

Enclosure 4

RESPONSE TO PUBLIC COMMENTS

Proposal to Redesignate to Attainment and Establish a Maintenance Plan for the Connecticut Portion of the New York-New Jersey-Connecticut Fine Particle Nonattainment Area

Prepared Pursuant to Code of Federal Regulations Part 40, Section 51.102 Regarding Revision to the State Implementation Plan for Air Quality Hearing Officer: Michael Geigert

On March 28, 2012, the Commissioner of the Department of Energy and Environmental Protection (DEEP or the Department) issued a notice of intent to revise the State Implementation Plan (SIP) to address sections 107(d)(3)(E) and 175A of the Clean Air Act (CAA) with respect to the 1997 and 2006 fine particulate matter (PM_{2.5}) National Ambient Air Quality Standards (NAAQS). Pursuant to such notice, the opportunity for a public hearing and written comment was posted. No request for a hearing was received, thus none was held. The public comment period for the proposed SIP revision closed on April 5, 2012.

The SIP revision, if approved by the United States Environmental Protection Agency (EPA), would result in the redesignation of the Connecticut portion of the New York-New Jersey-Connecticut (NY-NJ-CT) PM_{2.5} nonattainment areas to attainment status, and the establishment of a maintenance plan to ensure continued compliance with the 1997 annual and 2006 24-hour PM_{2.5} NAAQS.

I. Overview

This report describes the revisions to the SIP as proposed for hearing, the written comments received through the public review period, the Department's responses to said comments and the Hearing Officer's final recommendations based on the proposal and comments received.

II. Summary of the SIP Revision as Proposed

The Technical Support Document (TSD) provides evidence satisfying Clean Air Act (CAA) sections 107(d)(3)(E) and 175A, which specify the requirements that must be met for the EPA to redesignate a nonattainment area to attainment status. These requirements include demonstrations that:

- The area has attained the NAAQS;
- The applicable implementation plan is fully approved under CAA section 110(k) and the area has met all applicable requirements of CAA section 110 and part D;
- The air quality improvements are due to permanent and enforceable emission reductions; and
- The area has a fully approved a maintenance plan satisfying the mandates of CAA section 175A.

The TSD also addresses each of the CAA section 175A maintenance plan requirements, including the identification of an inventory sufficient to ensure attainment, a demonstration using inventory projections that the plan provides for continued NAAQS compliance through the first 10-year maintenance period, a commitment to maintain an appropriate monitoring network, methods to track the progress of the maintenance plan and contingency measures to be implemented if verified NAAQS violations occur during the maintenance period.

III. Public Comments Received and Department Responses

The only comments received during the public review period were from Anne Arnold, Manager, Air Quality Planning Unit, EPA Region 1, Boston, Massachusetts. The comments addressed four subject areas:

1. Attainment Demonstration;
2. Clean Air Interstate Rule (CAIR);
3. Motor Vehicle Emission Budgets; and
4. Inventory Projections.

All comments submitted by EPA are reproduced below, along with the Department's responses and the Hearing Officer's recommendations.

Attainment Demonstration

1. EPA Comment: Connecticut notes in several locations in the technical support document for the redesignation request that the state submitted an attainment demonstration State Implementation Plan (SIP) to EPA in November 2008 for the annual (1997) PM_{2.5} NAAQS and EPA has not yet acted on that plan. One of the goals of Connecticut's November 2008 SIP was to demonstrate that the NY-NJ-CT nonattainment area would attain the 1997 PM_{2.5} standard by its April 5, 2010 attainment date. Subsequently, EPA issued a Clean Data Determination (CDD) on November 15, 2010 (75 FR 69589) determining that the area attained the 1997 PM_{2.5} standard based on 2007-2009 monitoring data. Among other things, this CDD suspends the requirement for Connecticut to submit an attainment demonstration for the 1997 PM_{2.5} NAAQS. Therefore, we suggest that Connecticut consider withdrawing the attainment demonstration SIP revision request, except for the state control measures that were included in that submittal.

EPA recently proposed approval of two of the rules included in that submittal, RCSA Section 22a-174-19a and revised RCSA Section 22a-174-22 (77 FR 17367; March 26, 2012), and plans to act on the other control measures (CGS 22a-174k and RCSA 22a-174-44) in the near future. Connecticut also included in that submittal a General Permit (GP) for distributed generation resources (authorized under 22a-174(k)). This GP has since expired. We understand from discussions with DEEP staff that there are no plans to renew the GP since no applications were received. Therefore, we recommend that Connecticut consider also withdrawing the GP.

