Connecticut
Department of Energy &
Environmental Protection

Connecticut Department of Energy and Environmental Protection
Bureau of Air Management

Reasonably Available Control Measures and Reasonably Available Control Technology Analysis under the 2008 8-Hour Ozone National Ambient Air Quality Standard Reclassification to Severe Non-attainment for the Connecticut Portion of the New York-N. New Jersey- Long Island Non-attainment Area

4 November 2025

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 or commits to complete its RACM/RACT planning obligations under the Clean Air Act, as amended in 1990 (CAA), for the reclassification of the Connecticut portion of the New York-N. New Jersey- Long Island (NY-NJ-CT) non-attainment area to severe non-attainment for the 2008 ozone national ambient air quality standard (NAAQS).[1] DEEP's most recent RACT State Implementation Plan (SIP) was submitted on 23 May 2023 for the reclassification of the Greater Connecticut non-attainment area to moderate non-attainment for the 2015 ozone NAAQS.[2]

The U.S. Environmental Protection Agency (EPA) published a final Implementation Rule for the 2008 ozone NAAQS on 6 March 2015.[3] 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. According to the Reclassification Rule, RACT measures should be implemented by 7 November 2025 to produce emissions reductions in the 2026 ozone season, the last of the three ozone seasons preceding the attainment date for the severe area of 20 July 2027. RACT addresses all volatile organic compound (VOC) sources covered by a control techniques guidelines (CTG) and all major non-CTG sources of nitrogen oxides (NOx) and VOCs. For the purposes of this analysis, any source that has the potential to emit at least 25 tons per year (tpy) of NOx or VOC is a major source.

I. Classification History

The current classification of severe non-attainment for the 2008 ozone NAAQS for the Connecticut portion of the NY-NJ-CT non-attainment area was preceded by a series of reclassifications from the original designation of marginal non-attainment on 20 July 2012.[4]

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[1] *Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Areas Classified as Serious for the 2008 Ozone National Ambient Air Quality Standards*. 87 FR 194, 60926 (October 7, 2022) (the "Reclassification Rule").
[2] Air SIP Revisions Other State Plans for Control of Air Pollution (ct.gov).
[3] *Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements.* 80 FR 12264.
[4] *Air Quality Designations for the 2008 Ozone National Ambient Air Quality Standards*, 77 FR 30088 (May 21, 2012).

On 3 June 2016, the entire state was reclassified to moderate non-attainment because its two non-attainment areas did not attain the 2008 ozone NAAQS by the attainment date of 20 July 2015.[5] Both non-attainment areas were reclassified again for this standard to serious non-attainment on 23 September 2019 after failing to attain by the attainment date of 20 July 2018.[6] Effective 12 August 2020, EPA determined that the Greater Connecticut non-attainment area had monitored attainment of the 2008 ozone NAAQS in a Clean Data Determination.[7] On 7 October 2022 in the Reclassification Rule, EPA determined the Greater Connecticut non-attainment area had attained the 2008 ozone NAAQS and reclassified the NY-NJ-CT area to severe non-attainment effective 7 November 2022.

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 non-attainment persists, even as the number of exceedance days has reduced dramatically over time. *See* Figure 1. The number of ozone non-attainment areas in the Northeast and mid-Atlantic regions has also reduced over time, leaving the persistent non-attainment in the greater New York City area as an outlier. In Connecticut, the 2024 ozone season included an increase in ozone exceedance days compared to the 2023 ozone season (23 versus 19). Nonetheless, design values in both non-attainment areas in Connecticut decreased from 2023, to 80 parts per billion (ppb) in the Connecticut portion of the NY-NJ-CT non-attainment area and 72 ppb in the Greater Connecticut non-attainment area.[8] Monitored fourth high ozone levels will have to decrease in ozone seasons 2025 and 2026 in the NY-NJ-CT non-attainment area to attain the 2008 ozone NAAQS by the July 20, 2027 attainment date.

RACT is focused on controls for major stationary sources of NOx 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 NOx emissions from all National Emissions Inventory (NEI) data categories – point, nonpoint, nonroad and on-road – for the period 2002-2020 in Connecticut. NOx emissions have declined steadily in Connecticut from all sectors, particularly the point, nonroad and on-road. Mobile source emissions (on-road and nonroad) are the largest NOx emissions sector in 2020. Available emissions reductions from stationary sources are smaller than those from mobile sources, making them less consequential as a means to reduce ambient ozone levels. For example, Connecticut's major stationary sources emitted 3,394 tons of NOx in 2023, according to Connecticut's 2023 emission statement reporting. Reported VOC emissions from major stationary sources were even lower at approximately 747 tons in 2023.

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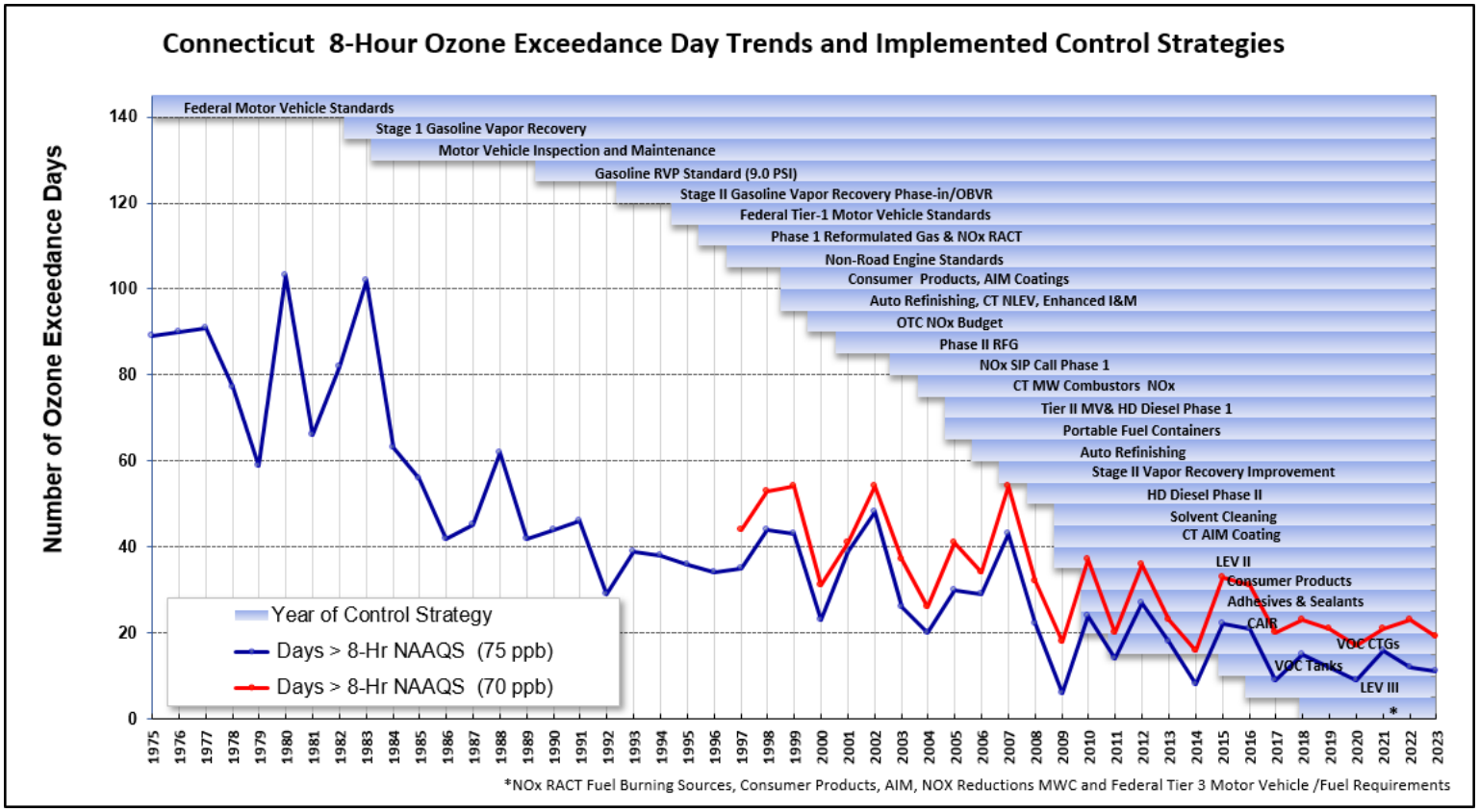
[5] *Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Several Areas for the 2008 Ozone National Ambient Air Quality Standards*, 81 FR 26697 (May 4, 2016).
[6] *Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Several Areas Classified as Moderate for the 2008 Ozone National Ambient Air Quality Standards*, 84 FR 44238 (August 23, 2019).
[7] *Air Plan Approval and Air Quality Designation; Connecticut; Determination of Clean Data for the 2008 8-Hour Ozone Standard for the Greater Connecticut Area*, 85 FR 41924 (July 13, 2020).
[8] 2024 Ozone Season Summary, Daniella Lopez, SIPRAC, October 10, 2024. Archived SIPRAC Materials and Docs.

