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Silent Workhorses

In the '70s, the electric industry turned to burning coal for electric generation because federal regulation virtually shut down the nuclear industry after the Three Mile Island accident. Volatile prices for natural gas made that fuel the most risky and least affordable choice. Government policies actually made coal plants the only viable alternative.

The coal-fired power plant is a steady workhorse, designed to burn coal continuously to provide electricity 24 hours a day, 7 days each week, for 365 days a year. These workhorses do not work so well if they have to be run at half tilt when their electricity is not needed on the grid, nor can they quickly start and stop. With the economic downturn, the addition of renewable energy resources, and major efforts to make homes and businesses more efficient, the demand for power has been reduced.

Upward Pressure on Rates

Add to this scenario the new Environmental Protection Agency (EPA) regulations as the Clean Air Act is revised in response to lawsuits calling for more stringent regulation of fossil-fueled power plants. One such EPA rule revision is the Cross State Air Pollution Rule (CSAPR), which is slated to take effect on January 1, 2012. Interestingly, this rule was just finalized on July 6, 2011. CSAPR replaces the 2005 Clean Air Interstate Rule (CAIR) for which utilities had adjusted work plans to meet compliance deadlines. Mind you, these are no small financial commitments; ultimately these increased costs will be paid for by raising electric rates to consumers.

In December 2010 and March 2011, this magazine

featured articles on new, more stringent EPA regulations that could force some 60 gigawatts of coal-fired generation to go silent. These weren't Chicken Little warnings that the sky is falling; it has begun to happen. On December 6, 2011, Dairyland Power Cooperative announced it will cease burning coal in three vintage 1950s coal burning units at Alma, Wisconsin. This represents 181 megawatts, just 5 percent of Dairyland's total generating capacity. The cost to upgrade these units to comply with new regulations is simply too high. The remaining life of these units is stranded investment, sitting idle unless needed in an emergency power shortage.

When built, the 1960s coal-fired power plants were equipped with technology designed to double burn the coal for greater efficiency and to scrub pollutants from



emissions before exiting the smokestack. The coal ash is processed internally by an electrostatic precipitator before being recycled to help build roads. Recently, to comply with more stringent regulations of CAIR, over a 10-year period Dairyland will invest more than \$400 million on remaining plants. Revisions include

technology to control sulfur dioxide (SO₂), nitrogen oxide (NO_x), and particulate matter. It will cost millions of dollars annually to operate and maintain pollution control technologies. Now there may be additional requirements to comply with the revised rule CSAPR.

Only the Beginning

So far we've discussed one utility's recent decision to shut down coal-fired generation. Nationwide there will be many more announcements. The U.S. still relies on coal for 45 percent of the electricity produced. In spite of all the new renewable generation that has come on line in the last five years, it still provides less than 5 percent of all our electricity needs and still requires fossil fueled backup generation. Building sizeable electric generation to replace shuttered plants will take years. If energy policy continues to be a political football like the state of our economy, my best advice is to stock up on candles, batteries, and blankets. There could be some dark, cold nights ahead. ■