



CASE STUDY:
GREAT RIVER ENERGY

 **Skyward**[®]
A Verizon company



How an electrical cooperative partnered with Skyward to train and manage a self-sustaining drone program



THE ENTERPRISE

Great River Energy is a not-for-profit wholesale electric power cooperative which provides electricity to 28 member-owner distribution cooperatives. Together, their systems serve 700,000 families, farms, and businesses in Minnesota. The cooperative operates more than 4,820 miles of transmission lines.

THE SITUATION

Great River Energy began experimenting with drones in 2015. It started as a grassroots effort, with a few employees who flew drones in their free time looking into what aerial robotic technology could do to help the company. In 2017, following the release of the FAA's Part 107 regulations for drone operations, Great River Energy started to establish a more formal drone program. Finding uses for the drone technology wasn't hard, but developing the program to enable more employees to use the technology while focusing on mitigating risk required a bit more effort.

THE CHALLENGES:

Great River Energy knew they wanted to scale up their drone program to be a useful asset across the company. But how could they establish standards that were consistent from one group to the next? And how could they train teams of pilots in a consistent, repeatable way?

The early program

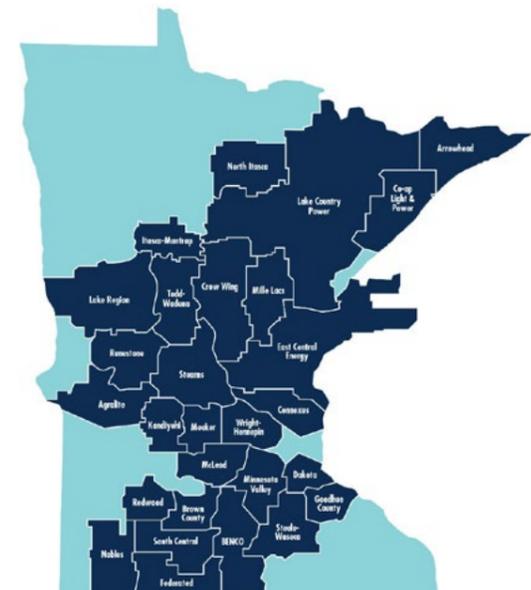
As Great River Energy initially started their program, they saw that drones had the potential to save money, provide a safer working environment, and capture better data that would lead to improved decision making.

The first step was to get buy-in across the organization and support from leadership. Kyle Gustofson, UAS Program Manager at Great River Energy, explained how the team pitched the value of drones to leadership.

“Oftentimes with a new tool or technology, there’s the triple constraint: you can either do it better, you can do it faster, or you can do it cheaper — and you can only pick two,” said Kyle. “In this case, drones are a tool that can capture better data, do it cheaper, and do it safer. It’s a rare triple-win technology.”

After gaining approval to formalize the program, Great River Energy started finding more and more uses to deploy drones in the field. The early program had two main focuses: safety and savings. They quickly found success in these areas, driving the program forward.

However, as the program started to expand, a gap began to form: they were having trouble managing all of their operations, aircraft, and personnel. They needed a platform to help them manage their growing program.



Partnering with Skyward

Beyond just bringing on a software platform, Great River Energy was looking for a way to improve the quality of their operations, and decided to reach out to Skyward for help.

“We understood that we weren’t aviators, but we needed to start to think like aviators,” said Kyle. “We wanted to bring in aviation experts and a professional services team to deliver a formal training for our UAS Program.”

Skyward’s professional services team flew in to provide in-person training to Great River Energy’s team. The instruction started with classroom training sessions to get the pilots comfortable and confident in program standards, operating procedures, regulations, and other critical areas. The training also included hands-on flight training and practice missions to put the lessons to work in the field.

What made these training sessions unique, however, was that Skyward followed a “Train the Trainer” model.

“Our thought was, ‘How would we take the information that we’re learning and develop our own internal training program moving forward?’” said Kyle.

While conducting the training, Skyward’s professional services consultants coached Great River Energy’s team on how they could run training programs of their own. The goal was to enable Great River Energy’s team to deploy drones to the company’s service centers located throughout the service territory.



Putting drones to work

Following the training, Great River Energy’s drone team got to work with a variety of use cases. They began performing tasks such as:

- **Transmission line inspection** – Looking at pole top rot, insulators, and thermal inspection of splices
- **Structural photography** – Assessing and documenting critical infrastructure
- **Avian nest inspection** – Using zoom cameras to look into bird nests on towers
- **3D mapping** – Using photogrammetry to build maps
- **Thermal imaging** – Inspecting transmission infrastructure
- **Marketing material** – Collecting photos and videos for the communications department
- **LiDAR** – Used to collect LiDAR survey points and create advanced 3D mapping
- **Rope pulling** – Support crews pulling ropes while constructing transmission lines

To support a major construction upgrade, Great River Energy used drones to simulate a lightning strike on an energized transmission line. This allowed them to test their relays and electrical protection systems without putting employees in danger.

Great River Energy uses Skyward’s Aviation Management Platform to oversee its entire drone operation. From flight planning and equipment management to requesting airspace access, it all goes into Skyward. This enables Kyle to oversee the entire program in one platform, which makes reporting much easier.

“Being able to use the platform for our operation management, along with the support we received, helped us grow our program,” said Kyle.

Looking to the future

Today, Great River Energy has 11 certified drone pilots and operates a fleet of 13 aircraft. And they're just getting started. They are preparing for a variety of future use cases by keeping up with the latest technology and regulatory innovations.

Great River Energy plans to have drones available at their service center locations. Since they are strategically located throughout their service territory, field technicians could reduce their response time and increase safety.

Great River Energy is also helping move the drone industry forward by participating in industry events, networking with aviation schools, and supporting their member-owners as they launch their own drone programs.

- ▶ Improved emergency response capabilities
- ▶ Flights beyond visual line of sight
- ▶ Automated intelligence (AI) to evaluate information
- ▶ Connecting drones to wireless networks (4G LTE and 5G)

TRAINING, TOOLS & DRONES

See how Skyward's Program Start Package can help you get value from your drone program right away at skyward.io

Skyward can help you take your drone program further, faster.