



Effects of EPA Regulations on Sunflower Electric Power Corporation

CROSS STATE AIR POLLUTION RULE (CSAPR)

CSAPR was developed by EPA to reduce the effects of long-distance air pollution transport from power plants in one state to areas in other states that do not meet the required ambient air quality standards. The original version of this regulatory program, the Clean Air Interstate Rule (CAIR), did not include Kansas sources; all earlier proposals of CSAPR, known then as the Clean Air Transport Rule (CATR), included Kansas, but did not require substantial new reductions in emissions beyond those required by other programs that focused on the same pollutants: nitrogen oxides (NO_x) and sulfur dioxide (SO₂).

- **Effective Date:** The rule, scheduled to become effective 1/1/2012, was stayed by the DC Circuit Court of Appeals on Dec. 30, 2011
 - Although Kansas facilities, along with those in other states in our region, were included in the draft rule, most were not expecting to have to reduce emissions further than what was already required for the separate regional haze rule. However, the final rule, issued in July 2011, was significantly different from the proposed rule in that it only provided Sunflower with enough NO_x allowances to generate about 50 percent of its energy requirements in 2012. Sunflower and other Kansas utilities had only six months to prepare for the implementation of the rule.
- **System upgrades**
 - Sunflower has undertaken a \$21.5 million project to install Low-NO_x Burner/Over Fire Air equipment which will reduce the Holcomb 1 (H1) NO_x emission rate to conform to EPA's CSAPR allowance allocation. The final cost of this installation will be \$1,000 for each ton of NO_x reduced— double EPA's proposed \$500/ton.
 - Further improvements may also be needed on natural gas units at Great Bend Station, Fort Dodge Station, and the Garden City Complex to reduce NO_x emissions. Under EPA's allowance allocation, these units were incorrectly presumed to be retired.
 - Because these units are used primarily as intermediate peaking and wind-chasers, the cost of any improvements similar to those undertaken on H1 could cost up to \$2,500 for each ton of NO_x reduction.
 - Emission monitoring improvements will be made at Clifton Station, on S4, and on S5 as a result of this rule.
- **Additional Impacts, if the rule withstands appeal**
 - We expect to require additional annual NO_x allowances to meet our Members' generation needs for future years. The number of allowances to be purchased will depend upon the post-outage NO_x emission rate at H1; the availability of market energy to purchase to offset higher emitting natural gas units; and the curtailment, if any, of the purchases we would otherwise make from the Jeffrey Energy Center for Mid-Kansas customers.

- It is likely that purchased power will cost more and there could be some impact on grid reliability. It may be difficult to comply with EPA emission requirements and conform to SPP reliability standards. Reconciling these potentially conflicting federal standards will be achieved, if at all, at a significant cost burden to our Members.
- The CSAPR rule does not provide sufficient allowances to operate potential new units, such as the Holcomb Expansion Project (H2). The project will need to purchase about 1,200 allowances each year to operate as expected. One source of allowances, installing a \$150 million SCR improvement on H1, would “make room” for H2.
- **Sunflower Action**
 - Sunflower joined with other Kansas utilities requesting a stay of CSAPR. Fifteen states, including Kansas, also requested a stay.
 - The court has ordered parties to submit proposed formats and schedules for the briefing of these cases by Jan. 17, 2012, allowing oral arguments to be heard by April 2012. A decision in 2012 is expected. The court’s decision will likely impose a new effective date of the rule, which will probably not be before 2013.

ELECTRIC GENERATING UNIT MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY FOR HAZARDOUS AIR POLLUTANTS (EGU MACT) now referred to by the EPA as the MERCURY AND AIR TOXIC STANDARDS (MATS) rule

The MATS rule was developed by EPA to reduce the emissions of hazardous air pollutants from coal and oil-fired EGUs. The rule effects H1 under the “existing unit” provision and H2 under the “new unit” provision.

- **Effective Date: Final rule issued Dec. 21, 2012, but it is yet to be published in the *Federal Register*; it becomes effective for H1 three years after publication; it becomes effective for H2 with commencement of operations.**
 - Different limits were adopted by EPA for existing units and new units. Some changes from the proposed rule occurred, and we are still analyzing the lengthy document to determine the final impact on our system. Litigation will likely follow as the impact on most existing coal units is severe.
- **System Upgrades**
 - Mercury control equipment must be installed on H1 to comply with the existing unit limits; H1 can comply with all other requirements. It is worth noting that some of the proposed existing unit limits are close to being too low to measure and some testing procedure clarifications will need to be adapted to enable compliance demonstration.
- **Additional Impacts**
 - We continue to evaluate whether the emission limits for new units are achievable.

NEW SOURCE PERFORMANCE STANDARDS FOR GREENHOUSE GASES (NSPS GHG)

- **DATE: Proposed rule was expected July 2011 and has been delayed twice since that date.**
- **Proposed Impacts**
 - This rule will impose GHG limitations on new electric generating units (EGUs) under Section 111 of the Clean Air Act. CO₂ emission limits from new EGUs being considered correspond to natural gas combined cycle plants. This is referenced as an efficiency standard by EPA.
 - EPA will establish state budgets for the states to effectively limit existing EGUs (all fuels) to some percent efficiency (5% reduction in current heat rate value is being considered).
 - Existing plants—no matter the fuel source—cannot reduce their emissions by 5% using the same fuel they now use.
- **Sunflower Action**
 - June 2011- Sunflower and others presented information to EPA that contributed to EPA's decision to delay proposing the rule.

COAL COMBUSTION RESIDUALS (CCR)

- **Date: Proposed rule issued June 21, 2010; final rule anticipated by early 2013**
- **Proposed Impacts**
 - CCR Rule will federalize existing state-operated EGU landfill programs. A range of possible rulemakings include reclassifying the CCR as a hazardous waste and requiring disposal in a Subtitle C landfill or establishing a derivative of the existing municipal solid waste program known as Subtitle D.
 - Holcomb Station's landfill should meet the requirements currently in a typical Subtitle D landfill. This is, in part, due to the materials disposed, the dry landfill configuration employed for CCR, and the site conditions that impact the landfill design.
 - This landfill is to be used for both H1 and H2.
- **Sunflower Action**
 - Engineering studies for the Holcomb Station landfill were submitted to EPA during the public comment period. The comment period expired November 14.
 - Sunflower asserts that the existing CCR program meets the needs of the regulated community and the people of Kansas and should be a model rule for EPA to adopt in the final federal rulemaking.

Jan. 10, 2012