

# Emergency Preparedness: Back Up Connectivity For Utilities Via Satellite

*Bruce Power overcame emergency preparedness challenges with a satellite connectivity solution.*

## The Challenge

When disasters strike, utilities depend on communications networks to meet reliability and capability requirements. However, in extreme cases, communications infrastructure can be threatened by exposure to natural disasters, cyber intrusion, and its reliance on the grid for power.

Bruce Power provides emission-free, low-cost, reliable electricity to Ontario families and businesses, keeping air clean and their people, communities, and environment safe. When carrying out work so critical, they need to be prepared for all types of emergency events, including the unlikely event of a nuclear emergency.

Bruce Power has strived to be an industry leader in emergency preparedness, with the effectiveness of their emergency response program being continually assessed through a series of drills and exercises. The Canadian Nuclear Safety Commission (CNSC) requires that utilities have three means of contacting off site agencies from their emergency operations centers in the event of a major crisis. Bruce Power had two in place and required a third.

Their emergency management team needed a critical line of back up communication from their command center, enabling them to gain contact with government agencies should all other forms of connectivity go down.



Bruce Power Nuclear Station

SAFETY STUDY

# Fail-safe Communications You Can Rely On

**“Network Innovations delivered a solution within tight timescales so that Bruce Power could meet a regulatory requirement.”**

– Steve Thompson, Department Manager, Emergency Management at Bruce Power

*Bruce Power overcome emergency preparedness challenges with satellite connectivity solution.*

## The Solution

Bruce Power required back up voice and data communications that worked independent of their existing installed systems, as a fail-safe connectivity tool. Network Innovations worked to meet their specific requirements, putting together drawings and certifications to build a resilient solution. All requirements were evaluated to design, test, source, and deliver an all-in-one solution, empowering Bruce Power with reliable connectivity.

Network Innovations delivered Iridium BEAM RST 100 satellite terminals with cabling running over 300 feet to active antennas, providing voice communications over the Iridium Satellite Network. The cabling used needed to meet specific attenuation and loss, whilst also meeting requirements for distance, temperature rating, and certification. Network Innovations worked to source custom made cabling that could meet the needs of Bruce Power and the CNSC.

Military grade 1.2m satellite dishes were delivered to each nuclear reactor to provide data connectivity, utilizing Network Innovations' MAVERICK VSAT emergency service plan. This gives Bruce Power the flexibility to quickly increase their bandwidth in case of an emergency. MAVERICK is a fully scalable, efficient, and flexible multi VSAT based solution and is designed to integrate with any type of customer network, providing Bruce Power with a secure, cost effective, and reliable network for when they need it most.

Network Innovations coordinated with suppliers to deliver equipment, collected certifications to meet CNSC requirements, drew up architecture for approval, and more to create a tailored all-in-one solution, enabling Bruce Power to maintain a robust and multi-faceted emergency response program.

## The Results

Within the year, Network Innovations delivered their satellite solution which was installed in Bruce Power's emergency operations centers. NI worked closely with Bruce Power to build and provide an end-to-end solution, from discussing the requirements to sourcing, delivering, and testing the equipment.

Bruce Power are now even better equipped and prepared to protect their people, their plants, the community, and the environment, and are prepared for all types of possible emergency events with fail-safe communications they can rely on. CNSC requirements and certifications have been met.

**“The satellite communication was installed in the emergency operations centres of two nuclear generating stations with the satellite dishes located on the roof of the buildings. The satellite comms system also had a guaranteed 8 hour battery back up system.”**

– Steve Thompson, Department Manager, Emergency Management at Bruce Power



Bruce Power Emergency Exercise: Huron Resilience 2019