

Twisters Challenge

Call Center 9-1-1 Technology

By Sherry L. Baranek, Senior Editor

When a series of tornadoes ripped through the Midwest from late April into mid-May, call centers rallied to help get emergency personnel to the scenes to assist in cleanup and recovery efforts.

NO MATTER HOW WELL EQUIPPED call centers and emergency response experts are to handle any disaster, some phenomenon always seems to occur that challenges their skills and tests their assistance efforts. Such was the case last spring when a record number of tornadoes touched down in the Midwest—particularly in the state of Oklahoma.

Taking the Calls

Linda Herndon, 9-1-1 coordinator for Washington County Emergency Management (Bartlesville, OK)—which offers E9-1-1 services to the county—gives a firsthand account of the twister that hit her area on April 18th. “On Easter Eve our county was struck by an F2 tornado that ripped a path from the West edge to the Northeast corner of our county,” she recalls. “It injured three people and did \$1.5 million in property damage, but there were no fatalities.

“My husband and I are experienced storm spotters and were out north of our rural home when the wall cloud was moving in,” Herndon continues. “This early evening tornado was hard to see because it was a rain-wrapped funnel. We were the first to report to the Emergency Operations Center that the funnel was on the ground. Television meteorologists also had issued tornado warnings, so people in our area had time to get to shelters before the storm hit. I’m convinced that early warning is one reason why we had no fatalities in this storm. There were no drivers of vehicles injured. The tornado didn’t touch down on U.S. 75 Highway; it jumped over it. With the extra travelers on the road due to it being Easter weekend, it could have involved a lot of families traveling through our county. We are lucky it hit in the rural areas of our county where homes are not very close together. Had it gone through one of the towns or cities, the devastation would have been much worse.”

A secondary funnel, rotating anticyclonic or clockwise, is still being investigated by the National Weather Service. “Normally in the northern hemisphere, tornadoes rotate counterclockwise,” she explains. “It was on the ground for a total of thirty-three minutes, traveled twenty miles and was approximately a quarter-mile wide at its largest. Forty homes suffered damage, with sixteen homes being severely damaged or destroyed. One county road in the path of the storm had the blacktop lifted off of the road from ditch to ditch in about a four-foot-wide section.

“Electricity was out in some areas for two days due to poles and wires being ripped up,” Herndon continues. “Cellular telephone service was interrupted during and immediately following the storm due to the number of calls being placed clogging all the circuits. Good radio transmission in the damage area helped emergency responders stay in touch. The E9-1-1 system’s fire district map was taped to the side of Washington County Emergency Management’s mobile command post, where Incident Command was established. The map book, with each E9-1-1 address marked, was used during searches of the affected area, for both preliminary and secondary damage assessments. FEMA wants to know as quickly as possible the number of homes affected; that information was readily available from preliminary damage assessments.”

Herndon adds that in Washington County, they were only days from receiving GIS mapping software to help prepare for

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Wireless 9-1-1 in her area. “GPSD roads with GIS maps will be very useful for plotting damaged areas,” she notes.

According to 9-1-1 Coordinator Steve Willoughby of the Association of Central Oklahoma Governments (ACOG) (Oklahoma City, OK)—the administrative agency in the Oklahoma City metropolitan area that oversees the 9-1-1 network, equipment, training and other administrative duties—the area was struck two days in a row. “From our perspective, the system worked as it should,” he notes. “9-1-1 ACOG places great emphasis on a very detailed 9-1-1 network/disaster recovery (DR) Plan. We have worked with our local 9-1-1 service provider to have a very flexible and automatic system to ensure that no matter what occurs 9-1-1 calls will get answered. For example, in the event a PSAP cannot handle calls for whatever reason, we can immediately direct those calls to one of our twenty-one other PSAPs. In addition, we have a complete set of backup equipment that can be deployed to restore a PSAP. For example, the May 3, 1999 tornadoes destroyed one of our answering points. That community was answering their own 9-1-1 calls with the spare equipment at its temporary PSAP within twenty-four hours of telephone service being restored to the community.”

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Recovery Takes Time

Over in Edmond, OK, damage was minimal. Lisa Sutterfield, communications supervisor at Edmond Central Communications (Edmond, OK)—which oversees 9-1-1 and nonemergency operations and scheduling of communications—notes that 9-1-1 was used by many residents during the storm to alert our communications specialists of downed power lines and poles. “FEMA has been in the area since the May 9th storm, assisting citizens and businesses with filling out necessary paperwork to receive government assistance,” Sutterfield comments.

According to Charlie Burgett, director of Edmond Electric—a municipally owned provider of electricity to the city—a half-mile section on the south side of Edmond was affected by a transmission line that was owned by a local investor-owned utility and all of the poles came down. “We had distribution lines that were used to serve businesses and residences in the area that crossed under and were also built parallel to that transmission line,” Burgett explains. “So when the transmission line came down it came down on top of the Edmond Electric transmission lines. The initial impact was that we had about ten thousand customers out of service because of the loss of the transmission line itself, which brought power into a large portion of Edmond. In a matter of several hours we coordinated with the owner of the transmission line at the transmission control center and rerouted power to the south side of Edmond so that the two substations that were out of service would be back in service within two and a half hours.

