



SUNFLOWER ELECTRIC POWER CORPORATION

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Kansas Department of Health and Environment

Statement of Kyle Nelson Concerning the Proposed Kansas Air Quality Construction Permit Of Sunflower Electric Power Corporation

Oct. 25, 2010

My name is Kyle Nelson, the senior vice president and chief operating officer for Sunflower Electric Power Corporation. There seems to be some misunderstanding about how the EPA's greenhouse gas (GHG) regulations that become effective in January will affect the Holcomb Expansion Project. My intent today is to present facts to clarify the ramifications of those regulations on the project.

This topic necessitates background information about the EPA's decision regarding GHGs. On Dec. 15, 2009, the EPA issued the Endangerment Finding, stating that GHG emissions endanger public health and welfare, thereby obligating the EPA to develop and adopt GHG emission standards for new motor vehicles.

Jan. 2, 2011, is the effective date of transportation regulations for GHGs, at which time all PSD sources will also be subject to the evaluation of control technology for GHGs. If not for the Tailoring Rule issued on May 13, 2010, the new regulations would apply to tens of thousands of sources. The Tailoring Rule is intended to limit the applicability of the rule to electric utilities and similar-sized sources. The Tailoring Rule sets the emission threshold for six GHGs: methane (CH₄), carbon dioxide (CO₂), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). The rule becomes effective Jan. 2, 2011.

The Clean Air Act mandates that those seeking a PSD air construction permit conduct an analysis of available control technologies for applicable pollutants to prove that the best available control technology (BACT) is implemented. Energy consumption, total source emission, economic costs, and environmental impacts are evaluated when determining BACT.

BACT does not require a change in generation technology. It considers only air emission control technology that can be applied to the generation technology selected by the applicant. For example, BACT for sulfur dioxide (SO₂) emissions usually entails a flue gas desulfurization device or "scrubber." Similarly, BACT for emission of nitrogen oxides (NO_x) can be a range of control or combustion devices, such as low-NO_x burners, separated over-fire air, and selective catalytic reaction. The Holcomb Expansion Project unit will employ these technologies.

Under the Tailoring Rule, a BACT will be required for the six GHGs. However, the EPA has acknowledged that it has yet to issue guidelines for BACT for any of the gases. Moreover, commercially available CO₂ emission control technology does not exist.

When control technologies do not exist, work practices can be implemented to diminish a targeted emission. For a conventional steam generator, reductions in CO₂ emissions are achieved by increasing thermal efficiency. This will be accomplished on the new unit by implementing a design that uses supercritical technology.

Supercritical refers to the steam conditions used in the plant design. When water pressure is increased to 3,206 pounds per square inch and the temperature is increased to approximately 705 degrees Fahrenheit, water changes to steam without going through the boiling process (i.e., no heat input required for changing water from the liquid to gas state of matter).

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These conditions are referred to as the critical point of water, and units operating at temperatures and pressures above these conditions are considered supercritical. Because no heat is invested during a boiling process, the unit uses less fuel, thereby reducing emissions.

Opponents have suggested Sunflower and its partners want an air permit prior to Jan. 2, 2011, to circumvent impending GHG regulations, particularly BACT for CO₂. As explained, requiring a BACT analysis for CO₂ on the Holcomb Expansion Project in the absence of specific guidelines from the EPA would serve only to further delay the issuance of the permit as opposed to resulting in a physical change to the proposed configuration. The unit is already designed to employ a supercritical steam cycle, technology that meets the criteria for energy consumption, total source emission, economic costs, and environmental impacts.

The EPA's Tailoring Rule is already besieged by lawsuits, both by those who oppose its implementation and by those who support it. Waiting for judicial rulings, which could take months, or possibly years, will further delay issuance of the air permit.

As stated, if required, a BACT analysis for CO₂ will unnecessarily delay the project, impede creating jobs, and limit affordable, reliable power for Kansans. Therefore, I urge you to approve Sunflower's permit application as proposed, and I thank you for the opportunity to speak today.