

Enclosure D

Hearing Report

**Prepared Pursuant to
Code of Federal Regulations Part 40, Section 51.102
Regarding Revision to the
State Implementation Plan for Air Quality**

Hearing Officer: Kathleen L Knight

On June 19, 2017, the Deputy Commissioner of the Connecticut Department of Energy and Environmental Protection (DEEP) signed notice of intent to amend the State Implementation Plan (SIP) for air quality to address the Attainment Demonstration requirements for the Southwest Connecticut Nonattainment area. Pursuant to such notice, DEEP provided an opportunity for a public hearing and written comment. The hearing was held July 25, 2017 10:00-11:00 AM. Written comments were accepted through July 25, 2017.

I. Hearing Report Content

This report describes the comments received on the draft SIP through the comment period and DEEP's response. No changes to the draft SIP result from the comments received.

II. Summary of the Revisions as Proposed

The Clean Air Act (CAA) requires states to submit SIP revisions to address the requirements of CAA 172 and 182(b) to demonstrate that an ozone nonattainment area classified as moderate or worse will attain the standard by the required deadline. The proposed revision addresses the Connecticut portion of the New York-Northern New Jersey-Long Island Nonattainment area for the 2008 ozone national ambient air quality standard (NAAQS) and the SIP call regarding the 1997 NAAQS. The proposed attainment demonstration addresses all of the required elements under sections 172 and 182(b) of the CAA; specifically base and future year inventories, RACM demonstration, reasonable further progress goals, transportation conformity, photochemical modeling and contingency plans. DEEP demonstrated that overwhelming transport and consistently incomplete good neighbor SIPs from upwind states prevent Connecticut from attaining the 2008 ozone NAAQS. However, DEEP demonstrates that Connecticut is likely to measure attainment of the 1997 ozone NAAQS in the 2017 ozone season.

III. Comments and Responses

The hearing was held as scheduled; no attendees were present. DEEP received one set of written comments from EPA Region 1. No revisions were made to the SIP as a result of these comments.

IV. Summary of Comments

The comments from EPA Region 1 acknowledge that attainment with regard to the 2008 ozone NAAQS was not projected for the 2017 ozone season and that Connecticut would not be eligible for an extension when considering the preliminary 2017 data. EPA Region 1, also noted New York's recent proposal in which they requested a reclassification of the nonattainment area to the level of serious. EPA Region 1 suggests DEEP consider these actions:

- implement additional NO_x reductions at Connecticut's ports,
- expand the Lawn Equipment Exchange Fund Program,
- continue work with the Ozone Transport Commission's High Electric Demand Day workgroup to identify potential emissions reductions,
- continue trends towards increased solar capacity,
- consider a restructure of the time-of-use rate to optimize reductions in peak energy use and,
- utilize the AVERT tool to quantify existing emissions reductions from already implemented energy efficiency programs.

The full comments are attached to this hearing report.

V. Response to Comments

DEEP appreciates EPA Region 1's recommendations. DEEP has closely coordinated with New York DEC and New Jersey DEP, but, disagrees that delaying public health benefits to Connecticut's citizens is an appropriate remedy. Therefore, the reclassification to serious nonattainment is not recommended.

DEEP remains committed to addressing all necessary and achievable emissions reductions. DEEP will continue to evaluate all potential emissions reductions including those suggested by EPA Region 1. However, any resulting reductions in Connecticut would be insufficient to attain the standard. In order to achieve clean air for Connecticut's residents, EPA needs to fulfill its obligations under the CAA and implement a full remedy to outstanding good neighbor SIPs.

As such, I recommend DEEP submit the attainment demonstration as proposed.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
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July 24, 2017

Anne Gobin, Director
Bureau of Air Management
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Dear Ms. Gobin:

The Connecticut Department of Energy and Environmental Protection (CT DEEP) has proposed a State Implementation Plan (SIP) revision, entitled "8-Hour Ozone Attainment Demonstration for the Connecticut Portion of the New York- Northern New Jersey-Long Island (NY-NJ-CT) Nonattainment Area." CT DEEP also refers to this area as the NY-NJ-CT nonattainment area. EPA has reviewed the proposal and is submitting the following comments.

As you know, the primary purpose of an ozone attainment plan is to demonstrate how a nonattainment area will attain the National Ambient Air Quality Standard (NAAQS) for ozone by the area's attainment date. For the NY-NJ-CT nonattainment area, the attainment date is July 20, 2018, which means that the area must attain the 2008 ozone NAAQS of 75 parts per billion (ppb) by the end of the current ozone season. Connecticut's proposed SIP does not demonstrate attainment by July 20, 2018, nor does it indicate by when the area will attain. Based on certified ozone data from 2014-2016, the area's design value is 83 ppb (assuming EPA's concurrence on the exceptional event demonstration submitted on May 23, 2017). In addition, preliminary ozone data for 2017 appear to show that this area will not be able to attain the 2008 ozone NAAQS by its attainment date, nor meet the criteria for a 1-year extension of the attainment date under Clean Air Act (CAA) section 181(a)(5).