Department Response: Clean Data Determinations for the PM_{2.5} NAAQS are governed by 40 CFR 51.1004(c), which states:

“Upon a determination by EPA that an area designated nonattainment for the PM_{2.5} NAAQS has attained the standard, the requirements for such area to submit attainment demonstrations and associated reasonably available control measures, reasonable further progress plans, contingency measures, and other planning SIPs related to attainment of the PM_{2.5} NAAQS shall be suspended until such time as: the area is redesignated to attainment, at which time the requirements no longer apply; or EPA determines that the area has violated the PM_{2.5} NAAQS, at which time the area is again required to submit such plans.”

Citing the November 2010 CDD ruling for the 1997 annual PM_{2.5} NAAQS, EPA suggests that Connecticut withdraw its November 2008 attainment demonstration SIP revision for the 1997 annual

PM_{2.5} NAAQS, except for adopted control measures. Based on the requirements of 40 CFR 51.1004(c), however, the Department believes withdrawing the attainment demonstration prior to the date on which EPA approves the redesignation/maintenance plan would be premature since violations measured prior to that date could result in reinstatement of the legal obligation to submit an attainment demonstration.

In light of this concern, the final TSD for the redesignation request/maintenance plan should include the Department's withdrawal of the attainment demonstration SIP. The withdrawal should specify that it will be effective one day after EPA signs the final rule approving Connecticut's redesignation request and maintenance plans. This timing ensures that either the attainment plan or the maintenance plan will be in place at all times for Connecticut's portion of the area. The Department should also specify that the withdrawal does not apply to any control measure except for the general permit described below. All other control measures should remain in the SIP to help ensure continued maintenance of the NAAQS.

EPA's comment also identifies the control measures from the attainment demonstration that have been submitted by Connecticut, but have not yet received final EPA SIP approval. The Department confirms that one of those measures, a general permit for distributed generation sources (authorized under CGS 22a-174(k) and section 102 of Public Act 07-242) has since expired, with no plans for renewal since no applications were ever received. Therefore, Connecticut is also withdrawing that general permit from consideration for SIP approval. The Department encourages EPA to issue final SIP approval for the remaining measures identified in the comment (i.e., RCSA Sections 22a-174-19a, 22a-174-22 and 22a-174-44 and CGS 22a-174(k)).

Hearing Officer Recommendation: The final TSD for the redesignation request/maintenance plan should specify that Connecticut is withdrawing the portions of the 1997 annual PM_{2.5} NAAQS attainment demonstration described above, effective one day after EPA signs the approval of Connecticut's redesignation request and maintenance plan. The TSD should also withdraw the distributed generation general permit from the SIP revision request, also described above.

Clean Air Interstate Rule (CAIR)

2. EPA Comment: Page 32 discusses Connecticut's proposal of a CAIR replacement rule. There is a typographical error in the regulation reference which should be revised to read as follows:

"On December 15, 2011, DEEP held a hearing on the proposed adoption of a new intrastate ozone season nitrogen oxides (NOx) trading program (RCSA section 22a-174-22d), which would replace the interstate Clean Air Interstate Rule (CAIR) NOx Trading Program now in effect under RCSA section 22-174-22c when CSAPR is implemented."

In addition, in the final redesignation submittal, this discussion should be updated to reflect that DEEP subsequently submitted the proposed CAIR replacement rule to EPA for approval under the SIP parallel processing procedures and EPA proposed approval of the rule on March 26, 2012 (77 FR 17367). We look forward to Connecticut's submittal of the final adopted RCSA 22a-174-22d regulation.

Department Response: The Department continues to make progress towards submitting the final adopted version of the regulation to EPA. The Department thanks EPA for identifying the typographical error located on page 32 of the TSD.

Hearing Officer Recommendation: The final TSD should be revised to correctly identify the referenced regulation as RCSA 22a-174-22d and to provide an updated status of the parallel processing efforts being carried out by the Department and EPA for that regulation.

3. EPA Comment: The discussion of Federal measures on page 29 of DEEP's proposed redesignation request notes, "Assuming CSAPR (Cross State Air Pollution Rule) is ultimately upheld by the Court, the post 2011 emission reductions will further reduce transport into Connecticut, helping to ensure continued attainment through the maintenance period." On March 1, 2012, EPA filed its brief defending CSAPR. Oral arguments are scheduled for April 13, 2012. DEEP's final version of its redesignation request should reflect the current status of CAIR/CSAPR at the time of its submittal.

