

**Section 110(a)(2)(D)(i)(I) Transport Certification for the
2008 Ozone National Ambient Air Quality Standard**

**Rhode Island Department of Environmental Management
Office of Air Resources**



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Section 110(a)(2)(D)(i)(I) Transport Certification for the
2008 Ozone National Ambient Air Quality Standard

Sections 110(a)(1) and (2) of the Clean Air Act (CAA) require states to submit a State Implementation Plan (SIP) amendment that addresses the procedural, timing and infrastructure elements identified in those sections within three years of promulgation of a new National Ambient Air Quality Standard (NAAQS). On March 12, 2008, the United States Environmental Protection Agency (EPA) promulgated a new NAAQS for ozone, 75 ppb as an 8-hour average. Implementation of that NAAQS was suspended by the EPA on January 6, 2010 pending further review and was reinitiated on September 2, 2011.

On January 2, 2013, the Rhode Island Department of Environmental Management (RI DEM) submitted an “Infrastructure Certification for the 2008 Ozone National Ambient Air Quality Standard” to the EPA as a SIP amendment to address the 110(a)(1) and (2) requirements for that NAAQS. The EPA has determined that Rhode Island’s January 2013 submittal is complete for all but two of the elements specified in Sections 110(a)(1) and (2) for the 2008 ozone NAAQS.¹

Those elements not fulfilled by the January 2013 submittal, Prongs 1 and 2 of Section 110(a)(2)(D)(i)(I), address the effect of emissions in one state on nonattainment and maintenance of attainment, respectively, in downwind states (interstate transport). Although Rhode Island did not comprehensively address interstate transport in the 2013 submittal, that document noted that “analyses in support of EPA’s 2005 Clean Air Interstate Rule (CAIR) determined that emissions in Rhode Island do not significantly impact downwind nonattainment areas. In addition, all areas downwind of Rhode Island are currently designated as attainment areas for the 2008 ozone NAAQS.”

In a November 19, 2012 memo², the EPA stated that it did not intend to issue deficiency findings for those elements, the so-called “Good Neighbor” Provision, until litigation related to the vacatur of the Cross-State Air Pollution Rule (CSAPR) was resolved. This litigation has since been resolved and, on January 22, 2015, the EPA issued a memo³ and preliminary air quality modeling data⁴ to assist states in developing SIPs to fulfill the interstate transport requirements in Section 110(a)(2)(D)(i)(I) for the 2008 ozone NAAQS. In that memo, the EPA identified a methodology, similar to that used in the development of the CSAPR rule, to identify states that may significantly impact downwind nonattainment or maintenance areas. Specifically, the memo states:

¹ USEPA, Status of SIP Infrastructure Requirements, Rhode Island Infrastructure Requirements by Pollutant, Rhode Island: 110(a)(2) Ozone (2008) Infrastructure Requirements, http://www.epa.gov/oar/urbanair/sipstatus/reports/ri_infrabypoll.html#x110_a_2_ozone_2008

² Memo from Gina McCarthy, Assistant Administrator, EPA, to Air Division Directors, “Next Steps for Pending Redesignation Requests and State Implementation Plan Actions Affected by the Recent Court Decision Vacating the 2011 Cross-State Air Pollution Rule, November 19, 2012. http://www.epa.gov/airtransport/pdfs/CSAPR_Memo_to_Regions.pdf

³ Memo from Stephen D Page, Director, EPA Office of Air Quality of Planning and Standards (AQPS), to Regional Air Division Directors, “Information on the Interstate Transport “Good Neighbor” Provision for the 2008 Ozone National Ambient Air Quality Standard (NAAQS) under Clean Air Act (CAA) Section 110(a)(2)(D)(i)(I),” January 22, 2015. <http://www.epa.gov/airtransport/GoodNeighborProvision2008NAAQS.pdf>

⁴ EPA OAQPS, “Air Quality Modeling Technical Support Document for the 2008 Ozone NAAQS Transport Assessment,” January 2015. <http://www.epa.gov/airtransport/O3TransportAQModelingTSD.pdf>

CSAPR used a screening threshold (1 percent of the NAAQS) to identify contributing upwind states warranting further review and analysis. States whose air quality impact to a least one downwind problem receptor was greater than or equal to the threshold were identified as needing further evaluation for actions to address transport. States whose air quality impacts to all downwind problem receptors were below this threshold were identified as states not requiring further evaluation for actions to address transport – that is, those states had no emissions reduction obligation under the “Good Neighbor” Provision.

EPA’s January 2015 preliminary modeling analysis used the CSAPR modeling approach to assess the effects of interstate transport on attainment and maintenance of the 2008 ozone NAAQS. In that analysis, 2011 base year and 2018 projected emissions were modeled with the Comprehensive Air Quality Model with Extensions (CAMx), version 6.10 and a relative response factor (RRF), which is the fractional change in the modeled 8-hour daily maximum ozone levels between 2011 and 2018, was calculated for each ozone monitoring site from the results of those modeling runs.

