



REDUCE SAIDI AND CAIDI WITH ARCOS



Southern Company

OVERVIEW

Automated crew callout reduces SAIDI, saving money for power transmission and distribution operations. Think for a moment about all the hours a utility company spends in one year dispatching crews during outages. Now multiply that by five companies responsible for four million customers over a 120,000-square-mile territory. What you end up with are months of man-hours spent by control center operators manually working the phones—instead of focusing on more critical outage management tasks.

Imagine if you could automate the entire crew callout process and achieve the following results:

- 30% more time spent analyzing and resolving outages
- Accepts-per-attempts improvement of 10%
- Crews responding 20% faster
- Worker grievances significantly reduced or virtually eliminated
- SAIDI improved by 10%
- The automated solution paying for itself in the first year

CHALLENGES

- Prior to 2001, Alabama Power and Mississippi Power had been using a semi-automated system designed by in-house developers, which automated only the logging and tracking of call out events and required manual entry of callout details and manual calling but did not manage and execute the callout process.
- In some cases, control center operators were spending two to three hours physically dialing and calling the crew instead of focusing their efforts on more important restoration tasks, such as analyzing the problem using their outage management system.
- Managers determined that using a fully automated system would also likely result in a decrease in crew response time. If a system could contact employees faster and more accurately, the resulting response time improvements could lead to better overall SAIDI and CAIDI numbers for the utility.
- Clyde Herring, responsible for finding a new solution, wanted to make sure that they found a product from a cloud-based vendor that could provide the phone lines, maintenance and staffing so that they did not have to use internal resources.

“By fully automating crew callout, operators can focus their efforts on more important tasks, such as analyzing the problem using the outage management system.”

Clyde Herring
Alabama Power
Power Delivery, Methods
and Systems

SOLUTION

An evaluation process was initiated to identify and examine the available solutions on the market. Of all the products and services the team reviewed, only one fully addressed their needs: ARCOS from ARCOS LLC. ARCOS was first introduced to utilities in 1996, and is used today by many of the leading power companies in North America. It's a secure cloud-based solution available via the Internet. Operators log into ARCOS through a web browser, either from the office or home, and can dispatch any number of crewmembers with a few mouse clicks. The system then immediately begins calling names on the roster - handling accepts, declines, no answers and skips - and records all events. It can leave messages, call pagers, and simultaneously manage multiple calls so requests are never overfilled.

Utilities can also configure ARCOS to address specific company policies and practices, such as simply asking the employee to accept or decline the callout, or explaining the situation before requesting a response. Further configuration options include transferring crewmembers who accept the request to a live operator for additional instructions. Most utilities, however, prefer the automated approach to eliminate the time-consuming chatting associated with person-to-person calls.

"One very attractive feature, said Herring is that ARCOS eliminates the need to add hardware or phone lines and does not require internal resources to maintain the system. All application and infrastructure issues are handled by ARCOS LLC, including software upgrades, feature enhancements and server maintenance."

On the surface, ARCOS sounds and even looks like a simple system, but beneath the easy-to-use interface is a sophisticated rules-based engine built to address the complexities actually involved in crew callout procedures. It's the system's ability to manage the details that separates ARCOS from other solutions. Whereas alternative solutions simply make calls from a roster, ARCOS makes calls based on business rules, roster rotations, work groups and schedule exceptions such as seniority, job classification, rest rules, overtime and sick time. It's especially valuable for following contract agreements.

Meeting contractual obligations is often a challenge for utilities relying on a manual or paper-based system. It's too easy for schedules and rosters to be out of date or for rules to be missed when calling. The results can be longer call periods locating crews and even union grievances for not applying the rules correctly. ARCOS ensures compliance with labor-force business rules and regulations and provides a complete call history should activities need to be reviewed.

"Our contract requires our trouble men to meet a certain percentage of callouts in a year," said Herring. "With ARCOS, we can produce a detailed report of each call that was accepted or declined, and provide a company summary so our management can see where our strengths and weaknesses are."

"ARCOS allows us to look at our contract for covered employees and provide statewide consistency," said Herring. "We were able to identify and define the rules that would cover most every situation statewide, but still be able to configure the system to support local agreements."

RESULTS

In the first year at Alabama Power, the number of accepts-per-call attempts improved by 10% and crew response time dropped by 20%. Larger decreases in response time have been experienced by other ARCOS users; however, since Alabama Power was previously semi-automated, the expectations were not as high as with companies moving from a paper-based system to a fully automated one. Still, the final results exceeded Herring's expectations.

The impact of ARCOS at Alabama Power is most evident in the outage duration averages.

"In looking at what we were doing prior to our implementation of ARCOS and where we are today, we were able to document a 10% reduction in our SAIDI numbers," Herring said. While ARCOS is not solely responsible for that decrease, it contributed significantly to the many factors that affect the number. In addition to faster crew response times, ARCOS is credited for operational improvements in distribution control centers.

"In doing some analysis, we determined we were saving our operators 30% of their time that was spent dialing phone numbers," Herring explained. "Now they can spend that time getting the power back on—doing the analysis on the electrical system and using our outage management system and SCADA system to isolate trouble while ARCOS gets crews out in the field."

The overall time savings equaled two full-time positions, resulting in those resources being re-allocated in the organization. Additionally, two distribution control centers that were once required for nighttime events were consolidated into one center.

One of the more significant benefits was that the payback on the investment was only one year. A typical system might achieve a return on investment in three to four years, Herring said. ARCOS paid for itself in the first 12 months and produced an additional \$30,000 savings.

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Since the first implementation at Alabama Power, ARCOS has been adopted by the other four utilities in the Southern Company family. Together, these businesses are responsible for serving over four million customers over 120,000 square miles in the Southeast.

Today, ARCOS supports more than just power transmission and distribution at Southern Company. Herring and his team employed ARCOS at one of Alabama Power's generation facilities. The James E. Barry Electric Generating Plant uses the system for emergency situations and to fill shifts.

"If we had not been successful," said Herring of the first implementation, "this product would never have been rolled out to our other operating companies."