Connecticut Department of Energy and Environmental Protection
Bureau of Air Management

Reasonably Available Control Technology Analysis under the 2008 8-Hour Ozone National Ambient Air Quality Standard Reclassification to Serious Nonattainment and the 2015 8-Hour Ozone National Ambient Air Quality Standard Initial Classification

23 November 2020

The Connecticut Department of Energy and Environmental Protection (DEEP) has prepared this Reasonably Available Control Technology (RACT) analysis to demonstrate that the State has met its RACT obligations under the Clean Air Act, as amended in 1990 (CAA), for the reclassification of Connecticut to serious nonattainment for the 2008 ozone national ambient air quality standard (NAAQS) and the initial nonattainment designations for the 2015 ozone NAAQS. DEEP's most recent RACT State Implementation Plan (SIP) was submitted on July 17, 2014 for the initial designations under the 2008 ozone NAAQS,[1] and this analysis recognizes source emissions and regulatory requirements that have changed since the 2014 submission.

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 moderate for the 2008 ozone NAAQS on August 23, 2019.[2] 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

On August 3, 2018, Connecticut's designations as marginal (Greater Connecticut area) and moderate (Connecticut portion of the New York- Northern New Jersey- Long Island area) for the 2015 8-hour ozone NAAQS became effective.[3] Under CAA section 182(a)(2)(A), the marginal nonattainment designation obligates DEEP to correct pre-1990 RACT requirements (the RACT fix-up). Under CAA section 182(b)(2), the moderate nonattainment designation obligates DEEP to implement RACT for all major volatile organic compound (VOC) sources and for all sources covered by a Control Techniques Guideline (CTG). This submission is due no later than 24 months from the designations, or August 3, 2020.[4]

In addition, Connecticut is a member of the Ozone Transport Region (OTR) and is required under CAA section 184(b)(1)(B) to implement statewide RACT for all VOC sources covered by

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1 Connecticut's 2014 RACT SIP revisions were approved by EPA in a rule effective on August 30, 2017 (82 FR 35454).

2 Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Several Areas Classified as Moderate for the 2008 Ozone National Ambient Air Quality Standards, 84 FR 44238, hereafter, Reclassification Rule.

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

4 40 CFR 51.1312(a)(2).

a CTG. CAA Section 184(b)(2) adds 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.[5] Under CAA Section 182(f), states must apply the same requirements to major stationary sources of nitrogen oxides (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.

Furthermore, effective September 23, 2019, the entire State of Connecticut was reclassified as serious nonattainment for the 2008 ozone NAAQS, which requires the submission of a revised SIP to address (1) an evaluation of controls for sources emitting 100 tons per year or more that may have become available since January 1, 2017 and (2) an evaluation of controls for sources emitting between 50 and 100 tons per year of NOx or VOC.[6]

Pursuant to the Implementation Rule and the Reclassification Rule, DEEP must submit final RACT SIP revisions to EPA by 3 August 2020. As Connecticut recently addressed RACT requirements for the 2008 NAAQS and, despite a classification of only marginal, adopted new RACT regulatory requirements, DEEP identifies no RACT deficiencies for the 2015 ozone NAAQS or the reclassification to serious nonattainment under the 2008 ozone NAAQS. Thus, DEEP certifies that previously adopted RACT controls approved into the SIP by EPA represent RACT control levels for the 2015 ozone NAAQS and the reclassification to serious nonattainment for the 2008 ozone NAAQS.

II. RACM and RACT Implementation under the 2008 Ozone NAAQS

At the time of the 2014 RACT submission, the entire state of Connecticut was designated as marginal nonattainment for the 2008 8-hour ozone NAAQS.[7] In the 2014 RACT SIP, DEEP addressed sources emitting 50 tons per year or more of VOC and 100 tons per year or more of NOx. After failing to attain by the applicable attainment date of July 20, 2015, the entire state of Connecticut was redesignated to moderate nonattainment for the 2008 ozone NAAQS with an attainment date of July 20, 2018.[8]

For the moderate nonattainment designation, DEEP submitted two attainment demonstrations: one for the Connecticut portion of the New York-New Jersey- Connecticut nonattainment area on August 8, 2017 and one for the Greater Connecticut nonattainment area on January 17, 2017.[9] Both of these plans address reasonably available control measures (RACM) under CAA section 172(c)(1). Those plans summarized the point, area and mobile measures that constitute RACM for the 2008 NAAQS moderate classification. The summarized measures included RACT

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[5] Section 302(j) of the CAA defines "major stationary source" as any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant.

[6] Reclassification Rule at 44241.

[7] DEEP's 2014 RACT analysis summarizes RACT efforts under the 1-hour ozone NAAQS and the 1997 8-hour ozone NAAQS. That history is not repeated here.

[8] 81 FR 26697; 4 May 2016.

[9] See https://portal.ct.gov/DEEP/Air/Planning/Ozone/2008-Ozone-NAAQS-Attainment-Demonstrations

measures for NOx that continue to yield additional emissions reductions as one of the NOx programs is not fully implemented.[10]

On July 20, 2018, EPA reclassified both of Connecticut's nonattainment areas to serious nonattainment for the 2008 ozone NAAQS. The reclassification to serious nonattainment lowers the threshold for DEEP's assessment to include RACT controls for sources emitting or with the potential to emit 50 tons per year or more of NOx or VOC.[11]

For the serious nonattainment designation for the 2008 ozone NAAQS, RACM under CAA 172(c)(1) has been met by the measures adopted under the marginal and moderate nonattainment designations. Such measures were not considered RACM for the marginal and moderate designations due to their implementation dates, which occurred too late to influence measured ozone levels used to determine attainment by the July 20, 2018 attainment date. Although the Connecticut portion of the NY-NJ-CT nonattainment area may not meet the attainment date for the reclassification to a serious nonattainment area, the measures are providing emissions reductions that will be used to determine attainment for this area by the July 20, 2021 attainment date. Such measures are summarized in this section. DEEP is not aware of any additional measures that could be identified as RACM for the 2008 ozone NAAQS as atmospheric transport from upwind areas on most high ozone days overwhelms the ability of DEEP to advance Connecticut's attainment date with in-state strategies. In addition, the reclassification to serious nonattainment provided insufficient time to adopt and implement additional RACM measures prior to the 2020 ozone season, which would need to occur to advance the attainment date by one year.[12]

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 (RFP). A subset of RACM are RACT measures, which are the NOx 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 NOx and VOC sources.

