



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R01-OAR-2025-0076; FRL-12691-01-R1]

Air Plan Approval; Connecticut; 2017 Base Year Emissions Inventory for the 2015 8-Hour Ozone National Ambient Air Quality Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing approval of State Implementation Plan (SIP) revisions submitted by the State of Connecticut that relate to the 2015 Ozone National Ambient Air Quality Standards (NAAQS). The SIP revisions are for the Greater Connecticut and the Connecticut portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT ozone nonattainment areas. The intended effect of this action is to propose approval of submittals which include a 2017 base year emissions inventory for the 2015 Ozone National Ambient Air Quality Standard. This action is being taken under the Clean Air Act.

DATES: Written comments must be received on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R01-OAR-2025-0076 at <https://www.regulations.gov>, or via email to lillis.patrick@epa.gov. or comments submitted at [Regulations.gov](https://www.regulations.gov), follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from [Regulations.gov](https://www.regulations.gov). For either manner of submission, the EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on

the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the “**For Further Information Contact**” section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>. Publicly available docket materials are available at <https://www.regulations.gov> or at the U.S. Environmental Protection Agency, EPA Region 1 Regional Office, Air and Radiation Division, 5 Post Office Square – Suite 100, Boston, MA. EPA requests that if at all possible, you contact the contact listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. The Regional Office’s official hours of business are Monday through Friday, 8:30 a.m. to 4:30 p.m., excluding legal holidays and facility closures due to COVID-19.

FOR FURTHER INFORMATION CONTACT: Patrick Lillis, Air and Radiation Division (Mail Code 5-MI), U.S. Environmental Protection Agency - Region 1, 5 Post Office Square, Suite 100, Boston, Massachusetts, 02109-3912; tel. (617)-918-1067, or by email at lillis.patrick@epa.gov.

SUPPLEMENTARY INFORMATION:

Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA.

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I. Background and Purpose

Ozone is one of the six common air pollutants identified in the Clean Air Act. Ground-level ozone forms when nitrogen oxides (NO_x) and volatile organic compounds (VOC) react in the

presence of sunlight. Referred to as ozone precursors, these two pollutants are emitted by many types of pollution sources, including motor vehicles, power plants, industrial facilities, and nonpoint¹ sources. Scientific evidence indicates that adverse human health effects occur following exposure to ozone. These effects are more pronounced in children and adults with lung disease. Breathing air containing ozone can reduce lung function and inflame airways, which can increase respiratory symptoms and aggravate asthma or other lung diseases. In 1979, in response to this scientific evidence, EPA promulgated the first ozone NAAQS, the 0.12 parts per million (ppm) 1-hour ozone NAAQS.²

EPA has strengthened the ozone NAAQS over the years. In 1997, EPA promulgated a revised ozone NAAQS of 0.08 ppm, averaged over eight hours, which it determined was more protective of public health than the 1979 standard.³ In 2008, EPA revised the 8-hour ozone NAAQS from 0.08 to 0.075 ppm.⁴ In 2015, the Agency further strengthened the 8-hour ozone NAAQS to 0.070 ppm.⁵

Effective August 3, 2018, the EPA designated as nonattainment any area that was violating the 2015 8-hour ozone NAAQS based on the three most recent years (2014-2016) of air monitoring data.⁶ With that rulemaking, the Connecticut portion of the New York-Northern New Jersey-Long Island NY-NJ-CT area was originally designated as a moderate ozone nonattainment area. This area is herein referred to as the Connecticut portion of the NY-NJ-CT area. Additionally, in that rulemaking, the Greater Connecticut area was originally designated as a Marginal ozone nonattainment area. Effective November 7, 2022, the EPA reclassified the Greater Connecticut area under the CAA from “Marginal” to “Moderate” for the 2015 8-hour ozone NAAQS.⁷ Areas that were designated as moderate nonattainment were required to attain

¹ Nonpoint sources are also sometimes referred to as area sources.

² See 44 FR 8202 (Feb. 8, 1979).

³ See 62 FR 38856 (July 18, 1997).

⁴ See 73 FR 16436 (Mar. 27, 2008).

⁵ See 80 FR 65292 (Oct. 26, 2015).

⁶ See 83 FR 25776, 25792 (June 4, 2018).

