

Dairyland Power Cooperative – Legislative Comments from Kenric Scheevel

The Impact of EPA regulations on Dairyland Power Cooperative Finding the right balance between Economics and the Environment

Every federal administration for the past 40 years has talked about the need for a strategic energy policy which, among other things, would enhance national security by reducing our nation's dependence on "foreign oil".

Most memorable was Jimmy Carter in his cardigan sweater during the 1970's Middle East Oil Crisis. This was a time of short supplies, long lines and higher prices for gasoline.

In response, the Carter administration identified coal as an abundant, affordable, domestic energy supply – and utilities were encouraged to use coal as their fuel for generating electricity. Natural gas was to be reserved for home heating and commercial/industrial loads.

Meanwhile, nuclear power plants ceased to be an option for decades following the core meltdown incident at the Three Mile Island nuclear power plant near Middletown, Pa. in 1979. This was the most serious incident in U.S. commercial nuclear power plant operating history, even though there were no deaths or injuries to plant workers or members of the nearby community.

Utilities built a lot of coal fired power plants in the 1970's and 1980's – particularly in the Midwest – as a result of federal energy policy!

Even though coal continues to be an affordable and abundant domestic energy supply, the tide of public policy has become much more critical of coal as a fuel. Utilities have responded by investing in environmental controls to reduce the quantity of emissions from coal fired power plants. On average the emission levels have been reduced approximately 80 -85% since the 1970's. In some cases we have been even more successful - for example Dairyland currently captures 99.5% of particulates from our coal fired power plants.

Growing concerns about the impact rising CO₂ emissions from burning fossil fuels may have on climate change has resulted in a series of aggressive legislative and regulatory proposals to reduce the use of coal as a fuel. (Coal emits large amounts of CO₂ when burned.)

The Waxman/Markey Cap & Trade legislation, which was designed to put a price on CO₂ emissions, passed the House of Representatives in 2009 but failed to pass the

Senate. Since then, the Environmental Protection Agency (EPA) has taken the lead by crafting a number of regulations aimed at the use of coal as a fuel. Some have suggested that EPA is attempting to increase the cost of coal until it is no longer a cost competitive fuel resource.

The following is a partial list of simultaneously crafted EPA rules which impact Dairyland Power and similar utilities that use coal for generating electricity:

Coal Ash Regulations

EPA has proposed to regulate coal combustion residuals (CCR) as a hazardous waste. More than 60 million tons of CCR are beneficially recycled annually. Examples include Portland cement, wallboard products like sheetrock, - even bowling balls. Hazardous waste designation would negatively impact recycling opportunities and would increase the amount of CCR that would have to be landfilled. Congress recently passed legislation directing EPA to treat coal ash as a non-hazardous material and retain state oversight, and similar legislation has been introduced in the Senate.

Cooling Water Regulations

Historically, power plants were often built next to large bodies of water (like the Mississippi River) in order to use once-through-cooling. EPA has proposed enhanced rules designed to protect fish populations. The proposed rules could require power plants to replace once-through-cooling technology with costly cooling towers. Not only would this be an expensive upgrade (Dairyland estimates about \$100 million per site), but some sites are just not suited for cooling towers. Limited space and being located between the river and bluffs make a cooling tower a recipe for foggy conditions in mild weather, and icy roads during winter weather at the DPC facilities – especially JPM.

Utility Air Toxic Rule/MACT

This rule would establish aggressive new standards for emissions of mercury and other noxious substances like selenium and chromium. This will require the installation of scrubbers if not already in place. Dry sorbent injection is a lower cost alternative that may be a cost effective option for smaller units or units with limited lifespan, which would allow them to continue to operate.

RICE RULE

EPA has proposed the additional of emission control equipment on small reciprocating internal combustion engines (RICE) used for peak shaving. Electric cooperatives have petitioned EPA to reconsider the use of such small emergency stationary generators without installing costly emissions equipment. EPA has just announced that it accepted our petition for reconsideration.

Cross State Air Pollution Rule (CSAPR)

EPA issued final regulations in July that are aimed at reducing sulfur dioxide (SO₂) and nitrogen oxide (NO_x) emissions from power plants in 27 Eastern states. The power plant emissions, EPA says, travel across state lines, affecting air quality in neighboring states.

Beginning January 1, 2012, CSAPR establishes emission limits for each state and each power plant. By 2014, the regulations are designed to cut SO₂ emissions by 73 percent and NO_x emissions by 54 percent below 2005 levels.

Dairyland is currently in the midst of a \$400 million air emission control plan at its generating facilities. When this plan is complete, Dairyland's SO₂ emissions will be reduced by over 90 percent. This will be in addition to the 80 percent reduction of sulfur dioxide emissions by Dairyland since the early 1970's. Nitrogen oxides emission will be reduced by over 50 percent across the Dairyland system.

Since it is impossible for Dairyland to install additional planned air emission controls within the 6 months provided by EPA under the CSAPR rules, Dairyland (and other utilities) may be required to reduce generation to comply with the new lower emission limits. Curtailing production at coal fired power plants in 27 states may impact reliability and drive up the cost of electricity in the market place.

Some utilities will prematurely shut down coal fired power plants, rather than invest hundreds of millions of dollars in them. The Brattle Group (Economic and Financial experts) estimates the rule will cost \$120 billion by 2015 and lead to the premature shutdown of roughly 8% of our countries coal fired power plants. Not only must utilities analyze the cost impact of the current rules, but attempt to anticipate additional emission control limits in the future. The cost to achieve ever more stringent emission targets becomes dramatically higher for ever more limited results.

Regulating CO₂ as a pollutant

The Supreme Court ruled in 2007 that EPA has authority under the Clean Air Act to regulate CO₂. EPA is poised to roll out New Source Performance Standards which will apply to new and existing facilities – which will include green house gas performance standards for fossil fuel plants. This will require the use of Best Available Control technology – even though we are not sure what that is for power plants. To date, industry has not found a cost effective technology for capturing and sequestering CO₂ emissions from power plants.

Conclusion

Each of the five rules taken on its own will have an impact on the cost of electricity. Taken together the rules will have a cumulative impact on the affordability and reliability of the nation's electric generation infrastructure. The impact will be even greater in the Midwest due to our heavy investment in coal fired power plants. In the near term, the

only alternative to replace the shutdown coal plants is a combination of renewables and natural gas fired generators.

Natural gas is currently affordably priced in the market place – but has a history of dramatic price swings. New drilling techniques have invigorated the natural gas industry, but these new techniques are also under attack from environmental groups.

The irony is that these new rules are poised to force the closure of many existing coal fired power plants even as they have dramatically cleaned up their emissions. The new rules require reductions of the small amount of remaining emissions. The cost to capture the remaining 10 -20% of emissions is much higher than capturing the previous 80%. It becomes subject to the law of diminishing returns. Rate payers will be facing a double whammy – stranded investments in existing coal plants and then investments in new replacement facilities - which will cost more to operate.

The current regulatory environment makes is very difficult for utilities to plan for the future – especially when power plants can take 10 years to build and have a lifespan of 50 years – or longer!

We need to communicate with our federal elected officials the need for a sustainable, long term energy policy that balances the need for affordable and reliable energy - with environmental protections. Unfortunately, the current political environment in Washington is so polarized that it makes it very difficult to reach agreement on something as complex as energy policy. Never the less, we need to continue to share our views with the folks we have elected to represent our interests!

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