

**Connecticut Department of Energy and Environmental Protection  
Bureau of Air Management**

**Reasonably Available Control Measures and  
Reasonably Available Control Technology Analysis under the  
2015 8-Hour Ozone National Ambient Air Quality Standard**

**Reclassification to Moderate Nonattainment for the Greater Connecticut Nonattainment  
Area  
May 22, 2023**

The Connecticut Department of Energy and Environmental Protection (DEEP) has prepared this Reasonably Available Control Measures (RACM) and Reasonably Available Control Technology (RACT) analysis to demonstrate that the State has met its RACM/RACT obligations under the Clean Air Act, as amended in 1990 (CAA), for the reclassification of the Greater Connecticut area to moderate nonattainment for the 2015 ozone national ambient air quality standard (NAAQS). DEEP's most recent RACT State Implementation Plan (SIP) was submitted on December 21, 2020 for the reclassification of Connecticut to serious nonattainment for the 2008 ozone NAAQS and the initial nonattainment designations of marginal (Greater Connecticut area) and moderate (Connecticut portion of the New York-Northern New Jersey-Long Island (NY-NJ-CT)) nonattainment for the 2015 ozone NAAQS.<sup>1</sup>

This analysis recognizes the control measures now imposed and scheduled to be imposed in the three ozone seasons (2021-2023) preceding the attainment date for moderate areas of August 3, 2024.

The U.S. Environmental Protection Agency (EPA) published a final Implementation Rule for the 2015 ozone NAAQS on December 6, 2018 (83 FR 62998). In addition, EPA published a Reclassification Rule for several areas initially classified as marginal for the 2015 ozone NAAQS on October 7, 2022.<sup>2</sup> DEEP used the Implementation Rule and the Reclassification Rule, as well as earlier EPA guidance concerning RACT, as guides to make the determinations necessary to prepare this analysis.

## **I. Overview**

EPA finalized a reclassification of the Greater Connecticut nonattainment area from marginal to moderate nonattainment for the 2015 ozone NAAQS effective October 7, 2022. As a result, the entire state is classified as moderate nonattainment for the 2015 ozone NAAQS. DEEP is submitting this SIP revision to address the RACT and RACM requirements in satisfaction of

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<sup>1</sup> EPA approved that RACT SIP submission effective 28 July 2022. 87 FR 38284. [Federal Register :: Air Plan Approval; State Implementation Plan Revisions Required by the 2008 and 2015 Ozone Standards](#)

<sup>2</sup> Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date and Reclassification of Areas Classified as Marginal for the 2015 Ozone National Ambient Air Quality Standards. 87 FR 60897.

section 172(c)(1) of the Clean Air Act (CAA) and the ozone-specific requirements for moderate nonattainment areas of CAA section 182(b)(2).

For the 2015 ozone NAAQS, Connecticut was initially designated as marginal nonattainment for the Greater Connecticut nonattainment area and moderate nonattainment for the Connecticut portion of the New York-Northern New Jersey-Long Island (NY-NJ-CT) nonattainment area.<sup>3</sup> On December 21, 2020, DEEP submitted a RACT analysis to demonstrate that the State met its RACT obligations under the CAA, for the initial nonattainment designations for the 2015 ozone NAAQS. EPA approved that submission effective 28 July 2022.

Under CAA section 182(b)(2), the moderate nonattainment designation obligates DEEP to implement RACT for all major volatile organic compound (VOC) sources and nitrogen oxide (NOx) sources and for all source categories covered by a Control Techniques Guideline (CTG). In addition, Connecticut is a member of the Ozone Transport Region (OTR) and CAA Section 184(b)(2) requires that any stationary source that has the potential to emit at least 50 tons per year of VOC is considered a major stationary source and is subject to the requirements that would apply to a major stationary source in a moderate nonattainment area. Under CAA Section 182(f), states must apply the same requirements to major stationary sources of NOx as are applied to major stationary sources of VOC in ozone nonattainment areas. As a result, DEEP is required to adopt RACT for (1) all VOC sources covered by a CTG; and (2) all major non-CTG sources of NOx and VOC, where a 50 ton per year threshold determines a major source of NOx or VOC for this analysis.

Pursuant to the Reclassification Rule, DEEP must submit the RACT analysis to EPA by January 1, 2023. Any associated control measures must also be implemented by January 1, 2023. Given this limited timeframe, it is fortunate that Connecticut recently addressed RACT requirements for the 2008 and 2015 ozone NAAQS and applied RACT requirements statewide. Given these previous efforts, DEEP identifies no RACT deficiencies for the 2015 ozone NAAQS reclassification to moderate for the Greater Connecticut nonattainment area. Thus, DEEP certifies that previously adopted RACT controls approved into the SIP by EPA represent RACT control levels for the 2015 ozone NAAQS. Furthermore, DEEP is pursuing new RACT measures for the recent 2008 ozone NAAQS reclassification to severe nonattainment, which will reduce ozone precursors in Connecticut, although not in the timeframe designated in the Reclassification Rule with regard to the 2015 ozone NAAQS.

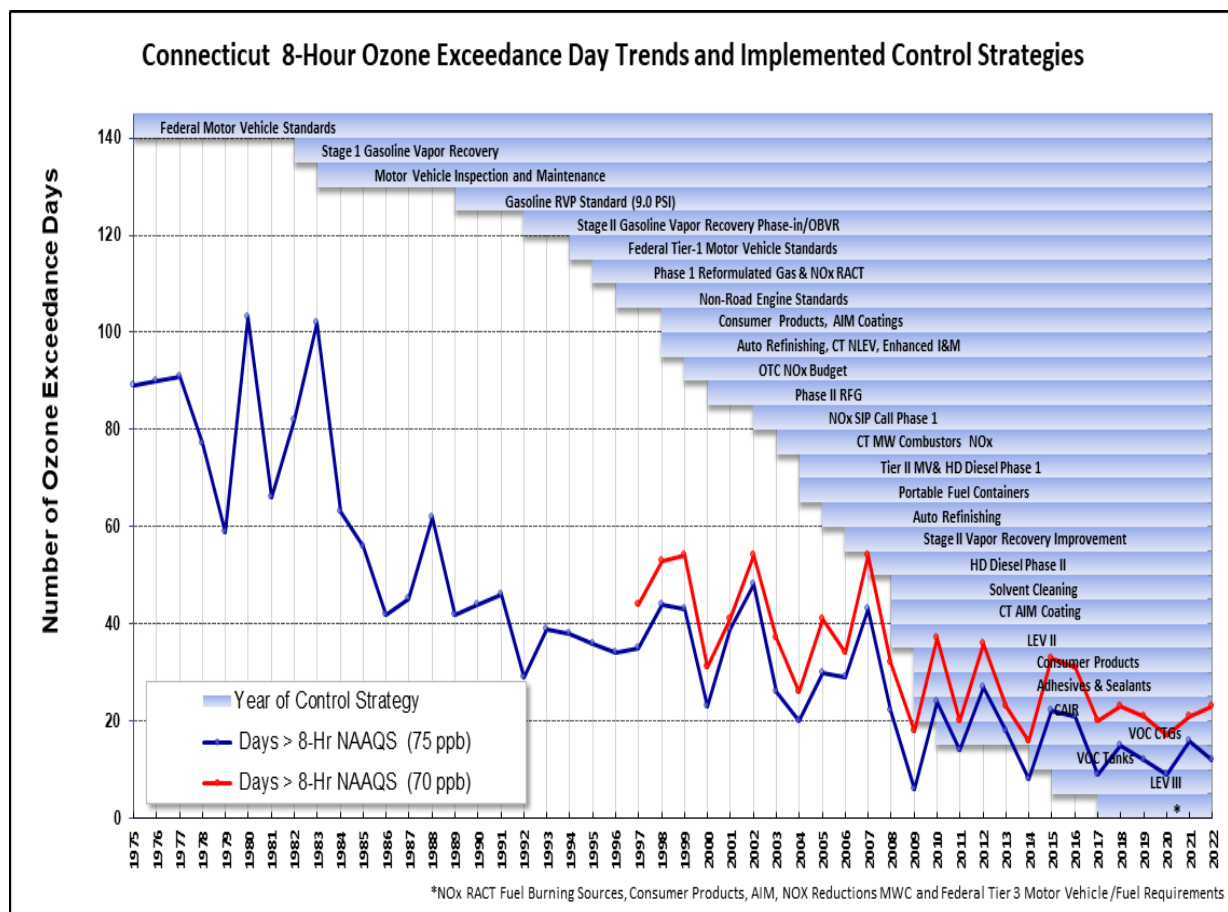
## **II. Update on Federal, Regional and State Efforts to Limit Ozone Precursor Emissions**

Numerous control measures have been adopted in Connecticut, the region and the nation, and yet Connecticut's ozone nonattainment persists, even as the number of exceedance days has reduced over time. *See* Figure 1.

