




MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY *Air Division*

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To: Mr. David Snyder, Chairman of MWAQC
From: Michael G. Dowd, Air Division Director 
Date: March 6, 2008
Subject: PM_{2.5} SIP Suggestions from Alexandria
Copies: James Golden, Deputy Director; Rick Weeks, Deputy Director; Tom Faha, NRO Regional Director; Mr. William Skrabak, Alexandria Environmental Quality Division Chief; Mrs. Redella Pepper, Alexandria Vice Mayor

Introduction

The purpose of this document is to provide feedback on the two suggestions to the PM_{2.5} SIP supplied by representatives of the City of Alexandria on March 5, 2008, via e-mail. While these suggestions were received by VDEQ outside of the public comment period and therefore are not required to be included in the formal comment-and-response documents, I believe it is important to address these suggestions to facilitate better understanding of the contents of the PM_{2.5} attainment plan and to maintain open communications with all stakeholders in the air quality planning process.

Deadlines for Submittal of the PM_{2.5} Ambient Air Quality Analysis for Mirant

Alexandria representatives first suggest that Section 9.4.3 of the PM_{2.5} attainment plan, which requires that Mirant PRGS submit an ambient air quality analysis once the methodologies for such an analysis are approved by the State Air Pollution Control Board (Board), be amended to require the submittal of this analysis within eight months of approval of the plan by MWAQC.

The current language in the plan was revised at the behest of Alexandria to require that a protocol for demonstrating compliance with the PM_{2.5} NAAQS be submitted to VDEQ within 60 days of approval of methodologies by the State Air Pollution Control Board. Language was also added noting that VDEQ would publish this protocol on the VDEQ website. For the reasons discussed below, however, the current language does not specify a time frame for analysis submittal other than to note that the VDEQ would set the timeline once methodologies have been approved.

VDEQ has initiated a PM_{2.5} Implementation Workgroup, comprised of stakeholders in the PM_{2.5} process including Alexandria, to develop a methodology for review and approval by the Board. This workgroup is the first of its kind in the Commonwealth. The issue of PM_{2.5} implementation, absent guidance from EPA, will be contentious. Therefore, VDEQ cannot predict with any certainty how long creating such a methodology will take. Also, the contents of the methodology are uncertain. For example, EPA or the Workgroup may eventually adopt a methodology that relies on monitoring data rather than modeling analyses. If so, monitors will have to be sited and installed. Also, such monitors will need to be in operation for a period of time to collect and analyze data before submittal of the final results document can be made. Clearly, this type of

methodology would take longer than eight months to implement. Pages 19, 20, and 21 of the "Record of Hearing and Summary of Testimony" discuss these issues as raised by the City of Alexandria in their comments to VDEQ on the PM_{2.5} attainment plan.

While ambient air quality analysis methodologies are not readily available, two special purpose PM_{2.5} Federal Reference Monitors (FRMs) are located near the Mirant facility and during 2007 they showed compliance with both the 1997 and 2006 NAAQS PM_{2.5} standards. One monitor is located on top of Marina Towers, a site indicated by modeling to be a potential high impact area, and one monitor is on the southeast property line of the facility. These monitors will continue to operate in the foreseeable future, and VDEQ will continue to analyze the data from these monitors. VDEQ also is committed to installing a FRM PM_{2.5} monitor in Alexandria to gather additional air quality data. This monitor will be funded and will be operated by VDEQ personnel.

I would like to note that submittals made by industry to satisfy air quality requirements are matters of public record. At any time, Virginia citizens may use the Freedom of Information Act to request any data that VDEQ possesses that is not specifically designated as Confidential Business Information. Additionally, VDEQ has made certain all documents regarding the Mirant facility are accessible to the public by posting them on our website, with a link from the main webpage. VDEQ is committed to continuing this procedure with submittals made by Mirant as long as there continues to be significant interest in the facility.

Opacity Standards for Fuel Burning Equipment

Alexandria further suggests lowering the existing opacity standard for fuel burning equipment in the Northern Virginia area from 20% to 10% and limiting the excursion rate from 60% to 40%. Before discussing the merits of Alexandria's suggestion, it is essential to note is that in order to adopt it VDEQ would be required to provide an additional 30 day comment period and public hearing since the suggestion would constitute a substantive change to the plan. Revising the plan as Alexandria's suggests, therefore, would mean that we could not submit the PM_{2.5} attainment plan to EPA Region III for approval until well after EPA's submittal deadline of April 7, 2008.

