



Securing the reins on rising rates

By Julie Slag

In the electric generation business, many outside factors can impact costs. And it's happening right now. Power market prices are down; fuel costs are up. Commodity prices are down; interest rates are up. For generation and transmission (G&T) cooperatives like Basin Electric, it's a constant challenge to lower operational costs and stabilize power rates for members.

Most electric consumers, however, simply want an answer to the question: why are my electric rates going up?

The question requires answers at both the G&T and distribution levels.

"Basin Electric is coming off a major construction cycle; the good news is that we've seen growth over the past few years, and that trend continues. At the heart of the matter is trying to balance energy costs while best serving our members, meeting renewable goals and planning resource development," says Wayne Backman, Basin Electric senior vice president of Generation. "On one end is the G&T, juggling its capital costs and infrastructure/reliability investments with many unknowns such as EPA (Environmental Protection Agency) regulations and climate legislation. On the other end are G&T members and member distribution systems, trying to balance their construction and operational costs."

Like any electricity provider, Basin Electric has operational costs to manage, but there are many real and potential costs it can't control—costs that are imposed on the cooperative by market fluctuations or legislative/judicial decisions.

Everyone wants a piece of the energy pie

The cyclical nature of national politics doesn't offer consistent regulatory guidance for leveraging America's most valuable asset: its energy infrastructure. Every day television and print media spotlight American communities where 10 to 15 percent power cost increases have caused outcry and litigation by consumer groups.

Factors affecting the cost of electricity include legislative and regulatory attempts to make federal standards into law before technology exists to enable utilities to comply with the standards. Uncertainty in national energy policy indirectly results in additional costs to the membership because G&T directors and management have to make power supply decisions without a clear roadmap.

"The current state of national energy policy needs to refocus its attention on what makes electricity a good deal for consumers," says Ron Harper, Basin Electric CEO and general manager. "In a perfect world, America's electric utilities could demand more accountability from legislators, regulators and judges. Costs usually go down when common sense and clarity go up. Until then, G&Ts and other utilities will struggle to plan or build reliable, baseload power using domestic fossil fuels in the most economic manner."



Reliable power costs money

Building long-term power supply is expensive. Engineers, financiers and CEOs know how much capital outlay it takes to build baseload power plants. Today, however, the prevailing mood of many Americans is that building new fossil fuel-based infrastructure is overkill. “The media tells us that most energy needs can come from renewable sources. Fossil-fueled energy plants can be shuttered, and the cost to consumers will be cheaper. Basin Electric and other utilities know this is not true,” says Dave Raatz, Basin Electric manager of power supply planning and marketing.

While the majority of Americans support renewable energy mandates, many do not want to pay for it, according to a recent Harris poll published in POWER magazine. Raatz agrees. “It’s important to note utilities aren’t the ones that ultimately pay the high cost of the wind. The general public of the United States is going to have to pay for the high cost of renewable energy and associated transmission – that’s a fact of life.

“By paying taxes, American consumers will eventually be paying for renewable energy projects and associated transmission in other regions of the country – a major factor influencing the rise in electric utility rates,” Raatz says. “In addition, coal has been marginalized by proposed environmental policies. While coal must play a viable role in our energy future, we must continue to look at new and improved ways for using it. This should require a private industry-federal government partnership,” Raatz says.

Environmental obligations

To comply with federal, state and local regulations, Basin Electric must continuously monitor and upgrade its emissions control technology, fuel handling, and control systems within the plants. The financial obligations that will come with carbon dioxide (CO₂) regulation, or the inauguration of a carbon capture optimization project will be additional cost adders. There is real risk in being the first to commercialize the newest technology because there are reliability or performance guarantees. Rate structures are developed based on the cost of power. These new “adders” have made the cost of energy less predictable and manageable at the production level.

Steeper prices for facility materials

The cost for Basin Electric to build facilities today is much steeper overall, especially materials like steel, copper and concrete needed to build power plants and transmission lines. “The cost of building new resources is substantially higher than our existing fleet,” Backman told members last November. “Many plant components are built in other countries and must be shipped to America.”

Another factor affecting member rates is the market price for wholesale power. Specifically, how transmission limitations will affect Basin Electric’s ability to move and sell power. Regional oil loads from the Williston Basin and ethanol loads in member service territories will also factor in the rate base, in addition to efficiency code changes, coal loads and integration with Western Area Power Administration’s hydro facilities. Long-term financing is also problematic since the Rural Utilities Services’ curtailment of all lending for fossil fuel-based power plants. Borrowing money is more expensive for both G&Ts and distribution cooperatives.