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<sup>3</sup> Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards. 83 FR 25776 (June 4, 2018).

Figure 1. Connecticut 8-hour (70 pb and 75 ppb) ozone exceedance days trends and implemented control strategies.



RACT is focused on controls for major stationary sources of NO<sub>x</sub> or VOC and CTG sources. However, in-state stationary source emissions are an increasingly smaller percentage of Connecticut's emissions inventory. Table 1 is a summary of NO<sub>x</sub> emissions from all National Emissions Inventory (NEI) data categories – point, nonpoint, nonroad and on-road -- for the period 2002-2017 in Connecticut. NO<sub>x</sub> emissions have declined steadily in Connecticut from all sectors, particularly the point, nonroad and on-road. Despite decreases across all sectors, mobile source emissions (on-road and nonroad) are the largest percentage of NO<sub>x</sub> emissions in 2017.<sup>4</sup> Reductions in stationary source emissions are less important as a means to reduce ambient ozone levels. For example, Connecticut's major stationary sources emitted a mere 4,109 tons of NO<sub>x</sub> in 2021, according to Connecticut's 2021 emission statement reporting. Reported VOC emissions from major stationary sources were even lower at approximately 826 tons in 2021.

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The 2020 NEI release is scheduled for 2023, making the 2017 NEI data the most recent available.

Table 1. NO<sub>x</sub> Emissions in Connecticut for all NEI Data Categories, 2002-2017 (Tons)

NEI Category	2002	2008	2011	2014	2017	NO <sub>x</sub> Reduction (2002 – 2017)	Percent NO <sub>x</sub> Reduction (2002 – 2017)
AMPD Point	6,329	4,133	1,667	1,955	1,052	-5,277	-83%
Non-AMPD Point	7,702	4,447	4,737	4,614	4,174	-3,528	-46%
Nonpoint	15,189	17,045	16,719	15,119	13,709	-1,480	-10%
Nonroad	18,980	15,835	13,046	10,640	7,329	-11,651	-61%
Onroad	66,813	51,619	36,659	30,676	20,311	-46,502	-70%
<b>Total</b>	<b>115,012</b>	<b>93,080</b>	<b>72,828</b>	<b>63,003</b>	<b>46,575</b>	<b>-68,437</b>	<b>-60%</b>

Connecticut has few additional emission reduction opportunities from in-state sources, increasing the importance of emissions reductions from federal measures for mobile sources and pollution transported from upwind states. While in-state reductions from point sources are necessary to satisfy RACT requirements, Connecticut’s ability to attain and maintain the ozone NAAQS are largely dependent on EPA’s efforts to limit transported emissions and reduce emissions from mobile sources. Recent regional and federal activity since the submission of the last RACT SIP revision is summarized here.

#### A. Federal Efforts

EPA has acted since the submission of Connecticut’s last RACT SIP in December 2020 to address upwind emissions under the “good neighbor” provision of CAA section 110(a)(2)(D). EPA presents the Revised Cross-State Air Pollution Rule Update as a complete remedy to significant contributions to downwind air quality problems from electric generating units (EGUs) for the 2008 ozone NAAQS.<sup>5</sup> DEEP hopes that the resulting reductions in NO<sub>x</sub> emissions in upwind states will assist Connecticut in attaining the 2015 ozone NAAQS.

On March 15, 2023 EPA issued its final Good Neighbor Plan to ensure that 23 states do not significantly contribute to problems attaining and maintaining the 2015 ozone NAAQS in downwind states. EPA found this action will allow upwind states to resolve their CAA “good neighbor” obligations for the 2015 ozone NAAQS with respect to their impact on Connecticut. Although DEEP is concerned that this proposal falls short of fulfilling EPA’s obligations to address ozone transport, DEEP acknowledges EPA’s efforts to expand applicability beyond the electric generating sector and notes the rule is a significant step forward and will provide a partial remedy to interstate transport from stationary sources for the 2015 ozone NAAQS.

Since 2020, EPA made two proposals to further reduce emissions from the oil and natural gas industry.<sup>6</sup> While these proposals will significantly reduce greenhouse gas emissions, if finalized,

<sup>5</sup> Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS. 86 FR 23054 (April 30, 2021).

<sup>6</sup> Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (86 FR 63110, November 15, 2021).

they will also reduce VOC emissions from new, modified, and reconstructed facilities and establish new limits for currently unregulated facilities. While the adoption of these proposals will not create significant in-state reductions in ozone precursors, they will reduce emissions of VOCs in upwind states and assist to some degree in reducing ozone transport to Connecticut.

For mobile sources, EPA has finalized more stringent NO<sub>x</sub> emission standards for heavy-duty commercial vehicles.<sup>7</sup> EPA has also issued waivers of preemption under Section 209(b) of the CAA for four California mobile source programs and standards.<sup>8</sup> Finally, EPA proposed new standards for light- and medium-duty vehicles starting with model year 2027.<sup>9</sup> While Connecticut has adopted California's light-duty vehicle standards which are generally more stringent than the federal program, Connecticut welcomes additional mobile source related reductions in upwind states that have not adopted the California low emissions or zero emissions vehicle programs.

## **B. Regional Efforts**

Connecticut participates in the Ozone Transport Commission (OTC). Since the 2020 RACT SIP submission, OTC has issued a report<sup>10</sup> on municipal waste combustor (MWC) emissions demonstrating that additional NO<sub>x</sub> controls are technically feasible and cost effective for many units in the Ozone Transport Region. As a result of the recommendations in the report, the member states also entered into a memorandum of understanding agreeing to work together to pursue additional NO<sub>x</sub> reductions from MWCs in the region.

## **C. Connecticut's Efforts Including Reasonably Available Control Measures**

This section provides a discussion of RACM for attainment of the reclassification to moderate non-attainment for the 2015 ozone NAAQS. A RACM analysis includes point, area and mobile source measures. Measures that are considered RACM are readily implemented, economically feasible, technically feasible and advance the attainment date or are necessary for reasonable further progress. A subset of RACM are RACT measures, which are the NO<sub>x</sub> and VOC measures that implement a RACT level of control on a stationary source or stationary source category. RACT is limited to VOC sources subject to a CTG and major NO<sub>x</sub> and VOC sources.

To be considered RACM for this analysis, a measure must produce emissions reductions in 2021-2023 ozone seasons. This timeframe limits the RACM analysis to measures already scheduled for implementation in the 2023 ozone season.

Connecticut has adopted all reasonable measures to reach attainment as expeditiously as may be practicable. No additional reasonably available measures alone or in conjunction with measures now implemented or scheduled for implementation would advance the attainment date by a minimum of one year.

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<sup>7</sup> *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards*. 88 FR 4296 (January 24, 2023).

<sup>8</sup> Notice of Decision, 88 FR 20688 (April 6, 2023).

<sup>9</sup> April 12, 2023. Pre-publication version: [Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles – Proposed Rule \(April 7, 2023\) \(epa.gov\)](#)

<sup>10</sup> Ozone Transport Commission, Municipal Waste Combustor Workgroup Report. April 2022 (Revised). [MWC Report revised 20220425.pdf \(otcair.org\)](#)

### Stationary Sources

For stationary sources, the only RACM for this analysis is the Phase 2 emission limits of Regulations of Connecticut State Agencies (RCSA) section 22a-174-22e. The Phase 2 emission limits have a compliance date of June 1, 2023 and apply to fuel-burning equipment (boilers, turbines and engines) at facilities that are major sources of NOx. A number of source owners will comply earlier in order to ensure compliance when required.

