BY KIM DURGIN, PROGRESS ENERGY

POWERGRID INTERNATIONAL
THE POWER DELIVERY MEDIA SOURCE

Automated Callout A LINCHPIN for Efficient Outage Recovery

Outage recovery is black and white. If the power goes out, get the lights back on. It's that simple. Or is it? Recovering from an outage takes structure, discipline and collaboration. Structure stems from good processes. Discipline entails holding all levels of the organization accountable, yet knowing when to empower each individual or group to take ownership. And effective collaboration means marshalling resources. Bringing these elements together in the right proportions affects outage recovery.

From utility to utility, the speed with which restoration takes place, the amount of standby time paid for, and the efficiency of operations varies greatly. Much about making outage recovery efficient stems from how well (or not) a utility brings its crews to the scene of an outage.

Collaboration is a good place to start. Any recovery from an outage first requires people coming together to work. For example, in the wake of an auto accident just after midnight, a utility customer calls to report a related outage or a 911 center contacts Progress Energy to report a car accident and a pole down. The utility company's control center immediately identifies field resources to respond as quickly as possible, yet the control center also identifies the additional line personnel needed to make repairs.

Does the utility rely on a manual callout process, wherein supervisors or a dispatch analyst make phone calls in the middle of the night to round up line personnel who can report for work? Or does the utility's control center launch an automated callout that reaches every available crewmember in seconds? Both callout processes take collaboration, but the latter compresses the time from several hours to a few minutes. Either way, callout must occur to bring power back. But the goal isn't simply recovering from the outage; the aim is to bring power back in the shortest time frame and to respond as quickly as possible.

One goal of an electric utility company is to maintain, monitor and respond to an ever-changing electric grid

Reprinted with revisions to format, from the August 2010 edition of **POWER-GRID INTERNATIONAL**

and to minimize customer interruptions. Overseeing the electric grid requires a flawless transition between day-to-day operations and minor or major events. To make that happen in the most efficient and expedient way, a utility company's leaders must work together.

Control center employees must have the right tools to monitor, maintain and restore service just as field employees must have the correct tools to work around (and on) electrical equipment. Collaboration between the control center and field employees can be much more efficient when it's spurred by technology. When identifying a list of tools to bring employees together to restore power quickly, automated callout technology may well be at the top.

AUTOMATING CALLOUT

Nearly a decade ago, Progress Energy Florida automated its callout program to better handle outage recovery for its 1.7 million electric customers across Florida. Progress Energy looked at how it brought resources together to work after-hour situations such as power outages or emergent issues. The review yielded a clear opportunity for speeding response and restoration by improving the manual callout process in place at the time. Before automating callout, it sometimes took Progress Energy an hour or more to identify and assemble a crew for work. With its manual process, the utility's field supervisors or the control center had to call employees from a list of names and numbers on a spreadsheet. Field supervisors oftentimes would spend time explaining the work over the phone to help the employee gauge how much time would be spent doing the repairs. Those discussions could add several minutes to response times and ultimately extend the outage duration.

Initially, Progress Energy used its new automated callout system, which is made by ARCOS Inc., for identifying and calling available line personnel in addition to tracking their responses. Progress Energy relied on the ARCOS system for after-hour activities; however, the utility had a different process for documenting work schedules for field personnel and field leadership during normal business hours. Progress Energy soon found that if the system didn't display the daytime schedules for all field employees, inaccuracies existed regarding which employees were available for a callout. For example, if a crew extended its workday to finish up a job, and no data was sent to ARCOS to reflect that the crew was still working, then a new callout for additional resources would include the aforementioned crew, because the system should state the crew had logged a normal work day. For that reason and several others, Progress Energy put its daytime resource information into the ARCOS system, too. With all the information in the system, the utility can document schedules, post rosters, file reports and provide Progress Energy leadership an array of information about individual time, callouts and after-hour activity with a few clicks. Documenting after-hour activity also allows a strategic look to determine if resources are staffed appropriately based on the amount of callout activity in a particular area or location.

Progress Energy's automated callout system also holds resource information such as trucks, assignments and work schedules for line personnel as well as their names and contact information. When Progress Energy faces a minor or major storm event, the utility always knows which resources are available. Calling in additional resources without error is just a few clicks away for the control center or a field supervisor.