Regardless of timing issues however, VDEQ has previously considered such a recommendation from Alexandria and does not believe that such a change in opacity limitations are warranted or necessary to improve air quality and protect public health. In previous comments on the draft PM_{2.5} attainment plan, Alexandria has recommended such a decrease in opacity requirements as a PM_{2.5} control measure to satisfy RACT/RACM requirements. The PM_{2.5} implementation guidance suggests that more stringent opacity requirements may be examined for reasonable available control technology determinations. However, the RACT/RACM requirements of the implementation rule are predicated on advancing the attainment date of a nonattainment area by one year. Since the metropolitan Washington area currently monitors attainment with the 1997 standards, the attainment date of the area cannot be advanced, and RACT/RACM requirements as defined by the implementation rule are fully satisfied. Hence, there is no basis in RACT/RACM to further strengthen the opacity requirements. Pages 8 and 9 of the "Record of Hearing and Summary of Testimony" fully explain the regulatory hurdles for tighter opacity limitations on facilities in response to similar comments made by Alexandria during the comment period.

As a technical matter, Alexandria has contended that opacity is indicative of PM_{2.5} emissions. EPA and other agencies, however, have come to the opposite conclusion that opacity is not a good indicator of PM_{2.5} emissions due to a variety of factors related to the technology of opacity monitors and the chemistry and nature of PM_{2.5} pollution itself. For example, moisture in the flue gas due to the operation of a wet scrubber in certain instances can result in an opacity monitor's reading higher opacity levels when there are very low levels of particulate matter being emitted. On the other hand, due to its very small size, PM_{2.5} from a stack sometimes

can be significant but not be recorded by an opacity monitor, thereby giving a false sense that little if any PM 2.5 is being emitted.

Alexandria's specific concern over opacity appears to involve the Mirant facility. In previous conversations, Alexandria has contended that slight increases in opacity from this facility are indicative of increases in PM_{2.5} emissions from the use of sorbent injection for SO₂ control. VDEQ does not agree that existing data supports this assertion for two reasons. First, opacity monitor readings from the Mirant PRGS are generally in the range of 2% to 6% and opacity monitors are imprecise when measuring such small differences in opacity. Opacity monitors are required to be certified by EPA to plus or minus 2.5% opacity. The compliance test method for opacity, 40 CFR 60 Appendix A, Method 9, is actually a visual test, and observers read opacity in 5% increments, for instance, 10%, 15% etc. Therefore, slight changes in opacity can be considered nothing more than data variability and large changes in opacity, as discussed above, are not necessarily indicative of PM_{2.5} increases.

Second, the facility has provided test data for PM_{2.5} on a boiler both using sorbent injection and not using sorbent injection. The test data indicate that the particulate control devices actually operate better when sorbent injection is being used so that PM_{2.5} emissions are lower when sorbent is being injected. Additionally, more testing will be required when the state operating permit for the facility is issued. The permit also requires real-time, continuous PM_{2.5} monitors be installed at Mirant once the technology for these monitors is certified by EPA. In any event, decreasing Northern Virginia's opacity standard for existing sources from 20% to 10% would have little or no effect on the operations of the Mirant facility.

For these reasons, VDEQ does not support including a commitment in the PM_{2.5} attainment plan to reduce the existing stationary source opacity limitation to 10% and to limit the excursion rate to 40%. However, at the last TAC meeting, VDEQ staff noted that examining the opacity standards within the existing source regulations may be an appropriate issue for Alexandria representatives to discuss with the State Air Pollution Control Board. Any such change to the existing source opacity regulations would need to go through the full Administrative Process Act public participation mandate.

Summary

While VDEQ does not believe the changes suggested by Alexandria are appropriate for inclusion in this PM_{2.5} attainment plan, the Department remains committed to working with the public and Alexandria regarding the permit for the Mirant facility, to ensuring that operations at the plant do not cause a NAAQS violation, and to protecting the health of Virginia's citizens. Since the City of Alexandria has representatives on the PM_{2.5} Implementation Workgroup, they will participate and remain informed of progress made by that group. Finally, VDEQ remains committed to requiring a PM_{2.5} analysis for the Mirant PRGS once the methodologies are finalized. Please do not hesitate to call if you have questions.