



Six Steps to E9-1-1

| By Eric Lowry, Scott County Emergency Communications Agency

By following these six steps, a small rural PSAP implemented Phase II service.

IN THE FALL OF 2002, THE SCOTT COUNTY EMERGENCY Communications Agency implemented live Phase II wireless 9-1-1 services with Verizon Wireless (Bedminster, NJ), an achievement that was soon replicated with five other wireless carriers that serve this county. With NENA reporting that less than 10 percent of PSAPs in the nation now support Phase II, this clearly puts it in the vanguard of emergency communication agencies.

What some people might find surprising about this fact is that the Scott County Emergency Communications Agency is a small, two-position PSAP serving a rural county—population under 25,000—in southeastern Indiana. With fewer resources, both financial and human, it might seem that the challenges to implementing a service like Phase II wireless E9-1-1 for an agency such as this would be insurmountable. Yet, its experience has proven that some factors may actually make it easier to implement in rural settings than in highly populated urban areas.

This article will review the experience of getting to Phase II wireless E9-1-1 as well as some after implementation issues. NENA has published a wireless 9-1-1 checklist on its website. Though written for Phase I implementation, the six-step process outlined also can be applied to Phase II, and it was used as a framework for this article.

Step One: Initial Decision

The initial decision was made back in 1998; the Scott County Emergency Communications Agency was consolidating 9-1-1 and dispatch services in its county within a new cen-

ter and wanted to provide the best possible service to the community. The timing of the move also was fortuitous. There was already a lot of talk in the industry about wireless 9-1-1.

The board that was put together—the political entities and elected officials—should be commended for allowing the Agency the freedom to design the center and for supporting the Agency's recommendations. Scott County Emergency Communications Agency also is fortunate to be located in a state in which, through the efforts of many, including the Indiana State Wireless Board, Indiana Chapter of NENA, local exchange carriers (LECs) and others in the 9-1-1 community, wireless 9-1-1 has been made a priority.

After considerable research and consultation with other PSAPs, Scott County decided to purchase a RescueSTAR controller and Sentinel 9-1-1 system from CML Emergency Services (Westchester, IL) because it believed the way it handled trunking to the CO would enable a faster move onto Phase II. It turned out to be a great decision. In fact, Scott County was ready for Phase II about a year and half before the carriers were.

One nice thing about the process is that it also gave Scott County an opportunity for community building that has gone beyond 9-1-1. Using goodwill and connections that were forged from the consolidation process, it is working to secure funds from Homeland Security.

Step Two: Initial 9-1-1 Service Provider Contacts

The importance of getting your contacts sorted out as early as possible in the process cannot be overstated. You must have

a clear understanding of who they are, what role they play in their company and what role their company plays in Phase II deployment. There are so many players involved with Phase II that it took some time for Scott County Emergency Communications Agency to determine who was responsible for what.

You will have issues with Phase II. Some carriers will provide Phase I data first, then Phase II; some will let you do ALI rebids a number of times, others won't. As you're learning how each carrier supports Phase II, you'll want to have a good contact list to know who to call to get the information you need.

In this case, the LEC, Verizon, worked closely with the board to get everyone on the same page. It prepared a procedural guide, so that Scott County would know who to call with a specific problem, such as getting no record found, ALI rebid problems, inaccurately routed calls, and so on.

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The more PSAP managers can do early on to become familiar with individuals, the better off they will be. Based on its experience, the advice of Scott County Emergency Communications Agency is to use your LEC as a first line of defense. It knows how a call is delivered, and who to contact at any point in the process.

Step Three: Notifications

Once you're certain your equipment can accept the data associated with Phase II calls, it's up to you to request Phase II service from the carriers. The requirement is that they provide the service within six months of receiving your request. As noted earlier, it didn't turn out quite that way for Scott County Emergency Communications Agency. When they started out, most carriers had waivers from the Federal Communications Commission (FCC) since they were not yet in a position to implement the service.

As in other areas that implemented Phase II early, Scott County was in uncharted waters and no one really knew for certain what it would take. Initially, they didn't expect it would take quite as long as it did, but the more they learned about it, the more they came to understand why there were delays. It's a complex process that takes a tremendous effort to get the pieces working together from carrier to switch.

Even though a lot of progress has been made, depending on where you are located in the country, you might find there's still a lot of work to do. Be patient, but firm. Scott County Emergency Communications Agency made contact with the carriers on a regular basis to try to stay up to date on its progress. The carriers always ended by setting the next date that Scott County would get in touch again.