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



Connecticut has few additional RACT emissions 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 federal and regional activity that impacts emissions of NOx and VOC during the 2024-2026 ozone seasons is summarized in this section.

Table 1. NOx Emissions in Connecticut for all NEI Data Categories, 2002-2020 (Tons)

NEI Category	2002	2008	2011	2014	2017	2020	NOx Reduction (2002 – 2020)	Percent NOx Reduction (2002 – 2020)
Air Markets Program Data (AMPD) Point	6,329	4,133	1,667	1,955	1,052	923	-5,406	-85%
Non-AMPD Point	7,702	4,447	4,737	4,614	4,174	4,319	-3,383	-44%
Nonpoint	15,189	17,045	16,719	15,119	13,709	12,882	-2,307	-15%
Nonroad	18,980	15,835	13,046	10,640	7,329	6,444	-12,536	-66%
Onroad	66,813	51,619	36,659	30,676	20,311	13,789	-53,024	-79%
Total	**115,012**	**93,080**	**72,828**	**63,003**	**46,575**	**38,357**	**-76,655**	**-67%**

A. Federal Efforts

This section reviews a series of rules in a dynamic Federal environment. The text has been updated with changes since the SIP was proposed, but the current federal deregulatory agenda suggests that few, if any, of the expected rule reductions will be realized, but none of the deregulatory actions are final. The descriptive text is retained despite the uncertainty.

On June 5, 2023, EPA finalized a Federal Implementation Plan ("the Good Neighbor FIP") to assure that the 26 states identified in the proposal do not significantly contribute to problems attaining and maintaining the 2015 ozone NAAQS in downwind states.[9] EPA asserts that this action will help states fully resolve their CAA "good neighbor" obligations for the 2015 ozone NAAQS. Although this rule targets attainment of the 2015 ozone NAAQS, any emissions reductions achieved in upwind states would also assist in Connecticut reaching attainment of the 2008 ozone NAAQS. However, the rule is currently being litigated and implementation has been delayed.

EPA received several petitions for reconsideration and associated requests for administrative stay on this rule. EPA partially denied four of these petitions on April 4, 2024.[10] In this notification of action, EPA stated that the four petitions provided no basis on which the Good Neighbor FIP should be modified or withdrawn.

[9] *Federal ''Good Neighbor Plan'' for the 2015 Ozone National Ambient Air Quality Standards,* 88 FR 36654 (June 5, 2023).
[10] *Partial Denial of Petitions for Reconsideration: Federal ''Good Neighbor Plan'' for the 2015 Ozone National Ambient Air Quality Standards*, 89 FR 23526 (April 4, 2024).

After EPA issued the Good Neighbor FIP, litigation over EPA's disapprovals of SIPs, which resulted in the applicability of the FIP to a state, continued. One court after another issued stays.[11] Each new stay meant another state in which the FIP did not apply. In June and September 2023, EPA amended the Good Neighbor FIP to stay the effectiveness of its requirements in twelve of twenty-three states in response to judicial stays.[12]

A number of the remaining States and industry groups challenged the Good Neighbor FIP in the D.C. Circuit. After the D.C. Circuit denied their stay motions, these entities submitted a request for an emergency stay from the Supreme Court of the United States. On June 27, 2024, the Supreme Court ruled to enjoin EPA from enforcing the Good Neighbor FIP while litigation on the merits continues in the D.C. Circuit Court of Appeals. [13] In an action signed on October 29, 2024, EPA responded to the Supreme Court decision by amending the Good Neighbor FIP to stay the effectiveness of the FIP in the remaining 11 states not already subject to a stay.[14] EPA moved for a partial voluntary remand of the Good Neighbor FIP to allow EPA to address the likely record deficiency identified by the Supreme Court. The D.C. Circuit Court remanded the record to EPA, placed the consolidated cases into abeyance and directed the parties to file motions to govern future proceedings within 30 days of completion of the proceedings on remand. EPA notified the D.C. Circuit Court in early December 2024 that it had completed its action on remand and subsequently filed an Amended Certified Index to the Record. The Court set a briefing schedule to complete supplemental briefing by early March 2025.