A. RACT -- Major Sources of NOx

Major sources of NOx are identified in Table 4 of this submission.[13] Each major source of NOx is subject to either RCSA section 22a-174-38 or section 22a-174-22e. RCSA section 22a-174-38 applies to Connecticut's municipal waste combustors, of which there are five facilities, and RCSA section 22a-174-22e applies to every fuel-burning emission unit located at a major source of NOx. Sections 22a-174-38 was revised and 22a-174-22e was adopted (replacing RCSA section 22a-174-22) in response to the RACT review for the initial classifications under the 2008 ozone NAAQS. Although these control measures were adopted as RACT, they did not qualify as RACM for the reclassification to moderate nonattainment for the 2008 ozone NAAQS

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[10] For instance, the Phase 2 NOx emission limitations of RCSA section 22a-174-22e are effective June 1, 2023.

[11] See CAA section 182(c). Also, the Reclassification Rule at 44242.

[12] In addition, the need for such measures is questionable given that the Greater Connecticut nonattainment area is currently in attainment of the 2008 ozone NAAQS. 85 FR 17301 (March 27, 2020).

[13] For the purposes of this analysis, Table 4 lists those sources that emit 50 or more tons per year of VOC or NOx.

because of the compliance dates.[14] However, both rules are considered RACM for the reclassification to serious nonattainment. See Table 1.

Table 1. Summary of RACM Measures for Stationary and Area Sources

Category	**Regulatory or Statutory Citation**	**Adoption Date**	**Implementation/ Compliance Date**	**Considered RACM for the Reclassification to Serious Nonattainment?**
Stage I vapor recovery	RCSA section 22a-174-30a	07/08/2015	07/01/2015	Yes.
Low Sulfur Distillate and Residual Oil (NOx)	CGS 16a-21a RCSA 22a-174-19a RCSA section 22a-174-19b	04/15/2014	Phase 1: 07/01/2014 Phase 2: 07/01/2018	Yes.
Municipal waste combustors (NOx)	RCSA section 22a-174-38	08/02/2016	08/02/2017	Yes.
Asphalt production and other major NOx sources	RCSA section 22a-174-22e	12/22/2016	Phase 1: 06/01/2018 Phase 2: 06/01/2023	Phase 1: Yes. Phase 2: No (based on implementation/ compliance date)
Minor NOx sources	RCSA section 22a-174-22f	12/22/2016	06/01/2018	Yes.
Consumer products	RCSA section 22a-174-40	10/05/2017	05/01/2018	Yes.
Architectural and industrial maintenance coatings—phase 2	RCSA section 22a-174-41a	10/05/2017	05/01/2018	Yes.

B. Major VOC Sources and CTG Sources

Stationary sources of VOC are regulated by RCSA sections 22a-174-20 and 22a-174-32. RCSA section 22a-174-32 regulates major sources of VOC and allows DEEP to conduct individual RACT analyses. The majority of the CTG source categories are addressed in RCSA sections 22a-174-20 and 22a-174-32. Table 3 of this SIP revision identifies every CTG and the regulatory requirement by which DEEP imposes control equivalent to the applicable CTG. For Stage I vapor recovery requirements, a RACT level of control is implemented through RCSA section 22a-174-30a, which was effective on 8 July 2015 and considered RACM for the reclassification to serious nonattainment.

C. Other Stationary Source Measures

To update previous RACM reviews, in the 2013-2014 time period, DEEP considered a number of possible control measures. As a result of that review, DEEP implemented several regulatory updates. These efforts included revised NOx emission limits for boilers and heaters used in asphalt production, and updates to the VOC content limits for consumer products and

[14] For the 2015 ozone NAAQS, the Greater Connecticut area is designated as marginal. Hence, no additional control measures are required. Phase 2 of the RCSA section 22a-174-22e serves as a RACT measure for the Connecticut portion of the NY-NJ-CT nonattainment area, which is designated as moderate.

architectural and industrial maintenance coatings as based on updated Ozone Transport Commission (OTC) model rules. In addition, NOx reductions were achieved as an ancillary benefit to the regional haze measure adopted to reduce the level of sulfur in distillate and residual fuel oil burned in stationary and area sources. While all of these measures were discussed in the attainment plan submitted on August 8, 2017 for the reclassification to moderate nonattainment, none of these measures were considered RACM due to their implementation/compliance dates. For this submission, a measure must be implemented prior May 1, 2020 to be considered RACM for the serious reclassification for the 2008 ozone NAAQS.

D. Mobile Source Efforts since 2014 for the Serious Area RACM

This portion of the RACM analysis identifies mobile source measures beyond transportation control measures, which were addressed in the 2017 attainment demonstrations for the reclassification to moderate nonattainment for the 2008 ozone NAAQS. None of the transportation control measures were considered RACM because the emissions reductions achieved are not large enough to advance the attainment date by at least one year. That continues to be the case.

The four programs listed below will result in more electric and lower emissions 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 2008 ozone NAAQS in the NY-NJ-CT nonattainment area as expeditiously as possible. These emissions reductions in the 2018-2020 period will be used to determine attainment, which is required by July 20, 2021. DEEP is not aware of additional measures that represent RACM for the 2008 ozone NAAQS.

- 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.
- 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.
- EV Connecticut. Widescale EV deployment is a primary solution for achieving the state's statutorily required economy-wide greenhouse gas (GHG) reduction targets. While EV deployment is considered primarily a GHG 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. The state presently has 336 outlets and 214 level 2 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 March 2020, the program issued 5,971 rebates for 3,164 plug-in hybrid electric vehicles and 2,807 highway capable electric vehicles.

III. Update on Federal, State and Regional Efforts to Limit Ozone Precursor Emissions

Although there have been significant efforts at the national, regional and state levels to reduce ozone precursors, Connecticut continues to experience a persistent ozone exceedance problem at certain monitors, although the number of exceedance days has reduced over the years. Given its recent regulatory updates to RACT controls, Connecticut has few opportunities in-state to create additional emissions reductions and must look to emissions reductions outside of DEEP's control for improvement. This section considers such federal, state and regional efforts to limit ozone precursor emissions.

