



NOVA SCOTIA POWER

MOTOTRBO CAPACITY MAX POWERS LARGEST ELECTRICITY RESTORATION EFFORT IN UTILITY'S HISTORY





CUSTOMER PROFILE



NOVA SCOTIA POWER
NOVA SCOTIA, CANADA

INDUSTRY
Utilities

SOLUTIONS

- MOTOTRBO™ Capacity Max
- MOTOTRBO™ XPR 7550e digital two-way radios
- MOTOTRBO™ XPR 5550 mobile two-way radios
- MOTOTRBO™ Long Range Bluetooth Remote Speaker Microphone (RSM)

BENEFITS

- Coordinated communications across hundreds of utility crews to expedite power restoration
- Reliable, continuous coverage across remote and rugged Nova Scotia terrain
- Enhanced safety for field employees with Push-to-Talk, GPS tracking and lone worker alerts
- Rock-solid reliability for day-to-day communications and unforeseen emergencies
- Communication through mobile in vehicle up to 100 meters through Long Range RSM

THE CHALLENGE

AN OUTDATED SYSTEM

Nova Scotia Power was using an analog two-way radio system dating back to the early 1990's, which was in need of replacement. Users were plagued by poor voice clarity, requiring them to repeat information which created opportunities for error. In addition, outdated system requirements such as the need for manual channel selection, meant constant user intervention to ensure even simple messages were sent and received.

“Communications were far from seamless, as employees had to know what channel to be on, based on where they were in the field,” said Rene Larocque, Senior Telecommunications Engineer at Nova Scotia Power. “Users struggled to know when to change channels and what channel to use, creating ongoing inefficiencies that we couldn't afford with the nature of our time-sensitive and customer-facing operations.”

SPOTTY RADIO COVERAGE DROVE EMPLOYEES TO UNRELIABLE MOBILE PHONES

Unreliable communications and a lack of confidence in the existing radio system, led employees to use mobile phones to fill the gap. However, in remote parts of Nova Scotia or during weather-related power outages, cell phone reception could be virtually nonexistent. This would leave employees isolated, with no viable way to request backup, provide updates to the team, or receive tracking and location services.



THE CHALLENGE

“When employees would switch to cell phones, it meant we were relying on someone else’s network, which we didn’t want,” said Larocque. “We needed our own system to allow us to be up and running at all times, particularly during emergency situations when residents and businesses were counting on us the most.”

NEED FOR IMPROVED COORDINATION DURING LARGE-SCALE OUTAGES

Nova Scotia’s location in the eastern region of Canada means Nova Scotia Power faces winter storms and hurricanes with the potential for large-scale outages. When a weather-related incident occurred, the utility’s old system made it difficult to streamline communications across employees, who would be tasked with rapid response and power restoration after the storm. The system had a single, conventional repeater at each radio site. Users had to know what repeater channel to be on for the area and dial the 4-digit radio number of the truck they wanted to speak with.

“We had one central switch with no redundancy – not what you want when you’re dealing with emergency situations,” said Larocque. “At most sites, we only had one repeater, so if it went down, coverage would disappear. It was clear we needed a system with broader reach and coverage to expedite operations during emergencies.”

KEEPING THE LIGHTS ON WITHOUT COMPROMISING SAFETY

The nature of the utility business means Nova Scotia Power employees often work in demanding environments and difficult conditions. While the company is focused on its responsiveness during outages and preparing for potential emergencies, it must ensure safety in the field at all times. This requires always-on communications, secure connectivity and Push-to-Talk (PTT) capabilities during mission-critical operations, all features that the old system struggled to deliver. For example, when employees worked in a bucket truck repairing lines, they had to come back down to the ground in order to use the radio. This slowed operations and prevented real-time updates across groups.

“We wanted to be able to connect with everyone in a group, or across all sites, with the push of a button, whenever needed,” said Larocque.



THE SOLUTION

Nova Scotia Power turned to Motorola Solutions channel partner, Bell Mobility, in deploying MOTOTRBO Capacity Max — a highly secure trunked radio communications system designed to help organizations transform operations, improve productivity and drive safer operations. Trusted by companies and organizations with business-critical initiatives requiring high levels of reliability, the Capacity Max architecture is optimized for time-sensitive, demanding deployments.

