

WFEC'S 111(d) POSITION on CO2 REDUCTION for EXISTING UNITS

BACKGROUND

Western Farmers Electric Cooperative (WFEC) is a not-for-profit rural electric Generation and Transmission Cooperative located in Anadarko, Oklahoma.

WFEC is owned by 22 distribution cooperatives that serve approximately 350,000 member/owner consumers in rural Oklahoma, Kansas, Texas and Eastern New Mexico. The definition of their service territory is truly rural with overall density of less than 5 consumers per mile. Many of these rural areas have an overall income level up to 20% less than the national average.

Western Farmers Electric Cooperative's resources for 2014 include

Over 1060 mw of natural gas generation

500 mw of wind generation

260 mw of water generation

450 mw of coal

200 mw of purchases made of coal, wind, water and natural gas generation

WFEC'S EXISTING PLANT CARBON REGULATION CONCERNS

When the 111(d) is proposed, WFECs position may change but as of now WFEC has the following concerns about any new carbon rule on existing plants:

1. Financial impacts of coal plant retirements need to be mitigated. If the coal plants are forced to retire because of environmental regulations, many have significant debt remaining especially among Cooperative Generation and Transmission companies. There is a concern among utilities that coal fired plants will become stranded asset. To mitigate this burden of a stranded asset, a plant should be allowed to run through a transition period allowing for retirement of debt.

Ten years ago coal generation represented about 55% of Western Farmers member owner sales, in 2014 coal will represent slightly over 30% of Member Owner Sales.

Western's coal asset continues to carry over \$200 million in debt. Additional debt on units to replace coal, write down of coal related debt, or amortization of a stranded asset will have a significant negative impact on member owner electricity costs in rural areas where cost control is most needed.

WFEC believes cost impacts to consumers (both residential and commercial) must be given significant consideration in proposed plans for carbon reduction from existing plants.

2. Over the past several years, WFEC has voluntarily added over 500 MW of renewable generation absent federal mandates in Oklahoma to create a more environmentally favorable portfolio. In addition to keeping consumer costs low, WFEC has increased gas generation, generated less power as a company and purchased more energy from the market place in an effort to operate more efficiently.

WFEC has implemented significant load management programs and efficiency programs and is proactively promoting the installation of ground source heat pumps. WFEC partnered with the Oklahoma Conservation Commission and Oklahoma State University on a verifiable carbon sequestration program in soils.

WFEC believes any future proposed rules or requirements should include these type solutions and allow credits for programs already implemented. This would confirm the validity of federal subsidiaries (production tax credits) for renewable resources such as wind.

3. Carbon capture and storage should not be required on existing units. The technology for Carbon Capture and Sequestration is not a proven technology. Requiring unproven technology to be used for CO₂ controls is not advisable on any unit especially existing units. The parasitic load would drastically reduce the efficiency of the plant and be counterproductive, as any power generation will be generated with a higher CO₂ emissions rate. The argument for using CO₂ in enhanced hydrocarbon production is geographic location dependent and would require significant infrastructure investment.
4. Permit issues created by modifications required to meet 111(d) need to be exempt from New Source Review (NSR) enforcement. Adding CO₂ controls to existing units will require complicated boiler modifications which could trigger NSR issues.
5. Social Cost of Carbon is a concern. To achieve the 17% reduction requested by the president many believe heat rate improvements are not enough therefore most coal plants will need to be shutdown with the addition of new natural gas fired combustion turbines to replace this lost generation. However, the social cost will grow because of

this. Recent studies indicate power prices are expected to increase significantly as carbon regulations become more restrictive. Natural gas demand for electric power sector is expected to increase under carbon regulations as generation from natural gas fired plants replace coal fired generation. As demand for natural gas increases, natural gas prices and volatility are expected to increase as well. For example natural gas availability is critical if most coal fired generation are forced to shut down. The winter of 2013/2014 highlighted problems with natural gas supply which demonstrates significant inability of the current gas infrastructure to respond to the increased demands for natural gas. The natural gas pipelines are also limited in their response to the demand for more flexible gas deliveries. The infrastructure needed will drive cost higher.

6. Compliance and enforcement of carbon regulations should start no sooner than 2020. Construction of new units and CCS controls take significant planning and time to develop. To allow companies reasonable time to comply WFECC suggest compliance should start seven years after federal and state carbon regulations are passed.
7. In regard to required emission rates for power plants there is a concern. According to EPA plants at full load may achieve the 1,450 lbs/MWh for coal and 1,200 lbs/MWh for natural gas. WFECC's plants run at varying loads that range from full load to minimal load every day to not running at all. Proposed emission rates cannot be achieved unless the units stay at a constant full load which is impossible to accomplish.
8. States should be given mass-based carbon emission budget for each boiler as an alternative to comply with carbon emission rate standard.
9. EPA has made claims, and does so with every air pollution rule, that x number of deaths can be prevented. After these rules are implemented, has evidence been gathered to verify the mortality claims? Is the claim a scare tactic to force passage of unneeded rules?
10. According to some sources the benefits of the 111(d) rule exceed cost by a ratio of 3:1. Can this be proven? Are there European countries that use renewable energy that can verify these benefits? Evidence could also be obtained from other countries

such as Japan where nuclear power dominates and helps minimize carbon emission? Is nuclear power being considered and promoted in 111(d)?

11. Outrageous claims are being made about how much CO₂ emissions can be reduced. For example some groups claim millions of metric tons of CO₂ emissions can be reduced. These groups have indicated that 70% of those reductions can come from re-dispatch of units. Studies have found this impractical if not impossible. For example in the Southwest Power Pool (SPP) to achieve these large CO₂ reductions would require coal units to be shutdown and have combined cycle units pick up the load requirements. Excess combined cycle generation in SPP is not available and therefore significant CO₂ reductions are impossible until new combined cycles can be built. This could easily be the case with other independent system operators/regional transmission organizations as well which will inhibit power moving from one region to the next to comply with carbon limitations. Resources do not exist in the right geographical locations to make this level of re-dispatch feasible.