A. Connecticut and Federal Efforts

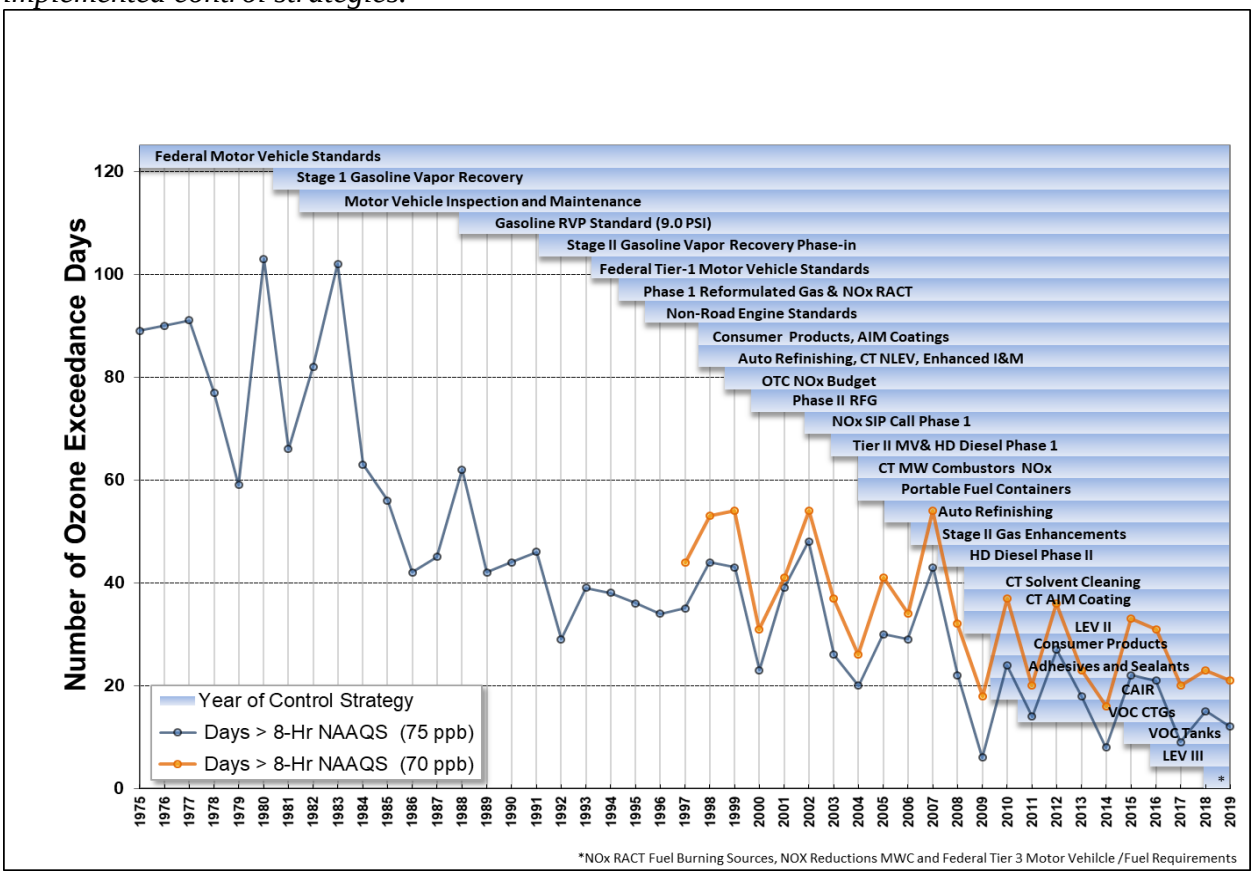
As set out in Figure 1, the ozone exceedance day trend has been downward since the implementation of post-1990 Federal and state emission control measures. Within this trend, there is considerable fluctuation in the number of exceedance days from year to year. Although the number of exceedance days per year has declined overall, the level of the ozone NAAQS has also been lowered. As a result, Connecticut's ozone levels have not reduced to a level sufficient to demonstrate attainment.

As a result of the RACT review for the 2008 8-hour ozone standard under the marginal nonattainment designation, DEEP made significant changes to its regulation of fuel-burning equipment and municipal waste combustors, which resulted in substantial reductions in the emissions from those sectors. More reductions are anticipated as of June 1, 2023, the start of the second phase of the requirements for fuel-burning equipment. The NOx reductions required of the municipal waste combustors are now fully implemented and are estimated to reduce NOx emissions by about 658 tons per year. The reductions from the fuel-burning equipment NOx standards are estimated to be substantial but are difficult to quantify precisely as sources have a choice of compliance options, and full implementation is not scheduled until June 1, 2023.[15] DEEP has not identified additional emissions reductions of NOx or VOC available from reasonably available controls at sources emitting 50 tons per year or more of NOx or VOC.

As RACT is focused on controls for major stationary sources of NOx or VOC and CTG sources, Connecticut's RACT efforts are limited to emissions from stationary sources. However, stationary sources represent an increasingly smaller percentage of Connecticut's emissions inventory. Table 2 is a summary of NOx emissions from all NEI data categories – point, nonpoint, nonroad and onroad for the period 2002-2017 in Connecticut. NOx emissions have declined steadily in Connecticut, particularly in the point, nonroad and onroad sectors.

[15] In addition, Connecticut's only coal-burning EGU, PSEG's Bridgeport Harbor Station Unit 3, is scheduled to retire in July 2021, which will further reduce the state's NOx emissions from major stationary sources.

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



Although NOx emissions from onroad and nonroad sources have decreased, the mobile source emissions (onroad and nonroad) are the largest percentage of NOx emissions in 2017, approximately 59% of the state total. Thus, reductions in stationary and area sources are less significant as a means to reduce ambient ozone levels. For example, Connecticut's major stationary sources of NOx emitted a mere 4,712 tons of NOx in 2018, according to Connecticut's 2018 emissions statement reporting. Connecticut's major stationary sources of VOC emitted approximately 961 tons according to the 2018 emissions statement reporting.

Table 2. NOx Emissions in Connecticut for all NEI Data Categories, 2002-2017 (Tons)

NEI Category	2002	2008	2011	2014	2017	NOx Reduction (2002 – 2017)	Percent NOx 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%
Total	**115,012**	**93,080**	**72,828**	**63,003**	**46,575**	**-68,437**	**-60%**

Given the limited emissions reductions available from the stationary sources in-state, the impact of mobile source emissions and pollution transported from other states on ozone values in Connecticut cannot be overstated. Significant reductions from mobile sources and upwind states are crucial to Connecticut's ability to attain and maintain the ozone NAAQS, and DEEP looks to EPA to lead such efforts.

