



CASE STUDY

Digitizing Field Patrol Workflows at San Diego Gas & Electric

PROJECT SUMMARY

Project Type:

Modernizing Field Patrols

Location:

San Diego, California

Number of Customers:

More than 1.5 Million +

Applications:

To increase inspection efficiency with data-rich maps.

Solutions Implemented:

EpochField

CUSTOMER BENEFITS

- Graphical, data-rich environment •
- Simple, cost effective solution
- More accurate data

INTRODUCTION

San Diego Gas & Electric (SDG&E) serves approximately 1.5 million electric and 900,000 gas customers in Southern California's San Diego and Orange County communities. As with all utility companies today, SDG&E is held to strict governing standards related to the inspection and maintenance of its vast, sprawling infrastructure. To maintain the power grid fueling Southern California's thriving economy, SDG&E relies on thousands of field crew members that traverse its service territory to patrol the terrain, conduct inspections, perform routine maintenance and repairs, respond to outages when they occur, and assess the potential risks of wildfires, which have plagued the area in recent years due to Southern California's ongoing drought conditions.

Until recently, the utility company had relied on its legacy back-end systems and applications to guide its field operations, including annual infrastructure patrols, technologies put in place years ago and updated over time to keep pace with the area's growing population. However, when the software provider of SDG&E's primary field management solution announced its plans to retire the application and forego an upgrade to Microsoft's Windows 10 operating system, SDG&E's management made the decision to invest in new infrastructure tools and technologies to power the future of its field operations.



THE CHALLENGE

According to Jeffrey Lewis, an experienced industry consultant working with SDG&E to orchestrate the digital transformation initiative, the utility was seeking a new platform designed to deliver more robust functionality to its field crews and, in particular, to aide in the annual patrols critical to identifying areas in need of further inspection, vegetation management, repairs, and other routine troubleshooting and maintenance tasks.

The new solution would need to provide field crews with visibility into the GIS data utilized to accurately identify and locate SDG&E assets, obtain pertinent production and other historical data, and update records from wherever field assets are deployed as new data is collected and improvements are made. Field crews also needed near-real-time mobile connectivity to SDG&E databases from anywhere the demands of their jobs took them, no matter how remote – as well as the ability to work effectively with field data offline, as much of the SDG&E grid exists in rural areas that lack Internet access.

“The timeline for this project was fairly aggressive, with SDG&E aiming to have the new system in place in just a matter of a few months,” said Lewis. To achieve its goals, the utility tapped the expertise of its in-house IT staff, a small, yet highly skilled team of professionals tasked with rolling out the new software application initially to electricity customers. The application SDG&E would ultimately select also needed to enable seamless integration with the company’s existing back-office technologies, including the SAP application driving its business operations.



“There is a simplicity about the app itself that helps field crews get their data into the system much faster than it took to manually document asset clearances and infractions.” - Jeff Lewis



THE SOLUTION

After a thorough review of solutions on the market, SDG&E selected the EpochField platform from Epoch Solutions Group, a full-featured, enterprise-grade field crew mapping and management solution designed specifically to address the unique needs of the utility industry.

Architected for ease of use, flexibility, and scale, EpochField enables utility companies to digitally transform their workflows by automating and streamlining field service operations. A platform-level application, EpochField connects field workers on the frontlines to third-party, back-office systems and applications – from anywhere their deployments take them via its device-agnostic mobile app.

EpochField is easy for field workers to access and download from any Windows, Android, or iOS device they may have with them out in the field – and offers robust functionality offline and all the technological resources field crews need to collect and record the infrastructure data essential to safe, compliant operation of Southern California's enormous power grid.



THE RESULTS

Lewis notes that the implementation process was straight forward, with the bulk of the development work focused on forging an integration path with SDG&E's SAP-driven environment. Once integration with SAP was complete on the back end, the implementation, customization, and roll-out of EpochField's mobile app was fast, smooth, and very well received by the field workers who would be the new system's power users.

"Looking back at what we did – and where EpochField is today – the field portion of the development and implementation efforts could be done in just a couple of weeks now," said Lewis. "The SAP integration was the complex part of this project – and that was also completed relatively quickly at the time, in just eight weeks."

The initial phase of the roll-out was targeted at serving SDG&E electricity customers and involved deployment of EpochField across 600 machines. Due to the efficiencies and other benefits the utility quickly achieved with the new application; SDG&E quickly decided to extend EpochField's functionality to service its natural gas business. Today, the utility has a full site license for EpochField, as does neighboring utility, the Southern California Gas Company.

"Before implementing EpochField, SDG&E field workers relied primarily on paper maps – some 27,000 of them – to manually record infrastructure data collected in the field during its annual field patrols," said Lewis. "This process generated volumes of hard-written forms, sketches, and other documents that had to be individually digitized and formatted for uploading to SDG&E's back-end systems and applications. Not only did this process create incredible amounts of data entry work for SDG&E on-site employees, but it also made it difficult to keep records up to date throughout the year as the collection and recording processes were so time and labor intensive."

By contrast, EpochField empowered field workers with its intuitive, automated mobile app which delivered all the functionality workers needed to quickly and easily record infrastructure data in the field, right from their smartphones, tablets, and laptops. In doing so, EpochField allowed SDG&E, for the first time, to bypass many of the redundant manual steps once involved in the collection, recording, and processing of field data. Plus, fewer manual touchpoints have led to greater data integrity and accuracy, vitally important to grid safety and compliance, and to ensuring the service uptime customers across the region expect and deserve.

"Easy-to-navigate dashboards with intuitive drop-down menus and checkboxes make data entry fast and easy, while the app also includes data-entry fields whereby workers can type in notations for future workers to reference."

- Jeff Lewis



"There is a simplicity about the app itself that helps field crews get their data into the system much faster than it took to manually document asset clearances and infractions," said Lewis. These notations, which can include anything from the condition of rocky terrain and the types of vegetation surrounding assets to whether an unfriendly dog or uncooperative customer is on the premises, aide in the productivity and safety of field crews on patrol."

Feedback from the field on the new software tool was immediate and overwhelmingly positive, adds Lewis. "These highly skilled individuals are not hired by SDG&E to run a software application," he said. "They are there to perform hard physical labor outdoors in all manner of rugged environmental and weather conditions and to ensure the safe, uninterrupted, regulatory compliant operation of one of our state's most valuable assets – the power grid. They need software designed to work the way they work – without a steep learning curve."

Lewis continued, "I knew we had achieved success when one of our most skeptical and vocal crew trainers – who had pushed back considerably on the need to 'do things differently than they had been done for his 30 years on the job' became an instant power user of EpochField out in the field. This technology is a true game changer for our field crews, placing the features and functionality they need at their fingertips – with or without an Internet connection – while also enabling a fast upload of data collected in the field to back-office systems, information critical to serving the public with the energy resources it needs on an ongoing, uninterrupted basis."





To learn more or schedule a demo,
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