Containing costs

Looking ahead to the close of its second construction cycle in 2012, Basin Electric directors will continue to practice fiscal responsibility while finding more ways to contain costs. Ron Harper, Basin Electric CEO and general manager, says rates will continue to increase over the next few years for Basin Electric’s members; however, the cooperative is continually looking and finding ways to lessen that rate burden.

“It’s important for our members and employees to know that cost containment is a core issue for Basin Electric. It has always been a way of life for us, but now we are challenging ourselves to see what more we can do. We’ve taken significant steps, but our work continues,” Harper says.

Some recent cost containment efforts at Basin Electric include measures at Basin Electric’s Transmission System Maintenance outposts; the organization of the Efficiency Improvement Program at Basin Electric subsidiary, Dakota Gasification Company; and efforts to execute energy efficiency and conservation measures at the cooperative’s Headquarters facility. In addition, a hiring freeze remains in force with the exception of newly constructed facilities such as Dry Fork Station, Deer Creek Station, the Crow Lake Wind Project and the facilities surrounding the Leland Olds Station scrubbers’ plant site and load-out facility.

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How Basin Electric is containing costs

At Dakota Gasification Company

- Working toward a \$5/dekatherm goal by managing maintenance and meeting efficiency goals to find \$50 million in savings or additional revenue annually. Plant personnel are doing this by improving safety through the employee-based PRIDE committee, and implementing the SafeStart and CS₂ programs; meeting or exceeding environmental requirements through the Responsible Care® program; and increasing production and co-product recovery and decreasing energy use throughout the plant's operation through the Efficiency Improvement Program.
- Second phenosolvan extraction unit completed at the Great Plains Synfuels Plant to back up the first unit, so the entire plant does not need to be shut down when one unit is offline.
- Management control system improves operations and increases production.
- Synthetic lubrication oils reduce operating temperatures, resulting in energy and maintenance savings.
- Streamlined work management through better planning.
- Increased wrench time and reduced overtime hours.
- Cost per task declining.
- Reducing maintenance support contracted labor.
- Reducing energy consumption.
- Clean cooling water proposed project to reduce half-plant turnarounds (saving \$10 million/year).

At Headquarters

- During 2010 about 1,000 light fixtures were replaced at Basin Electric's Headquarters building. The new lights have greater light output and are also more energy efficient for approximately \$900 savings per month. Payback on the bulbs should be within five to six years.
- Beginning in 2011, administrative employees will pay a portion of their monthly medical premiums. Deductibles and co-pays were increased earlier. This will produce \$1.5 million in savings in 2011.
- An in-house doctor for North Dakota and Wyoming facilities has helped reduce actual claims paid by Basin Electric, as well as reduced sick leave.

- Project right of way staff focus efforts to avoid expensive condemnation proceedings.
- Staff are creating cost-saving vendor alliances.
- Other cost reduction efforts include reducing overtime, reducing the number of temporary employees; position evaluation upon retirement; limiting subscriptions and professional memberships and reducing travel costs.

At the power plants

- Continuous monitoring of fuel costs.
- Basin Electric won the legal challenge vs. BNSF Railway regarding unreasonable rail rates in Wyoming.
- Improved technologies at plants are more reliable, which reduces maintenance costs.
- Each of the three units at the Laramie River Station have been rerated to 570 net megawatts, up from their nameplate rating of 550 megawatts. The rerating is the result of work done to each of the turbine's steam path. Each unit received a new, more efficient high-pressure/intermediate-pressure turbine rotor and stationary blading.
- Since 2009 centralized dispatching and sharing existing facilities and staff for distributed generation to save money.

At the maintenance facilities

- Partnering with others on communication system and fiber optic upgrades.
- Stabilizing Beulah transmission maintenance shop lay down yard with fly ash from Antelope Valley Station.
- Installing ground-source heat pumps at two maintenance shops.

At Dakota Coal Company

- A used dragline purchased in 2006 is being reassembled for an estimated cost of \$71 million compared to the purchase of a comparable new dragline, which would cost about \$130 million to \$140 million. An existing dragline at the Freedom Mine initially leased in the mid 1980s has been bought by Dakota Coal for about \$15 million.