⁷ See 87 FR 60897 (October 7, 2022).

the 2015 8-hour ozone NAAQS no later than August 3, 2024, based on 2021-2023 monitoring data. Effective July 25, 2024, the EPA published a final rule granting a voluntary reclassification request to redesignate the Connecticut portion of the NY-NJ-CT area to Serious nonattainment for the 2015 8-hour ozone NAAQS.⁸ And effective July 29, 2024, EPA published a final rule granting a voluntary reclassification request to redesignate the Greater Connecticut area to Serious nonattainment for the 2015 8-hour ozone NAAQS.⁹ Serious areas are required to attain the 2015 8-hour ozone NAAQS as expeditiously as practicable, but no later than nine years from the date of the initial designation as nonattainment, *i.e.*, by August 3, 2027.¹⁰ While EPA has since reclassified both nonattainment areas in Connecticut to Serious for the 2015 8-hour ozone NAAQS, Connecticut must still meet the CAA requirements applicable to Marginal ozone nonattainment areas.

This proposed rule addresses only the base year inventory requirements related to the Marginal nonattainment classification. The CAA and its implementing regulations—in particular, the 2015 ozone NAAQS SIP Requirements Rule,¹¹ codified at 40 CFR part 51, subpart CC—establish several requirements for ozone nonattainment areas. Section 172(c)(3) of the CAA, which applies generally to states with areas classified as nonattainment for any NAAQS, requires submission of comprehensive, accurate, and current inventories of actual emissions from all sources of relevant pollutants in Marginal nonattainment areas.¹² Specific to areas classified as Marginal ozone nonattainment, section 182(a)(1) requires states to submit a base year inventory of ozone precursors (NO_x and VOC).

Emissions inventories provide data that inform a variety of air quality planning tasks. States use emissions inventories to establish baseline emissions levels, calculate emissions reduction

⁸ See 89 FR 60314 (July 25, 2024).

⁹ See 89 FR 60827 (July 29, 2024).

¹⁰ See 40 CFR 51.1303

¹¹ See 83 FR 62998 (Dec. 6, 2018). The SIP Requirements Rule established implementation requirements for the 2015 ozone NAAQS, including requirements for base year emissions inventories.

¹² See 42 U.S.C. 7502(c)(3).

targets needed to attain the NAAQS, determine emissions inputs for ozone air quality modeling analyses, and track emissions over time to determine progress toward achieving air quality and emissions reduction goals. EPA has issued guidance to assist states in developing their emission inventories; states retain the discretion to adopt approaches on a case-by-case basis that differ from that guidance where appropriate.¹³

II. Description of State’s Submittals

On May 3, 2024, Connecticut Department of Energy and Environmental Protection (CT DEEP) submitted a 2017 base year emissions inventory of ozone precursors for all areas of the State. A copy of the 2017 base year inventory is located in the docket of this proposed rulemaking.

III. The EPA’s Evaluation of Connecticut’s SIP Submittals

A. 2017 Base Year Emissions Inventory

Under CAA sections 172(c)(3) and 182(a)(1), Connecticut must submit a comprehensive, accurate, and current accounting of actual emissions of ozone precursors from all sources (point, nonpoint, on-road and nonroad mobile sources, and biogenic emissions) in both the Connecticut portion of the NY-NJ-CT area and the Greater Connecticut area. EPA's SIP Requirements Rule specifies that the inventory year shall be selected consistent with the baseline year for the Reasonable Further Progress (RFP) plan under 40 CFR 51.1210(a),¹⁴ which EPA identified as 2017.¹⁵ The rule also requires states to report “ozone season day emissions” in the base year inventory,¹⁶ as described in other EPA regulations: “Ozone season day emissions means an average day's emissions for a typical ozone season work weekday. The state shall select, subject to EPA approval, the particular month(s) in the ozone season and the day(s) in the work week to be represented, considering the conditions assumed in the development of RFP plans and/or

¹³ U.S. EPA, “Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations,” EPA-454/B-17-002 at 1 (May 2017) (hereinafter, “2017 Emissions Inventory Guidance”).

¹⁴ See 40 CFR 51.1315(a).

¹⁵ See 83 FR 62998, 63005.

¹⁶ See 40 CFR 51.1315(c).

emissions budgets for transportation conformity.”¹⁷ Based on EPA's 2017 Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations (2017 Emissions Inventory Guidance), the selected ozone season day should be representative of the conditions leading to nonattainment.¹⁸

On May 3, 2024, Connecticut submitted to EPA as a SIP revision request an emissions inventory of ozone precursors for 2017. The inventory was submitted to meet the CAA section 182(a)(3)(A) obligation to develop a base year inventory. The State conducted a public comment process on the inventory which concluded on January 26, 2024. The inventories include emission estimates in tons per summer day and represent emissions estimates from stationary and mobile source categories during a typical summer day when ozone formation is highest. The ozone emissions inventory catalogs NO_x and VOC emissions because these pollutants are precursors to ozone formation. Connecticut's 2017 emissions inventory contains emission estimates at the county level and summed to the geographic areas that correspond to the State's two Serious ozone nonattainment areas.

We propose to find that the air emission estimates for these sources were adequately accounted for in Connecticut's 2017 base year emissions inventory. The methodology used to calculate emissions for each source category followed relevant EPA guidance, most notably the May 2017 guidance entitled “Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards and Regional Haze Regulations,”¹⁹ used appropriate, documented emission factors, or relied on emission estimates prepared for EPA's National Emissions Inventory. Furthermore, the inventory submittal is sufficiently documented as to the techniques used to prepare the emission estimates.

Table 1 shows the emissions by source category, in tons per summer day (tpsd), from the 2017 base year emission inventory for each of the State's two nonattainment areas.

¹⁷ See 40 CFR 51.1300(q).

¹⁸ See 2017 Emissions Inventory Guidance, 75.

¹⁹ See 2017 Emissions Inventory Guidance

Table 1: Emissions Inventory Summary for Connecticut's Nonattainment Areas (tons/summer day)²⁰

Source	CT portion of NY-NJ-CT area		Greater CT area	
	VOC	NOx	VOC	Nox
<i>Point</i>	3.6	14.0	1.1	10.2
<i>Nonpoint</i>	52.7	6.9	53.0	6.0
<i>Onroad</i>	20.0	25.5	18.1	22.2
<i>Nonroad</i>	16.6	19.0	13.5	15.4
<i>Biogenic</i>	168.3	0.8	308.8	1.7
<i>Totals</i>	261.3	66.2	394.5	55.6

1. Point Source Emissions

Point sources are large, stationary, identifiable sources of emissions that release pollutants into the atmosphere. The SIP Requirements Rule provides that emissions from point sources shall be reported according to the thresholds of EPA's Air Emissions Reporting Requirements (AERR).²¹ The 2017 Emissions Inventory Guidance directs those preparing point source inventories to volume 2 of the Emissions Inventory Improvement Program technical report series for information on point source inventory methodology.²² This resource describes the three principal methods for estimating point source emissions as source testing, mass balance calculations, and emission factors, with a fourth method utilizing engineering calculations if the principal methods are not possible.²³

Since 2009, Connecticut requires all Title V sources that have a Title V permit or that have been specifically requested to file by CT DEEP to submit an emissions statement. Beginning in 2014, companies were required to submit their emissions statements electronically via CT DEEP's software application, EMIT. Ozone precursor emissions are collected using EMIT. The 2017 stationary source inventory is primarily based on the emissions statement submittals, which reported the source's actual 2017 emissions signed by a corporate officer who attested to the accuracy of their calculations. Facility data for the eighty-three (83) Connecticut sites are

²⁰ See CT DEEP's 2017 Emission Inventory Submittal, 1-15.

²¹ See 40 CFR 51.1315(d).

²² See 2017 Emissions Inventory Guidance, 81-82.

²³ U.S. EPA, EIIP Technical Report Series Vol. II, Ch. 1: "Introduction to Stationary Point Source Emission Inventory Development" (May 2001), 1.4-1—1.4-3.

recorded in Section 2.1 of CT DEEP's 2017 emissions inventory submittal that is located in the docket of this proposed rulemaking. Since Connecticut's base year inventory is consistent with the reporting thresholds in the AERR and uses methods for estimating emissions recommended by EPA guidance,²⁴ the base year inventory adequately addresses emissions from the point source category.

2. Nonpoint Source Emissions

Nonpoint or area source emission estimates are made for small, stationary sources of air pollution that do not emit much individually, but do have significant emissions collectively. Examples include gasoline stations, residential heating, and fuel combustion. Connecticut's area source emissions inventory identifies the source categories for which the State relied upon EPA's estimates, provides information on any adjustments made to EPA estimates, and notes which categories' emission estimates were prepared by the State. The inventory also explains how double counting between emissions from facilities inventoried as individual point sources were excluded from the area source emission estimates.²⁵ Therefore, the base year inventory adequately addresses emissions from the nonpoint source category.

3. On-Road Mobile Source Emissions

On-road mobile sources are motor vehicles (e.g. automobiles, buses, and trucks) that travel on local roads and highways. A motor vehicle is defined in 40 CFR 51.50²⁶ as "any self-propelled vehicle used to carry people or property on a street or highway". Emissions from on-road vehicles are the result of several processes, including the combustion of fuel while vehicles are starting, idling, or moving; the evaporation of fuel from the fuel system and during refueling; as well as from the wearing of brakes and tires.

To estimate on-road emissions in 2017, CT DEEP ran EPA's model MOVES2014b for all eight Connecticut counties in inventory-mode using established annual and summer day input

²⁴ See CT DEEP's 2017 Emission Inventory Submittal, 2-5.

²⁵ See CT DEEP's 2017 Emission Inventory Submittal, Section 4.

