kW and duration) during peak periods. Qualifying customers who do not have automated controls can receive technology incentives to help offset the purchase and installation of automation equipment (like an EMS or controls).

Technology incentives for enabling Auto-DR are available to customers who participate, or plan to participate, in at least one of the following programs: Capacity Bidding Program (CBP), Critical Peak Pricing (CPP), Demand Bidding Program (DBP), Demand Response Contracts (DRC) and Real-Time Pricing (RTP).

To save even more, certain DR programs allow customers to enroll in a second compatible program, which may offer benefits beyond what a single program can provide.

To learn more about Auto-DR opportunities, or how to qualify for savings and incentives, contact your SCE Account Representative, visit www.sce.com/autodr or call (866) 238-3605.

"The primary driver behind this [Auto-DR] project was social responsibility. We want to do our part during those critical peak times. This local community effort does save a few kilowatt-hours and helps offset rolling blackouts. It's the right thing to do."

Bill McQueen, Nordstrom National Facilities Director

Earn Even More Savings with other SCE Programs

- Find out how SCE's Demand Response (DR) Programs can reward you for reducing electricity usage during peak hours.
(866) 334-7827
www.sce.com/drp
- Take free SCE classes in lighting, HVAC, energy management and more at an SCE Energy Center.
Irwindale: (800) 336-2822
www.sce.com/ctac
Tulare: (800) 772-4822
www.sce.com/agtac
- Use Web-based SCE EnergyManager® Program tools such as SCE EnergyManager® Basic, SCE Cost Manager® and SCE Bill Manager® to monitor and track your electricity usage.
(888) 462-7078
www.sce.com/energymanager
- Take the Online Business Survey at www.sce.com/_Tools/Business/online-energy-guide to calibrate your facility for savings.

Start Saving Now

SCE offers a range of solutions such as cash incentives, energy surveys, and payment options to help you better manage your electricity costs.

For More Information

www.sce.com

(800) 990-7788

Contact your SCE Account Representative





Railex®

Auto-DR Puts Railex® on Energy-Saving Track

The newest mega-trans load refrigerated distribution center operated by Railex® — a nationwide full-service transport, logistics and distribution firm — sees significant savings with use of an energy management system (EMS) to control energy consumption during peak periods and automatically participate in Demand Response (DR) programs.

Located in Delano in Central California, the three-year-old facility includes 225,000 square feet of refrigerated space and loads and ships about 80 to 90 rail cars of perishable goods a week, with the number rising as high as 160 cars a week in summer months. To build the facility, Railex® used the statewide Savings By Design (SBD) program to receive design assistance and a \$150,000 energy efficiency incentive for high-performance new building construction.

As the facility's business grew in its first two years of operation, Railex® turned to us to look for opportunities to lower its rising energy costs. "We wanted to make it as economical as possible for us to do business on a grander scale," notes Railex® Senior Systems Analyst James Johnson.

After helping Railex® identify its DR potential, Railex® decided to utilize

Automated Demand Response (Auto-DR), which allows customers with an automated load control system, such as an EMS, to participate in DR programs with no manual intervention, providing flexibility and ease of use. Customers pre-select their level of participation and earn incentives for peak-period energy load reductions, which help ensure adequate electricity supplies and also offer environmental benefits.

Railex® received a \$72,400 DR technology incentive for the controls needed to utilize Auto-DR. Railex® Maintenance Manager Terrell Estes says the incentive, combined with the money saved through DR event participation, led to a return on investment in just four months.

Summer CPP Savings of Over \$32,653

Railex® now participates in both the Critical Peak Pricing (CPP) program (the default rate for SCE bundled service customers with demands greater than 200 kilowatts (kW)) and in a Demand Response Contract program with a third-party aggregator.

CPP rewards customers for reducing or shifting electricity usage during critical peak events, when the demand and price for electricity climb. During summer

Project Overview

SCE Programs Utilized:

- Technical Assistance and Technology Incentives (TA & TI) Program
- Savings By Design
- Automated Demand Response
- Critical Peak Pricing (CPP)
- Demand Response Contract

Results:

300 kW's load reduction per CPP event, yielding savings of more than \$32,653

Incentives:

\$222,400

“ From an energy standpoint, Demand Response and the EMS enabled us to increase our business without the higher cost for energy. ”

James Johnson
Senior Systems Analyst
Railex®

Growth with Flat Energy Costs

According to Railex®, while energy use from the peak summer months of 2010 to 2011 increased by 30% to 40% at the Delano facility, participation in DR events and use of the EMS kept energy expenditures essentially the same as in the previous year.

“From an energy standpoint, Demand Response and the EMS enabled us to increase our business without the higher cost for energy,” Johnson notes.

Beyond this, the EMS provides expanded accessibility, with the ability to manage energy use at the facility remotely using smart technology devices. This, Johnson and Estes note, offers added value that’s not reflected on the electricity bill.

Estes credits SCE with helping Railex® stay on track to save energy, money and the environment. “The communication has been extremely good,” says Gary Pena, Railex® General Manager. “Whenever we have an issue, our SCE account manager personally addresses it. We know we have a direct line to SCE.”

Looking forward, Railex® plans to consider additional energy-saving opportunities such as LED lighting and lighting controls available through SCE. “We haven’t tapped everything in that well yet,” Johnson says. “We realize that the more control we have within our building, the more it increases our opportunity to control costs and increase efficiencies.”

2011, Railex® averaged close to 300 kW in load reduction per CPP event, with participation yielding savings of more than \$32,653.

Johnson says that during a DR event, the Auto-DR system – which the company can override at any time – reduces load to battery chargers, some air conditioning and lighting units, refrigeration coils and ammonia compressors.

In addition, the EMS allows Railex® to manage equipment charging in a way that avoids electricity use demand spikes that increase electricity costs. Johnson explains, “That has made an overall impact on our bottom line even when there’s not a Demand Response event.”



To learn more about SCE energy management solutions, ways to reduce your energy usage and manage your energy costs, visit sce.com/business or call your SCE Account Manager.

This case study is provided for your general information and is not intended to be a recommendation or endorsement of any particular product or company, or a representation of any actual or potential future energy or monetary savings for other customers. These programs are funded by California Utility ratepayers and administered by SCE under the auspices of the California Public Utilities Commission (CPUC). Programs are effective until funding is expended or the program is discontinued. Programs may be modified or terminated without prior notice. The information contained herein does not replace pricing information contained in any CPUC-approved tariff. Please refer to the tariffs for the programs described for a complete listing of terms and conditions of service, which can be viewed online at sce.com/regulatory.

© 2015 Southern California Edison. All rights reserved.