

Utility Automation Depends on the Data Transport Network



“BECI is very comfortable with using a private network for communications transport with their substations. They have reliable performance, lower costs, and also the additional security of knowing that they are not sharing the network and exposing themselves to risk.”

- DAVID BUSBY,
ENGINEERING
DIRECTOR, LRC
WIRELESS

Challenge

BEAUREGARD ELECTRIC CO-OP (BECI) PROVIDES

electric services to industrial, commercial and residential customers in Southwest Louisiana. With more than 30,000 total customers with a network of 5,000 miles of line, BECI

focuses on providing reliable electric service at competitive rates. This rural utility stays on top of the technology and strategically deploys automation where and when it makes the best business sense.

“We have been using wireless communications for years,” says Margaretta Mayes, Information Technology Manager, BECI. “We have rock solid links in our backbone and distribution network.”

BECI leveraged the experience of an expert in designing and deploying the wireless broadband network. LRC Wireless, a full service communications network provider, assisted in the original deployment. “We started with one interoffice point-to-point link seven years ago,” says David



Busby, Engineering Director at LRC Wireless. “BECI had an emergency situation and they needed to connect a remote substation. We installed a PTP link from Cambium Networks, and it has been solid for years.”

Solution

“WITH THE PTP LINK, THEY GOT HIGHER THROUGHPUT AND RELIABLE SERVICE AT A much lower cost,” says Busby. Based on the success of the first link, BECI saw the opportunity to migrate away from leased lines to a private network with a wireless infrastructure.

With the help of LRC Wireless, they designed the communications infrastructure. The network backbone ring is composed of PTP 800 series microwave equipment operating in the licensed 6 - 38 GHz frequency bands. The private use of the licensed spectrum ensures that there is no noise or interference on the backbone communications.

The links that branch off from the backbone to connect the 22 AMI collection point substations have PTP 600 series wireless broadband equipment that operates in the 5 GHz unlicensed spectrum. Because these links operate in a noisy and changing RF environment, the PTP 600



series equipment includes Dynamic Spectrum Optimization (DSO)[™] and other interference mitigation techniques.

“Getting these links to perform this well is not magic, it’s in the planning,” says Busby. LRC Wireless uses the free LINKPlanner software to model the performance of each link before ordering the equipment. This provides them the opportunity to test the link and design in high performance levels.

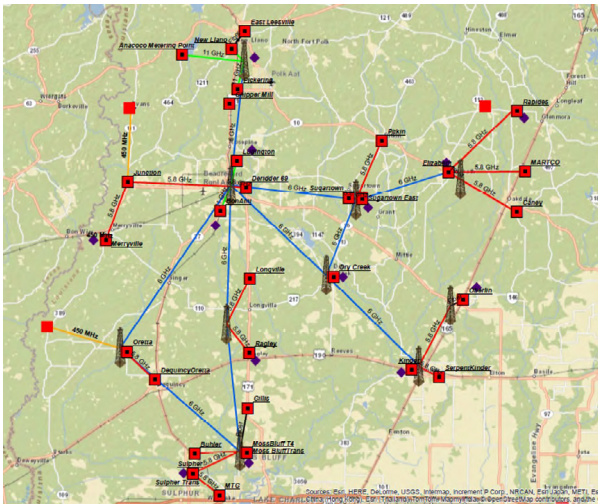
PTP 800 Licensed Microwave Backbone	
Frequency	6 to 38 GHz
Throughput	Up to 368 Mbps

PTP 650 Wireless Backhaul Infrastructure Solution	
Frequency	4.9 to 6.05 GHz
Throughput	Up to 450 Mbps in a 45 MHz channel
Award-Winning Performance	Highest Capacity in 20 and 40 MHz channel Highest Spectral Efficiency in 20 and 40 MHz channel

Results

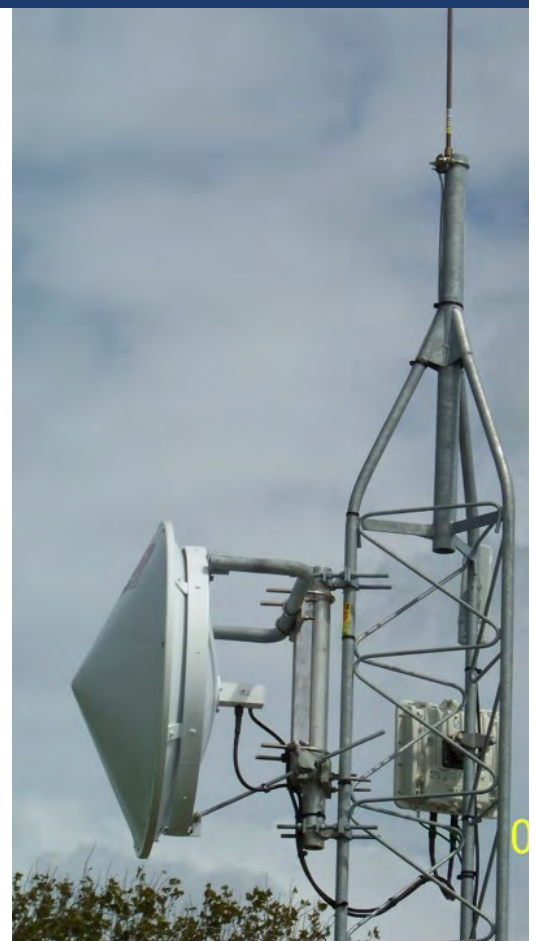
THE OLDEST OF THE LINKS HAS BEEN UP FOR YEARS, AND HAS survived in the humid and harsh Louisiana weather. Once installed, the modules continue to perform regardless of the circumstances.

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Next Steps

“OUR CUSTOMERS HAVE RELIABLE SERVICE AT COMPETITIVE PRICES, and wireless broadband contributes greatly to network reliability and cost controls,” says Mayes of BECI. “We are confident in the performance of our private network.”



About LRC Wireless

lrcwireless.com

Deeply experienced in wireless needs, LRC Wireless provides design, installation, and support services for industrial, public safety, emergency response, and disaster relief communications networks.

Why LRC Wireless Chose Cambium Networks

- **High Reliability** to perform for years in a harsh environment without failure
- **High Capacity** to support throughput demands now and in the future
- **Low Total Cost of Ownership** reduces the monthly cost of communications and enables BECI to thrive in a competitive market