Furthermore, on July 19, 2017, the New York Department of Environmental Conservation (DEC) posted for public comment a proposed SIP revision which includes an attainment demonstration for the NY-NJ-CT nonattainment area.¹ As stated in that proposed SIP, the New York "DEC calls upon EPA to issue a timely reclassification to serious nonattainment for the tri-state NYMA, and to place the affected states on a schedule that would lead to attainment by the serious area deadline of July 20, 2021 (based on 2018-2020 monitored data)." CAA section 181(b)(3) provides for states to be able to seek reclassification voluntarily for areas that cannot timely attain the NAAQS, such as the NY-NJ-CT nonattainment area. The statute also requires states with multi-state nonattainment areas to coordinate their attainment planning and control strategy development for a shared area (see CAA 182(j)). EPA expects that Connecticut is closely coordinating with New York and New Jersey in its

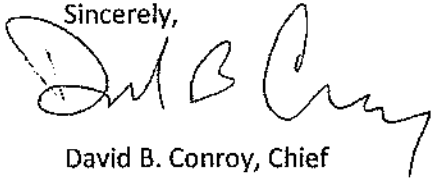
¹ See "Ozone (2008 8-Hour NAAQS) Attainment Demonstration for NY Metro Area" posted at <http://www.dec.ny.gov/chemical/110727.html>.

planning for this area and is therefore considering options such as also requesting a voluntary reclassification for this area.

Submitting a reclassification request at this time will give the states additional time to determine the amount of reductions necessary to reach attainment and to develop and adopt strategies to further reduce emissions. The additional time will also enable the nonattainment area to realize any additional emissions reductions that may be achieved by existing control strategies, including EPA's Cross-State Air Pollution Rule Update and Tier 3 Motor Vehicle Emission Standards. We recognize that Connecticut has already made significant progress in reducing emissions and we encourage the state to continue its efforts both individually and with other states as part of the Ozone Transport Commission.

Aside from the attainment demonstration, other portions of the proposed SIP revision are generally consistent with the CAA and EPA guidance. Specific comments are stated in the Enclosure. If you or your staff have any questions on these comments, please contact Richard Burkhart at 617-918-1664 regarding the attainment demonstration and Robert McConnell at 617-918-1046 regarding other portions of the proposed SIP.

Sincerely,

A handwritten signature in black ink, appearing to read "D B Conroy". The signature is written in a cursive, somewhat stylized font.

David B. Conroy, Chief
Air Programs Branch

Enclosure

cc: Kathleen Knight, CT DEEP
Rick Pirolli, CT DEEP

Enclosure

EPA's Comments on Connecticut's July 2017 Proposed Attainment Demonstration

- 1) We recommend that Connecticut consider additional NO_x emission reduction opportunities that may exist along Connecticut's coast. For example, Connecticut notes within the weight of evidence portion of the proposed attainment demonstration that the state has used Diesel Emissions Reduction Act (DERA) funding to upgrade two marine engines and replace four others. We encourage Connecticut to continue such efforts, and suggest the state consider targeting large commuter/ferry vessels that operate along the coast. For example, the ferry service operating between Bridgeport and Port Jefferson has already retrofit one of its vessels with new engines and generators, but the service operates two other vessels, the P T Barnum and the Grand Republic, which may be suitable for updating. Doing so could yield several hundred tons per year in NO_x emissions reductions.

Another example is providing shore power to marine vessels that dock at the state's ports. This could be accomplished, in part, by funding the necessary upgrades with a portion of the state's proceeds from the recent Volkswagen Diesel settlement. Emissions from marine vessels running auxiliary diesel engines while at port can emit significant amounts of NO_x and other pollutants. If this energy need can be met by power from the electrical grid instead, the resulting air emissions are likely to be considerably lower. We encourage Connecticut to review the information available within the document, "Shore Power Technology Assessment at U.S. Ports," (EPA-420-R-17-004; March, 2017), and the associated website: <https://www.epa.gov/ports-initiative/shore-power-technology-assessment-us-ports>. We note that included within these resources is a useful tool, the "Shore Power Emissions Calculator," which should be helpful in determining the emissions reduction potential of such an effort, and in determining at which ports it may be most beneficial.