Recent Federal efforts to reduce NOx or VOC emissions from stationary sources have been limited. Since DEEP's submission of the 2014 RACT SIP, EPA finalized the Cross-State Air Pollution Rule (CSAPR) Update. Beginning in May 2017, the CSAPR Update required reductions in NOx from electric generating units in 22 states. Although Connecticut was not subject to the CSAPR Update, the emissions reductions in upwind states reduced NOx and ozone available for transport.

On December 21, 2018, EPA published the CSAPR Closeout[16] on the premise that the CSAPR Update fully addresses some states' obligations under the good neighbor provision of the CAA for the 2008 ozone NAAQS. EPA found it would not be feasible to impose any cost-effective emissions reductions before 2023, two years after the serious area attainment deadline of 2021.

Both the CSAPR Update and CSAPR Closeout have been successfully challenged in the U.S. Court of Appeals (DC Circuit). In *Wisconsin v. EPA*,[17] the court agreed with environmental organizations and the State of Delaware that EPA had failed in the CSAPR Update to show it satisfied its obligation to align the timing for upwind states' emissions reductions with downwind areas' NAAQS attainment deadlines. The CSAPR Update was not vacated and was remanded. In a related case, environmental organizations and several northeastern states challenged the CSAPR Closeout.[18] The court agreed with petitioners that upwind states would

16 83 FR 65878.

17 No. 16-1406 (September 13, 2019).

18 *New York v. EPA*, No. 19-1019 (October 1, 2019).

continue to contribute significantly to downwind nonattainment in 2021. The CSAPR Closeout was vacated and remanded to EPA.

On October 29, 2019, New Jersey and Connecticut filed a complaint in the U.S. District Court (D.C.) seeking to compel EPA to perform its overdue non-discretionary duties under the Clean Air Act (CAA) to make findings of failure to submit good neighbor State Implementation Plans (SIP) for the 2015 ozone standard for Pennsylvania and Virginia, both of which are upwind of the state plaintiffs and failed to meet the April 1, 2019 deadline for submitting their respective good neighbor SIPs to EPA. Furthermore, Connecticut, along with New Jersey, Delaware, New York and Massachusetts, filed a complaint in U.S. District Court (SDNY) against EPA for failing to require adequate "good neighbor" emissions reductions from seven upwind states.[19] An opinion was issued on July 28, 2020 requiring EPA to issue a final rulemaking by March 15, 2021 to promulgate Federal Implementation Plans fully addressing the good neighbor obligations in the seven upwind states. Also, EPA proposed a Revised CSAPR Update on October 30, 2020[20] as a response to the ruling in *Wisconsin v. EPA*. DEEP is hopeful that these actions result in a reduction in upwind state contributions to Connecticut.

B. Ozone Transport Commission (OTC) and Other Regional State Efforts

Since the 2014 RACT SIP, the OTC updated its recommended control measures underlying Connecticut's architectural and industrial maintenance coatings (RCSA sections 22a-174-41 and -41a) and consumer products (RCSA section 22a-174-40) regulations. DEEP finalized amendments to its regulations consistent with the OTC's updated recommendations effective October 5, 2017. Both programs are in effect, with a compliance date of May 1, 2018 for the new product categories and VOC content limits. As identified in Table 1, these amendments are considered RACM for the reclassification to serious nonattainment for the 2008 ozone NAAQS.

In addition to updating these control measures, the OTC commented concerning EPA's Cross-State Air Pollution Rule (CSAPR) Close-Out and opposed EPA's determination that certain upwind states' good neighbor obligations for the 2008 ozone NAAQS are fully addressed by the CSAPR Update. OTC also wrote to EPA with recommendations about the aftermarket catalytic converter policy for onroad light-duty vehicles. Such efforts are necessary to encourage upwind emissions reductions and mobile source emissions reductions, both of which are outside of the control of any single state.

In addition, on 8 June 2020, OTC submitted a petition to EPA under CAA section 184(c). The petition recommends that EPA require Pennsylvania to adopt daily NOx limits at coal-fired electric generating units. [21]

In addition to the OTC actions, Connecticut is a participant in the Long Island Sound Tropospheric Ozone Study (LISTOS). LISTOS was launched by the Northeast States for Coordinated Air Use Management (NESCAUM) to investigate the evolving nature of ozone formation and transport in the New York City region and downwind. DEEP participates in hope

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19 *New Jersey, et al. v. EPA*. Civil action no. 20-cv-1425 (February 19, 2020).

20 85 FR 68964.

21 *See* https://www.epa.gov/interstate-air-pollution-transport/ozone-transport-commission-otc-section-184c-petition

of identifying new developments in ozone formation and thereby having new means to address ambient ozone levels. For instance, a study presented at a LISTOS workshop in April 2019 indicates that consumer volatile chemical products (VCPs) are a more significant portion of the inventory than was previously identified. This finding could lead to a new, more representative VOC inventory for chemical transport modeling.[22]

Connecticut[23] and other states (New York, Delaware, Maryland)[24] in the region have petitioned EPA under CAA section 126 in 2016 and 2018 to address the problem of emissions from stationary sources in upwind states. To date, EPA has denied all such petitions despite the inadequacy of the CSAPR Update to address upwind state emissions and the continuing contributions to ozone nonattainment caused by upwind states.[25] In addition, DEEP has pursued a number of mobile source initiatives within the limits of its legal authority such as the adoption of CARB LEV and ZEV programs, state-wide clean fuels requirement/RFG and ultra-low sulfur diesel standards, electric vehicle incentives, and on-road heavy-duty diesel engine testing for opacity and particulate matter.

Connecticut will continue to struggle with attaining the ozone NAAQS until transported ozone emissions and mobile source emissions are fully addressed by EPA. While Connecticut and nearby states have pursued actions available to them to address each of these issues, states are limited in their authority. We look forward to future federal actions to reduce emissions from these sectors.

IV. RACT Analysis

This section sets out DEEP's analysis of its RACT adequacies for CTG sources and major sources of NOx and VOC. Connecticut's current regulatory requirements and the control of VOC and NOx emissions that the regulations accomplish result in a RACT level of control for both pollutants. DEEP has no RACT deficiencies for the 2015 or 2008 ozone NAAQS.

