

## MEMORANDUM

**Date:** September 9, 2008

**To:** MWAQC Technical Advisory Committee (TAC)

**From:** Sunil Kumar, Senior Environmental Planner

**Subject:** Analysis of CAIR Vacatur on Metropolitan Washington 8-hr Ozone and PM2.5 SIPs

### **I. Summary:**

The July court action to vacate CAIR affects both Washington region SIPs, the 8-hr ozone SIP submitted in 2007 and the PM2.5 SIP submitted in April 2008. This memo identifies the portions of the ozone SIP and the PM2.5 SIP that take credit for reductions from CAIR and recommends changes if the SIPs are to be revised and resubmitted.

In summary, for the ozone SIP, NO<sub>x</sub> reductions (ozone season day) for 2009 and 2010 attributed to CAIR for the District and Virginia must be re-assigned to other control measure(s). For the PM2.5 SIP, NO<sub>x</sub> and SO<sub>2</sub> reductions (annual) for 2009 attributed to CAIR for the District and Virginia must be re-assigned to other control measure(s).

The following are the issues related to the CAIR rule in ozone and PM2.5 SIPs and recommended steps needed to remove any impacts of CAIR vacatur on them.

### **II. Ozone SIP: Sections Needing Revision**

#### **1) Rate-of-Further Progress Contingency**

The ozone SIP mentions the District of Columbia and Virginia taking credit for 0.66 tpd and 2.45 tpd respectively of NO<sub>x</sub> from the CAIR rule to meet RFP contingency requirements (Table 1) by 2010. The ozone SIP also mentions the District and Virginia CAIR rules as one of the contingency measures.

**Recommended Revision:** The reference to benefits from CAIR in the SIP must be removed and these reductions must be assigned to the NO<sub>x</sub> SIP call or other measures.

#### **2) 2009 Controlled Inventory**

The ozone SIP mentions District of Columbia and Virginia taking credit for 2.95 tpd and 11.36 tpd respectively of NO<sub>x</sub> from CAIR in their 2009 point source controlled inventories (Table 2).

**Recommended Revision:** The reference to benefits from CAIR in the SIP must be removed and these reductions must be assigned to the NO<sub>x</sub> SIP call or other measures.

### **3) Attainment Modeling**

In the ozone SIP Attainment Demonstration chapter, Table 10-9 (Attainment Modeling) summarizes 2009 design value results using OTC Beyond On The Way (BOTW) measures and the Virginia CAIR rule.

**Recommended Revision:** Reassign benefits from the CAIR rule to other measure(s) and redo the above mentioned table while removing any references to CAIR in the modeling section of the SIP and related appendices.

## **III. PM2.5 SIP: Sections Needing Revision**

### **1) Attainment Contingency**

The PM2.5 SIP mentions Virginia taking credit for 10,800 tpy of projected SO<sub>2</sub> reductions from the CAIR rule to meet attainment contingency requirements by 2011 (Table 3). The SIP also mentions District and Virginia CAIR rules as one of the contingency measures, though it is not clear from the document that how much NO<sub>x</sub> and SO<sub>2</sub> credits were actually attributed by District of Columbia and Virginia to CAIR.

**Recommended Revision:** Maryland's Healthy Air Act provides enough SO<sub>2</sub> reductions to meet the attainment contingency requirements by 2011. Therefore, there is no additional need for Virginia's SO<sub>2</sub> reductions to be mentioned in the SIP. Consequently, any reference to the CAIR rule may be taken out from the SIP document.

### **2) 2009 Controlled Inventory**

The District of Columbia and Virginia took credit for 700.8 tpy and 5,943 tpy respectively of NO<sub>x</sub> in 2009 controlled inventory (Table 4). Virginia also took credit for 17,967 tpy of SO<sub>2</sub> in 2009 (Table 4). The SIP also mentions the CAIR rule as one of the control measures in 2009, though it is not clear from the document that how much NO<sub>x</sub> and SO<sub>2</sub> credits were actually attributed by the District and Virginia to the CAIR rule in 2009. It is also not clear in the SIP whether the non-ozone season NO<sub>x</sub> reductions are coming from CAIR or the SIP call or the facility conversion.

**Recommended Revision:** The 2009 NO<sub>x</sub> and SO<sub>2</sub> reductions for the District and Virginia must be limited to non-CAIR control measures and any references to CAIR must be removed from the SIP document.

### **3) Attainment Modeling**

The Attainment Modeling chapter (Chapter 9) of the PM2.5 SIP provides annual Speciated Modeled Attainment Test (SMAT) results using OTC Beyond On The Way (BOTW) measures and the Virginia CAIR rule in different tables.

**Recommended Revision:** Reassign benefits from the CAIR rule to other measure(s) and redo the above mentioned tables while removing any references to CAIR in the modeling section of the SIP and related appendices.

**8-Hour Ozone SIP**

**Rate-of-Further Progress Contingency Reductions**

(Potential EPA notice of failure to comply with RFP in 2009, contingency reductions needed by 2010)

**Table 1**  
**NOx Emission Reductions (tons per day)**

	District of Columbia	Maryland	Virginia	Total
NOx Reductions	0.66	12.19	2.45	15.3

Note: Projected NOx reductions are based on benefits from CAIR rule for DC and VA and from Healthy Air Act for Maryland.

Source: 8-Hour Ozone SIP, May 2007, Table - Page 11-5.

**Attainment Year (2009) Emission Reductions**

**Table 2**  
**2009 Point Source NOx Reductions (tons per day)**

Control	District of Columbia	Maryland	Virginia	Total
NSR	0	0	3.435	3.435
NOx RACT	0	0	0.01	0.01
NOx SIP Call	2.18	0	4.194	6.374
CAIR	2.95	0	11.36	14.31
Healthy Air Act	0	104.674	0	104.674
<b>Total 2009 Reductions</b>	<b>5.13</b>	<b>104.674</b>	<b>18.978</b>	<b>128.76</b>

Source: 8-Hour Ozone SIP, May 2007, Table 6-7, Page 6-10.

## **PM2.5 SIP**

### **Attainment Contingency Reductions**

(Potential EPA notice of failure to comply with RFP in 2010, contingency reductions needed by 2011)

**Table 3**  
**SO<sub>2</sub> Emission Reductions (tons/year)**

	<b>District of Columbia</b>	<b>Maryland</b>	<b>Virginia</b>	<b>Total</b>
SO <sub>2</sub> Reductions	-	158,354	10,800	169,154

Note: SO<sub>2</sub> reductions were substituted for NO<sub>x</sub> reductions to comply with attainment contingency requirements. Projected SO<sub>2</sub> reductions are based on benefits from CAIR rule for VA and from Healthy Air Act for Maryland.

Source: PM2.5 SIP, March 2008, Table - Page 10-6.

### **Attainment Year (2009) Emission Reductions**

**Table 4**  
**2009 Emission Reductions (tons/year)**

	<b>District of Columbia</b>	<b>Maryland</b>	<b>Virginia</b>	<b>Total</b>
2009 NO <sub>x</sub> Reductions	700.8	36,447	5,943	43,091
2009 SO <sub>2</sub> Reductions	0	0	17,967	17,967
2009 PM <sub>2.5</sub> Direct Reductions	0	0	0	0

Source: PM2.5 SIP, March 2008, Table - Page 5-4.