

MEMO



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RE: Westar Tecumseh Energy Center
Modeling, NOx Reduction Project

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Westar Energy, Inc. has submitted a Prevention of Significant Deterioration (PSD) permit application for modifications to the existing burner and combustion system on Unit 8/10 at the existing Tecumseh Energy Center facility located in Tecumseh, Kansas. The project's purpose is to reduce nitrogen oxide (NO_x) emissions and will result in a significant increase in carbon monoxide (CO) emissions.

The facility performed dispersion modeling using BREEZE AERSCREEN Version 1.3.1 and BREEZE AERMOD Version 7.6, which incorporate the current regulatory versions of AERSCREEN (11126), and AERMOD (1206). Modeling was used to evaluate ambient impacts due to the increase in CO and to determine whether the ambient impacts from these emissions increases were above the significant impact level (SIL) for 1-hour and 8-hour averaging periods. Impacts at 50%, 75%, and 100% load were evaluated. For a detailed description of input parameters, refer to the permit application submitted September 17, 2012, Appendix D.

The screening model showed no significant impacts due to the increase in CO emissions. Results for each averaging period and load range are as follows:

Tecumseh Energy Center Unit 8/10 AERSCREEN Results Carbon Monoxide				
Averaging Period	Maximum Predicted Impact (µg/m³)			Significant Impact Level (SIL)
	100% Load	75% Load	50% Load	
1-hour	266.6	229.7	163.9	2,000
8-hour	239.9	206.7	147.5	500

The modeled ambient impacts from the proposed project are less than the respective SILs, therefore no further cumulative analysis is required. KDHE considers this to be a sufficient demonstration that the project does not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS).