ATTACHMENT D

- City's Letter to Mary Major, VDEQ, Comments on the Changes to the Final Regulation for Emissions Trading (CAIR), June 12, 2007

- City's Letter to Doris McLeod, VDEQ, Comments on Virginia SIP Revision for Certification of § 110(a)(2)(D)(i) Requirements for the 8-Hour Ozone and $PM_{2.5}$ NAAQS, October 17, 2007

City of Alexandria, Virginia

June 12, 2007

Ms. Mary E. Major,
Environmental Program Manager,
Office of Air Regulatory Development,
Department of Environmental Quality,
P.O. Box 1105, Richmond,
Virginia 23218

Re: Comments on the Changes to the Final Regulation for Emissions Trading (CAIR)

Dear Ms. Major:

In response to the Virginia Department of Environmental Quality's public notice of April 24, 2007, the City of Alexandria ("Alexandria") hereby submits comments on the regulation entitled "Regulation for Emissions Trading", specifically the provisions concerning nonattainment area requirements.

First and foremost, Alexandria would like to commend the State Air Pollution Control Board ("Board") and the Virginia Department of Environmental Quality ("VDEQ") for having developed this important regulation that, in its present form, will greatly enhance curtailment of emissions of NO_x and SO_2. This is a crucial step in improving the air quality in Northern Virginia, a designated nonattainment area for ozone and $PM_{2.5}$.

Alexandria supports the prohibition of emissions trading in nonattainment areas, as stipulated by the Virginia CAIR rule in its present form. Specifically, Alexandria strongly supports the Board's decision to eliminate provisions of 9 VAC 5-140-1061/-2061 that would have allowed for a waiver from the prohibition on trading allowances (with respect to annual NO_x and ozone-season NO_x emission caps) to demonstrate compliance in nonattainment areas.

The Metropolitan Washington Air Quality Committee ("MWAQC") and the states have approved an air quality plan ("SIP") to meet the National Ambient Air Quality Standard for ozone. The SIP contains provisions for significant reductions from the electric generating facilities located in the region. The Maryland Healthy Air Act sets strict caps on coal fired power plants and restricts emissions trading. According to information from MWAQC, photochemical modeling in the SIP shows that the NO_x emission reductions associated with the prohibition of emissions trading are **required** to bring the Washington DC-VA-MD region into attainment of the ozone standard.

It has been well documented from EPA benefit-cost analyses and other similar studies that $PM_{2.5}$ emissions contribute the majority of health impacts from air pollution. In a case study of five power plants located near the Washington D.C. area, Levy et al[1] found that, on an annual basis, $PM_{2.5}$ emissions from these plants were responsible for 270 deaths, 78 cardiovascular hospital admissions (CHA), and 190 pediatric asthma emergency room visits (ERV). More

[1] Levy, J.I., Greco, S.L., and Spengler, J.D., The Importance of Population Susceptibility for Air Pollution Risk Assessment: A Case Study of Power Plants near Washington, DC, Environmental Health Perspectives, Volume 110, Number 12, December 2002, pp. 1253-1260

importantly, the health benefits from reduced $PM_{2.5}$ emissions resulting from the implementation of Best Available Control Technology were estimated to be 210 fewer deaths, 59 fewer CHA and 140 fewer pediatric asthma ERV annually. Since NO_x and SO_2 are precursors of secondary $PM_{2.5}$, it is essential that these emissions be significantly reduced in this area. The no-trading provision in the Virginia CAIR regulation for nonattainment areas will allow this to happen in a timely manner.

Mirant Potomac River Generating Station (PRGS) located in Alexandria, is one of the five power plants referenced above. It was estimated to be the single largest source that contributes most to $PM_{2.5}$ levels in Alexandria by the Levy study[2]. It was also determined to contribute ~37% of the total health impacts in Alexandria from the five power plants studied. Alexandria requests that the Virginia CAIR rule require all sources within nonattainment areas including PRGS to achieve emissions reductions through in-plant controls rather than through trading with plants that are outside the nonattainment areas. Therefore, **Alexandria supports the Board's decision to add provisions in 9 VAC 5-140-3061 that prohibit SO_2 trading as a means to demonstrate compliance in nonattainment areas.**

In summary, NO_x and SO_2 reductions resulting from the Virginia CAIR regulation with its no-trading provision are critical to achieving attainment of ozone and $PM_{2.5}$ NAAQS in Northern Virginia. Alexandria strongly urges the State Air Pollution Control Board and VDEQ to uphold the no-trading provisions in the Virginia CAIR regulation.

Alexandria appreciates the opportunity to comment on the above and thanks the Board and VDEQ for their efforts in protecting public health and the environment.

Yours sincerely,

Richard J. Baier, P.E.,
Director, Department of Transportation and Environmental Services

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[2] Levy, J., Presentation to City of Alexandria, "Analysis of Particulate Matter Impacts for the City of Alexandria, Virginia", May 24, 2004

October 17, 2007

Ms. Doris A. McLeod
Air Quality Planner, Air Planning Programs,
Department of Environmental Quality,
629 East Main Street,
PO Box 1105,
Richmond, Virginia 23218

Re: Alexandria's Comments on Virginia SIP Revision for Certification of § 110(a)(2)(D)(i) Requirements for the 8-Hour Ozone and $PM_{2.5}$ National Ambient Air Quality Standards

Dear Ms. McLeod,

The City of Alexandria ("Alexandria") appreciates the opportunity to provide comments on the above subject.

We are particularly concerned with the Virginia DEQ's confirmation that "major sources are subject to nonattainment and PSD NSR permitting programs implemented in accordance with EPA's interim guidance calling for use of PM_{10} as a surrogate for $PM_{2.5}$ related to the nonattainment and PSD NSR program requirement."

Our serious concern is based on the fact that the Virginia Department of Environmental Quality ("VDEQ") is currently in the process of developing a comprehensive permit for the Mirant PRGS facility located in Alexandria, Virginia, and that the use of EPA's interim guidance on PM modeling would establish a $PM_{2.5}$ emission limit too high to comply with the $PM_{2.5}$ NAAQS and protect long-term public health. Compounding this issue is the fact that Northern Virginia, where this significant, if not the single largest $PM_{2.5}$ emitter is located, is currently designated as a nonattainment area for $PM_{2.5}$.

In September 2007, US EPA issued its proposed rule for $PM_{2.5}$ PSD permitting within the NSR program for public comments.[1] Even though this guidance has not been finalized, and even though the PRGS draft permit development is not a PSD proceeding, Alexandria feels strongly that VDEQ should make provisions for the application of this guidance's specific model-based $PM_{2.5}$ criteria in setting the $PM_{2.5}$ emissions limit as part of the Mirant PRGS's comprehensive permit. This permit, in turn, would be incorporated into the Virginia $PM_{2.5}$ SIP due in April 2008. **The long-term health of the citizens living in Northern Virginia should not be further compromised by the timing of the promulgation of the EPA's guidance.** VDEQ's own policies to implement and attain the $PM_{2.5}$ NAAQS should not exacerbate $PM_{2.5}$ nonattainment,

[1] Federal Register, Friday, September 21, 2007, Part II, Environmental Protection Agency, 40 CFR Parts 51 and 52, Prevention of Significant Deterioration (PDS) for Particulate Matter Less than 2.5 Micrometers (PM2.5)—Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC); Proposed Rule.

as a PM_{10}-based approach will do (see below). Instead, VDEQ's policy should reflect US EPA's own $PM_{2.5}$ implementation recommendations. In the final "Clean Air Fine Particle Implementation Rule," (FR April 25, 2007), US EPA states that "virtually all nonattainment problems appear to result from a combination of local emissions and transported emissions from upwind areas..." and that "to attain the PM $_{2.5}$ standards, it is important to pursue emission reductions simultaneously on the local, regional and national levels." **US EPA iterates several times within this final rule that PM_{10} should not be used as a surrogate for $PM_{2.5}$, citing the agency's establishment of the NAAQS for $PM_{2.5}$ as if it were a new pollutant, separate from PM_{10}** [2] (OAQPS SP, December, 2005).

Alexandria would like to bring to VDEQ's attention that the NESCAUM regional air authority for NY, NJ, MA, CT, VT, ME has to date been implementing levels of 0.3 and 2.0 $\mu g/m^3$ for annual and 24-hour SILs (Significant Impact Levels), and the NESCAUM guidance explicitly describes these SILs as concentrations that an emitting source in a nonattainment area can use to demonstrate NAAQS compliance by showing a smaller impact than the SILs. STAPPA/ALAPCO (of which Alexandria is a member) also has recommended the 0.3/2.0 SILs.

