



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

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Air & Radiation Branch  
U.S. EPA Region V

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SUBJECT: Adjustment of Monitored Concentrations in Rollback Calculations  
for the Gibson Generating Station

FROM: *Dean A. Wilson*  
Dean A. Wilson  
Techniques Evaluation Section, SRAB (MD-14)

Sharon Reinders *Sharon Reinders*  
Technical Guidance Section, CPOB (MD-15)

TO: Michael Koerber, Regional Meteorologist  
Region V

The Model Clearinghouse has reviewed the proposal you have forwarded on behalf of the Indiana Department of Environmental Management (IDEM) for adjusting the Mount Carmel SO<sub>2</sub> monitored data for November 28, 1986 to account for Units 1 and 5 not operating on that day. Based on our subsequent discussions, it is our understanding that (1) an EPA Guideline model has been applied by IDEM to calculate the degree of emission limitation necessary to attain and maintain the SO<sub>2</sub> NAAQS, (2) the monitored data, adjusted to account for operation of all 5 units, will be used to lend additional support and credibility to the emission limitation as determined by the modeling, and (3) the adjusted November 28, 1986 monitored data suggest a design value similar to that derived from application of the Guideline model.

We believe that application of the Guideline model to the Gibson plant is consistent with what has been done nationally to establish SO<sub>2</sub> SIP and new source permit emission limitations and should thus be the basis for the plant's emission limitation. However, the monitored data can be used to lend support to the guideline modeling analysis for the plant. We do not believe that the monitored data should be used as the primary basis for establishing the degree of emission limitation. This is because the data have not been demonstrated to satisfy the criteria in Section 11.2.2 of the Guideline on Air Quality Models (revised) for the use of monitoring data in lieu of modeling data. In fact the adjusted monitoring data suggest that the Guideline model is producing realistic design values and there is no need to use monitored data or another model (after a performance evaluation) to set the emission limit.

In this context, then, we do not have any significant problems with either of the two methods proposed by the State of Indiana for adjusting

the monitored data. However, our preference is Method 2 since it is more akin to how we select design concentrations from modeling. We do suggest that the plant be modeled at its actual emissions on November 28, 1986, using Methods 1 and 2. If the estimates compare favorably with the observed concentrations on November 28, 1986, this will add credibility to the methods used to adjust the monitored values up to reflect full operation at the plant.

For purposes of bracketing what the observed concentrations at full operation might have been, you may also wish to perform a straightforward rollup of the data from the actual plant load (~ 53 %) to full plant load. This, of course, does not account for the differences in plume rise from the non-operating units. However, we note that the two non-operating units would tend to have compensating effects since Unit 5 would have a lower plume rise and Unit 1 (in combination with Unit 2) would have a higher plume rise.

As you know, negotiations are nearly complete on a settlement agreement with the Sierra Club Legal Defense Fund concerning the Indiana SIP. We expect that the agreement will be submitted to the Court in the near future and EPA will be on a tight schedule to rulemake on Indiana's SO<sub>2</sub> plan. Thus, it is imperative for the State to adopt and submit a plan to EPA as quickly as possible.

If you have any questions please contact me.

cc: T. Helms