A. CTG Sources and Negative Declaration

In the 2014 RACT SIP submission, DEEP included Table 4 which listed the current CTG documents and identified the corresponding regulations that Connecticut adopted to achieve emissions reductions equivalent to the CTGs. Since submission of the 2014 RACT SIP submission, EPA has published a single new CTG, *Control Techniques Guidelines for the Oil and Natural Gas Industry*.[26] DEEP hereby certifies that Connecticut has no sources meeting the

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[22] McDonald, B., et al. Evaluating a Bottom-Up Inventory of Anthropogenic VOC Emissions with Field Measurements in New York City. LISTOS Workshop (April 11, 2019). Available at: www.nescaum.org/documents/listos.

[23] https://www.epa.gov/ground-level-ozone-pollution/connecticut-126-petition

[24] https://www.epa.gov/ground-level-ozone-pollution/ozone-national-ambient-air-quality-standards-naaqs-section-126

[25] New York successfully challenged EPA's denial of New York's petition. New York v. EPA, No. 19-1231, U.S. Court of App. (D.C. Cir.) (July 14, 2020).

[26] EPA-453/B-16-001 (October 2016). Although EPA established a SIP submission deadline of October 27, 2018 for addressing sources covered by this CTG, EPA proposed to withdraw the CTG due to EPA's reconsideration of the 2016 NSPS. 83 FR 10478 (March 9, 2018). EPA has not finalized this action. On 16 November 2020, EPA issued a finding of failure to submit a SIP revision that responded to the CTG to Connecticut and four other states. 85 FR 72963. Connecticut has satisfied the requirements of the CTG through the negative declaration made in this document.

description of this CTG category operating within the state. To make this determination, DEEP reviewed the inventory of sources for facilities with North American Industrial Classification System codes that correspond to the sources covered by the CTGs, interviewed its field staff, and searched telephone directories and Internet Web pages, including other state government databases, to identify and evaluate sources that might meet the applicability requirements. DEEP ultimately determined that there are no sources covered by this CTG in Connecticut. Thus, DEEP makes a negative declaration for the CTG for the Oil and Natural Gas Industry for both the 2008 and 2015 ozone NAAQS.

For all the other CTG sources, the information in Table 4 of the 2014 RACT SIP submission is updated and is included in Table 3 of this submission. Table 3 contains a summary of the adopted regulatory provisions for each of the CTG categories and includes regulatory amendments issued since the submission of the 2014 RACT SIP.

B. Major Non-CTG Sources of NOx and VOC

According to the Implementation Rule, the state is required to conduct a RACT analysis for each major stationary source of VOC and for each major stationary source of NOx. "Major stationary source" is defined in CAA Section 302, as modified by Sections 182(b), (c), (d) or (e) of the CAA, as applicable to the classification of the nonattainment areas in which a stationary source is located. Additionally, Connecticut is in the OTR and subject to CAA Section 184. Because Connecticut is in the OTR and classified as marginal and moderate nonattainment for the 2015 ozone NAAQS, the term "major source" is limited to facilities that have the potential to emit (PTE) 100 tons per year or more of NOx or 50 tons per year or more of VOC. Moreover, under the Reclassification Rule, DEEP must evaluate RACT for sources emitting 50 tons per year or more of either NOx or VOC. 50 tons per year of NOx or VOC is the threshold used in this analysis to define a "major source." As DEEP just completed a RACT analysis with the 50/100 tons per year thresholds in 2014, and as the control technologies available have changed little in six years,[27] DEEP states that it has identified no controls for sources emitting 100 tons per year or more that have become reasonably available since January 1, 2017.[28] Similarly, sources emitting 50-100 tons per year of NOx are controlled to a RACT level due to permitting and regulatory requirements, including RCSA section 22a-174-22e, which was effective December 22, 2016, and RCSA section 22a-174-38, for which amendments were effective on 2 August 2016.

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

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[27] DEEP did examine other state resources for reported technology advancements yet found only low NOx and VOC controls that were considered in 2014. For instance, South Coast Air Quality Management District reviewed NOx controls for electric power generating equipment in 2018 and reported only technologies that DEEP reviewed in 2014 including selective catalytic reduction, dry low-NOx combustors, steam/water injection and low-NOx burners. http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1135/par-1135---wg-3---presentation.pdf?sfvrsn=8 Furthermore, such control technologies were the best available in the SCAQMD program, not just reasonably available.

[28] Per the Reclassification Rule at 44241.

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.[29] 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. 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 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 recent adoption of the updated NOx requirements for municipal waste combustors and fuel-burning sources, particularly as full implementation of the fuel-burning source emissions will not occur until 2023.

Table 4 lists the major sources of NOx and VOC located in Connecticut. The list was obtained by reviewing the list of sources for which a Title V permit has been issued.[30] Because the Title V major source thresholds are based on the more stringent attainment designations under the 1-hour ozone NAAQS, namely 25 tons per year PTE in Southwest Connecticut and 50 tons per year PTE 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 NOx. Sources that are covered by a General Permit to Limit Potential to Emit (GPLPE) are not included on the list because the potential emissions of GPLPE sources are limited below 25 tons per year in Southwest Connecticut and 50 tons per year in Greater Connecticut. In general, all major sources of NOx are regulated under RCSA section 22a-174-22e while stationary sources of VOC are regulated

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[29] *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."

[30] A list of all active Title V permits is maintained on DEEP's website: https://www.ct.gov/deep/cwp/view.asp?a=2684&q=322176&deepNav_GID=1997

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 4 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 4 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 4 is subject to a level of control that was RACT at the time the requirements were adopted.

DEEP's recently adopted RCSA section 22a-174-22e for NOx emissions from fuel-burning equipment satisfies RACT for the 2008 and 2015 ozone NAAQS. The NOx 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 NOx emission limits required in other states for all categories of fuel-burning equipment. *See* Table 5. For municipal waste combustors, the NOx emission limits of RCSA section 22a-174-38 are among the more stringent in the region.

A number of VOC and NOx control regulations are updated or recently adopted to 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 NOx and VOC have not changed significantly since the submission of the RACT SIP for the initial classifications under the 2008 ozone NAAQS in 2014. Furthermore, some of Connecticut's most recent regulatory revisions have been NOx 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). For VOC RACT measures, section 22a-174-30a has been adopted since the previous RACT review (July 1, 2015 compliance date). The previous regulation concerning Stage II vapor recovery (RCSA section 22a-174-30) was repealed, and the decommissioning of Stage II vapor recovery systems and strengthening of Stage I vapor recovery requirements was approved by EPA as consistent with the CAA and EPA guidance.[31] Other VOC sources have been addressed via CTG-based requirements set out largely in RCSA section 22a-174-20.