No additional measures could reasonably be adopted in the time allowed for the implementation of measures for the reclassification to moderate nonattainment for the Greater Connecticut nonattainment area.

### Mobile Source Efforts Since 2020 for the Moderate Area RACM

This portion of the RACM analysis updates the mobile source measures beyond transportation control measures identified in the 2020 submission addressing the moderate nonattainment reclassification for the Connecticut portion of the NY-NJ-CT nonattainment area. While DEEP is pursuing other mobile source measures, the lead time is such that they will not produce emissions reductions during the 2021-2023 ozone seasons.

The four programs listed below will result in more electric and lower emission vehicles being driven in Connecticut. While some of these programs are aimed at achieving the state's greenhouse gas reduction goals, the programs will yield reductions in NOx and/or VOC emissions and thus will assist in attaining the 2015 ozone NAAQS statewide as expeditiously as possible, but these measures are not sufficient to advance the attainment date for the Greater Connecticut area by one year. These emissions reductions in the 2021-2023 period will be used to determine attainment, which is required by August 3, 2024. DEEP is not aware of additional mobile source measures that may be implemented in time to be considered RACM for the 2015 ozone NAAQS.<sup>11</sup>

- **VW Settlement.** Through three partial settlements, EPA resolved a civil enforcement case against Volkswagen (VW) for installing defeat devices. As a result of these partial settlements, Connecticut was allocated over \$55 million for use in projects to reduce NOx emissions from mobile sources. In 2019, 15 projects were funded. These projects together achieve a lifetime NOx reduction of 67.6 tons and a lifetime VOC reduction of 4.1 tons. DEEP just completed the third round of grants, which focused on electrification. DEEP awarded \$12.7 million for 43 new electric school buses in environmental justice communities plus an electric gantry crane to replace a 1973 diesel-powered crane at the Port of New Haven. These projects, which will be completed by June 30, 2023, are estimated to reduce 28.71 tons of NOx and 2.3 tons of VOC over their lifetime.
- **Diesel Emission Reduction Act (DERA) Grants.** The DERA program is designed to achieve reductions in diesel emissions. Awards made under the DERA program in 2017 and 2018 created NOx emissions reductions of an estimated 1,703 tons. Awards of 2019 funds were made in January 2020. NOx reductions of about 23 tons are available from these awards if implemented as planned. The total of all projects awarded under the 2021 Connecticut DERA Grant program are expected to yield lifetime NOx reductions of

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<sup>11</sup> DEEP is pursuing other measures, such as California medium and heavy-duty vehicle standards, which were authorized by Public Act 22-25. However, the program will not be implemented until after the 2023 ozone season.

168.23 tons. Much of the new equipment purchased with 2021 funds will be in service in the 2023 ozone season.

- EV Connecticut. Widescale electric vehicle (EV) deployment is a primary solution for achieving the state’s statutorily required economy-wide greenhouse gas reduction targets. While EV deployment is considered primarily a greenhouse gas measure, it will also achieve ancillary reductions in ozone precursor emissions. EV Connecticut makes information available to Connecticut residents, businesses and government to encourage the introduction of more electric vehicles in Connecticut. The program also has funded charging stations. As of March 31, 2022, the state had 1,236 outlets and 387 Level 2 charging stations plus 48 Level 2 TESLA charging stations.
- Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR) is a statutory incentive program that provides a payment to a Connecticut resident who purchases or leases a new eligible battery electric, plug-in hybrid electric or fuel cell electric vehicle. The program began providing incentives in May 2015. An expanded version of the CHEAPR program began January 1, 2020, which also allows rebates for used eligible vehicles. From May 2015 through June 2022, the program issued 8,238 rebates for 4,396 plug-in hybrid electric vehicles and 3,842 highway capable electric vehicles.

### **III. RACT Analysis**

This section sets out DEEP’s analysis of its RACT requirements for CTG sources and major sources of NO<sub>x</sub> and VOC. Connecticut’s current regulatory requirements accomplish a RACT level of control for both VOC and NO<sub>x</sub>. DEEP has identified no RACT deficiencies for the reclassification to moderate nonattainment for the Greater Connecticut nonattainment area for the 2015 ozone NAAQS.

#### **A. CTG Sources**

In the 2020 RACT SIP submission, DEEP included a table that listed current CTG documents and identified the corresponding regulations Connecticut adopted to achieve emissions reductions equivalent to the CTG documents. Since the submission of the 2020 RACT SIP, EPA has not published any new CTGs. The information submitted in 2020 has been reviewed and recertified as an accurate representation of the regulatory requirements that achieve CTG-equivalent reductions. That information is set out in Table 2.

Connecticut notes that the requirements for Stage I vapor control systems are more protective than those of the applicable CTG, which was published in 1975. RCSA section 22a-174-30a includes a requirement for a CARB-approved pressure/vacuum vent valve, which is more stringent than the 1975 CTG or 40 CFR 63, subpart CCCCCC.

Connecticut did not receive any comments disagreeing with the conclusion that Connecticut has adopted VOC controls consistent with the current CTGs.

#### **B. Major Non-CTG Sources of NO<sub>x</sub> and VOC**

According to the Reclassification Rule, the state is required to conduct a RACT analysis for each major stationary source of NO<sub>x</sub> or VOC as well as all sources subject to a CTG. “Major

stationary source” is defined in CAA Section 302, and the definition is modified by CAA Section 182 according to the classification of the ozone nonattainment area in which the stationary source is located. In addition, Connecticut is in the Ozone Transport Region (OTR) and subject to CAA Section 184. Because Connecticut is in the OTR and classified as moderate nonattainment for the 2015 ozone NAAQS, 50 tons per year of NO<sub>x</sub> or VOC is the threshold used in this analysis to define a “major source.” As DEEP just completed an analysis with a 50 ton per year threshold in 2020, and as the control technologies available have not changed substantially in the intervening time, DEEP has identified no new control technologies that have become reasonably available since 2020 for sources emitting 50 tons per year or more. Furthermore, major sources of NO<sub>x</sub> and VOC are controlled to at least a RACT level due to permitting and other regulatory requirements, including RCSA sections 22a-174-22e, 22a-174-38, 22a-174-20, 22a-174-30a and 22a-174-32.

In addition to RACT, individual sources may also be subject to more stringent technology control measures such as lowest achievable emissions rate (LAER), best available control technology (BACT) and maximum achievable control technology (MACT). LAER, applicable to new and modified major sources located in nonattainment areas, is the lowest achievable emission rate of the nonattainment pollutant that can be achieved by the source without respect to cost. BACT, or best available control technology, is applicable to new and modified sources located in attainment areas. BACT may be less stringent than LAER because consideration is given to energy, environmental and economic impacts, as well as other costs when evaluating the lowest emission rate. MACT, or maximum achievable control technology, is generally applicable to major sources of hazardous air pollutants. MACT is the control achieved by the best performing twelve percent of sources in a source group. For sources emitting volatile organic hazardous air pollutants subject to MACT, EPA has historically allowed states to rely on MACT standards for the purpose of showing that a source has met VOC RACT.<sup>12</sup> BACT and LAER determinations are made prior to construction as part of the new source review (NSR) permitting process. Under the federal National Emissions Standards for Hazardous Air Pollutants, the requirement to implement MACT-based controls applies directly to owners of major sources of hazardous air pollutants.

Each of these control requirements, LAER, BACT and MACT, at the time of review, would necessarily be more stringent than RACT. These control requirements would also be applied at thresholds, at least in Connecticut, equal to or lower than the major source threshold required for this RACT analysis.<sup>13</sup> As these controls are generally more stringent, it is unlikely that any source that has recently undergone one of these control technology reviews would not meet RACT. Furthermore, to the extent that a source has undergone one of these reviews, it is generally unlikely that the marginal reductions achievable through further control measures will be cost effective, unless existing control equipment may be optimized to meet a lower emission

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<sup>12</sup> *Implementation of the 2008 NAAQS for Ozone: State Implementation Plan Requirements*. 80 FR 12264 at 12279 (March 6, 2015). In the final Implementation Rule for the 2015 ozone NAAQS [83 FR 62998 at 63007 (December 6, 2018)], EPA states that “the final 2008 Ozone NAAQS SIP Requirements Rule provides an extensive discussion of the EPA’s rationale and approach for how air agencies can provide for RACT in their nonattainment SIPs.”

