

CASE STUDY / **DERMS DEPLOYMENT**

UTILITY PARTNERSHIP BRINGS DERMS TO LIFE

To manage demand response programs and facilitate the addition of distributed energy resources (DERs) in the future, Evergy (formerly Kansas City Power & Light) chose to deploy a Distributed Energy Resource Management System (DERMS) with the help of our team.



INITIAL DEMAND RESPONSE PROGRAMS HELP TO MANAGE ENERGY DURING PEAK PERIODS

A utility invests in the future of its energy use with a DERMS deployment.

PROJECT STATS

CLIENT

Evergy (formerly Kansas City Power & Light)

LOCATION

Kansas City, Missouri

INITIAL DEPLOYMENT COMPLETION DATE

June 2019

CHALLENGE

Severe heat is not only extremely uncomfortable for consumers but can also cause a major strain on a utility's overworked energy network. With a service area of about 18,000 square miles, Evergy (formerly KCP&L) covers more than 800,000 customers in northwest Missouri and eastern Kansas.

Evergy hired Burns & McDonnell as its owner's engineer for the deployment

of its enterprisewide Distributed Energy Resource Management System (DERMS). Burns & McDonnell relied on technical knowledge of Distributed Energy Resources (DERs), demand response (DR) programs, information technology (IT) and operational technology (OT) to explore design considerations, participate in integration design workshops and monitor ongoing implementation and integration activities.

MAJOR INTEGRATION WITH

3

LEGACY SYSTEMS

18K

SQUARE-MILE SERVICE TERRITORY

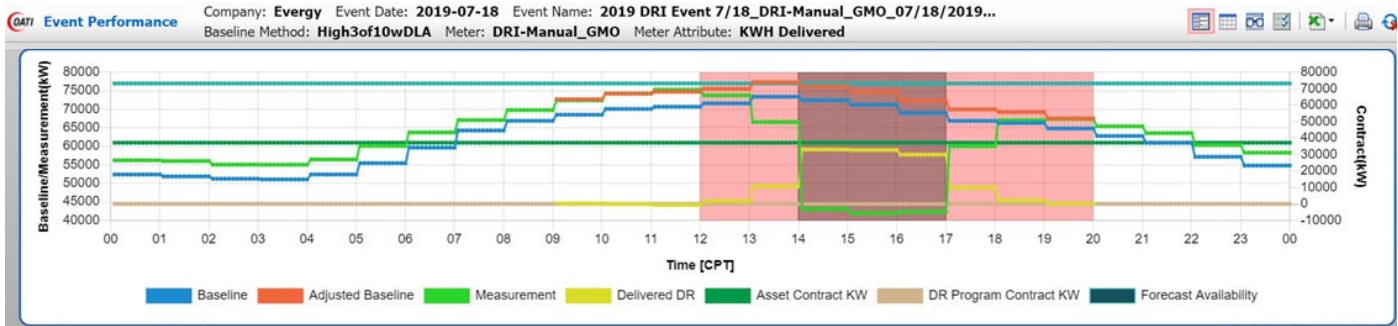
800K

COMMERCIAL, RESIDENTIAL AND INDUSTRIAL CUSTOMERS

Demand Response Incentive

Evergy's Demand Response Program

	Enrolled Load	Anticipated Savings	Realization Rate
MO West	39,486 kW	31,939 kW	81%
MO Metro	16,400 kW	21,035 kW	128%



SOLUTION

Burns & McDonnell helped to facilitate working sessions involving Evergy's IT team, Evergy's business team, and the DERMS vendor in this nontraditional IT project. Our knowledge of the relevant IT systems and business requirements helped us to lead Evergy through the challenges of the software deployment. In addition to the software deployment, Burns & McDonnell assisted with the creation of two demand response programs. The goal of these programs was to reduce energy use during periods of peak load.

The first demand response program provided incentives for commercial and industrial clients, such as large school districts and big corporations, by contacting such large customers — via phone, text or email — and asking them to turn down the lights or reduce energy in another capacity on a very hot day.

The second major demand response program relied on smart thermostats

to determine the most efficient energy solutions. These thermostats use technology, such as Google Nest, to cut costs by automatically adjusting the temperature of a home or office to reflect an energy-efficient and cost-saving system.

The technology needed to implement these two demand response programs required massive upgrades to Evergy's customer care and billing system, meter data management system and geographic information system. To integrate these new processes and corresponding technologies, we worked closely with Evergy and provided the IT and OT knowledge needed to upgrade all three systems.

Backed by extensive experience in the utility industry, we were able to determine the most effective ways to configure the DERMS and load the relevant data for the demand response programs. Our work on the initial DERMS deployment and the first two DR programs will help to prepare

Evergy for future DR programs and DERs to be added to the system.

RESULTS

After deploying and configuring the DERMS, loading the relevant data, and creating the first two demand response programs, Evergy was able to start using the DERMS in June 2019. Its first demand response event yielded a 53-MW reduction in energy usage.

Looking ahead, the DERMS will interact with smart meters via a third-party aggregator like Honeywell or Eaton. Additionally, the utility plans to build an interface to electric vehicle charging stations through ChargePoint, Evergy's charge station vendor. All of these demand response programs can be rolled up in the DERMS to help the utility manage energy use during periods of peak load, and even defer additional generation in the future.



BURNS  MCDONNELL

burnsmcd.com | Offices Worldwide

11589-DP-0620