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

JAN 02 1990

MEMORANDUM  
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SUBJECT: Effect of Changing Stack Heights On Prevention of Significant Deterioration (PSD) Modeling and Monitoring

FROM: John Calcagni, Director  
Air Quality Management Division (MD 15)

TO: Bruce P. Miller, Chief  
Air Programs Branch, Region IV

This is in response to your October 20, 1989 memorandum concerning whether and when the beneficial air quality impacts that result from raising an existing stack height at a source can be considered as part of a proposed PSD modification. You asked for our comments on your draft response to Mr. Richard Grusnick's (Alabama Department of Environmental Management) September 11, 1989 letter on this issue. I have reviewed your draft response concerning the following specific examples provided by Mr. Grusnick.

Example 1. A baseline (non-increment consuming) unit raising its stack (from 100 feet to 250 feet) at the time of a mill expansion. The reason for raising the stack is:

- (a) to produce enough air quality credit to reduce the ambient impact caused by the expansion; and
- (b) to prevent a nuisance to workers in a new 200-foot building.

Example 2. An existing PSD increment-consuming unit raising its stack (from 100 feet to 250 feet) in conjunction with a mill expansion to avoid worker exposure inside a new 200-foot building.

Example 3. An existing PSD increment-consuming unit (with a wet scrubber and a 100-foot stack) whose emissions would be merged with new emissions from a proposed new adjacent unit (with an ESP) with a 300-foot stack.

I agree with your position that the reason why a source raises a stack is not relevant in deciding whether the air quality benefit to be derived from the stack increase can be considered in the PSD analysis. However, the maximum height creditable as the good engineering practice (GEP) stack height without providing a demonstration is 65 meters (approximately 213 feet). For a height greater than 65 meters to be fully creditable as the GEP stack height, it must be established in a manner consistent with the stack height rules.

2

In response to the question of when the increase in a stack height can be considered as part of a proposed modification, I believe that the increase must be proposed in conjunction with the overall modification, but need not be directly related to other physical changes or changes in the method of operation being proposed by the source. That is, the stack being raised need not be physically tied to the emissions unit(s) being constructed or modified. Thus, when a stack height increase is proposed in

a PSD (modification) application, any creditable air quality improvements resulting from the higher stack (whether or not any increase in emissions resulting from the proposed modification are to be released through such stack) should be considered in the preliminary modeling analysis to determine whether further modeling or preconstruction monitoring would be required.

In each of the examples provided by Mr. Grusnick, I would consider the proposed stack height increase to be part of the proposed modification, and such increase, in general, should therefore be used in the determination of whether PSD modeling or preconstruction monitoring would be required. However, before any new stack exceeding 65 meters (approximately 213 feet) could be fully creditable, it would have to be verified as the GEP height in accordance with approved stack height rules. There are additional requirements with regard to the merging of exhaust gas streams that should be carefully evaluated to determine the creditable stack parameters in the third example.

If you have any questions concerning this response, please contact Dan deRoeck at 629-5593.

cc: J. Calcagni  
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