eVerge™ Mobile Radios Improve Ag Operations Efficiency

Vertex Standard

eVerge™

CASE STUDY

Minnesota Valley Pumping Service Improves Efficiency and Communications with Vertex Standard eVerge™ Digital Radios

According to the US Department of Agriculture, more than 1.3 million tons of manure is applied as fertilizer each year to about 15.8 million acres of farmland in the United States. A large majority of that process is managed by custom manure applicators, such as Minnesota Valley Pumping Service.

Located in New Prague, Minnesota Valley Pumping Service has been an agricultural specialty service provider for over 30 years. While the practice of collecting, treating and spreading manure is not new, the evolution of technology has enabled the process to become more precise and efficient. This has helped businessmen like Kevin Mader, partner and co-owner of Minnesota Valley Pumping Service, to increase his business, reduce his costs and comply with increasingly stiff environmental regulations.

In order to improve overall operations, Mader installed two-way radio communications in his trucks and tractors, as well as a GPS system so that his drivers and pump teams could operate more effectively.

From Hand Signals to CB to Two-Way Analog Radios

"Back in the early years when we first started, the fields were closer to the manure pit," says Mader. "The field crew would use hand signals or a flashlight to let the pump crew know when to start and stop the pumps."

The company eventually moved to Citizen Band (CB) radios to communicate. However, as farms became larger and fertilizer spread grew more complex, the team needed more location precision in the spreading process, as well as better communication. This motivated Mader to swap the CB radios for HYT two-way analog radios. The strategy worked well but several years ago when Mader added GPS technology to allow for more precise distribution of the fertilizer, he noticed that the GPS application was causing interference and static on the radios.

"We were also experiencing problems with growing traffic on the analog radios and often couldn't get a channel," Mader says.

Without reliable two-way radios, the men operating the applicators were unable to communicate effectively with the pump crew to tell them when to turn off the pump. This could potentially create serious overflow, damaging both the soil and surrounding groundwater and earning the company a citation, as well as a stiff fine from the EPA. It could also result in the loss of a valued customer.

CUSTOMER PROFILE

Customer

Minnesota Valley
Pumping Service
New Prague, Minnesota, USA

Industry

Agriculture

Radios Used

eVerge™ EVX-5300 Mobiles

Benefits

- Clear audio quality
- No channel interference
- Increased worker efficiency

"The Vertex Standard digital radios provide our work crews with excellent clarity,"

Kevin Mader, Partner and Co-Owner of Minnesota Valley Pumping Service

Narrowbanding Mandate Starts the Evolution to Digital

Mader had heard about the FCC narrowbanding mandate and knew they would eventually have to spend the money to retrofit their existing analog radios to comply. However, after looking into the additional advantages that newer technology would provide, Mader and his partners decided it was time to evolve to digital radios. "The industry is going digital anyway, so it just made sense," he says.

Mader and his partners tested Kenwood NEXEDGE digital radios but found that they also produced the interference with GPS. They then tested Vertex Standard eVerge™ EVX-5300 digital mobile radios, found that they experienced no interference issues, and purchased 16 eVerge™ mobile radios for the pump crews, truck and tractor operators, and several other support vehicles. With an easy transition from analog to digital radios, there was no learning curve for the company's crews. Without the static and crowded analog channels, the crews had access to clear, consistent, always-available communications.

"The Vertex Standard digital radios provide our work crews with excellent clarity," Mader added.

Other benefits provided by the switch to Vertex Standard eVerge™ digital radios include:

- Better Radio Call Quality: Digital technology eliminates noise and static from voice transmit, delivering only the intended voice message crisply and clearly.
- Better Coverage: With the power of digital, the EVX-5300 radios deliver ultra-clear audio right up to the edge of the transmit range, ensuring consistent communication and no loss of coverage.
- Worker Safety Features: With Emergency alert for enhanced driver safety, operators can activate the Lone Worker function when leaving equipment or a vehicle temporarily. If a problem arises while away, the radio switches to Emergency mode to alert help.
- Cost Savings: Because the digital radios do not cause interference with GPS, the work crews are able to save time and reduce fuel cost. "The ability to use GPS means there is less overlap because it allows us to drive the outer edges of the field and still get to the entire acreage," says Mader.

Fast Forward to Today

In 1982, the company serviced 13 farms within a 10 mile radius using a half mile of hose and pumps that ran 600 gallons a minute. Today, they support 137 farms within a 60 mile radius, run seven miles of hose and the pumps distribute over 1,300 gallons per minute. Maintaining this level of production requires sophisticated tools that enable the pump crews, drivers, and other support personnel to sustain a high level of professionalism and customer satisfaction.

"As far as efficiency, one person can start and stop the pump as needed, and we can talk back and forth as to what needs to be done next, allowing things to be set up before they are needed," says Mader.

The process in place today not only ensures less driver fatigue and better monitoring of meters in the tractors, but perhaps most important is the reduced response time in shutting down a pump when needed.

"A lot of our work is from repeat customers," Mader remarked. "When we have the right tools, we know we can deliver a job that is neat, clean and on time, and our customers will continue to come back."

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