

Spencer County: **Case Study**



Spencer County IDAS™ Increases Coverage, Promotes Safety and Future-Proofs Communication for Regional Volunteer Fire Districts and EMS



A case study prepared by Icom America Inc.
Manufacturers of high-performance, award-winning radios for over 55 years.

Spencer County

IDAS™ Increases Coverage, Promotes Safety and Future-Proofs Communication for Regional Volunteer Fire Districts and EMS

Advanced Radio Communications is an Authorized Icom Dealer and Warranty Service Center.



Featured Icom Products:

- F3161DS IS Portable Radio
 - F5061D Mobile Radio
 - FR5000 Repeater
- F121 Icom Mobile Radio
 - F50V Portable Radio



Southwestern Indiana's Spencer County is a region with many claims to fame. Situated on banks of the Ohio River, Spencer County's rich history dates back to the early 19th century as Abraham Lincoln's boyhood home. The area also hosts the official town of Santa Claus and the world-renowned Saint Meinrad Archabbey.

Located in the state known as the "Crossroads of America," Indiana's Spencer County accommodates major highways and rail routes as well as access to large metropolitan areas within a day's drive. Spencer County has a total area of roughly 401 square miles and is home to over 20,000 residents. The area's population is served by nine volunteer fire departments and emergency medical units whose workforce totals 245 firefighters and EMS personnel.

FEMA Awards Assistance to Firefighters Grant

Faced with nearly 30-year-old equipment and the Federal Communication Commission (FCC) 2013 narrowbanding mandate, Indiana's Carter Fire District realized the time had come for Spencer County volunteer fire departments to replace its wideband communications system. "The existing system was over 27 years old and constantly failing for the past year," says Scott Meadors, Assistant Fire Chief for Carter Fire and Grant Writer/Project Manager for Spencer County's system installation. Inconsistent coverage and system outages cost the fire departments valuable time and resources. "It was a necessity to install new radio equipment."

Rather than applying for federal grant money individually, Carter and the rest of Spencer County's fire departments combined efforts and applied for the Assistance to Firefighters Grant (AFG), a program sponsored by the Federal Emergency Management Agency (FEMA). As one regional entity maximizing its award opportunities, Spencer County received approximately \$350,000 to fund a complete radio system replacement and two tower site installations.

“We received a grant through FEMA to replace existing outdated radio equipment and to supply Spencer County Fire Departments and EMS with a needed interoperable radio system.”

- Scott Meadors, Assistant Fire Chief and Project Manager

Since 2001, FEMA provides grant assistance to fire departments, nonaffiliated emergency medical services (EMS) and first responders. As stated on FEMA’s website, “grants are awarded to fire departments to enhance their ability to protect the public and fire service personnel from fire and related hazards.” Program funds are used to obtain critical equipment such as protective gear, communication devices, emergency vehicles and training.



Finding a System with Safety and Flexibility

After funds were allocated to Spencer County, the search was on for implementing a new land mobile radio system that would optimize communications for all fire districts involved. Carter Fire spearheaded the installation project on behalf of Spencer County and submitted an Invitation for Bid (IFB) in November 2011. According to the bid contract, “It is the intent of Carter Fire District and Spencer County to accomplish a Land Mobile Radio Communications System in a complete turnkey manner.”

Spencer County’s “turnkey” solution would be a two-site conventional VHF multi-cast system. The proposed system would cover two tower infrastructures approximately 23 miles apart (one at Chrisney and another at St. Meinrad) and a complete replacement of two-way radio equipment. Labor, programming and an installation follow-up would be included. A minimum of four training sessions would be also administered, allowing Spencer County users to thoroughly review safety features and learn radio operation controls.

Portable and mobile radios would promote efficiency and withstand heavy use in adverse environments. The units’ rugged construction would adhere to MIL-SPEC testing and specific dust/water resistance. Base stations and repeaters would support mixed mode operation with the ability to scan between analog and digital signals on a single frequency. A turnkey solution would provide narrowband compliance up to 6.25kHz digital efficiency to meet current and potential Federal Communications Commission (FCC) narrowbanding requirements.

Additionally, portable radios and associated batteries and chargers would be classified as Intrinsically Safe (IS). Firefighters and EMS personnel are often exposed to unpredictable environments and potentially explosive materials. IS-certified handhelds would impart Spencer County added safety.

For ease of operation, mobile units would incorporate loud audio capability and a user-friendly interface. A minimal footprint would also be required since a portion of mobile units would serve as control base stations.

Although Spencer County would not utilize digital trunking or multisite IP networking at the time of installation, the collective fire districts wanted to avoid future upgrade costs when they were ready to completely convert their system. This method of “future-proofing” would also facilitate Spencer County’s easy migration to 6.25 KHz narrowband efficiency.

Icom Provides a Complete Turnkey Solution

Authorized Icom Dealer Advanced Radio Communications, based out of Huntingburg, Ind., worked with Carter Fire District on previous installations and submitted a bid proposal based on the Icom Digital Advanced System product line, known as IDAS™. Icom’s digital system offered flexibility to meet future narrowbanding standards, met all technical requirements and was selected as Spencer County’s turnkey solution. “Icom radios have the safety features and technical specifications that Spencer County requires,” says Charlie McIntyre, Owner of Advanced Radio Communications.

Installation took place during Summer 2012. In total, Spencer County received 128 F3161DS IS portables, 80 F5061D mobiles, 7 FR5000 repeaters, a new tower and antennas. The new radios installed and an improved tower infrastructure allows Spencer County’s fire districts to communicate consistently with no system outages reported. Meador confirms Spencer County’s 245 firefighters and EMS use the Icom radio system on an everyday basis. Spencer County’s highway, coroner, EMA and water rescue departments also utilize the main infrastructure—raising the total number of system users to roughly 300.

“The system was personally designed by [Icom Technical Sales Manager] Dick Varbero and performs better than Spencer County’s old simulcast system.”

- Charlie McIntyre, Advanced Radio Communications Owner



Mobiles were installed on fire apparatus and in approximately 50 fire trucks, ambulances and emergency vehicles. Icom’s FM (Factory Mutual) Approved F3161 series handhelds were issued to individuals and suitable for use in environments where combustible substances exist. Roughly 15 F121 Icom mobiles and 70 F50V portables already in use in Spencer County were incorporated with the newly designed system. “The F50 is a very durable radio for our volunteers to carry on

a daily basis,” says Meadors. “The compact size, paging capability, waterproofing and cost are the reasons why these Icom radios are still in use.”

During installation, Advanced Radio Communications kept Spencer County’s existing system in place to avoid service interruptions. Two zones were programmed into the radios and easily accessible to users. Once installation completed, the outdated simulcast system was dismantled and all previous zone information removed from the radio units. Training was provided and proved useful when programming became especially complex. “The radios are working as expected and additional tweaking by Advanced Radio Communications has livened the system even more,” adds Meadors.



Future-Proof Options for Counties

Safety, system flexibility and cost-effectiveness were determining factors for Spencer County choosing Icom. Belonging to the IDAS™ product line, Icom’s F3161 series portable and the F5061 series mobile provide mixed mode operation, seamless roaming and complete communication between departments—all on one network. Spencer County and similar entities choose Icom for its advanced digital solutions and easy migration to 6.25 kHz efficiency technology. “Our Icom system is easily capable of operating 100% digital when the county is ready and the FCC requires it,” says Meadors.

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