2010 SO_2 NAAQS (75 Fed. Reg. 35520)
District of Columbia Infrastructure SIP
April 2014

ATTACHMENT B

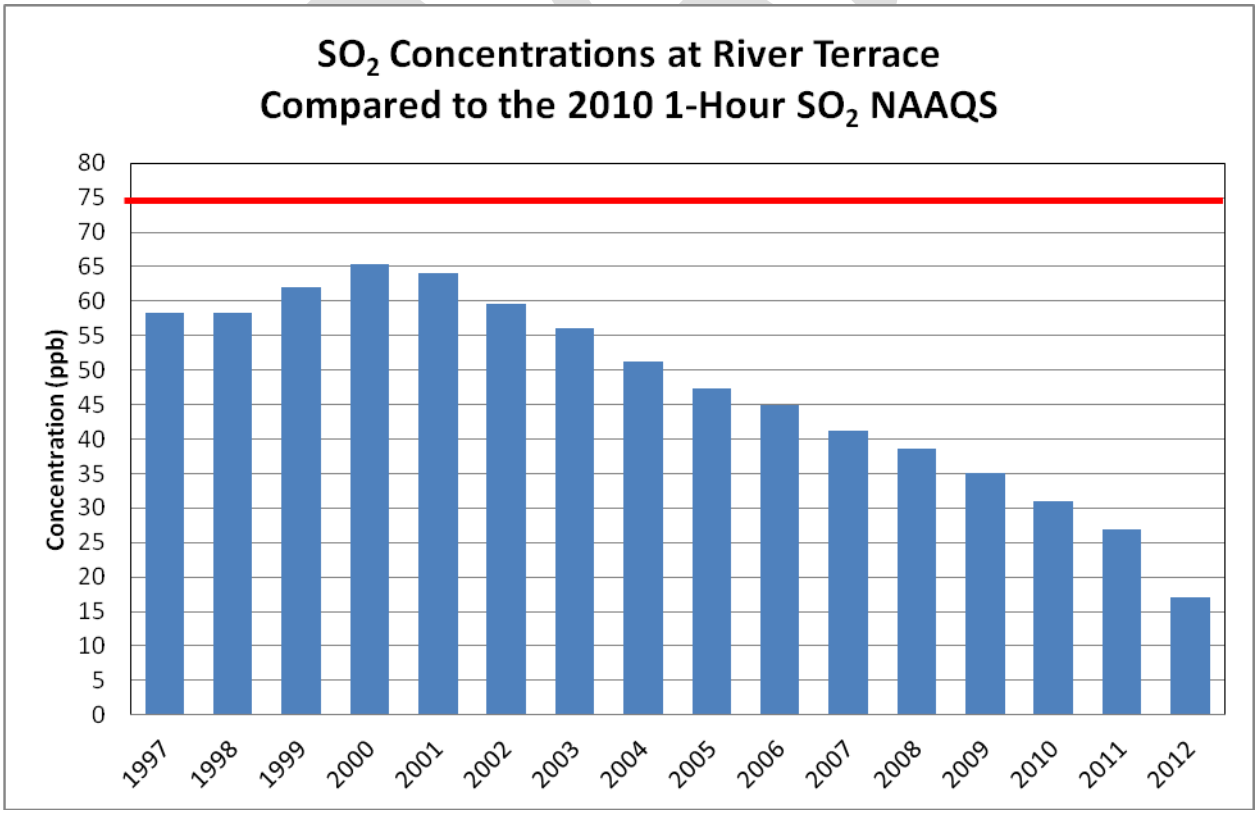
Section 110(a)(2)(D)(i): Interstate Transport Provisions, Part I
Include an explanation in support of the conclusion that no source will contribute significantly to nonattainment or interfere with maintenance of the SO2 NAAQS in another state.

The District of Columbia (District) has recommended an unclassifiable designation for the 2010 sulfur dioxide (SO_2) national ambient air quality standards (NAAQS). This is at least in part because no source in the District contributes significantly to nonattainment or interferes with maintenance of the 2010 SO_2 NAAQS in another state. No source has caused a violation of the 2010 SO_2 NAAQS and no source emits quantities that are potentially of concern.

No SO_2 NAAQS Violations

To date, the District operates two ambient air monitors to measure SO_2: one long-term monitor at the River Terrace site, and one new trace-SO_2 monitor at the McMillan NCore site that was deployed in 2011. The River Terrace monitor has never shown a violation of any SO_2 standard, as demonstrated in Figure 1.