<sup>13</sup> By regulation in Connecticut, each source is located in either a serious or a severe ozone non-attainment area. See, RCSA section 22a-174-1, definitions of “serious non-attainment area for ozone” and “severe non-attainment area for ozone.” As a result, major source thresholds for NO<sub>x</sub> and VOC are 50 and 25 tons per year. See also the definition of “major stationary source” in RCSA section 22a-174-1.



limit that has become RACT since the installation of the control equipment. Otherwise, only in cases where the technology review is significantly outdated and the source has sufficient actual emissions and useful life remaining, is it plausible that a reevaluation of RACT, the control measure with the least associated burden, will be warranted. This is not the situation in Connecticut given the relatively recent adoption of the updated NO<sub>x</sub> control requirements for municipal waste combustors (August 2, 2017 compliance date) and fuel-burning sources (initial compliance date of June 1, 2018; second phase compliance date of June 1, 2023).

Table 3 lists the major sources of NO<sub>x</sub> and VOC located in Connecticut.<sup>14</sup> The list was obtained by reviewing the list of sources for which a Title V permit has been issued.<sup>15</sup> Because the Title V major source thresholds are based on the non-attainment designations under the 1-hour ozone NAAQS, namely 25 tons per year potential to emit in the Connecticut portion of the NY-NJ-CT nonattainment area and 50 tons per year potential to emit in Greater Connecticut, the active Title V sources were reduced to only those sources with a potential to emit more than 50 tons per year of VOC or NO<sub>x</sub>. Sources that are operated under RCSA section 22a-174-33a or section 22a-174-33b are not included on the list because the potential emissions of sources subject to these regulations are limited below 25 tons per year in the NY-NJ-CT nonattainment area and 50 tons per year in Greater Connecticut. In general, all major sources of NO<sub>x</sub> are regulated under RCSA section 22a-174-22e while stationary sources of VOC are regulated by RCSA sections 22a-174-20 and 22a-174-32. RCSA section 22a-174-32 explicitly regulates major sources of VOC for the purpose of implementing RACT and allows DEEP to conduct individual RACT analyses for sources.

Many of the sources listed in Table 3 are subject to a NSR permit and have therefore been required to implement BACT or LAER levels of control, as appropriate, to the source at the time of determination. While some facilities listed in Table 3 include older equipment that is subject to a registration rather than a NSR permit, RCSA sections 22a-174-20, -22e and -32 apply to sources independent of permitting status, thus ensuring that each source in Table 3 is subject to a level of control that was RACT at the time the requirements were adopted.

RCSA section 22a-174-22e for NO<sub>x</sub> emissions from fuel-burning equipment satisfies RACT for the 2015 ozone NAAQS. The NO<sub>x</sub> standards of RCSA section 22a-174-22e are not yet fully implemented as compliance with the Phase 2 standards begins on June 1, 2023, and all compliance options expire as of May 1, 2028, requiring all equipment operating under a compliance option to meet the applicable Phase 2 standard or shutdown. The standards in RCSA section 22a-174-22e compare favorably with the NO<sub>x</sub> emission limits required in other states for all categories of fuel-burning equipment. *See* Table 4.<sup>16</sup> For municipal waste combustors, the NO<sub>x</sub> emission limits of RCSA section 22a-174-38 are stringent and are under consideration for revision to an even lower limit given the OTC's *Memorandum of Understanding Among the*

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<sup>14</sup> Although this analysis is focused on the reclassification of the Greater Connecticut nonattainment area, the list is provided for the entire state.

<sup>15</sup> A list of all active Title V permits is maintained on DEEP's website: [Title V Operating Permit Program \(ct.gov\)](https://www.deep.ct.gov/TitleV)

<sup>16</sup> DEEP also regulates high-emitting equipment at non-major sources of NO<sub>x</sub> through RCSA section 22a-174-22f.

*States of the Ozone Transport Commission to Pursue Additional Reductions of Oxides of Nitrogen Emissions from Municipal Waste Combustors.*<sup>17</sup>

A number of VOC and NO<sub>x</sub> control regulations ensure that a RACT level of control is required in the state. The principle RACT regulations include: RCSA section 22a-174-20, control of organic compound emissions; RCSA section 22a-174-22e, control of nitrogen oxides emissions from fuel-burning equipment at major stationary sources of nitrogen oxides; RCSA section 22a-174-30a, Stage I vapor recovery; RCSA section 22a-174-32, RACT for organic compound emissions; and RCSA section 22a-174-38, municipal waste combustors.

The control technologies available for controlling NO<sub>x</sub> and VOC have not changed significantly since the submission of the RACT SIP in 2020. Furthermore, some of Connecticut's recent regulatory revisions have been NO<sub>x</sub> RACT-based updates to emissions requirements such as the amendment of RCSA section 22a-174-38 (August 2, 2017 compliance date) and the adoption of RCSA sections 22a-174-22e and -22f (Phase 1 compliance date of June 1, 2018; Phase 2 compliance date of June 1, 2023). VOC RACT has been addressed via CTG-based requirements set out largely in RCSA section 22a-174-20. Stage I vapor recovery is addressed in RCSA section 22a-174-30a.

### **C. Control Measures for the 2015 Ozone NAAQS Reclassification to Moderate Nonattainment in the Greater Connecticut Non-attainment Area**

In the Reclassification Rule, EPA set a deadline of January 1, 2023 for submission of SIP revisions for newly reclassified Moderate areas and RACT/RACM implementation. DEEP considers its existing regulations adequate for RACT for the reclassification of the Greater Connecticut area to moderate nonattainment for the 2015 ozone NAAQS. Connecticut submitted a RACT analysis for the initial classification of moderate nonattainment for the 2015 ozone NAAQS for the Connecticut portion of the NY-NJ-CT nonattainment area in 2020.<sup>18</sup> As discussed in that 2020 SIP revision, the Phase 2 emission limitations of RCSA section 22a-174-22e serve as RACT for the moderate classification for both of the state's nonattainment areas. After comparing Connecticut's NO<sub>x</sub> regulatory emission limits with those of other states (see Table 4), DEEP has determined that the scheduled emission limits continue to establish a RACT level of control.<sup>19</sup>

The Phase 2 emission limits have a compliance date of June 1, 2023, the last ozone season considered in determining attainment as of August 3, 2024 for the moderate classification. Some owners and operators of the regulated fuel-burning equipment are in compliance with the Phase 2 limits now given the June 1<sup>st</sup> compliance date. As this regulation applies statewide to all fuel-burning equipment, it regulates a large cross-section of source categories and will serve as

<sup>17</sup> See [MOU22-01 OTC\\_MWC\\_MOU\\_20220602\\_final\\_signed.pdf \(otcair.org\)](#) The analysis that resulted in the MOU is set out in Municipal Waste Combustor Workgroup Report. [MWC Report\\_revised 20220425.pdf \(otcair.org\)](#)

<sup>18</sup> EPA approved that submission effective July 28, 2022. Air Plan Approval; State Implementation Plan Revisions Required by the 2008 and 2015 Ozone Standards. 87 FR 38284. [Federal Register :: Air Plan Approval: State Implementation Plan Revisions Required by the 2008 and 2015 Ozone Standards](#)

<sup>19</sup> Furthermore, the only Phase 2 case-by-case emission limitations approved are those from the former NRG companies, which were submitted in the 2020 SIP. Such approved case-by-case determinations will not undermine the effectiveness of the Phase 2 emission limitations.

RACT for such source categories and reduce NO<sub>x</sub> emissions in the Greater Connecticut ozone nonattainment area. While the Phase 2 emission limitations will produce some reduction in NO<sub>x</sub> emissions, the amount will not be sufficient to bring the Greater Connecticut non-attainment area into attainment for the 2015 ozone NAAQS, even in conjunction with mobile source reductions, given the overwhelming impact of transported emissions.

