FAST-PACED DEPLOYMENT AT RURAL COOPERATIVE

"The range and comprehensive capabilities of TUNet proved to be an excellent fit for our varied member needs, diverse operating environments and desire to automate our distribution network. Tantalus demonstrated the commitment and insight to work with us in applying TUNet for maximum benefit." Ken Miller, General Manager

CHALLENGE

The territory served by Laclede Electric Cooperative embraces urban, suburban, rural, and commercial & industrial service areas, and spans both thickly-forested regions and broad stretches of farmland. Laclede sought much more than a basic automated meter reading system. It wanted access to up-to-the-second field data such as outage & restoration alerts, power quality events and load profiles to help better manage and quickly resolve issues that directly impacted its 36,000 members. Realizing that outstanding service stems from behind the scenes efficiency, the coop also wanted technology that could capture granular performance data from meters and other field devices, and easily incorporate it into backend business and engineering applications.

SOLUTION

When Laclede looked closely at factors such as coverage, deployment efficiency and cost per read, a wireless communications system came out on top. It selected Tantalus because it could blanket the entire 1700 sq. mile Ozark Mountain service area using only seven radio tower sites. This was an advantage over Powerline Carrier (PLC) systems which would have required injection points at each substation, adding to the costs of infrastructure and maintenance as well as increasing the risk of site failure. The two-way Tantalus network supported the full range of Smart Grid functionality demanded by the utility. It also enabled Laclede to prioritize deployment to specific members and/or geographic areas and grow step-by-step to a complete implementation. As a result, Laclede could fast track deployment to high need, high return customers in order to accelerate its return on investment and solve chronic problems quickly and strategically.

RESULTS

The 220 MHz RF signal offers excellent radio range over uneven countryside. TUNet® devices automatically associate in the field, eliminating the need for manual programming, which gives the coop deployment ease and flexibility. TUNet delivers definitive outage and restoration information, which is beneficial for a utility located in Tornado Alley. Laclede can gauge the extent of an isolated outage or widespread blackout within seconds, and then prioritize response to critical areas. Tantalus' TruPush™ technology makes this possible. Rather than polling devices then waiting for the response, TUNet automatically alerts the utility the instant an event occurs.

Because TUNet operates independent of the power system, line crews are not tasked with restoring electricity and re-establishing the PLC communications network simultaneously. TUNet automatically resumes communication so a utility can quickly determine where and when power has been restored, and verify if there are orphaned outages before leaving the area. Simple and straightforward interface options enable Laclede to easily integrate TUNet data into core business applications. A Web-based interface provides desktop access to information on power quality, current & historic consumption, and status of individual or groups of meters. It gives Laclede the ability to read-in (or read-out) new accounts without a site visit. Using TUNet's over-the-air programming, staff can also change meter reporting parameters remotely.

Tantalus enables Laclede to offer energy management services for C&I metering to a local army base. The utility provides daily KWh consumption, kVARh, and Peak kW readings in 15-minute intervals, collected from 160 large facilities in support of the military's base modernization plan.

LACLEDE BRIEF

- Lebanon, Missouri
- 36,000 meters
- 1700 square mile service area
  - urban & rural service territory
- 27 substations

ADVANTAGES

- Wireless network provides coverage, deployment efficiency & low cost per read
- Fast track deployment; 50% installed and communicating within 9 months; 15 month full deployment (3 months ahead of schedule)
- Instant, field initiated outage alerts and restoration confirmation; on-board memory automatically issues stored messages upon restoration
- Communications network operates independent of power system so line crews not tasked with maintaining both powerlines & communications infrastructure
- Supports cold load pick-up to safely & methodically restore power after an outage
- Enables utility to offer energy management services for C&I to local army base
- Surgical deployment of Remote Disconnect / Reconnect collars (RD-1000) enables Laclede to efficiently manage delinquent accounts-
- Complete meter change-out with solid state Itron CENTRON meters
- Integration with NISC iVUE OMS via MultiSpeak 3.0
- Future-friendly network supports TOU pricing, prepaid billing, and advanced applications such as Demand Response and Distribution Automation if desired