In its final guidance, U.S. EPA has recently proposed three options for SILs as shown below (all values in micrograms per cubic meter). The first table shows Alexandria's modeling results of the PRGS's impacts for two operating scenarios using an emission rate of **0.02 lb per MMBtu** (based on PRGS's December 2006 stack tests, and allowing a compliance margin). **The results clearly show that PRGS's impacts of $PM_{2.5}$ would exceed all U.S. EPA's proposed SILs by between two and eight times.** Alexandria can provide its calculation details if necessary for your review.

PRGS $PM_{2.5}$ Impacts[a] Assessed Against $PM_{2.5}$ SILs and NAAQS Using PRGS Stack Test Results

EPA Prop Option	Annual SIL	PRGS's Max Annual Impact (3-year average)	USEPA's Proposed 24-hour SIL Options	PRGS's Maximum 24-hour Impact (3-Year Average of Eighth-Highest 24-hour Impact)	PRGS's Maximum 24-hour PM2.5 Impact with Background[b]
1	1.0	1.4	5.0	9.1	43.2 vs. 35.0
2	0.8	1.4	4.0	9.1	43.2 vs. 35.0
3	0.3	1.4	1.2	9.1	43.2 vs 35.0

Notes:
a. AERMOD results using Mirant's input files for a '2 base' operating scenario as specified in the draft SOP's paragraph no. 28.
b. Background as presented by VDEQ for 3-year average of 98th percentile PM2.5 24-hour values for 2004, 2005 and 2006 at Arlington County site, equal to 34.1.

[2] In their review of the PM NAAQS, US EPA concluded that "because the fine and thoracic coarse components of PM10 generally have different sources, composition and formation processes, they should be treated as separate pollutants." Referenced in September, 2007 PM2.5 PSD NSR proposal.

The table below illustrates how reliance on a PM_{10}-as-surrogate approach provides no safeguards for the $PM_{2.5}$ NAAQS. Using this approach, the facility's emissions can violate the NAAQS by almost two times the standard (as shown in the table above, but at even higher impacts that reflect the higher allowable emission limit rather than the stack test result) while falsely indicating compliance. **By designing permit limits on the basis of PM_{10} rather than restricting its impacts to *de minimis* levels represented by the SILs in this $PM_{2.5}$ nonattainment area, VDEQ facilitates this source's operation at levels that show egregious violation of the $PM_{2.5}$ NAAQS.** We do not believe that this approach can be supported by any of US EPA's final and proposed $PM_{2.5}$ implementation regulations, nor does it constitute a reasonable foundation for any health-based air compliance program.

PRGS Primary $PM_{2.5}$ Impacts[a] Assessed Against PM_{10} NAAQS using Currently Allowed Emission Limit of 0.055 lb per MMBtu

PRGS's Maximum Annual Impact (among five years)	PRGS's Maximum Annual PM_{10} Impact With PM_{10} Background[b] vs. PM_{10} NAAQS	PRGS's 6th highest 24-hour Impact (among five years).	PRGS's Maximum 24-hour PM_{10} Impact With PM_{10} Background[b] vs. PM_{10} NAAQS
6.4	27.4 vs. 50.	47.	91.0 vs. 150.

Notes:
a. AERMOD results using Mirant's input files for a '2 base' operating scenario as specified in the draft SOP's paragraph no. 28.
b. Background as presented by VDEQ for highest 2nd-highest PM_{10} value among years 2004, 2005 and 2006 at Fairfax County site, equal to 44.0 and 21.0 for highest annual value among three years.

In summary, Alexandria requests that VDEQ establish interim SILs for annual and 24-hour averaging periods for $PM_{2.5}$ and apply these to determine $PM_{2.5}$ emission limits for PRGS. Only by applying the proper $PM_{2.5}$ modeling approach as suggested here to come up with an enforceable permit that in turn, becomes part of the $PM_{2.5}$ SIP, can Alexandria be assured of achieving attainment by 2010. The City would welcome a dialogue with VDEQ staff on this important subject at the Department's convenience.

Yours sincerely,

William J. Skrabak

William J. Skrabak,
Chief, Division of Environmental Quality
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