Step Four: Planning Meeting

Here's where being a single PSAP in a rural setting can really help simplify things.

While it was important for Scott County Emergency Communications Agency to get everyone together initially to

talk about Phase II issues, it didn't have a need for a tremendous number of meetings. With six carriers, five towers and one PSAP, the issues weren't terribly complicated. There were a couple of meetings with everyone together, then as one or another carrier was ready to deploy, smaller meetings with just the players involved were held.

Step Five: Identify Cell Coverage—Treatment of Proprietary Information

The routing sheets provided by carriers include information that relates to type of system, tower location, coverage areas—information that they don't like to share with their competitors.

Early on, carriers sent huge contracts and service agreements before they would release this data, but they've since backed away from this approach. Some of the data simply has to be shared as part of the implementation process, and all that's being asked now is to sign a nondisclosure agreement that this information won't be provided to their competitors. It simplifies the process a lot.

Identifying cell tower locations in our county was an easy process, but getting accurate radio frequency (RF) coverage maps is a lot more difficult. All of the carriers except for one approximate their cell coverage, using a radius of one or two miles or whatever is appropriate to delineate RF coverage areas. Accurate RF maps are especially important if there are multiple PSAPs, where routing has to be that much more accurate, but it can still be a concern for single PSAPs like Scott County Emergency Communications Agency's, especially in the border areas.

Step Six: Implementation

NENA offers some good advice for this step: don't attempt to activate Phase II service from more than one carrier on the same day, even in a small jurisdiction. It's important that each carrier make a complete run of test calls from every sector they provide, not just from every tower. Even with just a few towers, it could take some carriers a few days or even a week before they are ready to turn up the system.

Flexibility also is very important at this point. Most rural centers have a very small staff. One cannot say, "We're not going to answer 9-1-1 calls because we're testing Phase II." One day, in fact, Scott County Emergency Communications Agency had to stop testing altogether and reschedule because of an incident in the county.

The PSAP is in control of the testing and deployment, and the carriers and LEC have to be willing to work around your schedule. In our case, everyone was very understanding and willing to make adjustments as needed.

Post Implementation Issues

Coverage has been an issue for Scott County Emergency Communications Agency, with accuracy not always being as good as it would like. If a carrier has only one tower in the county, one cannot be sure how triangulation is accomplished. Further, as was mentioned earlier, most carriers only estimate RF coverage, so it's not certain whether this also is having a negative impact on accuracy.

In addition, different carriers have different rules for ALI rebids—some let you rebid more than once, others don't. The

time window for obtaining accurate location information also varies from carrier to carrier.

As a center manager, some of the things one might want to know are not as important to call takers. What's important to them is much simpler: They need to know when a call comes in, whether or not the data is accurate and, if it's not, when to do a rebid. Scott County Emergency Communications Agency is trying to get call takers to get in the habit of checking the class of service and carrier when a call comes in, though it can be difficult for them to remember to rebid at exactly the right time when they're on the phone with someone who's having a heart attack.

Scott County has found that calls from border areas often need to be transferred to other jurisdictions. One of the good things about its system in this regard is that it shares an ECS-1000 router with a neighboring county. Scott County can transfer calls to the neighboring county with complete audio and data with a simple click of the button and serve as backup for each other in overflow situations. With an interstate highway running through the county, it often can be in that situation whenever there's a wreck on the highway—when the lines are congested, calls automatically go to that neighboring county, and vice versa.

Parting Thoughts

Being a single PSAP in a rural county helps to simplify the implementation of Phase II—numerous towers and complicated routing are not things Scott County Emergency

Communications Agency generally has to face. While they might not have the in-house resources of larger centers, it did not find that implementing Phase II had a significant impact on workload—there are a lot of people willing to help and share information through NENA and within the industry. Though budgets are limited, costs are lower too, and Scott County found these could be managed with a bit of effort and research.

Overall, Phase II has been a good thing for Scott County Emergency Communications. The accuracy of most calls is impressive, though it does fluctuate. Scott County hasn't had any incidents in which it saved someone who would otherwise have lost his or her life because it couldn't find them—so Phase II hasn't been as exciting or dramatic as one might think.

But it is a thrill every time a wireless 9-1-1 call comes in and someone says they're at a certain mile marker on the interstate, and the indicator on the map shows they are right at that point.

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