RACT determinations made in 2020 for the 2015 ozone NAAQS are still applicable in 2022 since the same control techniques are still applicable. Any possible additional emissions reductions would be small and not meaningfully contribute to attainment, and the cost of that small additional increment of reduction would not be reasonable. Even though Connecticut's persistent nonattainment is due largely to transport from upwind states,<sup>20</sup> DEEP is pursuing additional measures to reduce in-state emissions for the reclassification to severe non-attainment in the Connecticut portion of the NY-NJ-CT non-attainment area for the 2008 ozone NAAQS. None of these additional measures under consideration will result in emissions reductions within the timeframe necessary to be considered RACT or RACM for the moderate reclassification for the 2015 ozone NAAQS.

DEEP expects to pursue lower NO<sub>x</sub> emission limits for municipal waste combustors in RCSA section 22a-174-38. This effort is prompted by the OTC's Municipal Waste Combustor Workgroup Report (April 25, 2022) and the June 2, 2022 Memorandum of Understanding. Should DEEP be successful in this effort, it will qualify as RACT for the reclassification to severe non-attainment for the 2008 ozone NAAQS in the Connecticut portion of the NY-NJ-CT non-attainment area.

In addition, DEEP is re-examining the level of control required in RCSA section 22a-174-20(a) for aboveground bulk gasoline storage tanks given that several states<sup>21</sup> have improved their control of VOCs for this source category, particularly by requiring controls during degassing, tank cleanings or roof landings.

DEEP also has announced that it will be changing its regulatory definition of "severe non-attainment area for ozone" to more closely match EPA's identification of the Connecticut portion of the NY-NJ-CT non-attainment area. This change will add forty-three towns to the severe non-attainment area. This will increase the number of major sources of NO<sub>x</sub>, and these new major sources will be subject to RCSA section 22a-174-22e. While not considered a RACT measure because the emissions limitations are not changing, the increase in the number of sources subject to RACT should result in some overall reduction in NO<sub>x</sub> emissions.

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<sup>20</sup> EPA modeling estimates that almost 95% of high ozone levels at Connecticut's worst-case monitor (in Westport) are due to emission sources outside of Connecticut's ability to control. *See, e.g.*, Notice of Availability of the Preliminary Interstate Ozone Transport Modeling Data for the 2015 Ozone National Ambient Air Quality Standard (82 FR 1733; January 6, 2017).

<sup>21</sup> *See, e.g.*, Maine, Chapter 171 Control of Petroleum Storage Facilities.  
<https://www.maine.gov/dep/rules/#6410154>

#### **IV. Conclusion**

Connecticut's existing regulatory programs continue to apply a RACT level of control to major stationary sources of NO<sub>x</sub> and VOC and CTG sources in Connecticut. A number of characteristics of these regulatory programs contribute to the continued adequacy of Connecticut's requirements for the reclassification of moderate non-attainment in the Greater Connecticut area for the 2015 ozone NAAQS:

- Connecticut maintains a stringent control level given Connecticut's longstanding nonattainment designations from the 1979, 1997 and 2008 NAAQS and the RACT reviews associated with each standard and each reclassification. These controls, which have been periodically reviewed and renewed, continue to result in at least a RACT level of control for the 2015 ozone NAAQS reclassification to moderate nonattainment.
- Major source applicability thresholds for NO<sub>x</sub> and VOC are maintained at 50 tons per year except in portions of Fairfield and Litchfield counties where the threshold is 25 tons per year.
- DEEP has adopted regulatory controls for every source category existing in the state for which a CTG has been issued. No new CTGs have been promulgated since the 2020 RACT submission.
- Connecticut continues to work with other OTC states to identify and develop additional opportunities to reduce emissions of NO<sub>x</sub> and VOC.

Table 2. List of Issued CTGs and Connecticut Regulatory Requirements Corresponding to Each Listed CTG.

<b>CTG Category</b>	<b>CTG Document</b>	<b>Applicable Connecticut Regulation or Statute</b> <i>Regulations of Connecticut State Agencies (RCSA), unless otherwise noted</i>	<b>SIP Approval of Connecticut Regulation or Negative Declaration</b> <i>Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation</i>	<b>Comments</b>
Aerospace	Aerospace (CTG & MACT) (see 59 FR 29216, June 6, 1994); CTG (Final), EPA-453/R-97-004, December 1997.	22a-174-32 Reasonably Available Control Technology (RACT) for volatile organic compounds. 22a-174-20(s) Miscellaneous Metal and Plastic Parts Coating	11/18/93 3/10/99 64 FR 12024 ..... (c)(76) 8/27/99 10/19/00 65 FR 62624 ..... (c)(84) 4/29/10 06/09/2014 79 FR 32873 (c)(103)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Automobile Coating	<a href="#">Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings</a> (PDF 44 pp, 2.64MB) EPA 453/R-08-006-2008/09 And <a href="#">Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat Operations</a> (PDF 129 pp, 450KB) EPA 453/R-08-002-2008/09	Not Applicable	Certification of no automobile and light duty truck assembly coating sources  40 CFR 52.375(b)(1), (g)(3), (h)(1)	Connecticut reaffirms that no sources meeting the description of this CTG category are operating within the State.
Cutback Asphalt	Control of Volatile Organic Compounds from Use of Cutback Asphalt, EPA-450/2-77-037, December 1977	<i>22a-174-20(k) Restrictions on cutback asphalt</i>	10/10/80 1/17/82 47 FR 762 ..... (c)(20) 12/13/84 7/18/85 50 FR 29229 ..... (c)(34) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58) 12/29/2008; 8/22/12; 77 FR 50595; ... (c)(100)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Dry Cleaning (Large Petroleum)	Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners, EPA-450/3-82-009, September 1982	Not Applicable	40 CFR § 52.375 (a), (b)(2), (h)(2) Certification of no large petroleum dry cleaner sources.	Connecticut reaffirms that no sources meeting the description of this CTG category are operating within the State.

<b>CTG Category</b>	<b>CTG Document</b>	<b>Applicable Connecticut Regulation or Statute</b> <i>Regulations of Connecticut State Agencies (RCSA), unless otherwise noted</i>	<b>SIP Approval of Connecticut Regulation or Negative Declaration</b> <i>Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation</i>	<b>Comments</b>
Fabric Coating	Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977.	22a-174-20(o) Fabric and vinyl coating.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Fiberglass Boat Manufacturing	<a href="#">Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials</a> (PDF 41 pp, 336KB) EPA 453/R-08-004-2008/09	Not Applicable	<i>40 CFR 52.375(g)(2), (h)(2) Certification of no fiberglass boat manufacturing materials sources.</i>	Connecticut reaffirms that no sources meeting the description of this CTG category are operating within the State.
Flexible Package Printing	<a href="#">Control Techniques Guidelines for Flexible Package Printing</a> (PDF 33 pp, 216KB) EPA-453/R-06-003-2006/09	22a-174-20(ff), Flexible package printing	4/06/10 6/9/14 79 FR 32873 (c)(102)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Bulk Gasoline Plants	Control of Volatile Organic Emissions from Bulk Gasoline Plants, EPA-450/2-77-035, December 1977	22a-174-20(b) Loading of gasoline and other volatile organic compounds.	4/4/72 5/31/72 37 FR 23085 ..... (b). 8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/10/80 2/17/82 47 FR 6827 ..... (c)(25) 4/1/98 10/19/00 65 FR 62624 ..... (c)(84) 9/24/83 3/21/84 49 FR 10542 ..... (c)(32) 12/13/84 7/18/85 50 FR 29229 ..... (c)(34) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58) 4/1/98 10/19/00 65 FR 62624 ..... (c)(84) 07/08/2015 12/15/2017 82 FR 59519 (c)(117)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.

