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Mutual Aid Before the Storm

The 2005 Atlantic hurricane season was the most active in recorded history, with seven major storms that caused more than \$100 billion in damages. Hurricane Katrina grabbed the most headlines and left the most destruction in its wake—an estimated \$82 billion price tag made it the costliest storm in U.S. history. Just a month after Katrina made landfall, Hurricane Rita again sent Gulf Coast communities reeling, eventually racking up another \$10 billion in damage.

Add to this a 2004 season, in which Florida alone was belted with four hurricanes, and it's understandable that storm recovery is a much-discussed topic among utilities these days, particularly those in the Southeast.

CPS Energy in San Antonio sent crews to Florida in 2004 and to Louisiana and East Texas in 2005. "We're a whole lot better prepared to deal with these kinds of recoveries now than we were three years ago," said Richard Castrejana, director of operations and maintenance for the utility. "I can't imagine how a town could survive a hurricane or another event of that magnitude without strong mutual aid."

According to Mike Hyland, vice president of engineering for the American Public Power Association, public power utilities are uniquely positioned to help each other when storms or other events knock out power to large swatches of customers.

"Sometimes I think [municipal utilities] are worried that because of their size, the investor-owned utilities will suck up all the lineworkers and munis will be in trouble, but we haven't found that to be the case," Hyland said. After Katrina, there were so many municipal utility crews volunteering to head down to Louisiana that some had to be turned away. "It's a really strong network, and I think there's loyalty there and a kind of brotherhood," he said. "Because of that network, nine times out of 10 municipal utilities won't be hurting for crews."

So if the workers are available, the question becomes how best to make use of them — how to get the right crews for the job, how to dispatch crews effectively once they're in town, and how to ensure they're taken care of in a way that will make them willing to return.

"These guys are working 14-16-hour days, so you want to do whatever you can to make life easier for them," said Barry Moline, executive director of the Florida Municipal Electric Association. "That means everything from dispatching them

effectively, to feeding them well and doing their laundry. Believe me, word gets out real fast if you're not taking care of those crews, and people won't want to go back."

The calm before the storm—A strong mutual aid plan starts well before a storm is in sight. Hyland suggests municipalities in each state—ideally through a statewide organization like FMEA or ElectriCities of North Carolina—come together to draft a mutual aid plan that stipulates who will coordinate the program and how it will be run.

Moline stresses the importance of naming a single point person. "The biggest lesson we've learned in the last several years is that you need to have one individual, with a team of assistants, who will go out and basically make the mutual aid happen," he said. That means making phone calls and coordinating efforts between a state's utilities in the wake of a disaster. "The first thing to go in a disaster is communication," he said. "So you want to make sure you know who's supposed to call whom. You've really got to over-communicate."

Utilities also should network with surrounding states, said Tom Bell, training director for MEAG Power, Distribution Services and Electric Cities of Georgia. For the past five years, mutual aid coordinators from several Southeastern states—Alabama, Florida, Georgia, the Carolinas and Tennessee—have gotten together annually to discuss disaster preparedness.

"We e-mail and make phone calls throughout the year, but it's nice to have that one event where we can all sit down at a table with each other and talk," Bell said. The group last met in early December 2006; items on the agenda included new satellite phone systems, potential Federal Emergency Management Agency rule changes and how best to respond to a bird-flu-style pandemic. "It's really important to bond and build those relationships, to discuss how things have gone and how they can be improved," Bell said.

The Southeastern coordinators also share their disaster response manuals with one another; each state keeps a copy of the others' manuals on file. "I think over the last several years, we've really improved communication," Bell said. "It used to be, for instance, if we had to reach out of state for crews, there were several cities we'd call up. But now we call the state agency's point person. We're much more efficient."

In the early 1980s, APPA members attempted to craft a national mutual aid contract, but found there were too many regional and state differences—in laws, in pay rates, even in basic nomenclature (terms like "lineman" and "foreman," for instance)—that it turned out to be an impossible task, Hyland said. APPA now encourages state agencies to craft their own contracts but provides a national, one-page mutual aid "agreement" that, so far, has been signed by roughly 800 municipal utilities nationally.

That one-page agreement was created to meet FEMA requirements, Hyland said. The agency in 1999 crafted rules stipulating that disaster aid workers must "have the expectation of being paid." The rules were aimed at volunteer fire departments and other typically unpaid forces, but also apply to utility crews. "The agreement isn't binding operationally, it just states that crews sent to help in a recovery expect to be paid," Hyland said.

In cases where crews are traveling from out of state or even out of region, it's important they work out the specifics of their contracts in advance. Generally, crews are paid based on their hourly rates back home, Hyland said.

"Does that tick some people off? Sure it does. Say, in the case of Katrina, you've got a crew from 10 miles away getting paid \$20 an hour ... and then you've got a crew from New York or Philadelphia getting paid more... Those are all things to work out in advance."

Gas, food, lodging—"In the wake of Katrina, the media really focused on all the negatives coming out of New Orleans, but one of the positives we found was how well we were treated by folks down there," said CPS Energy's Castrejana. CPS crews were working in a small parish outside of the city where, for the first couple of weeks, they slept in a Knights of Columbus hall. "Every night there were people from town bringing us different food to eat," Castrejana said. "And I mean all kinds of awesome, homemade Cajun dishes. That kind of thing really makes a difference."

It may seem like small details, but if a town expects visiting crews to put in long hours restoring power, it needs to be willing to provide a place to sleep, food to eat and other basic amenities, like laundry service.

