

## Underbuild Solution Provides Utility with Bandwidth and Services Growth

Motorola Point-to-Point Solution Deployed to Update Legacy Analog Network

### Utility Providers Face Demand for Broadband Services

For many utility companies, the need to add digital or even incremental capacity to their aging, licensed analog 6 GHz wireless networks is critical in helping them meet increasing demand for services – while maintaining their existing infrastructures. For example, many utility companies depend on remote monitoring for meter reading and flagging outage.

As the demand for digital networks has grown with services such as VoIP, broadband Internet and video surveillance, more pressure is placed upon the networks supporting these services, increasing the challenges for utilities delivering them while maintaining minimal costs.

### The Challenge for One Regulated Provider

One leading regulated provider of electricity in the Midwest found a way to enable an extensive array of advanced digital services with low incremental cost and without passing this burden onto their customers. The provider was running their own 6 GHz licensed microwave system throughout its service area, connecting power plants, substations and corporate locations. They realized the demand for digital services was far outpacing their ability to deliver those broadband services over their legacy network.

### The Underbuild Solution

The option to implement a newly designed and built digital network was not a serious consideration due to the expected costs associated with adding more microwave licensed radios to their existing network. Even one microwave 6 GHz link can cost as much as \$90,000+ and each network relies on hundreds of links carrying crucial data across thousands of miles.

These costs would likely have been passed directly to customers in the region. In addition, this level of upgrade was considered time-consuming and risky when considering that communications carried on the network are critical to public safety and business operations and any downtime on the existing network would result in a disruption of service and business continuity.

Instead, the utility opted to deploy an “underbuild” solution which integrated one of Motorola’s PTP radios into the existing infrastructure, preserving all of the provider’s investment. Motorola deploys underbuilds by installing their 5.4 and 5.8 GHz unlicensed PTP wireless Ethernet bridges directly under a typical 6GHz microwave radio. The PTP radios generated a nearly eight-fold leap in throughput from 1.544 Mbps to 80 Mbps. This breadth of bandwidth not only covered the utility’s immediate broadband services requirements, but also provided room to support other applications such as advanced monitoring, video surveillance and remote data back-up. Motorola’s i-DFS frequency selection also enabled the provider to intelligently stay clear of interference often associated with unlicensed bandwidth. Because the underbuild leveraged the utility’s existing microwave antenna system by adding filters to the existing radio duplexers, the regulator was able to establish a highly reliable Ethernet backhaul system at significant cost savings.

### Experience 99.999% Uptime

The Motorola Fixed Point-to-Point Solutions employ a unique combination of technologies that offers up to 99.999% availability in high-interference, non-line-of-sight and long-distance line-of-sight environments. Such performance is unique in the point-to-point broadband wireless world where 95% availability or less is often the norm.

## MOTOROLA WIRELESS BROADBAND

Purpose-Built Networks

### Benefits

- Cost-effective support for future network growth and bandwidth needs
- Increased bandwidth and improves operational functionality and productivity
- Supports advanced internal applications, such as remote monitoring, increasing organizational efficiencies
- Easy integration with existing network; minimal downtime to deploy
- Valuable alternative to expensive T1 leased lines



### About Motorola

Motorola's industry leading portfolio of reliable and cost effective wireless broadband solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed connectivity systems that support voice, video and data solutions enabling a broad range of applications for both fixed and mobile public and private networks. With Motorola's One Point Wireless Suite of innovative software solutions, customers can now design, deploy and manage their broadband networks at lower installation costs that maximize up-time and reliability.



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