Figure 1. Monitored SO_2 Concentrations in the District Over Time



Insignificant Contribution

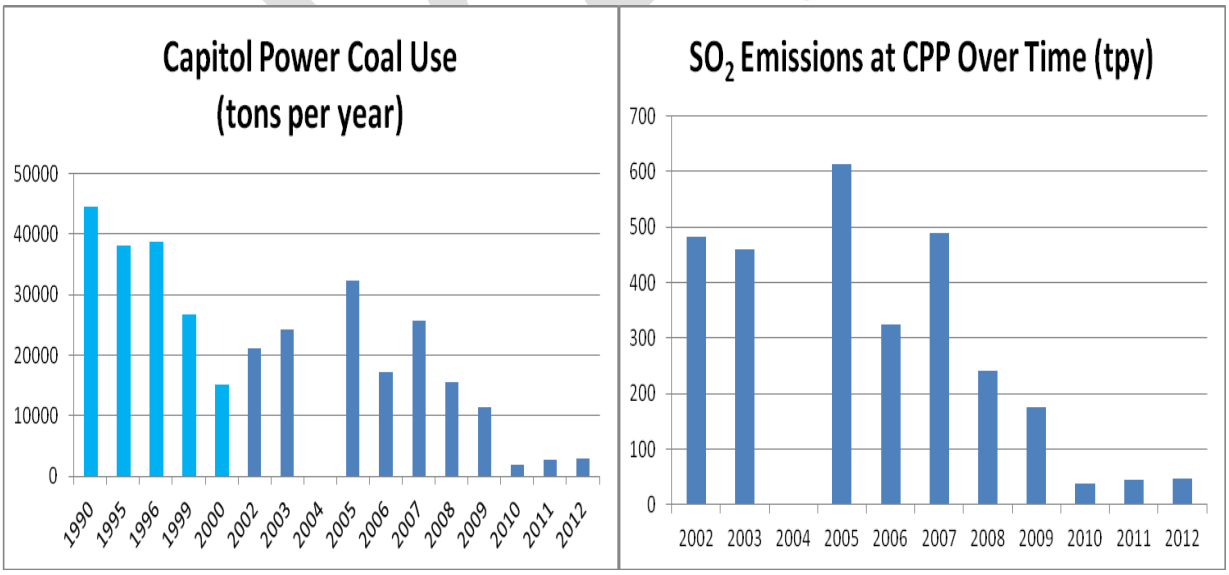
In the SO_2 NAAQS final rule (75 Fed. Reg. 35520), the U.S. Environmental Protection Agency (EPA) ruled that it would be reasonable to expect states to demonstrate, at a minimum, that major SO_2 sources (≥ 100 tpy) are not causing or contributing to violations of the 1-hour SO_2 NAAQS."

A letter to the District Department of the Environment (DDOE) Director on April 12, 2012, from EPA suggested that, "EPA's discussions with stakeholders about how best to implement the NAAQS may result in changes to our previously described recommendations for implementing the SO_2 standard in unclassifiable areas." EPA recommended focusing on "the traditional infrastructure elements of Clean Air Act sections 110(a)(1) and (2), rather than on modeling demonstrations showing future attainment of the standard by a fixed date," as initially required in the final SO_2 NAAQS rule and further described in the draft implementation guidance.

EPA's 2013 document[1] suggested a potential revision to the emissions threshold to 2000 to 3000 tons per year (tpy) for sources in densely populated areas that are part of a core-based statistical area (CBSA) of more than one million people.

In the District, there is only one source that has emitted relatively large amounts of SO_2: the U.S. Capitol Power Plant (CPP). Total emissions of SO_2 from the facility have been well below even half of EPA's potential threshold, or less than 1000 tons per year, since 2002. Historically, two of the large boilers at the facility have burned coal, which contains sulfur, as a fuel source. In recent years, the use of coal at CPP has dropped dramatically. Figure 2 demonstrates that the reduced use of coal has resulted in a similar drop in SO_2 emissions in recent years.