EPA then used a methodology described in its draft guidance for attainment demonstration modeling⁵ to identify ozone monitoring sites that it projected would be in nonattainment or would have maintenance issues with the 2008 ozone NAAQS in 2018. That approach entails calculating the maximum and average of the monitored ozone design values for the five years centered on the 2011 base year (2009 – 2013) for each ozone monitor. Those values were multiplied by the corresponding RRFs to project average and maximum 2018 design values. Sites with average projected 2018 design value that exceeded 75 ppb, the 2008 ozone NAAQS, were identified as projected 2018 nonattainment monitors. Monitoring sites with 2018 average projected design values below the NAAQS but with 2018 maximum projected design values that exceed the NAAQS were identified as projected 2018 maintenance areas.

Using that analysis, the EPA projected that a total of 11 monitors in the eastern half of the United States would be in nonattainment of the 2008 ozone NAAQS in 2018. Two of those areas are in Connecticut, seven in Texas, and one each in Maryland and New York. 18 eastern monitors were identified as projected 2018 maintenance areas: 8 in Texas, two each in Connecticut and New Jersey and one each in Kentucky, Michigan, Missouri, New Jersey, New York, Pennsylvania and Wisconsin.

The EPA then performed nationwide state-level ozone source apportionment modeling using CAMx with the Anthropogenic Precursor Culpability Analysis (APCA) version of the Ozone Source Apportionment Technology (OSAT) apportioning schemes to quantify the contribution of 2018 emissions of oxides of nitrogen (NO_x) and volatile organic compounds (VOC) from all sources in each state to projected 2018 ozone concentrations at the identified nonattainment and maintenance monitoring sites. A state’s interstate transport impact was classified as significant if the emissions from that state were associated with ozone levels of at least 1% of the NAAQS (0.75 ppb) at a nonattainment or maintenance site in another state.

Rhode Island’s highest contribution was 0.04 ppb (0.05% of the NAAQS) to a nonattainment site and 0.03 ppb (0.04% of the NAAQS) to a maintenance site. These values are substantially below the 1% significance levels established by the EPA and, therefore, according to the January EPA guidance memo discussed above, no further evaluation or emission reductions are required

⁵EPA, “Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze- December 2014 DRAFT..” http://www.epa.gov/scram001/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf

for Rhode Island to satisfy its interstate transport obligations under the “Good Neighbor” Provision.

Questions have been raised about some aspects of the EPA methodology, e.g. the selection of 2018 as the target attainment year and the use of 2011 meteorology in the CAMx modeling. RI DEM is also aware that the EPA modeling results used for this analysis are preliminary. However, since Rhode Island’s maximum impact on problem receptors, as calculated by the EPA, was approximately 1/20th of EPA’s significance threshold, it is unlikely that a modification in the modeling methodology would change the conclusion that Rhode Island’s emissions do not contribute significantly to nonattainment or maintenance at the downwind receptors identified.

Modeling conducted in support of the CSAPR rule showed that the most substantial impact of Rhode Island emissions on ozone concentrations in other states were at receptors in eastern Massachusetts, New Hampshire and Maine. One county in those states, Dukes County in Massachusetts, is classified as a marginal nonattainment area for the 2008 ozone NAAQS; however, the 2013 and 2014 monitored design values for the monitor in that nonattainment area are substantially below the NAAQS. There are no other nonattainment areas in those states and monitored 2014 design values for all monitors were well below the NAAQS. This evidence provides further support to the conclusion that Rhode Island’s emissions do not interfere with attainment or maintenance of the 2008 ozone NAAQS in other states.

In summary, based on the methodology specified in EPA’s January 2015 memorandum and the results of the preliminary CAMx modeling that was issued with that memorandum, RI DEM certifies that air emissions from sources in Rhode Island do not contribute significantly to nonattainment or maintenance of the 2008 ozone NAAQS in other states. Monitored ozone concentrations at sites that are often downwind of Rhode Island further support this assertion.

The submittal of this document to the EPA as an amendment to the Rhode Island SIP fulfills the “Good Neighbor” Provision requirements in Section 110(a)(2)(D)(i)(I) of the CAA and completes Rhode Island’s fulfillment of the elements specified in Sections 110(a) (1) and (2) of the CAA for the 2008 ozone NAAQS. A notice of a public comment period and the opportunity to request a public hearing on the Section 110(a)(2)(D)(i)(I) Transport Certification for the 2008 Ozone National Ambient Air Quality Standard was posted on the web site of the Rhode Island Department of Environmental Management (RI DEM) and sent electronically to the RI DEM Office of Air Resource’s mailing list on May 22, 2015. Comments were accepted through June 22, 2015.