[31] Air Plan Approval; Connecticut; Decommissioning of Stage II Vapor Recovery Systems. 82 FR 59519 (15 December 2017).

C. Control Measures for the Reclassification to Serious Nonattainment for the 2008 Ozone NAAQS

For the reclassification to serious under the 2008 ozone NAAQS, the attainment date is July 20, 2021. This is also the deadline for the implementation of RACT measures not tied to attainment.[32]

The Reclassification Rule identified two categories of RACT for the serious classification under the 2008 ozone NAAQS: RACT needed for attainment and RACT not tied to attainment.[33] The initial category would need to be effective by May 1, 2020 as 2020 is the last year used in determining attainment for the reclassification. As mentioned above, July 20, 2021 is the deadline assigned to RACT measures not needed for attainment. DEEP states that no measures in addition to those identified here and that are now adopted are required to satisfy RACT for the serious classification for the 2008 ozone NAAQS in either category. Connecticut's major sources of NOx and VOC and CTG sources are now subject to a RACT level of control for the 2008 ozone NAAQS.

D. Control Measures for the 2015 Ozone NAAQS

For the 2015 ozone NAAQS, EPA retains the existing RACT requirements and deadlines, meaning that RACT measures should be implemented no later than January 1 of the fifth year after the effective date of the designations, or January 1, 2023. Although this deadline provides adequate time for the adoption of measures, DEEP has not identified any outstanding levels of control that fail to represent RACT at this time.

As noted in the proposed approval of Connecticut's RACT requirements for the 2008 ozone NAAQS,[34] the Phase 2 requirements of RCSA section 22a-174-22e were not considered RACT for the 2008 ozone NAAQS. The Phase 2 requirements were adopted as RACT for the 2015 ozone NAAQS and implementation of Phase 2 is required as of June 1, 2023. Furthermore, all compliance options of RCSA section 22a-174-22e expire as of May 1, 2028, when the equipment must comply with the applicable Phase 2 emission limit or shutdown. After comparing Connecticut's NOx regulatory emission limits with those of other states (*see* Table 5), DEEP has determined that the current emissions limits continue to require a RACT level of control.

RACT determinations under the 2015 ozone NAAQS result in the same or similar control technology as RACT determinations under the 2008 ozone NAAQS because the same control techniques are still applicable. Any possible emissions reductions would be small and not meaningfully contribute to attainment, and the cost for advancing that small additional increment of reduction would not be reasonable. Should DEEP become aware of any change in this determination in the time between submission of this analysis and the RACT deadline, DEEP will revisit this determination. For instance, if the OTC determines that RACT measures are available as a result of a screening analysis or episodic modeling strategy, DEEP would evaluate the technical and economic feasibility of such measures for Connecticut. Currently, the OTC has formed a workgroup, in which DEEP actively participates, to evaluate and compare emissions

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32 Reclassification Rule at 44247.

33 Reclassification Rule at 44240.

34 82 FR 16772 at 16775-16776 (April 6, 2017).

from municipal waste combustors and expects to make a recommendation concerning a RACT level of control for municipal waste combustors near the end of this year. DEEP will consider the resulting recommendation for possible implementation in Connecticut.

Note that RCSA section 22a-174-22e does allow for case-by-case determinations to be made for an emission unit for which the owner can demonstrate that a RACT level of control is not technically or economically feasible. Such a determination has been made for Phase 2 compliance for seven emission units owned and operated by NRG Connecticut. These case-by-case determinations are memorialized in Consent Order No. 8377, which was issued on March 10, 2020. Consent Order No. 8377 is included as Attachment NRG -1. The seven emission units, listed in Table A.1 of the Order, cannot be controlled to the level of the applicable emissions limitations in Phase 2 of RCSA section 22a-174-22e because control technologies are technically and/or economically infeasible. Thus, NRG agrees to control three boilers (identified in Table C.2 of the Order) to a Phase 2 level of control prior to the Phase 2 implementation date of June 1, 2023, resulting in NOx emissions reductions. More explanation of Consent Order No. 8377 is provided in Attachment NRG-2. Both Attachments are included for approval as a part of this SIP revision.

V. Conclusion

Connecticut's RACT requirements continue to represent a RACT level of control for major sources of NOx and VOC and CTG sources in Connecticut. A number of characteristics of Connecticut's regulatory programs contribute to the adequacy of Connecticut's requirements for the designation of serious nonattainment for the 2008 ozone NAAQS and the initial designations of moderate/marginal for the 2015 ozone NAAQS:

- DEEP performed a RACT review in 2014 that led to the adoption of more stringent NOx emissions limits for all fuel-burning equipment located at major sources of NOx and municipal waste combustors.
- DEEP has adopted CTG-based requirements for all VOC source categories present in the state.
- DEEP has retained the designations under the 1-hour ozone NAAQS of serious and severe to define thresholds and offsets for NSR permitting at levels equal to or lower than those required under the marginal/moderate designations for the 2015 ozone NAAQS and the serious nonattainment designation for the 2008 ozone NAAQS.
- DEEP continues to work with other member states in the OTC to evaluate the status of cost-effective emissions controls for sources of NOx and VOC and will update the RACT determinations for the 2015 ozone NAAQS if developments prior to January 1, 2023 so require.

Table 3. List of Issued CTGs and Connecticut Regulatory Requirements Corresponding to Each Listed CTG.

CTG Category	***CTG Document***	***Applicable Connecticut Regulation or Statute*** ***Regulations of Connecticut State Agencies (RCSA), unless otherwise noted***	***SIP Approval of Connecticut Regulation or Negative Declaration*** *Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation*	***Comments***
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	Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings (PDF 44 pp, 2.64MB) EPA 453/R-08-006-*2008/09* And Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat Operations (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	*22a-174-20(k) Restrictions on cutback asphalt*	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.

CTG Category	***CTG Document***	***Applicable Connecticut Regulation or Statute*** ***Regulations of Connecticut State Agencies (RCSA), unless otherwise noted***	***SIP Approval of Connecticut Regulation or Negative Declaration*** *Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation*	***Comments***
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.
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	Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials (PDF 41 pp, 336KB) EPA 453/R-08-004-*2008/09*	Not Applicable	*40 CFR 52.375(g)(2), (h)(2)* *Certification of no fiberglass boat manufacturing materials sources.*	Connecticut reaffirms that no sources meeting the description of this CTG category are operating within the State.
Flexible Package Printing	Control Techniques Guidelines for Flexible Package Printing (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)	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.