<b>CTG Category</b>	<b>CTG Document</b>	<b>Applicable Connecticut Regulation or Statute</b> <i>Regulations of Connecticut State Agencies (RCSA), unless otherwise noted</i>	<b>SIP Approval of Connecticut Regulation or Negative Declaration</b> <i>Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation</i>	<b>Comments</b>
Graphic Arts	Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VIII: Graphic Arts - Rotogravure and Flexography, EPA-450/2-78-033, December 1978.	22a-174-20(v) Graphic arts rotogravures and flexography.	10/10/80 2/17/82 47 FR 6827 ..... (c)(25) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58) 11/18/93 3/10/99 64 FR 12024 ..... (c)(75) 8/1/95 10/19/00 65 FR 62624 ..... (c)(84)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Industrial Adhesives	<a href="#">Control Techniques Guidelines for Miscellaneous Industrial Adhesives</a> (PDF 47 pp, 350KB) EPA 453/R-08-005-2008/09	22a-174-44, Adhesives and sealants	11/18/08 6/9/14 79 FR 32873 (c)(103)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Large Appliances	<a href="#">Control Techniques Guidelines for Large Appliance Coatings</a> (PDF 44 pp, 374KB) EPA 453/R-07-004-2007/09	22a-174-20(hh), Large appliance coatings	4/29/10 6/9/14 79 FR 32873 (c)(103)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Magnet Wire	Control of Volatile Organic Emissions from Existing Stationary Sources, Volume IV: Surface Coating for Insulation of Magnet Wire, EPA-450/2-77-033, December 1977	22a-174-20(r) Wire coating.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Metal Coil, Container and Closure	Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977.	22a-174-20(m) Can coating; 22a-174-20(n) Coil coating.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Metal Furniture	<a href="#">Control Techniques Guidelines for Metal Furniture Coatings</a> (PDF 100 pp, 293KB) EPA 453/R-07-005-2007/09	22a-174-20(p) Metal furniture coating.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the

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			4/29/10 6/9/14 79 FR 32873 (c)(102)	reclassification of the 2008 ozone NAAQS.
Metal & Plastic Parts Coating	<a href="#">Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings</a> (PDF 143 pp, 897KB) EPA 453/R-08-003-2008/09	22a-174-20(s) Miscellaneous metal and plastic parts coating.  22a-174-20(kk), Pleasure craft coating.	10/10/80 2/17/82 47 FR 6827 ..... (c) 25 10/31/89 10/18/91 56 FR 52205 ..... (c) 58 11/18/93 3/10/99 64 FR 12024 ..... (c)(75) 8/1/95 10/19/00 65 FR 62624 ..... (c)(84)  11/21/12 6/9/14 79 FR 32873 (c)(103)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Natural Gas / Gasoline	Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants, EPA-450/2-83-007, December 1983.	Not Applicable	40 CFR § 52.375(b)(4) and (h)(4) Certification of no Natural Gas/Gasoline Processing Plant sources.	Connecticut reaffirms that no sources meeting the description of this CTG category are operating within the State.
Oil and Natural Gas Industry	<a href="#">Control Techniques Guidelines for the Oil and Natural Gas Industry</a> (343 pp, 1.6 MB) EPA-453/B-16-001 2016/10	Not Applicable	Negative declaration for sources from the oil and natural gas industry.	Connecticut certifies that no sources meeting the description of this CTG category are operating within the State.
Paper, Film & Foil	<a href="#">Control Techniques Guidelines for Paper, Film, and Foil Coatings</a> (PDF 102 pp, 488KB) EPA 453/R-07-003-2007/09	22a-174-20(q) Paper, film and foil coating.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56 FR 52205 (c)(58) 4/29/10 6/9/14 79 FR 32873 (c)(103)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Pharmaceutical Products	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products, 450/2-78-029, December 1978.	22a-174-20(t) Manufacture of synthesized pharmaceutical products.	10/10/80 2/17/82 47 FR 6827 ..... (c)(25) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	Regulatory requirements are consistent with the CTG and represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.



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Polyester Resin	Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins, EPA-450/3-83-008, November 1983  AND  Control of Volatile Organic Compound Fugitive Emissions from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment, EPA-450/3-83-006, March 1984	22a-174-20(y) Manufacture of polystyrene resins.	2/2/87 5/19/88 53 FR 17934 ..... (c) 38  10/31/89 10/18/91 56 FR 52205 ..... (c) 58  AND  40 CFR § 52.375(d) Certification of no manufacturers of high-density polyethylene and polypropylene resins.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.
Printing Industries - offset lithographic and letterpress	<a href="#">Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing</a> (PDF 52 pp, 349KB) EPA-453/R-06-002-2006/09	22a-174-20(gg), Offset lithographic printing and letterpress printing.	4/29/10 6/9/14 79 FR 32873 (c)(102)	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.
Refineries	Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds, EPA-450/2-77-025, October 1977.  AND  Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment, EPA-450/2-78-036, June 1978.	22a-174-20(c) Volatile organic compound water separation.	40 CFR 52.375(b)(6), (h)(5), (h)(6), (h)(7) Certification of no petroleum refinery sources.	Connecticut reaffirms that no sources meeting the description of this CTG category are operating within the State.
Rubber Tires	Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires, EPA-450/2-78-030, December 1978.	22a-174-20(u) Manufacture of pneumatic rubber tires.	10/10/80 2/17/82 47 FR 6827 ..... (c) 25  10/31/89 10/18/91 56 FR 52205 ..... (c) 58	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.
Service Stations	Design Criteria for Stage I Vapor Control Systems - Gasoline Service Stations, November 1975.	22a-174-30a Stage I vapor recovery.	1/12/93 12/17/93 58 FR 65930 ..... (c)(62)  1/12/93 1/18/94 59 FR 2649 ..... (c)(62)	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone

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		Connecticut General Statutes section 22a-174(e).	05/10/04 8/31/06 71 FR 51761 ..... (c)(95) 07/08/2015 12/15/2017 82 FR 59519 (c)(117)	NAAQS. The pressure/vacuum valve requirements exceeds that of the CTG.
Ships	Shipbuilding/repair ACT (EPA 453/R-94-032, April 1994) and CTG, see 61 FR 44050, August 27, 1996	22a-174-32 Reasonably Available Control Technology (RACT) for volatile organic compounds.	11/18/93 3/10/99 64 FR 12024 ..... (c)(76) 8/27/99 10/19/00 65 FR 62624 ..... (c)(84)	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.
Solvent Cleaning	<a href="#">Control Techniques Guidelines for Industrial Cleaning Solvents</a> (PDF 290 pp, 7.6MB) EPA-453/R-06-001-2006/09	22a-174-20(i) Metal cleaning.  22a-174-20(ii) Industrial solvent cleaning.  22a-174-20(jj) Spray application equipment cleaning.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/10/80 6/7/82 47 FR 24452 ..... (c)(23) 12/10/82 2/1/84 49 FR 3989 ..... (c)(29) 9/24/83 2/1/84 49 FR 3989 ..... (c)(29) 9/24/83 3/21/84 49 FR 10542 ..... (c)(32) 8/31/79 3/21/84 49 FR 10542 ..... (c)(32) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58) 8/23/96 10/19/00 65 FR 62624 ..... (c)(84) 07/26/07 8/22/12 77 FR 50595 .....(c)(100) 4/29/10 6/9/14 79 FR 32873 (c)(102)	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.
Synthetic Organic Chemical	Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry, EPA-450/3-84-015, December 1984.	22a-174-20(x) Control of Volatile Organic Compound Leaks from Synthetic Organic	2/2/87 5/19/88 53 FR 17934 ..... (c)(38) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.