Department Response: The Department is tracking developments in the CSAPR court case and will include the latest available status update in the final TSD.

Hearing Officer Recommendation: The Department should ensure that the TSD is revised to reflect the current status of the CSAPR litigation.

Motor Vehicle Emission Budgets

4. EPA Comment: As noted in EPA's "Implementation Guidance for the 2006 24-Hour Fine Particle (PM_{2.5}) National Ambient Air Quality Standards (NAAQS)," dated March 2, 2012 (hereafter, Guidance), on-road inventories and motor vehicle emissions budgets (MVEBs) should include direct PM_{2.5}, NO_x, and any other precursor emissions deemed significant by the state for their SIP. The Guidance further states that EPA does not expect that states will establish motor vehicle emissions budgets for SO₂ because on-road emission of SO₂ are at de minimis levels. Connecticut's proposal includes MVEBs for direct PM_{2.5} and NO_x, therefore implying that those are the only pollutants deemed significant for this area. Connecticut should, however, indicate if re-entrained road dust or dust from the construction of transportation projects is included in the area's direct PM_{2.5} MVEBs.

Department Response: As EPA notes, Connecticut is proposing establishment of transportation conformity-related MVEBs for direct PM_{2.5} and NO_x emitted from on-road vehicles traveling in Connecticut's portion of the NY-NJ-CT nonattainment area. Emission inventory calculations presented in Section 5.1.8 of the TSD indicate that on-road emissions of SO₂ are de minimis, comprising less than 2% of total SO₂ emissions from all source categories. MVEBs for direct PM_{2.5} do not include emissions of either re-entrained road dust or construction dust from transportation projects; however, emission estimates for both of those categories are included in the area source portion of the inventory.

Hearing Officer Recommendation: The TSD should be revised to clarify that MVEB's do not include on-road SO₂ emissions or dust emissions caused by vehicle re-entrainment or transportation construction projects, although all of these categories are included in the overall emission inventory estimates.

5. EPA Comment: The discussion of MVEBs in Section 5.1.9, including Table 5.8, "Transportation Conformity Budgets for the Connecticut Portion of the NY-NJ-CT Area" does not currently include any units for the stated budgets. In addition, a similar table, Table E-2 on page E-9 of the executive summary, does not display units. DEEP should revise these items to reference the appropriate units (presumably, tons per year).

Department Response: The MVEBs summarized in Table E-2 and Table 5.8 of the TSD should be labeled with units of tons per year. The Department appreciates EPA pointing out this oversight.

Hearing Officer Recommendation: The TSD should be revised to include unit labels of "tons/year" for Table E-2 and Table 5.8.

6. EPA Comment: DEEP's proposal includes 2009 MVEBs and 2007 emission inventory estimates for other source categories in its year 2007 annual emission inventory. Typically, however, when establishing the attainment year inventory, all inventory estimates are from the same year. The reason for this is so that the maintenance plan then demonstrates that the on-road emission estimates, when combined with emissions from other components of the inventory (point, area, and non-road emissions), would result in no greater emissions than the emissions of the attainment year inventory. In DEEP's proposal, footnote 1 on page E-8 notes that "CT elected to use 2009 emission estimates for on-road sources because they are lower than estimates for 2007..." DEEP should further substantiate this point. One way of doing this is to point to the 2007 MOVES estimates developed by MARAMA. See further discussion of MARAMA estimates in comment #8 below.

Department Response: As EPA notes, Connecticut included 2009 MOVES on-road emission estimates in the PM_{2.5} attainment year inventory, rather than using 2007 emission estimates. Connecticut did this for several reasons. First, EPA previously approved 2009 transportation conformity budgets for Connecticut that were determined using MOBILE6.2; the 2009 MOVES estimates were initially intended to replace those budgets using EPA's state-of-the art model (see EPA's next comment and the Department's response for more on this issue). Second, since on-road emissions are steadily decreasing due to fleet turnover to lower emitting vehicles, 2009 on-road emissions are lower than 2007 estimates, thus the conformity budgets used for the early years of the maintenance plan (i.e., pre-2017) would be more stringent than if 2007 estimates were used. Third, use of the lower 2009 on-road emission estimates ensures that the total attainment year inventory across all source sectors will be more conservative (i.e., lower) than if 2007 on-road emissions were used. Since emissions through the end of the maintenance period must be no higher than the attainment year inventory, this approach provides additional assurance that NAAQS compliance will continue through the maintenance period.