CTG Category	***CTG Document***	***Applicable Connecticut Regulation or Statute*** ***Regulations of Connecticut State Agencies (RCSA), unless otherwise noted***	***SIP Approval of Connecticut Regulation or Negative Declaration*** *Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation*	***Comments***
			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)	
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	Control Techniques Guidelines for Miscellaneous Industrial Adhesives (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	Control Techniques Guidelines for Large Appliance Coatings (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.

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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	Control Techniques Guidelines for Metal Furniture Coatings (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) 4/29/10 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.
Metal & Plastic Parts Coating	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings (PDF 143 pp, 897KB) EPA 453/R-08-003-*2008/09*	22a-174-20(s) Miscellaneous metal and plastic parts coating. 22a-174-20(k), 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	Control Techniques Guidelines for the Oil and Natural Gas Industry (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.

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Paper, Film & Foil	Control Techniques Guidelines for Paper, Film, and Foil Coatings (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.
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 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Printing Industries - offset lithographic and letterpress	Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing (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 2015 8-Hour Ozone NAAQS and the

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				reclassification of the 2008 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 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.
Service Stations	Design Criteria for Stage I Vapor Control Systems - Gasoline Service Stations, November 1975.	22a-174-30a Stage I vapor recovery. Connecticut General Statutes section 22a-174(e).	1/12/93 12/17/93 58 FR 65930 ..... (c)(62) 1/12/93 1/18/94 59 FR 2649 ..... (c)(62) 05/10/04 8/31/06 71 FR 51761 ..... (c)(95) 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.
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 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.

CTG Category	***CTG Document***	***Applicable Connecticut Regulation or Statute*** ***Regulations of Connecticut State Agencies (RCSA), unless otherwise noted***	***SIP Approval of Connecticut Regulation or Negative Declaration*** *Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation*	***Comments***
Solvent Cleaning	Control Techniques Guidelines for Industrial Cleaning Solvents (PDF 290 pp, 7.6MB) EPA-453/R-06-001-*2006/09*	22a-174-20(l) 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 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 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. AND SOCMI Distillation and Reactor Processes CTG (EPA 450/4-91-031, August 1993).	22a-174-20(x) Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical & Polymer Manufacturing Equipment.	2/2/87 5/19/88 53 FR 17934 ..... (c)(38) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58) 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	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.
Tanks	Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed	22a-174-20(a) Storage of volatile organic	8/31/79 12/23/80 45 FR 84769 ...(c)(11) 9/24/83 3/21/84 49 FR 10542 .... (c)(32)	Regulatory requirements are consistent with the CTG and

CTG Category	***CTG Document***	***Applicable Connecticut Regulation or Statute*** ***Regulations of Connecticut State Agencies (RCSA), unless otherwise noted***	***SIP Approval of Connecticut Regulation or Negative Declaration*** *Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 citation*	***Comments***
	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.	compounds and restrictions for the Reid Vapor Pressure of gasoline. 22a-174-20(c) Volatile organic compound water separation.	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)	represent RACT under the 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 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 Collection Systems, EPA-450/2-78-051, December 1978.	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) 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.
Wood Coating	Control Techniques Guidelines for Flat Wood Paneling Coatings (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 2015 8-Hour Ozone NAAQS and the reclassification of the 2008 ozone NAAQS.

Table 4. Listing of the major sources of nitrogen oxides (NOx) and/or volatile organic compounds (VOC) located in Connecticut.

MUNICIPAL WASTE COMBUSTOR SOURCES (MAJOR for NOx)	**MAJOR SOURCES OF VOC DUE TO FUEL BURNING**
Covanta Bristol, Inc.	Algonquin Windsor Locks LLC
Covanta Southeastern Connecticut Company	Bridgeport Energy
Materials Innovation and Recycling Authority (formerly CRRA) /Mid-Connecticut	Capitol District Energy Center
Wheelabrator Bridgeport, L.P.	Materials Innovation and Recycling Authority (formerly CRRA) /Mid-Connecticut
Wheelabrator Lisbon Inc.	Devon Power, LLC
	Lake Road Generating
MAJOR SOURCES OF NOx	The Metropolitan District
Algonquin Gas Transmission Company, Cromwell	Middletown Power LLC
Algonquin Gas Transmission Company, Oxford	Montville Power LLC
Allnex USA, Inc. (formerly Cytec Industries, Inc.)	PSEG Power Connecticut LLC, Bridgeport Harbor Station*
Bridgeport Energy LLC	PSEG Power Connecticut LLC, New Haven Harbor Station
CPV Towantic, LLC	University of Connecticut, Storrs
Electric Boat Corporation	Wallingford Energy LLC
Frito Lay	Wheelabrator Bridgeport, L.P.
Hamilton Sundstrand	Yale University/Central Power Plant
Kleen Energy Systems, LLC	**MAJOR SOURCES OF VOC SUBJECT TO MACT STANDARDS**
Kimberly Clark	Magellan Terminals Holdings, L.P. (Forbes Avenue Terminal)
Lake Road Generating Co, L.P.	Magellan Terminals Holdings, L.P. (Waterfront Terminal)
The Metropolitan District	Equilon Enterprises, LLC, New Haven (formerly Motiva Enterprises LLC)
Milford Power Co, LLC	New Haven Terminal, Inc., East Haven
Plainfield Renewable Energy LLC	New Haven Terminal, Inc., New Haven
Pratt & Whitney Div UTC, East Hartford	Sprague Operating Resources, LLC (formerly Motiva Enterprises, LLC), Bridgeport
Pratt & Whitney, Middletown	**SOURCES SUBJECT TO VOC RACT ORDERS**
PSEG Power Connecticut LLC, New Haven Harbor Station	Roehm America, LLC (formerly Evonik Cyro, LLC)
University of Connecticut, Storrs	Kimberly-Clark
U.S. Navy Submarine Base New London	Sikorsky Aircraft Corporation
Wallingford Energy LLC	Hamilton Sundstrand Corporation
Yale University/Central Power Plant	Pratt & Whitney Division of United Technologies Corporation, East Hartford
Yale School of Medicine/Sterling	
	ADDITIONAL MAJOR VOC SOURCES
	Algonquin Gas Transmission Company, Chaplin
	Algonquin Gas Transmission Company, Cromwell
MAJOR SOURCES OF NOx CONDUCTING NOx TRADING UNDER A SIP-APPROVED PROGRAM (RCSA section 22a-174-22e) (*Trading ceases as of May 1, 2023*)	Algonquin Gas Transmission Company, Oxford
Algonquin Windsor Locks LLC	Allnex USA, Inc. (formerly Cytec Industries, Inc.)
Capitol District Energy Center	Electric Boat Corporation
Connecticut Jet Power, LLC	Firestone Building Products Company, LLC
Materials Innovation and Recycling Authority (formerly CRRA) /South Meadows Station	Gilman Brothers Company
Devon Power, LLC	Gulf Oil Limited Partnership
Middletown Power, LLC	Kingswood Kitchens
Montville Power, LLC	Stanley Works
Pfizer Inc.	Sonoco Protective Solutions, Inc. (formerly Tegrant Diversified Brands, Inc.)
PSEG Power Connecticut LLC, Bridgeport Harbor Station	United Aluminum Corporation
	U.S. Navy Submarine Base New London