"Guys will eat a sandwich for lunch, but at night, if they've been working all day, they'll usually want a hot meal," MEAG's Bell said.

This is another area where planning is key. Bell suggests towns work out contracts in advance with hotels, laundry services, restaurants and gas stations (if the town doesn't maintain its own fuel pumps). "These are things that can be written right into your disaster plan," he said.

Pre-planning also helps towns keep in good standing with FEMA. The agency wants to see that utilities have worked out reasonable prices beforehand, and that they aren't being gouged, Moline said.

Of course, workers understand there will be times when a hotel room is not an option. Hyland told the story of linemen traveling to a small parish in Louisiana after Katrina and being given a choice between the pews of a church or a bed at the local jail. "Sometimes there's not a hotel in town, and these guys understand that. They just want to see that you're making an effort," he said. Sometimes a utility can come up with a creative solution like the South Carolina municipality that emptied trucks and other equipment from an armory to set up cots for visiting crews," Hyland said.

Castrejana suggested traveling crews carry air mattresses in case lodging is scarce. When CPS sent crews to Beaumont, Texas, following Hurricane Rita, "for the first few days it was basically sleep on the floor in the control center or sleep in your car," he said.

Bell likes to send a "forward scout" in advance of traveling crews to make sure these sorts of arrangements have been taken care of. "A scout can go into a hotel and say 'We need X number of rooms' and can even pick up the keys, so when the crews get there he can just say 'You're in this room, and you're in that room.' That can really expedite the process," he said. "An advance man can also make sure the utility's done a full assessment, and that they know what to do with the crews once they arrive."

Assess—“When you’re part of a traveling crew, there’s nothing more frustrating than showing up and no one’s planned out what you need to do,” Bell said. “If I could emphasize one thing in this whole process, it’s the importance of assessment. Assess, assess, assess.”

Assessment starts in the hours or even days before an event—in the case of an ice storm or tornado, a utility might not have much time to prepare, but a hurricane is generally tracked for days or even weeks before it makes landfall. Forty-eight hours before a storm is expected to hit, Moline and his team of four (two from FMEA and two from the Florida Municipal Power Agency) call all the towns in the projected path.

“That makes our members aware of mutual aid at the time they may need it,” Moline said. “There’s sometimes a reluctance to ask for help, so we want to assure people it’s okay to ask, and that there are lineworkers and other assistance available.”

At the same time, Moline keeps out-of-state mutual aid coordinators aware of the possible need for crews. “E-mail is great because we can share weather data, storm forecasts and possible crew needs,” he said. “At these times, I feel like my mutual aid counterparts are my best friends.”

Once the storm hits, Moline calls all the cities again. “It gives me a chance to see what the damage is, the kind of assessment a city’s done, and what kind of specific help they might need,” he said. He first tries to fill mutual aid needs with in-state crews, but if that proves too difficult, he starts calling coordinators in surrounding states.

In a disaster, time is of the essence, as utilities strive to get customers’ lights on as quickly as possible. Some utilities have even requested crews in advance of an approaching storm, then housed them somewhere outside the storm’s projected path. “It’s on the utility’s dime, but that can be a cheap insurance policy,” Hyland said.

But traveling crews need to be careful to stay out of the impact zone. CPS Energy sent crews to Florida in 2004 in advance of Hurricane Charley, but “we got too close too fast, and ended up having the eye of the storm pass right over our hotel,” Castrejana said. “Everyone was okay, but it gave us a scare.”

In the case of a really severe storm, APPA’s Hyland might get involved on a national level. After Katrina, for instance, Hyland acted as the point man for crews looking to help. “I can send out an e-mail to about 600 municipalities and, within minutes, I’ve got people volunteering, people asking questions,” he said.

Bell urges utilities to be as specific with their needs assessment as possible. “So often, a utility will say ‘We need people,’ but then you ask, ‘Well, how many do you need?’ and they don’t really know.” In some cases, Bell said, an employee from a larger utility can be dispatched to a smaller utility in advance of crews to aid in system assessment.

“You want to look at not just how many outages you’ve got, but the types of outages,” Bell said. “How many miles of line are out, how many feeders are out, is it transformers knocked out or poles cracked in half?”

Another thing to consider: what kind of equipment will crews be working with? If a utility maintains underground lines, a crew that’s worked only with overhead lines

won't be helpful, Hyland said. "People die every year doing restoration, so you want to make sure you've got the right crews in there," he said.

Moline suggested pairing out-of-town crews with local employees who know the system. In some cases that might mean splitting local and out-of-town crews; in other cases, it might mean having an employee who is not essential to recovery—administrative staff, for instance—ride along with an out-of-town crew and show them the sites where they need to work.

"Have someone ride with them, and have good system maps so they can see where the feeders are, and how things are laid out," Bell said.

Moline suggested utilities give cameras to visiting crews to help document the recovery effort for reimbursement purposes. "When you're talking about FEMA, a picture truly is worth a thousand words," he said. The agency generally will reimburse between 75 and 95 percent of restoration costs, depending on the type of storm and the severity of the damage, he said. But he warned that new rules could lower those reimbursement levels if utilities are not doing enough to mitigate future damage.

"Let's say you've got the same wooden poles going down storm after storm and, instead of upgrading, you just keep putting those same poles back up. Now FEMA's saying they can drop your reimbursement to as low as 25 percent since you're not making an effort at mitigation," Hyland said.

Moline suggested that cities and state agencies perform a final round of assessments after the recovery is completed. "We're always going back and looking at ways we could make the system better," he said.

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