This all combines to lower barriers to collaboration. It also lends greater structure to the way Progress Energy reacts to emergency and storm events because the technology frames a consistent process within which everyone is working.

The callout and resource management system provides dispatchers or leadership one place to view schedules and callout information, which Progress Energy updates in real time. As mentioned earlier, recovering from an outage takes structure, discipline and collaboration. With automated callout in place, Progress Energy has a disciplined approach and a structure that gives everyone a window into what's happening and an efficient way to bring about collaboration.

A CHANGING VIEW FROM THE FIELD

While benefits to automating callout and resource management exist, field employees don't always see the value immediately. For instance, with a manual callout process in place for after-hour callouts, line personnel have direct access to control center employees or supervisors. Many people like this way and aren't eager to move away from it. Field employees often want to determine the type of situation (e.g., underground vs. overhead) based on direct conversation with the control center or supervisor. When field employees have personal obligations competing for their time, they will often seek more information to help them determine the opportunity and the anticipated time commitment. Again, each conversation delays response and the duration of an outage.

With automated callout, the system calls the line personnel. The call includes details about the outage. After they listen to the description, personnel can accept or turn down the callout. If a worker accepts, he heads to the operations center or truck and notifies the control center when he is on the way. The field employee simply confirms that he or she is accepting the callout and responds immediately. Once the field employee arrives in the truck, the dispatcher will send an outage or emergent ticket to the field employee's computer. Progress Energy's trucks are equipped with a computer that gives the field employee valuable information as well as a map. Unnecessary communication between field personnel and the control center or field is reduced. Reduced communications also frees a dispatcher to focus on analyzing the outage(s), emergent situations or dispatching to other locations.

Since implementing its automated callout system, Progress Energy can easily capture after-hour activity. This was a difficult, if not impossible task, when Progress Energy relied on paper or basic spreadsheets for capturing the activities. Much of the data in a manual callout process requires dispatchers and supervisors to follow up with line personnel to document callout and work activities. When a spike in the volume of outages or emergent situations occurs, a control center's focus will naturally shift from documentation to restoration. Remaining disciplined in a manual callout structure is challenging at best.

The reporting tools in the automated callout

system have enabled Progress Energy to accurately capture the time charged for restoration activities, which can reduce O&M expenses. Response time is significantly improved, too. The automated callout system also gives Progress Energy a method to transfer ownership of callout acceptance (allowing personnel to make themseves available or unavailable via the system) as well as close out a call to the employee. Progress Energy has also trimmed standby time because the time between the first lineman's accepting a callout and the remaining crew members' accepting is compressed from hours to minutes.

Bringing efficiency to outage recovery is no different than carrying out restoration work. Both require focus on structure, discipline and collaboration. Progress Energy put together a change management plan to provide leadership and field personnel a view of the new callout structure. The utility's executive leadership team fully supported the transition. The support was necessary for Progress Energy to effectively roll out and implement the automated callout system and carryout the culture change needed to make it work. Progress Energy leadership's highlighted the overall benefits of automating callout to the entire work force. Region Champions were established to be the go-to individuals for questions or issues that arose before, during and after the transition. In addition, a major benefit was clear—documentation and reporting around after-hour activity. If disagreement arises on whether the correct person was called, clear documentation is available to verify those answers. Fact-finding based on paper documents isn't needed. That information is archived and easily accessible if questions or information arise long after that event. Throughout the project, the Region Champions met regularly to respond to all feedback from field supervisors, bargaining unit leaders and employees and support groups.

A few challenges that Progress Energy's implementation team overcame in selling the automated callout system to the company were:

- Concerns about the software making it too easy for employees to turn down after-hours work,
- A view of the manual system as not perfect, but workable, and
- Cost of the automated system.

Progress Energy's implementation team and champions allayed concerns about a spike in the number of employees turning down work by explaining that field personnel were more likely to accept work if they had a window into the process as it was unfolding. The team made the business case that the manual system was adding hours to the utility's restoration and response time, which also undercut arguments about the cost of implementing the new system.

For Progress Energy Florida, automating callout and resource management has helped the utility combine structure, discipline and collaboration in the ideal proportions. Implementation has been a natural progression to more efficient and effective responses in an ever-changing electrical environment. And that, in turn, has made outage recovery and response an efficient process at Progress Energy.

Durgin is director of Progress Energy's Distribution Control Center for Florida.