* The VOC major source status of Bridgeport Harbor Station is unclear for 2020. In 2019, the facility emitted more than 50 tons of VOC. However, in the first quarter of 2020, Unit 3 did not operate and permitted emissions limits for the other fuel-burning units at the facility total less than 50 tons.

Table 5. Select NOx Limits in Some OTC States 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 Chapter 145 effective 07/22/2001 Compliance date: 1/1/05 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 ICI 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 RACT II effective 04/23/2016 Compliance date: 01/01/2017 lb/MMBtu unless noted	RI Amended effective 12/26/2018 but limits unchanged. lb/MMBtu unless noted
Coal boilers	Phase 1 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)) Phase 2 0.12 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	0.125 (rolling 24-hr average), (Regulation 1146 4.3)	0.15 (ozone season 30-day systemwide rolling average) 26.11.38.03(B)(1) 0.09 (ozone season 30-day rolling average) 26.11.38.04(B)(1) 0.13 (24-hr systemwide block average) or systemwide tonnage cap of 21 tons per day. 26.11.38.04(B)(4)	0.15 (90 day rolling average), (Chapter 145 3.B.(2)(b))	Boiler serving EGU 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, 7:27-19.15(a))	0.12 (not including fluidized bed) (1-hr average unless CEMS (24-hr average)), (227-2.4(a), 227-2.6(a))	0.12 (with SCR and with inlet temperature >600 deg F)(30-day rolling average if CEMS; stack test if no CEMS) (129.97(g)(1)(viii), 129.100(a))	No limit identified
Residual Oil boilers	Phase 1 EGU boilers 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) Phase 2 EGU boilers 0.20 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	0.125 (rolling 24-hr average), (Regulation 1146 4.3)	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))	0.15 (90 day rolling average), (Chapter 145 3.B.(2)(b))	Boiler serving EGU 2.00 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), (7:27-19.4 TABLE 3, 7:27-19.15(a))	0.20 (1-hr average unless CEMS (24-hr average)), (227-2.4(c))	0.20 (30-day rolling average if CEMS; stack test if no CEMS) (129.97(g)(1)(iii), 129.100(a))	Utility boiler 0.25 (24-hr average), (Regulation 27.8.1)
Distillate Oil boilers	Phase 1 EGU boilers 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) Phase 2 EGU boilers 0.10 (24-hr average by CEMS; average of 3 1-hr tests by stack test) 0.15 (non-ozone season average)	0.25 (rolling 24-hr average), (Regulation 1112 Table 3-I)	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))	0.15 (90 day rolling average), (Chapter 145 3.B.(2)(b))	Boiler serving EGU 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)) ICI boiler 0.08 (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, 7:27-19.15(a))	0.08 (1-hr average unless CEMS (24-hr average)), (227-2.4(c))	0.12 (30-day rolling average if CEMS; stack test if no CEMS) (129.97(g)(1)(ii), 129.100(a))	Utility boiler 0.25 (24-hr average), (Regulation 27.8.1) ICI boiler 0.12 (1-hr average), (Regulation 27.8.2)
Natural gas boilers	Phase 1 EGU boilers 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) Phase 2 EGU boilers 0.10 (24-hr average by CEMS; average of 3 1-hr tests by stack test)	0.20 (rolling 24-hr average), (Regulation 1112 Table 3-I)	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))	0.15 (90 day rolling average), (Chapter 145 3.B.(2)(b))	Boiler serving EGU 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))	0.05 (1-hr average unless CEMS (24-hr average)), (227-2.4(c))	0.10 (30-day rolling average if CEMS; stack test if no CEMS) (129.97(g)(1)(i), 129.100(a))	Utility boiler 0.20 (24-hr average), (Regulation 27.8.1) ICI boiler

Table 5. Select NOx Limits in Some OTC States for Fuel-Burning Emission Units Burning Particular Fuels.

	0.15 (non-ozone season average)				ICI boiler 0.05 (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, 7.27-19.15(a))			0.10 (1-hr average), (Regulation 27.8.2)
Oil-fired Simple Cycle Turbines	Phase 1 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) Phase 2 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 1112 Table 3-2	65 ppm hourly average (if capacity factor > 15%) or meet PSD, whichever is more restrictive 26.11.09.08(G)(2)	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 ozone season average unless CEMS (24-hr average)), (227-3.4) As of May 1, 2025 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
Gas-fired Simple Cycle Turbines	Phase 1 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) Phase 2 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 1112 Table 3-2)	42ppm hourly average (if capacity factor >15%) or meet PSD, whichever is more restrictive 26.11.09.08(G)(2)	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 ozone season average unless CEMS (24-hr average)), 227-2.4(e)) As of May 1, 2025 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
Lean burn oil-fired engines	Phase 1 8.0 g/bk hp-hr (24-hr average by CEMS; average of 3 1-hr tests by stack test) Phase 2 1.5 g/bk hp-hr (24-hr average by CEMS; average of 3 1-hr tests by stack test)	No limit identified	Subject to the standards of 40 CFR 63, subpart ZZZZ; 40 CFR 60 subpart IIII; or 40 CFR 60 subpart JJJJ. 26.11.36	No limit identified	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))	8.0 grams/Bhp-hr (30-day rolling average if CEMS; 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)