²⁶ See 40 CFR 51.50

data. EPA's Motor Vehicle Emission Simulator (MOVES) is a state-of-the-science emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics. Vehicles are classified in MOVES according to thirteen source types and five Highway Performance Monitoring System (HPMS) vehicle types. Part 3.1.1 of CT DEEP's 2017 emission inventory submittal provides an explanation and the basis for the input parameters used in MOVES2014b for the calculation and development of this emissions inventory. CT DEEP's 2017 emission inventory is located in the docket of this proposed rulemaking.

Connecticut's on-road mobile source emissions inventory methodology follows the SIP Requirements Rule²⁷ as well as EPA's 2017 Emissions Inventory Guidance²⁸. Therefore, the base year inventory adequately addresses emissions from the on-road mobile source category.

4. Non-road Source Emissions

Non-road mobile sources are comprised of non-road engines and non-road vehicles, which are respectively defined in 40 CFR 51.50²⁹ as "an internal combustion engine (including fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not affected by sections 111 or 202 of the Clean Air Act"³⁰ and "a vehicle that is run by a non-road engine and that is not a motor vehicle or a vehicle used solely for competition."³¹ These sources include vehicles, engines, and equipment used for construction, agriculture, recreation, and many other purposes. The equipment must either move under its own power or be capable of being moved from site to site. Emissions from non-road vehicles come from both exhaust and non-exhaust processes, including the combustion of fuel while vehicles are starting, idling, or moving, as well as from the evaporation of fuel from the fuel system and during refueling.

²⁷ See 83 FR 62998

²⁸ See 2017 Emissions Inventory Guidance, 89-90.

²⁹ See 40 CFR 51.50

³⁰ See CAA Section 111 and 202

³¹ See 40 CFR 51.50

To estimate non-road emissions in 2017, CT DEEP ran MOVES2014b for all eight Connecticut counties in inventory-mode using established annual and summer day input data. Connecticut's 2017 base year inventory used EPA's MOVES-Nonroad model to estimate emissions from nonroad mobile sources in the Connecticut portion of the NY-NJ-CT Nonattainment area as well as the Greater Connecticut Nonattainment Area, except for emissions from aviation, locomotives, and commercial marine vessels (CMV). Connecticut adopted EPA's 2017 NEI estimates for aviation, locomotive, and CMV emissions. See section 3.3 through 3.5 in CT's 2017 emission inventory for more information on aviation, locomotives, and CMV emission calculations. CT DEEP's 2017 emission inventory is located in the docket of this proposed rulemaking. Therefore, the base year inventory adequately addresses emissions from the non-road mobile source category.

5. Biogenic Emissions

Biogenic emissions come from natural sources. Connecticut included a 2017 inventory of biogenic emissions separate from the anthropogenic portion of the inventory. Connecticut accepted the EPA biogenic emissions estimates as published in the 2017 NEI. For more information on these estimates, please refer to Section 4.6 of the 2017 NEI v1 TSD.³² The annual estimates for this sector in 2017 are presented in Section 5 of Connecticut's 2017 emission inventory submittal. CT DEEP's 2017 emission inventory is located in the docket of this proposed rulemaking. Therefore, the base year inventory adequately addresses emissions from the biogenic source category.

6. EPA's Evaluation of the Base Year Emissions Inventory

Based on EPA's review and evaluation of the methodologies, procedures, and results in Connecticut's 2017 base year emissions inventory, we propose to find that the inventory meets the requirements of CAA sections 172(c)(3) and 182(a)(1) and the SIP Requirements Rule. The base year inventory is based on the most current and accurate information that was available to

³² See Section 4.6 of the 2017 NEI v1 TSD.

the State at the time the inventory was developed. Additionally, the 2017 inventory comprehensively addresses all source categories in the Connecticut portion of the NY-NJ-CT Nonattainment Area, as well as the Greater Connecticut Nonattainment Area and was developed consistent with the relevant EPA emissions inventory regulations, guidance, and models.

IV. Proposed Action

EPA is proposing to approve SIP submittals from the state of Connecticut for the 2017 base year emissions inventory for the 2015 8-hour ozone NAAQS for both the Greater Connecticut and the Connecticut portion of the NY-NJ-CT nonattainment areas. EPA is soliciting public comment on the issues discussed in this document or on other relevant matters. These comments will be considered before taking final action. Interested parties may participate in the Federal rulemaking procedure by submitting written comments to this proposed rule by following the instructions listed in the **ADDRESSES** section of this *Federal Register*.

V. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Clean Air Act and applicable Federal regulations. *See* 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this proposed action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);

- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it approves a state program;
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act.

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: March 20, 2025.

Karen McGuire,
Acting Regional Administrator,
EPA Region 1.