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	AND  SOCMI Distillation and Reactor Processes CTG (EPA 450/4-91-031, August 1993).	Chemical & Polymer Manufacturing Equipment.	40 CFR § 52.375 (c) Certification of no Air Oxidation Processes/SOCMI.sources  40 CFR § 52.375(e) Certification of no sources of Synthetic Organic Chemical Manufacturing Industry (SOCMI) distillation.  40 CFR § 52.375(f) Certification of no sources of Synthetic organic chemical manufacturing industry (SOCMI) reactor vessels	
Tanks	Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed Roof Tanks, EPA-450/2-77-036, December 1977  Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks, EPA-450/2-78-047, December 1978.	22a-174-20(a) Storage of volatile organic compounds and restrictions for the Reid Vapor Pressure of gasoline.  22a-174-20(c) Volatile organic compound water separation.	8/31/79 12/23/80 45 FR 84769 ... (c)(11) 9/24/83 3/21/84 49 FR 10542 .... (c)(32) 12/13/84 7/18/85 50 FR 29229 .. (c)(34) 12/30/88 6/2/89 54 FR 23650 .... (c)(50) 10/31/89 10/18/91 56 FR 52205 (c)(58) 03/05/2014 11/03/2015 80 FR 67642 (c)(110)	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.
Tank Trucks	Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals, EPA-450/2-77-026, December 1977.  AND  Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor	22a-174-20(b) Loading of gasoline and other volatile organic compounds.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 9/24/83 3/21/84 49 FR 10542 ..... (c)(32) 12/13/84 7/18/85 50 FR 29229 ..... (c)(34) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58) 4/1/98 10/19/00 65 FR 62624 ..... (c)(84)	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.

<b>CTG Category</b>	<b>CTG Document</b>	<b>Applicable Connecticut Regulation or Statute</b> <i>Regulations of Connecticut State Agencies (RCSA), unless otherwise noted</i>	<b>SIP Approval of Connecticut Regulation or Negative Declaration</b> <i>Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation</i>	<b>Comments</b>
	Collection Systems, EPA-450/2-78-051, December 1978.		07/08/2015 12/15/2017 82 FR 59519 (c)(117)	
Wood Coating	<a href="#">Control Techniques Guidelines for Flat Wood Paneling Coatings</a> (PDF 27 pp, 212KB) EPA-453/R-06-004-2006/09	Not Applicable	40 CFR 52.375(b), (g)(1), (h)(8) Certification of no flatwood paneling coating sources.	Connecticut reaffirms that no sources meeting the description of this CTG category are operating within the State.
Wood Furniture	Wood Furniture (CTG-MACT) - draft MACT out 5-94; Final CTG, EPA-453/R-96-007, April 1996; see also 61 FR 25223, and, 61 FR 50823, September 27, 1996.	22a-174-32 Reasonably Available Control Technology (RACT) for volatile organic compounds.	11/18/93 3/10/99 64 FR 12024 ..... (c)(76) 8/27/99 10/19/00 65 FR 62624 ..... (c)(84)	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2015 ozone NAAQS.

**Table 3. Listing of the major sources of nitrogen oxides (NO<sub>x</sub>) and/or volatile organic compounds (VOC) located in Connecticut.**

<b>MUNICIPAL WASTE COMBUSTOR SOURCES (MAJOR for NO<sub>x</sub>)</b>	<b>MAJOR SOURCES OF VOC DUE TO FUEL BURNING</b>
Covanta Bristol, Inc.	Devon Power, LLC
Covanta Southeastern Connecticut Company	Lake Road Generating Company LLC
Materials Innovation and Recycling Authority (formerly CRRA) /Mid-Connecticut	Middletown Power LLC
Wheelabrator Bridgeport, L.P.	Montville Power LLC
Wheelabrator Lisbon Inc.	GB II New Haven LLC, New Haven Harbor Station
	University of Connecticut, Storrs
	Wallingford Energy LLC
<b>MAJOR SOURCES OF NO<sub>x</sub></b>	
Algonquin Gas Transmission Company, Cromwell	Wheelabrator Bridgeport, L.P.
Algonquin Gas Transmission Company, Oxford	
Bridgeport Energy LLC	
CPV Towantic, LLC	
	<b>MAJOR SOURCES OF VOC SUBJECT TO MACT STANDARDS</b>
Electric Boat Corporation	Buckeye PT Terminals, L.P. (Forbes Avenue Terminal)
Kleen Energy Systems, LLC	Buckeye PT Terminals, L.P. (Waterfront Terminal)
Kimberly Clark Corporation (New Milford Mill)	Shell Oil Products US (New Haven Terminal) (formerly Motiva Enterprises LLC)
Lake Road Generating Company LLC	Sprague Operating Resources, LLC (formerly Motiva Enterprises, LLC), Bridgeport
Metropolitan District	
Milford Power Co, LLC	
	<b>SOURCES SUBJECT TO VOC RACT ORDERS</b>
Plainfield Renewable Energy LLC	Roehm America, LLC (formerly Evonik Cyro, LLC)
Pratt & Whitney Div. Raytheon Technologies Corporation, East Hartford	Kimberly-Clark
Pratt & Whitney Div. of Raytheon Technologies Corporation, Middletown	Hamilton Sundstrand Corporation
GB II New Haven LLC, New Haven Harbor Station	
GB II Connecticut LLC, Bridgeport Harbor Station	
	<b>ADDITIONAL MAJOR VOC SOURCES</b>
University of Connecticut, Storrs	Algonquin Gas Transmission Company, Chaplin
U.S. Navy Submarine Base New London	Algonquin Gas Transmission Company, Cromwell
Wallingford Energy LLC	Algonquin Gas Transmission Company, Oxford
Yale University Central/Science Campus	Allnex USA, Inc. (formerly Cytec Industries, Inc.)
Yale School of Medicine/Sterling Power Plant	Electric Boat Corporation
	Firestone Building Products Company, LLC
	Gilman Brothers Company
<b>MAJOR SOURCES OF NO<sub>x</sub> CONDUCTING NO<sub>x</sub> TRADING UNDER A SIP-APPROVED PROGRAM (RCSA section 22a-174-22e) (Trading ceases as of May 1, 2023)</b>	
Algonquin Power Windsor Locks LLC	Gulf Oil Limited Partnership
Connecticut Jet Power, LLC	Kingswood Kitchens
Materials Innovation and Recycling Authority (formerly CRRA) /South Meadows Station	Pratt & Whitney Division of Raytheon Technologies Corporation, East Hartford
Devon Power, LLC	Pratt & Whitney Division of Raytheon Technologies Corporation, Middletown
Middletown Power, LLC	Sikorsky Aircraft Corporation
Montville Power, LLC	Stanley Black and Decker, Inc.
Pfizer Inc.	Sonoco Protective Solutions, Inc. (formerly Tegrant Diversified Brands, Inc.)
	United Aluminum Corporation
	U.S. Navy Submarine Base New London

Table 4. NOx Limits in Some OTC State for Fuel-Burning Emission Units Burning Particular Fuels.