“At that point, we were able to start assessing the Edmond Electric damage and we had several hundred customers that were out of service due to broken poles in several locations, specifically in the area where the transmission line came down,” Burgett continues. “There were fifty-seven residential customers that remained without power for a week because the big transmission line had to be rebuilt and the wires put back up in the air so that Edmond Electric could get in the area and rebuild our distribution line in that neighborhood. The coordination between the municipal, electric utility, the street department and the police was very effective in that we all knew each other and we communicated in the field—alerting the other agencies of any changes that were going to be taking place. For example, there were some times when Edmond Electric needed to restrict traffic flow so that we could install a line across a major road, and we handled that coordination directly in the field.”

Burgett attributes the reduction of any negative effects of damage incurred to the open communications “One thing we have

heard in the aftermath is that on major roadways the businesses were affected greatly by the restricted traffic flow, and we probably could help local businesses by having even better communications with them should something like this happen again,” he says. “The city should always keep in mind that there are businesses being affected during the emergency response time, and communication with those businesses would be very valuable so that the businesses know what is going on, why it is taking place and can plan for when the situation will be relieved.”

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9-1-1 Callout

Northeastern Blackout Challenges Michigan 9-1-1

When the lights went out in Michigan on August 14, 2003 in what is being called the *largest blackout in history*, Calhoun County’s 9-1-1 system handled the challenge smoothly. According to Jill Fish, the dispatch manager for Calhoun County Central Communications 9-1-1 (Battle Creek, MI)—a provider of E9-1-1 to the county—its systems “couldn’t have worked better.”

“The entire county was affected by the blackout,” Fish continues. “All of our backup systems functioned smoothly, with the exception of a generator that failed,” she notes. “This equipment failure took down our Sheriff’s frequency, as well as several fire departments in the southern portion of Calhoun County. A replacement generator was installed and we were back online in one hour and thirty-five minutes. The affected police and fire agencies were directed to other radio frequencies. Therefore, we didn’t lose calls or experience any delays in dispatching incidents to the appropriate police or fire agency.

“Just like every other 9-1-1 center from here to Connecticut, we were overloaded with various types of 9-1-1 calls for service,” she adds. “There are three PSAPs in Calhoun County and our local E9-1-1 board is currently exploring the combining of these PSAPs into one Dispatch Authority. Yesterday’s incident gave us an opportunity to fine tune our decisions about choosing which radio systems we’d like to install in any new dispatch center.”

9-1-1 Callout

Within eight months' time, northwestern Ohio has experienced a tornado and a flood—but emergency personnel from three departments pulled together and helped the communities through each situation. On November 10, 2002, at shift change an F4 tornado ripped through Van Wert County—leaving two fatalities and several million dollars' worth of damage in its wake, according to Kim Brandt, 9-1-1 coordinator for Van Wert County 9-1-1, a provider of Phase I, E9-1-1 services. Then, beginning on July 4, 2003, Van Wert and neighboring

Mercer County received at least twelve inches of rain—resulting in a state of emergency.

Ohio Call Centers— Double-Teamed by Tornado and Flood— Rise to the Occasion

During the first hour of the tornado, the county PSAP (which normally has one person on desk) processed forty-four 9-1-1 calls and 128 10-digit calls, Brandt reports, and the city PSAP processed forty-nine 9-1-1 calls and 139 10-digit calls. “In our county we back each other up,” she states. “If the City 9-1-1 is busy, the call rolls to the Sheriff’s Office, and if their line is busy the call rolls to the Police Department. Dispatchers at both PSAPs are prepared to send help anywhere in the county, and in that manner we are like one 9-1-1 team. On November 10, Ohio State Patrol Post 81 helped in any way they could.

“With such widespread damage, every county and city department was on a call or out checking for injuries and damage,” she continues. “Our dispatchers did a wonderful job improvising their dispatches so they could get their runs out as quickly as possible. Often this meant making a phone call, as it was at times impossible to get through on the radio—especially during the first two hours of the disaster. All available off-duty dispatch personnel came in to help out. Everyone on both shifts did their best to communicate the necessary information to the squad, fire department, officer or 9-1-1 caller as quickly as possible to be available for the next radio transmission or 9-1-1 call.”

According to Brandt, everyone is once again pulling together to handle the flood crisis. There were fifty-seven 9-1-1 calls over the seven-day period of the flood and 248 10-digit calls. “This time, 9-1-1 has not been so much of an issue as there have not been any flood-related injuries,” she notes. “Most of the 9-1-1 calls were reporting high water, downed trees and power lines. The regular office line callers were asking how to get from Point A to Point C without going through Point B. Everyone involved is doing what they need to do to get help where it needs to go.”

So, what is Brandt’s advice for handling emergency situations? “You just have to handle it as it comes, one call at a time,” she says. “Thank goodness extra dispatch help came in the time of need, and working together all calls for help were answered.”