

Loveland Water and Power

Outage management solution offers one version of the truth



PROJECT AT A GLANCE

Project Type

Operational utility solutions

Location

Loveland, Colorado

Number of Customers

33,646 active meters

29,322 residential customers

Applications

Provides a graphical, data-rich environment that displays the information utilities need for maximum reliability and efficiency

Solutions Implemented

ArcFM™ Network

ArcFM™ Operations

CUSTOMER BENEFITS

- Model, design and manage critical infrastructure
- Highly configurable
- Easily adapted for multiple uses
- Increased accuracy of information



City of Loveland Water and Power is a municipally owned utility providing the city of Loveland, Colorado with power, water and wastewater services. Its electric sector provides power to over 33,000 residential, commercial and industrial customers that span a sixty-one square mile service area.

City of Loveland Water and Power (CLWP) began with a CAD-based GIS in 1990 and migrated to an ArcGIS® platform in 2004 and ArcFM™ in 2008. In 2011, CLWP realized they needed a better solution that would help with the overall organization of all outage and restoration operations and has since implemented Schneider Electric's ArcFM Operations Solution.

Challenges

Before implementing Schneider Electric's ArcFM Operations Solution, CLWP did not have an OMS and was managing outages manually. The utility managed all outages by taking calls from customers as they came in to report loss of power, taking the notes from each call and entering the information into the GIS system and producing a map of the affected area. The static map would then be passed onto dispatch, allowing the utility to send out field crews to the affected area.

“The data collection portion is astronomical. It’s all centralized on one platform for all the parties in the organization....We all know where all the information resides and we all have access to the exact same information, which is obviously a great benefit.”

[Cree Goodwin, City of Loveland GIS Specialist](#)



ArcFM Operations Solution’s overarching benefit is creating one single version of the truth for the utility and other stakeholders during an outage event.

The system worked until an unexpected, major winter storm hit in October of 2011.

“We had a massive outage that took down a third of the city,” said Mike Margenau, Senior GIS specialist at CLWP.

CLWP faced a problem. Its system of taking calls and relying on physical notes to track important information on customers without power was incapable of effectively managing the high call volume of such a large outage. With so many calls coming in, some from customers calling multiple times to report loss of power, dispatchers couldn’t keep the GIS system accurately up to date. This left the utility with only a wall full of sticky notes with which to manage its restoration crews, making it extremely difficult to create a clear picture of the scope of the outage and to prioritize crew dispatch.

Having no automated feedback system through an OMS, the only way to record when an outage had been restored was on a sticky note in the utility’s dispatch room which then still needed to be entered into the GIS database. Dispatchers had to rely on individual phone calls to each field crew asking where they were and what the work status was. That information stayed in their heads instead of the centralized database. As a result, CLWP had no universal way of letting other field crew members and dispatchers know when and where outages had been restored.

CLWP was also responsible for providing the Emergency Operations Center downtown with an updated map of the affected service area so emergency responders would know where crews were needed. CLWP Senior GIS specialists were tasked with manually updating the map constantly as each report came through over the phone, which

provided only a very rough outline of the affected area and required the map be updated by hand every time there was a change. Not only was this highly inefficient, it also prevented emergency responders from having the accurate, up-to-the-minute information they needed to make decisions.

In the aftermath of the storm, CLWP knew they needed to be better prepared to deal with large scale outages.

Solution

“We had a follow-up meeting after the storm where we gathered the entire utility together in a room to discuss what happened and where we were lacking. The big things that came up were the need to track the calls coming in and in turn know where to send crews and keep them organized. We were missing a central organization tool,” said Margenau.

With no way to quantify how many customers lost power during the winter storm, CLWP decided to explore a solution that would track all incoming calls, list them on the network and provide predictions of the likely source of the outage. CLWP also wanted a solution that would bridge the gap in communications between dispatch and field crew members as well as provide operational and situational awareness during both minor and major events.

After doing extensive research on other utilities and their experiences with different outage management systems, CLWP chose to implement Schneider Electric’s Operations Solution due to its seamless integration with its ArcFM GIS database, as well as its ability to minimize disruption and costs associated with network outages and crew management.

With ArcFM Operations, all calls are recorded on the network. This allows the entire utility to see exactly when each loss of power is reported and manages overlapping reports. ArcFM Operations also provides an analysis of the likely cause and location of an outage, giving dispatchers the ability to direct restoration crews more accurately and efficiently.

While providing powerful data management and analytic tools to CLWP's staff, ArcFM Operation's overarching benefit is creating one single version of the truth for the utility and other stakeholders during an outage event. ArcFM Operation's real-time dashboard provides a graphical user interface that can easily be leveraged by dispatchers and first responders, relieving the Senior GIS specialists of their need to continually update maps as losses of power are reported.

The Bottom Line

Just two hours after CLWP went live with ArcFM Operations, a truck hit one of its electric poles outside a substation and knocked out power for 1,000 of its customers. Instead of committing time and resources to answer calls through dispatch, they were answered through ArcFM Operations, which analyzed each call coming in and provided a prediction of the outage location. All the information from each call was stored in its centralized system, providing the utility with one single information source and a seamless account of reports.

In addition to identifying the scope of the problem quickly, CLWP was able to dispatch crews directly to the source of the problem. While a significant improvement in the management of service restoration, this was also beneficial for customer service, as dispatchers could feel confident in letting customers know when restoration would be underway in the event they called back a second time to re-report a loss of power.

"The automation of getting those calls on the network and seeing the predictive function of ArcFM Operations run to identify the problem was instant, a thousand times quicker than it was before," said Margenau.

CLWP no longer relies on dispatchers and GIS experts to update the GIS database with outage and restoration reports. Now ArcFM Operations automatically updates the utility's GIS database, providing a real-time map of the affected area. Dispatchers, executives, field crews and even first responders can access an up-to-the-minute picture of the network without staff needing to update and send map files.

"The data collection portion is astronomical. It's all centralized on one platform for all the parties in the organization. Now, you don't need to go in the dispatch room and look at the sticky notes on the wall or catch somebody in passing in the hallway to get an update. We all know where all the information resides and we all have access to the exact same information, which is obviously a great benefit," said Cree Goodwin, a City of Loveland Senior GIS specialist.

ArcFM Operations provides the organizational tool CLWP lacked in October 2011, allowing the utility to allocate their resources on outage restoration where they were most needed.