Nova Scotia Power appreciated the system’s rock-solid reliability in support of day-to-day communications, as well as fast-moving emergencies. Nova Scotia Power gained impressive capacity and coverage, with the ability to support 250 sites with up to 3,000 users and 29 voice and data channels per site. Currently, the utility has approximately 500 users on the system across 52 sites, with the ability to scale as future needs require. With MOTOTRBO XPR 7550e digital two-way radios and MOTOTRBO XPR 5550e mobile two-way radios in place, Nova Scotia Power can take advantage of all the features MOTOTRBO Capacity Max offers, including advanced location tracking, remote programming and enhanced security.



THE BENEFITS

POWERFUL SOLUTION FOR INSTANT, RELIABLE COMMUNICATIONS

With MOTOTRBO Capacity Max, Nova Scotia Power had a system in place to effectively respond when Hurricane Dorian made contact. At the peak of the storm, 412,000 customers lost power.

MOTOTRBO XPR 7550e and MOTOTRBO XPR 5550e two-way radios met the utility's coverage, capacity and service needs. Employees had a crisp, responsive user experience, with most background noise automatically eliminated, even in harsh weather conditions. Using pre-configured radio talkgroups, power line technicians could instantly share vital updates with control system operators via a request to talk feature program on the one touch access button. This is particularly critical during widespread outages, as lines need to be safely cleared or rerouted before power can be restored.

"During the hurricane, cell phone networks were down for several days, but MOTOTRBO Capacity Max and MOTOTRBO radios performed as if nothing had happened," said Larocque. "Reliable radio communications were vital to support timely damage assessments and deploy the right people to areas of immediate priority."

ANYTIME, ANYWHERE COVERAGE PROVINCE-WIDE

MOTOTRBO Capacity Max also delivers superior handoff capabilities, providing seamless roaming and uninterrupted coverage as employees are en route to new service locales. Employees no longer turn to cell phones to communicate, instead relying on Motorola Solutions radios for reliable, 24x7x365 connectivity.

Nova Scotia Power deployed two repeaters per site, enabling operators to access data such as vehicle location data, in addition to voice capabilities, for enhanced visibility and safety. Plus, users received an improved day-to-day communications process with instant access to anyone and everyone in their talk group via one-button PTT functionality. This eliminated the need for employees to search for channels and shifted users' perceptions of radio communications for the better, with employees finding it offered a better overall experience than cell phones.

SEAMLESS COORDINATION FOR FAST EMERGENCY RESPONSE

MOTOTRBO Capacity Max powered communications during Hurricane Dorian response, the largest power restoration effort in Nova Scotia Power's history. The system enabled connection and swift coordination across 600 utility crews around the province, far more than what's deployed after a typical storm.

As a result, alerts were sent and received by the utility's workforce in real time, with simple one touch PTT providing instantaneous communications to help restore power more quickly. Approximately 85 percent of the 412,000 customers who experienced outages regained power within four days.

"The MOTOTRBO Capacity Max proved its worth and then some during Hurricane Dorian," said Larocque. "With so many moving parts and time-sensitive priorities, we could operate as quickly and efficiently as possible, communicating faster, reporting damage faster, and more quickly staffing up where needed."

"During Hurricane Dorian, we had very limited cell phone coverage and the radios were a necessity," said Travis Eisener, T&D Supervisor, Western Territory at Nova Scotia Power. "In this difficult time, I had two backhoe contractors working every day for well over a week. Since they carried radios we could keep in contact with them in real time and ensure there were no delays waiting for their next job."

KEEPING EMPLOYEES SAFE IN THE FIELD

MOTOTRBO Capacity Max and two-way radios provide an ongoing safety net for Nova Scotia Power, built to deliver communications wherever an employee's day takes them. The radios have even delivered uninterrupted coverage to remote areas of Cape Breton Island at the far eastern end of the province, and in basements of far-flung facilities, areas that previously left crews without coverage due to dense forests, rugged coastline or thick concrete walls.

The utility has improved safety and connectivity across its entire workforce. Today, all employees in the field can take advantage of the emergency radio function when injured or in distress, directly connecting to an operator who will contact first responders. In addition, with the MOTOTRBO Lone Worker application, employees working alone have a dedicated panic alarm and emergency call capabilities while the utility can use GPS location data to maintain accurate worker tracking and protection. Plus, employees in bucket trucks no longer must descend to make a call. They are now equipped with a wireless microphone to provide seamless radio access while elevated in the air, ensuring critical communications availability at distances up to 100 meters line of sight.

"When we are under intense pressure to get power back up and running, our communications system has to be rock solid," said Larocque. "We simply would not be able to do our jobs as effectively without the reach and reliability MOTOTRBO provides —by far, the best communications technology investment we've ever made."



For more information, on the MOTOTRBO Capacity Max system and two-way radios, please visit:
www.motorolasolutions.com/utilities



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