

From: ecchimento [<mailto:ecchimento@comcast.net>]  
Sent: Monday, December 19, 2005 11:56 AM  
To: Mansueti, Lawrence  
Subject: Sullivan Environmental Consultants Review of Mirant Unit 1 Plan

Mr. Mansueti,

Would you please enter the attached review of the Mirant Unit One Plan in your records for DOE Docket #EO-05-01?

Sullivan Environmental Consultants completed this review which Poul Hertel and I commissioned re: ENSR Corp. "Update 1 to: A Dispersion Modeling Analysis of Downwash from Mirant's Potomac River Plant; Modeling Unit 1 Emissions in a Cycling Mode" (9/20/05). As of this date, we have received no response to the questions in the Sullivan analysis.

We ask the Department of Energy to consider the issues raised in the Sullivan Review in deciding the plant's future operation.

Thank you.

Respectfully,  
Elizabeth Chimento and Poul Hertel

## **Review of the ENSR Report Titled “Update 1 to: A Dispersion Modeling Analysis of Downwash from Mirant’s Potomac River Power Plant”**

Sullivan Environmental Consulting, Inc. has prepared a review of the “Update 1 to: A Dispersion Modeling Analysis of Downwash from Mirant’s Potomac River Power Plant” written by ENSR Corporation on behalf of the Mirant Potomac River Power Plant. This report models only Unit #1 operating under two daytime only scenarios to reduce exposures and meet the National Ambient Air Quality Standards for PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub> that were not met using normal operating procedures.

The modeling files were set up with the proper values for the building and stack heights and building downwash characteristics and the fugitive emissions. The refinement to the background concentrations was found to be reasonable. More information is needed; however, to justify why lower emission rates were selected for PM<sub>10</sub> and SO<sub>2</sub> as compared with the original ENSR modeling report. The rationale provided for the reduction of the SO<sub>2</sub> emission rates is that “... Historical data indicate that the power plant emits less than 1.2 lb SO<sub>2</sub>/MMBTU...” (ENSR, p. 2-2). If this is indeed the case, will a revised permit limit be established at the 1.2 lb level? The Unit #1 emission rate for PM<sub>10</sub> was reduced based on stack testing results that were not available for review. These emission rates will need to be confirmed based on independent review of all supporting data. The reduction in emission rates amount to approximately 21 percent for SO<sub>2</sub> and 50 percent for PM<sub>10</sub> which will reduce pollutant concentrations at the sensitive receptors if set as enforceable operating limits.

In order to confirm the modeling results and the conclusions and assumptions for the plant emissions presented in the report, Sullivan Environmental Consulting, Inc. recommends the following:

1. Stack tests should be made public to allow confirmation of the assumed PM<sub>10</sub> emission rate reductions as well as the assumed SO<sub>2</sub> emissions. If these data cannot be made public, the DEQ should confirm the data.
2. Revised permit limits for SO<sub>2</sub> would need to be promulgated for the plant at the 1.2 lb SO<sub>2</sub>/MMBtu level if the modeling results from this report are to be used as the basis for the modeling. Otherwise, this modeling report is incomplete because it does not show the impacts from the current permitted 1.52 lb SO<sub>2</sub>/MMBtu level.
3. Hours of operation need to be specifically incorporated into the analysis. If emissions from some sources only occur during daylight hours, the emissions should be set up to simulate actual assumptions, including both stack and fugitive sources.
4. PM<sub>10</sub> and SO<sub>2</sub> monitors should be placed on the top of the Marina Towers building to confirm on an ongoing basis that the concentrations meet ambient air quality standards.

5. Sullivan Environmental Consulting, Inc. agrees with ENSR that the slightly lower substitution background concentration of 51 ug/m<sup>3</sup> for SO<sub>2</sub> averaged over 24-hours can be used for this modeling because it is consistent with EPA modeling policy.

## Conclusions

The modeling assumptions made by ENSR, Inc. on behalf of the Mirant Potomac River Power Plant in the Unit #1 analysis are not sufficiently supported to justify the conclusions that were drawn. Explanations need to be provided based on explicitly justifying all changes to model inputs. Stack tests used to justify reduced emissions need to be open to public review. Finally, the assumptions made to justify operation at approximately 20 percent capacity, show the plant to be just barely in compliance. If the various assumptions for Unit #1 operating at a reduced basis can be justified, it would appear to be very unlikely that further increases in percent capacity could be justified without: (1) substantial changes to stack height and/or operating controls for a wide range of pollutants, AND, (2) ongoing and long-term air quality monitoring at roof top level of Marina Towers for SO<sub>2</sub> and PM<sub>10</sub>.