General fuel/unit type	CT Effective: 12/22/2016 Compliance: Phase 1: 06/01/2018 Phase 2: 06/01/2023  lb/MMBtu unless otherwise noted	DE 1/1/2012 (coal/residual oil boilers), 11/24/93 all others  lb/MMBtu unless noted	MD 08/31/2015 (coal-fired units) 02/12/2018 (engines) lb/MMBtu unless noted	ME 06-096 CMR Ch. 138 lb/MMBtu unless noted	NJ On and after 5/1/15 (coal and residual oil boilers and turbines), 5/1/10 (distillate oil and natural gas boilers), 3/7/07 (engines)  lb/MMBtu unless noted	NY On and after 7/1/14 (boilers), 7/8/10 (turbines and engines) lb/MMBtu unless noted	PA Proposed Additional RACT requirements for Major Sources of NOx and VOC, 129.111-129.115  lb/MMBtu unless noted	RI Amended effective 12/26/2018 but limits unchanged. lb/MMBtu unless noted
<b>Coal boilers</b>	<u>Phase 1</u> 0.28 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average and ozone season average) <u>Phase 2</u> 0.12 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	0.38 ( 24-hr average), (Regulation 1112)	0.38 (30-day rolling average or averages of stack test duration), (Regulation 26.11.09.08B.(1)(c), 26.11.09.08B.(2)(d) and (e))  0.15 (ozone season 30-day system-wide rolling average) 26.11.38.03(B)(1)  <u>For 7 units by June 1, 2020:</u> .09 (ozone season 30-day rolling average)	0.38 (1-hr average)	<u>Boiler serving EGU</u> 1.50 lb/MWh (Calendar day over ozone season, 30-day over non-ozone season if CEMS, average of three 1-hr stack tests if no CEMS), (7:27-19.4 TABLE 3)	0.08-0.20 (1-hr average unless CEMS (24-hr average)), (227-2.4(a))	0.45 lb/MMBtu for boilers < 250 MMBtu/hr (Daily, if CEMS)  Boilers (case-by-case); CFB 0.16 lb/MMBtu if >250 MMBtu/hr (Daily, if CEMS)	No limit identified
<b>Residual Oil boilers</b>	<u>Phase 1 EGU boilers</u> 0.25 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.20 (ozone season average) 0.15 (non-ozone season average) <u>Phase 2 EGU boilers</u> 0.20 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	0.25-0.43 (24-hr average), (Regulation 1112)	0.25 (30-day rolling average or averages of stack test duration), (Regulation 26.11.09.08B.(1)(c), 26.11.09.08B.(2)(d) and (e))	0.3 (1-hr average)	<u>Boiler serving EGU</u> 2.00 lb/MWh (1 hour, daily if CEMS)), (7:27-19.4 TABLE 3)  <u>ICI boiler</u> 0.20 lb/MMBtu (1-hour, Daily if CEM)	0.20 (1-hr average unless CEMS (24-hr average)), (227-2.4(c)) for 25-100 MMBtu/hr  0.15 for >100 MMBtu/hr (1-hr average unless CEMS (24-hr average))	0.20 (Daily, if CEMS; stack test if no CEMS) (129.97(g)(1)(iii), 129.100(a))	<u>Utility boiler</u> LNB and FGR
<b>Distillate Oil boilers</b>	<u>Phase 1 EGU boilers</u> 0.20 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.10 (ozone season average) 0.15 (non-ozone season average) <u>Phase 2 EGU boilers</u> 0.10 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	0.25-0.43 ( 24-hr average), (Regulation 1112)	0.25 (30-day rolling average or averages of stack test duration), (Regulation 26.11.09.08B.(1)(c), 26.11.09.08B.(2)(d) and (e))	0.3 (1-hr average)	<u>Boiler serving EGU</u> 1.0 lb/MWh (Calendar day over ozone season, 30-day over non-ozone season if CEMS, average of three 1-hr stack tests if no CEMS), (7:27-19.4 TABLE 3)  <u>ICI boiler</u> 0.08/0.10 (Calendar day over ozone season, 30-day over non-ozone season if CEMS, average of three 1-hr stack tests if no CEMS), (7:27-19.7 TABLE 9)	0.08 (1-hr average unless CEMS (24-hr average)), for 25-100 MMBtu/hr  0.15 for >100 MMBtu/hr (1-hr average unless CEMS (24-hr average))	0.12 (Daily, if CEMS; stack test if no CEMS) (129.97(g)(1)(ii), 129.100(a))	<u>Utility boiler</u> 0.25 (instantaneous)  <u>ICI boiler</u> 0.12 (instantaneous)
<b>Natural gas boilers</b>	<u>Phase 1 EGU boilers</u> 0.20 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.10 (ozone season average) 0.15 (non-ozone season average) <u>Phase 2 EGU boilers</u> 0.10 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	0.20 (24-hr average), (Regulation 1112)	0.20 (30-day rolling average or averages of stack test duration), (Regulation 26.11.09.08B.(1)(c), 26.11.09.08B.(2)(d) and (e))	No limit	<u>Boiler serving EGU</u> 1.0 lb/MWh (Calendar day over ozone season, 30-day over non-ozone season if CEMS, average of three 1-hr stack tests if no CEMS), (7:27-19.4 TABLE 3, 7:27-19.15(a))  <u>ICI boiler</u> 0.10 lb/MMBtu for >100MMBtu/hr, 0.05 lb/MMBtu if 25-100MMBtu/hr (Calendar day over ozone season, 30-	0.05 (1-hr average unless CEMS (24-hr average)), (227-2.4(c))	0.10 (Daily, if CEMS; stack test if no CEMS) (129.97(g)(1)(i), 129.100(a))	<u>Utility boiler</u> 0.20 (24-hr average), (Regulation 27.8.1)  <u>ICI boiler</u> 0.10 (1-hr average), (Regulation 27.8.2)

General fuel/unit type	CT Effective: 12/22/2016 Compliance: Phase 1: 06/01/2018 Phase 2: 06/01/2023  Lb/MMBtu unless otherwise noted	DE 1/1/2012 (coal/residual oil boilers), 11/24/93 all others  lb/MMBtu unless noted	MD 08/31/2015 (coal-fired units) 02/12/2018 (engines) lb/MMBtu unless noted	ME 06-096 CMR Ch. 138 lb/MMBtu unless noted	NJ On and after 5/1/15 (coal and residual oil boilers and turbines), 5/1/10 (distillate oil and natural gas boilers), 3/7/07 (engines)  lb/MMBtu unless noted	NY On and after 7/1/14 (boilers), 7/8/10 (turbines and engines) lb/MMBtu unless noted	PA Proposed Additional RACT requirements for Major Sources of NOx and VOC, 129.111-129.115  lb/MMBtu unless noted	RI Amended effective 12/26/2018 but limits unchanged. lb/MMBtu unless noted
					day over non-ozone season if CEMS, average of three 1-hr stack tests if no CEMS), (7:27-19.7 TABLE 9, 7.27-19.4 (Table 3))			
<b>Oil-fired Simple Cycle Turbines</b>	<u>Phase 1</u> 75 ppmvd (24-hr average by CEMS; average of 3 1-hr tests by stack test) 50 ppmvd (ozone season average) 0.15 (non-ozone season average) <u>Phase 2</u> 50 ppmvd (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	88 ppm (1-hr average), (Regulation 12 Table II)	65 ppmvd	No limit identified	1.60 lb/MWh (Calendar day over ozone season, 30-day over non-ozone season if CEMS, average of three 1-hr stack tests if no CEMS), (7:27-19.5 TABLE 7, 7:27-19.15(a))	100 ppmvd (1-hr average unless CEMS (24-hr average)), (227-3.4)  <u>As of May 1, 2025</u> 42 ppmvd (stack test or CEMS) (227-3.4)	96 ppmvd (30-day rolling average if CEMS; stack test if no CEMS) (129.97(g)(2)(iv)(B), 129.100(a))	No limit identified
<b>Gas-fired Simple Cycle Turbines</b>	<u>Phase 1</u> 55 ppmvd (24-hr average by CEMS; average of 3 1-hr tests by stack test) 50 ppmvd (ozone season average) 0.15 (non-ozone season average) <u>Phase 2</u> 40 ppmvd (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	42 ppm (1-hr average), (Regulation 12 Table II)	42 ppmvd	No limit identified	1.00 lb/MWh (Calendar day over ozone season, 30-day over non-ozone season if CEMS, average of three 1-hr stack tests if no CEMS), (7:27-19.5 TABLE 7, 7:27-19.15(a))	50 ppmvd (1-hr average unless CEMS (24-hr average)), 227-2.4(e))  <u>As of May 1, 2025</u> 25 ppmvd (stack test or CEMS) (227-3.4)	42 ppmvd (30-day rolling average if CEMS; stack test if no CEMS) (129.97(g)(2)(iv)(A), 129.100(a))	No limit identified
<b>Lean burn oil-fired engines</b>	<u>Phase 1</u> 8.0 g/bk hp-hr (24-hr average by CEMS; average of 3 1-hr tests by stack test) <u>Phase 2</u> 1.5 g/bk hp-hr (24-hr average by CEMS; average of 3 1-hr tests by stack test)	No limit identified	175 ppmvd	3.2 and 4.16 lb/MMBtu (source-specific RACT)	2.3 grams/Bhp-hr (Calendar day over ozone season, 30-day over non-ozone season if CEMS, average of three 1-hr stack tests if no CEMS), (7:27-19.8 TABLE 10, 7:27-19.15(a))	2.3 grams/Bhp-hr (1-hr average unless CEMS (24-hr average)), (227-2.4(f))	1.6 grams/Bhp-hr (1 hour average; stack test if no CEMS) (129.97(g)(3)(ii), 129.100(a))	9.0 grams/bhp-hr (1-hr average), (Regulation 27.8.3)