



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7  
901 NORTH 5TH STREET  
KANSAS CITY, KANSAS 66101

OCT 22 2010

Mr. John Mitchell, Director  
Kansas Department of Health and Environment  
1000 SW Jackson Street, Suite 310  
Topeka, Kansas 66612-1366

Dear Mr. Mitchell:

EPA appreciates the opportunity to review and provide comments on the proposed construction permit for the Sunflower Holcomb Station Expansion Project (Sunflower) consisting of one new 895 MW coal-fired steam generating unit and associated ancillary equipment at Sunflower's generating station located in Holcomb, Kansas. The proposed permit includes requirements under the Prevention of Significant Deterioration (PSD) program. EPA provided comments on August 12, 2010 during the previous July 1 to August 15, 2010, public comment period. These comments, submitted pursuant to your September 23, 2010 notice soliciting additional comments, are in addition to our August 12, 2010 comments.

1. EPA has finalized the rule "Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers (PM<sub>2.5</sub>) – Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC)." This rule was published in the October 20, 2010 Federal Register (75 FR 64864, October 20, 2010) and the SILs, the portion of the rule most relevant to this permitting action, will be effective on December 20, 2010. SILs are a screening tool used to determine whether a proposed source's emissions will have a "significant" impact on air quality in the area. If an individual facility projects an increase in air quality impacts less than the corresponding SIL, its impact is presumed to be de minimis and the permit applicant would not be required to perform a more comprehensive, cumulative modeling analysis. Using a SIL developed by KDHE during the permitting process, Sunflower concluded that there was no need for a comprehensive source impact analysis involving a cumulative evaluation of the emissions from the proposed source and other sources affecting the area for PM<sub>2.5</sub>. In light of EPA's recent decision on PM<sub>2.5</sub> SILs, we recommend that either a cumulative National Ambient Air Quality Standard (NAAQS) impact analysis be provided, or that KDHE provide a detailed justification for its conclusion that a more comprehensive analysis is not needed to show the predicted impact of the project on the NAAQS.
2. The air quality analysis for sulfur dioxide, particulate matter, and nitrogen dioxide, performed to determine compliance with the NAAQS and increments for those pollutants, assumes that the source will be built and operated as modeled. Parameters such as stack height, stack diameter, exit velocity, temperature, and emission rate that describe how the source was modeled and how the source would be designed and built

are contained in Part 5.0 and 5.0a of the application which was last revised in August 2010. Paragraph 7 of the "Permit Conditions" section in the draft permit requires Sunflower to document NAAQS compliance to KDHE prior to making significant changes to modeled source parameters of the emergency generator. We recommend this condition: a) be expanded to cover all emission units that will be constructed for this project; and b) require analysis for both the increment and the NAAQS. Finally, the permit should be worded to clarify that it is the Kansas Department of Health and Environment's authority to decide what is a "significant change."

3. Sunflower used the Plume Volume Molar Ratio Method (PVMRM) model option for the 1-hour nitrogen dioxide (NO<sub>2</sub>) modeling. The PVMRM model option estimates the conversion of nitrogen oxides (NO<sub>x</sub>) to NO<sub>2</sub> considering the available ozone. The record needs to have an adequate justification for using the PVMRM option for the Sunflower permit modeling. In addition, please ensure that KDHE provides a rationale for the choice of a non-default value for the NO<sub>2</sub>EQUIL parameter and for the NO<sub>2</sub>/NO<sub>x</sub> in stack ratios. The NO<sub>2</sub>/NO<sub>x</sub> ratio should consider the effect of pollution control equipment on the ratio. For more information for justifying the use of the PVMRM model option, see page 3 of the June 28, 2010 memo from Tyler Fox to the Regional Air Division Directors titled "Applicability of Appendix W Modeling Guidance for the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard." It is available on the Internet at [http://www.epa.gov/ttn/scram/ClarificationMemo\\_AppendixW\\_Hourly-NO2-NAAQS\\_FINAL\\_06-28-2010.pdf](http://www.epa.gov/ttn/scram/ClarificationMemo_AppendixW_Hourly-NO2-NAAQS_FINAL_06-28-2010.pdf).
4. KDHE should ensure that it has followed the appropriate procedures at 40 CFR 52.21(p) for notifying Federal land managers.
5. KDHE should ensure that the record has an adequate justification for why the Class I visibility modeling for the previous project design (two boilers and three boilers) is conservative in light of current models and the current design of the single unit.
6. EPA fully supports the proposed condition stating that the permit will expire if construction is not commenced and completed timely as specified in paragraph 1 of the "General Provisions" section. We expect compliance with this condition to be closely monitored.

Sincerely,



Becky Weber, Director  
Air & Waste Management Division

cc: Attn: Sunflower Comments