- 2) Given Connecticut's long history of adopting air pollution regulations to control ozone precursor emissions, we commend Connecticut for its efforts to broaden the scope of sources from which it has sought emission reductions. For example, Connecticut has in the past obtained emission reductions from lawn and garden equipment via the Lawn Equipment Exchange Fund (LEEF) mentioned within section 4.4 of the proposed attainment demonstration. Connecticut should explore reviving this program, and expanding it to additional eligible entities. According to the 2014 national emissions inventory (NEI), in Fairfield, Middlesex, and New Haven counties, NO_x emissions were 540 tons per year and VOC emissions were 3,263 tons per year from the lawn and garden sector, and much of these emissions occur during the warmer months of the ozone season. Recent improvements in battery technology have made cleaner options for many types of lawn and garden equipment available.
- 3) Connecticut, along with other states in the Northeast, relied upon an emissions projection tool for electric generating units (EGUs) developed by the Eastern Regional Technical Advisory Group (ERTAC). The ERTAC EGU projection model is based on hourly data from EPA's Air Markets Program (AMP) and fuel specific growth rates from the Energy Information Agency and National Energy Reliability Corporation to estimate future year emissions from this sector. The June 10, 2016 technical support document for the 2011 inventory and 2017 projection available on the website for the Mid-Atlantic Regional Air Management Association (MARAMA) indicates that a key aspect of the ERTAC EGU projection model is the provision of state specific information on EGU retirements, fuel switches, new units, and controls. As noted within section 4.3 of the proposed attainment demonstration, Connecticut provided state specific inputs to the ERTAC model developers. The

resulting EGU projections for Connecticut for 2017 are reasonable when compared to base year (2011) emissions, and 2016 actual emissions from EPA's AMP database.

- 4) Projecting EGU emissions from infrequently run units, in particular those that run primarily on high electricity demand days (HEDDs), is a difficult task. As you know, emissions from such units can be significant contributors of NO_x during high ozone events. We encourage CT DEEP to continue to work with the Ozone Transport Commission's HEDD workgroup to develop sound methodologies for these projections, as well as recommendations for the implementation of control strategies to limit their impact. Additionally, we encourage CT DEEP to advocate for non-traditional ways of reducing NO_x emissions from EGUs during HEDDs, such as by increasing the amount of electricity produced by solar energy systems, and a modification of the state's existing time of use (dynamic pricing) electric rate structure.

Regarding solar energy systems, information from the National Renewable Energy Laboratory's "Open PV Project" website¹ indicates that as of 2015, approximately 3,100 MW of installed solar capacity exists within the three state area, with 2,284 MW in New Jersey, 575 MW in New York, and 249 MW in Connecticut. Given that the formation of ozone is driven in part by sunlight, the production of solar energy coincides well with meteorological conditions that may be conducive to ozone formation, and therefore solar electrical output helps reduce peak summertime electricity demand as well as the need to dispatch high NO_x emitting peaking units. Of particular significance, we note that the amount of solar capacity in the three state area has increased substantially in recent years, especially in New Jersey. According to information from the Open PV Project website, in 2010, only 239 MW of installed solar capacity existed in the three state area. A continuation of this trend towards increased solar capacity should have a meaningful impact on peak NO_x emissions during HEDD events in the region.

Regarding dynamic pricing of electricity, Connecticut's 2017 rate structure allows residential customers to choose a traditional, non-varying rate or opt into a time-of-day rate approach applied during weekdays. For example, for the period from July to December of 2017, the United Illuminated Company's time-of-day rates for generation are 10.1602 cents/kWh during peak (Noon to 8:00 pm) hours, and lowers to 6.6602 cents/kWh during non-peak hours. Alternatively, customers can choose to be billed at 7.5998 cents/kWh for all hours. Such types of "time-of-use" rate structures have typically seen relatively low adoption rates by consumers, although the Sacramento Municipal Utility District has seen considerable savings from this type of program by making the time-of-use rate the default rate for customers. Other types of rate structures, such as "critical peak pricing" programs or "critical peak rebate" programs have the potential to achieve greater energy savings. In the former, customers receive a notification that prices are expected to spike the following day, or sometime later in the current day, and can then adjust their electricity use accordingly. This program has been implemented successfully, for example, by the Arizona Public Service Company, and customers enrolled in such programs have reduced their peak electricity use by 12-50%. In the latter type program, customers that reduce their peak electricity use relative to their typical consumption are provided with rebates for each kilowatt hour reduced. This type of program is being used in the Washington D.C. and Baltimore areas, and if implemented in Connecticut, could lower electrical demand during HEDD events.

¹ <https://openpv.nrel.gov/>

- 5) Within section 4.4 of the proposed attainment demonstration, Connecticut describes the state's energy efficiency (EE) and renewable energy (RE) programs, and the impact that the EE programs have had in reducing electrical demand in the state. Connecticut notes that, "While it is complex to evaluate each program's avoided emissions, the projected cumulative effect on reducing the overall energy demand produces significant emission reductions." A footnote references ISO-New England's EE forecast for 2019-2024, but that forecast does not include a translation of energy savings into avoided emissions. We encourage CT DEEP to develop such a translation to illustrate the NOx emissions reductions of the state's EE and RE programs, and note that EPA's "AVERT" spreadsheet tool is one technique that can be used to accomplish this task.