QUANTIFYING COST, BALANCING RELIABILITY

"Providing reliable service at an affordable cost" has been a central goal for electric co-ops since their earliest days. But defining just what constitutes reliable service and affordable cost can be hard to pin down.

New Hampshire Electric Cooperative, based in Plymouth, N.H., recently set out to quantify the concept. To assist, it called on Power System Engineering (PSE) to formulate a long-range sub-transmission plan focused on system reliability. While reliability-driven projects could be identified based on traditional methods, the co-op wanted to know how they financially benefited its members.

Using value-based reliability planning principles, PSE pegged economic losses consumers incurred due to sub-transmission outages. Comparing data on outage frequency, duration, date, and time against consumer classes yielded a list of substations that required attention.

"PSE provided us with a benefit-cost ratio, by project, enabling us to create a priority list and economic justification for each project where expected benefits exceeded expected costs," notes Jay Hutchison with New Hampshire Electric. "We were then able to support recommendations on reliability-driven system improvements to our board and overall membership."

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SAFER, FASTER AMR CHANGEOUTS

Sulphur Springs Valley Electric Cooperative in Willcox, Ariz., should soon wrap up a major project: installing a Landis & Gyr/Hunt Technologies automated meter reading (AMR) system on 52,000 meters. For Metering Foreman Scott Sindel, the best news has been use of 12S meter adapters from TSTM (Two Sockets-Two Meters), Inc.

"The adapter comes pre-wired and basically offers plug-and-play for us to power the endpoint," Sindel explains. "It reduces endpoint voltage from 480 volts to 240 volts, making for a much safer installation. In addition, the toroidal transformer housed in the bottom of the adapter is very reliable, and we've experienced no failures since installation began."

With 4,000 miles of line spread over southeastern Arizona, many Sulphur Springs Valley Electric meters are located in remote areas. "Reducing man-hours spent inspecting meters that aren't reading properly saves money in two ways," Sindel points out. "First, it reduces labor costs. Second, if the meter is operating efficiently and effectively, you're receiving revenue that would otherwise be lost or in dispute."

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TRIMMING TREES FROM THE SKY

With wet winter weather coming on, David Sims, system forester with Joe Wheeler Electric Membership Corporation in Trinity, Ala., knew a tree-choked transmission line running across sensitive wetlands and steep terrain required attention. But the location made it tough for rolling stock to reach.

To solve the problem, Sims called in Asplundh Tree Expert Company and its helicopter-based side-trimming service. Using a 10-bladed saw suspended below the copter, Asplundh lopped off limbs along roughly 15 miles of right-of-way in one day.

"By using the helicopter, a lot of work got done very quickly," Sims observes. "In fact, we were supposed to go watch the work being done, but the Asplundh crew finished before we could arrive."

Members seemed pleased with the project, too. Asplundh's local right-of-way coordinator worked closely with homeowners and farmers near the line to make sure the helicopter acquired adequate landing zones and livestock were protected. Most residents were interested in the technique and expressed pleasure that the co-op was able to avoid cutting truck ruts through their property and preventing mud and soil erosion from reaching nearby creeks.

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