EPA's comment also requests that the Department provide additional evidence that 2009 on-road emission estimates are lower than estimates for 2007, suggesting a comparison between the Department's 2009 MOVES results and those developed by MARAMA for 2007. As summarized below, such a comparison indicates that on-road emissions do decline between 2007 and 2009.

MOVES On-Road Emission Estimates for Fairfield and New Haven Counties	PM_{2.5} (tons/year)	NOx (tons/year)	SO₂ (tons/year)
2007 MARAMA	815	24,384	187
2009 DEEP	794	23,391	176

Note that the 2009 DEEP estimates use updated MOVES inputs that differ slightly from those used to develop the MARAMA estimates. Nevertheless, when these results are considered together with the significant emission reductions projected by DEEP's MOVES runs through 2025 (see Tables 5.6 through 5.8 of the TSD), it is clear that on-road emissions are steadily declining.

Hearing Officer Recommendation: The Executive Summary and Section 5.1.7 of the TSD should be revised based on the discussion above to demonstrate that on-road emissions for 2009 are less than those for 2007.

7. EPA Comment: DEEP's proposal includes 2009 MVEBs. Since this redesignation request is establishing new MOVES-based MVEBs for 2017 and 2025 that are less than the attainment year on-road emissions, it is not necessary to replace the 2009 MOBILE-based MVEBs that are being withdrawn with 2009 MOVES-based MVEBs. The SIP submittal should explicitly request that the existing SIP-approved annual 2009 MVEBs of 360 tons per year (tpy) of direct PM_{2.5} and 18,279 tpy of NO_x (produced with MOBILE6) be withdrawn.

Department Response: The maintenance plan, as proposed, included MVEBs for 2009, 2017 and 2025. Several factors influenced the decision to establish multiple budget years, including:

1. The 40 CFR Part 93 requirement that MVEBs must be established for the final year of the maintenance plan (i.e., 2025);
2. The Department's desire to encourage CTDOT and local Metropolitan Planning Organizations (MPOs) to continue to pursue projects that minimize emissions and growth in vehicle miles traveled, while setting budgets at a level that could be reasonably achieved through the maintenance period (resulting in the selection of a 2017 interim year and the use of a 10% safety margin to account for future modeling uncertainties); and
3. The need (as identified in 2010) to replace the existing 2009 MOBILE6.2 MVEBs with MOVES budgets prior to the end of the MOVES grace period for conformity (originally March 2012, since extended until March 2013).

As indicated above, the initial need to replace existing 2009 MOBILE6.2 MVEBs with MOVES budgets was identified in 2010, when EPA officially released the MOVES model. Later that year, after quality assured 2009 PM_{2.5} data verified that the NY-NJ-CT area had achieved monitored attainment of the 1997 and 2006 PM_{2.5} NAAQS, states began discussing coordination of possible PM_{2.5} redesignation requests. Aiming for final EPA redesignation approval in 2011, the Department decided to include the 2009 MOVES replacement budgets as part of the maintenance plan. This approach ensured that future CTDOT/MPO conformity demonstrations of transportation plans would be restrained to an appropriate level of emissions for analysis years during the early part of the maintenance period (i.e., analysis years prior to applicability of the 2017 budgets).

Federal regulations governing transportation plans require that regional emissions estimates must include a first analysis year no more than five years beyond the year in which the conformity determination is being made. Given the delays with preparing the redesignation/maintenance plan, EPA approval of the SIP will not occur until at least the latter half of 2012. As a result, future CTDOT/MPO conformity determinations will not be required to examine emissions for analysis years prior to 2017, at the earliest. Therefore, as EPA points out in the comment, there is no longer a need for 2009 MVEBs since the maintenance plan establishes new MOVES-based MVEBs for 2017 and 2025 that are less than the attainment year on-road emissions.

Based on the discussion above, Connecticut requests that the existing SIP-approved annual MVEBs of 360 tpy of direct PM_{2.5} and 18,279 tpy of NO_x (produced with MOBILE6.2) be withdrawn. Furthermore, Connecticut's maintenance plan will establish MOVES-based MVEBs only for the years 2017 and 2025, not 2009.

Hearing Officer Recommendation: The TSD should be revised to reflect the above discussion, including a request for EPA to withdraw the existing MOBILE6.2-based annual PM_{2.5} and NO_x budgets from the PM_{2.5} SIP and to include the 2017 and 2025 MOVES-based budgets in the maintenance plan SIP.