Figure 2. Capitol Power's Coal Use and SO_2 Emissions



Emissions of SO_2 from CPP are expected to remain low because of recently finalized air quality permit actions. On June 6, 2013, DDOE issued final permits that established facility-wide emission limits at CPP. The permits also allow for the installation of a highly efficient natural gas-fired cogeneration

[1] U.S. EPA, "Next Steps for Area Designations and Implementation of the Sulfur Dioxide National Ambient Air Quality Standard" (February 6, 2013), found at: http://www.epa.gov/airquality/sulfurdioxide/pdfs/20130207SO2StrategyPaper.pdf.

system at the facility that will reduce its reliance on coal-burning units. The facility's potential to emit SO_2 is less than 3,900 tons per year, even with a cogeneration system fully constructed[2]. After the cogeneration plant is commissioned and operational, the facility is required to cease burning coal except in very infrequent force majeure situations.[3]

There are only two other major source facilities in the District that typically emit more than one ton of SO_2 per year: Pepco-Benning Road Generation Station and U.S. General Services Administration. The following chart shows SO_2 emissions for each facility in recent years, primarily due to the usage of oil:

Figure 3. SO_2 Emissions (tpy) from Other Facilities in the District

Facility	2008	2009	2010	2011	2012
Pepco-Benning	278.1	106.9	871.7	510.8	21
U.S. GSA	3	1.6	1.5	1.4	15.7

Pepco-Benning's two electric generating units (EGUs) that emitted a majority of the facility's SO_2 emissions shut down in 2012. The closure was a permit condition submitted as part of a State Implementation Plan (SIP) revision to address the Clean Air Act's requirements for Regional Haze, which was approved by EPA on February 2, 2012 (77 Fed. Reg. 5191).

SO_2 emissions at GSA are not expected to substantially increase in the future, especially with the District's new source review program (20 DCMR Chapter 2) and prevention of significant deterioration federal implementation plan (PSD FIP), which both control emissions due to facility changes. There is a plant-wide emission limit for SO_2 in GSA's Title V permit of 17 tons per year.

Additional SO_2 controls in the District's SIP include sulfur content limits on fuel oil (20 DCMR § 801), a high enhanced inspection and maintenance (I/M) program (see 40 C.F.R. § 52.470(c)), and numerous Federal $PM_{2.5}$ measures.

No Interference with Maintenance (Prong 2)

There are no nonattainment areas for SO_2 within a 50-kilometer radius of the District, which is the standard distance generally considered by EPA for air dispersion modeling (Appendix W to 40 C.F.R. Part 51). The most recent design values (DVs) computed using quality-assured and certified ambient air modeling data, based on the Federal Reference Method or an equivalent monitoring measurement, and reported to EPA's Air Quality System (AQS) in states bordering the District are in Figure 4:

Figure 3. Recent 1-Hour NAAQS Design Values at Monitors in Maryland and Virginia (in parts per billion)

State	County	Site ID	2008-2010	2009-2011	2010-2012
Maryland	Garrett County	24-023-0002	41	31	19
Maryland	Prince George's County	24-033-0030	21	15	11

[2] The Capitol Power Plant does not have a plant-wide emission limit for SO2. According to their 2009 Title V permit application, their potential to emit SO2 was 3875.1 tpy. Construction of the cogeneration project would add 8.4 tpy.
[3] DDOE, "District Issues Air Quality Permits for Cogeneration Equipment at the U.S. Capitol Power Plant" (June 6, 2013), found at: http://ddoe.dc.gov/release/district-issues-air-quality-permits-cogeneration-equipment-us-capitol-power-plant.

State	County	Site ID	2008-2010	2009-2011	2010-2012
Virginia	Charles City County	51-036-0002	50	43	34
Virginia	Richmond city	51-760-0024	39	35	25
Virginia	Roanoke County	51-161-1004	11	10	8
Virginia	Rockingham County	51-165-0003	11	9	6

Source: "Design Values" on EPA website at: http://www.epa.gov/airtrends/values.html; only complete and valid data

All nearby DVs are well below the 2010 1-hour NAAQS for SO_2 of 75 ppb. Since there are also no nearby areas violating the SO_2 NAAQS, the District has no reason to believe that any monitors identified in the table above may have difficulty maintaining the SO_2 standards, particularly as a result of emissions from the District.

Conclusion

Since the District's largest sources of SO_2 emissions emit far less than EPA's initially proposed threshold for study of 100 tpy, there is no reason to believe that any source in the District will contribute significantly to nonattainment or interfere with maintenance of the SO_2 NAAQS in another state.

Currently, the District is not aware of any plans to establish a source that emits substantial amounts of SO_2 within its borders. Thus, it is reasonable to conclude that no source will contribute significantly to nonattainment or interfere with maintenance of the NAAQS in another state.