Inventory Projections

8. EPA Comment: Tables 5.5, 5.6, and 5.7 show inventory projections for 2007, 2017 and 2025 for PM_{2.5}, NO_x, and SO₂ respectively, for the CT portion of the NY-NJ-CT PM_{2.5} area (i.e., Fairfield and New Haven counties). DEEP should expand these tables to also include similar estimates for the entire NY-NJ-CT PM_{2.5} nonattainment area to demonstrate that emissions are expected to decrease throughout the entire area. The State's redesignation request should evaluate future emissions and maintenance for the entire nonattainment area, although it is responsible for controlling the emissions only for the portion within its jurisdiction. See for example the redesignation of the Ohio portion of the multi-state Parkersburg-Marietta 8-hour ozone nonattainment area (72 FR 1956; January 17, 2007).

EPA recommends that States use the best available information from the other States in the multi-state area to evaluate whether or not multi-state future emissions would continue to attain the standard for at least 10 years after redesignation. Exhibits 7.4, 7.6, and 7.7 of Appendix A of DEEP's proposed redesignation request illustrate that such estimates for NY and NJ are available from the MARAMA modeling effort. Furthermore, NESCAUM's MOVES modeling documentation provided in DEEP's redesignation requests, "Associated 2007 Emission Inventory Appendices," implies that such estimates for NY and NJ were generated on a county-by-county basis before being consolidated into the Statewide totals found in Exhibits 7.4, 7.6, and 7.7 of Appendix A of DEEP's redesignation request. Likewise, although similar tables were not illustrated for 2025 projections, Appendix B of DEEP's redesignation request references similar county estimates would have been generated in the MOVES modeling work performed by NESCAUM and MARAMA. Alternatively, DEEP could directly contact NY and NJ regarding their emission estimates as we understand that at least NJ has drafted a redesignation request that also relies on the years 2007, 2017, and 2025.

Department Response: The Department contacted New York and New Jersey and determined that the most efficient way to provide reasonable emission estimates for the full NY-NJ-CT PM_{2.5} nonattainment area was to combine estimates for Connecticut's portion of the area (from the TSD) with estimates for the New York and New Jersey's portion of the area from the MARAMA inventories, as posted on MARAMA's ftp website. The combined emission estimates are included as tables in Section 5.1.8 of the revised TSD. Note that the Department used interpolation to provide 2017 emission estimates for both New York and New Jersey and assumed that 2025 on-road emissions for New York were identical to 2017 emissions for the non-road categories calculated using the EPA's NMIM model. The Department cautions EPA to treat these New York and New Jersey emission estimates as preliminary; both states are likely to modify these MARAMA emission estimates for one or more categories in their upcoming redesignation/maintenance SIP revisions. Nonetheless, these preliminary estimates demonstrate that PM_{2.5}-related emissions for the combined NY-NJ-CT area are expected to decline significantly through the end of the maintenance period, thus providing for continued compliance with the 1997 and 2006 PM_{2.5} NAAQS.

Hearing Officer Recommendation: The TSD should be revised to include emission estimates for the entire NY-NJ-CT area, using the best available estimates described above.

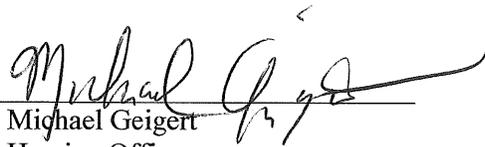
Additional Hearing Officer Recommendations

In addition to the items described above, the following minor revisions should be included in the TSD to clarify documentation of certain emission inventory procedures. None of these revisions impact emission calculations.

- Appendix I of the TSD should be revised to replace outdated documentation regarding the development of registration age distribution data used by the MOVES model (page I-24).
- A note should be added to Section 5.1.6.1 of the TSD clarifying that pleasure craft emission estimates used for the PM_{2.5} redesignation effort were based on default Connecticut equipment populations, as contained in EPA's NMIM model. The Appendix A (page 93) and Appendix C (page 73) MARAMA inventory reports indicate that equipment populations were revised based on data obtained from the National Marine Manufacturers Association (NMMA). NMIM runs using the NMMA data were not available in time to include in Connecticut's PM_{2.5} redesignation effort. Differences in emissions were determined to be insignificant relative to the total inventory, so the revised NMIM results were not included for this effort.

VI. Conclusion

I recommend that the Technical Support Document be revised as instructed above and that the PM_{2.5} Redesignation Request and Maintenance Plan package be submitted to EPA for approval as a revision to the Connecticut State Implementation Plan.


Michael Geigert
Hearing Officer

6/21/12
Date