On 6 February 2025, EPA filed with the D.C. Circuit Court requesting the Court hold the consolidated cases in abeyance for 60 days while the new administration familiarized themselves with the Good Neighbor FIP as well as numerous other EPA rulemakings during this same period. On 12 February 2025, a group of states and cities file a motion in opposition to EPA's request to hold the challenge in abeyance for 60 days. In March 2025, EPA announced its plan to rollback the Good Neighbor plan.[15] On 14 April 2025, the D.C. Circuit Court ordered that the consolidated cases be held in abeyance pending further order of the court.[16] Thus, Connecticut cannot expect to receive emissions reductions from the Good Neighbor FIP.

EPA has proposed and finalized several recent rulemakings which will reduce emissions from the oil and natural gas industry, most of which are included in EPA's deregulatory agenda making the anticipated emissions reductions uncertain. On 8 March 2024, EPA finalized several actions which will significantly reduce greenhouse gas (GHG) emissions and VOC emissions from new, modified, and reconstructed facilities and establish new limits for currently

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[11] *See, e.g.*, Order in No. 23–60069 (CA5, June 8, 2023) (Mississippi); Order in No. 23–682 (CA9, July 3, 2023) (Nevada); Order in No. 23–1776 (CA8, July 5, 2023) (Minnesota); Order in No. 23–3216 (CA6, July 25, 2023) (Kentucky); Order in No. 23–9520 etc. (CA10, July 27, 2023) (Utah and Oklahoma); Order in No. 23–11173 (CA11, Aug. 17, 2023) (Alabama); see also Order in No. 23–1418 (CA4, Aug. 10, 2023) (West Virginia, pending oral argument on preliminary motions to stay and to transfer); Order in No. 23–1418 (CA4, Jan. 10, 2024) (West Virginia, after oral argument and pending merits review of petition).

[12] 88 FR 49295 (31 July 2023). 88 FR 67102 (29 September 2023).

[13] Ohio v. EPA, 603 U.S.279 (2024). EPA filed a motion for expedited briefing and consolidation of cases with the D.C. Court of Appeals.

[14] 89 FR 87960 (6 November 2024).

[15] EPA Press Office. EPA Launches Biggest Deregulatory Action in U.S. History. 12 March 2025.

[16] State of Utah v. EPA. USCA Case #23-1157 (14 April 2025).

unregulated facilities.[17] EPA also finalized a rule on 29 February 2024 amending two National Emissions Standards for Hazardous Air Pollutants and adding one New Source Performance Standard (NSPS) which will reduce VOC emissions from storage vessels and loading operations.[18] On 4 October 2023, EPA proposed a new NSPS to reduce emissions from volatile organic liquid petroleum storage vessels.[19] While these rules will not create significant in-state reductions in ozone precursors, when implemented, these rules will reduce emissions of VOCs in upwind states and assist in reducing ozone transport to Connecticut.

On 23 January 2024, EPA proposed amendments to the NSPS and Emission Guidelines (EG) for large municipal waste combustor (MWC) units.[20] This rule proposes to significantly reduce NOx emission limits for both new and existing sources. Although the proposed compliance dates in this rule would not provide NOx reductions within the 2024-2026 timeframe, this rule will result in significant NOx emissions reductions, if implemented. The NSPS and EG have been further delayed by a reopened comment period that concluded on 16 July 2025.[21]

For mobile sources, EPA has finalized more stringent emission standards for various types of vehicles which will reduce NOx emissions.[22] EPA has also issued waivers of preemption under Section 209(b) of the CAA for the Heavy-Duty Vehicle and Engine Emission Warranty Regulations and Maintenance Provisions, the Advanced Clean Trucks Regulation, the Zero Emission Airport Shuttle Regulation, the Zero-Emission Power Train Certification Regulation in California[23] and the Omnibus Low NOx Regulation in California.[24]

The timing of the described federal measures is such that they will have little or no impact on measured ozone levels in Connecticut in the 2024-2026 ozone seasons.

B. Regional Efforts

Connecticut participates in the Ozone Transport Commission (OTC). In its most recent significant action, in 2022 OTC issued a report on MWC emissions demonstrating that additional NOx controls are technically feasible and cost effective for many units in the Ozone Transport

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[17] *Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review*, 89 FR 16820 (March 8, 2024). The implementation of the state plan requirements occurs well after the 2026 ozone season.

[18] *National Emission Standards for Hazardous Air Pollutants: Gasoline Distribution Technology Reviews and New Source Performance Standards Review for Bulk Gasoline Terminals*. 89 FR 39304 (8 May 2024).

[19] *New Source Performance Standards Review for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)*, 88 FR 68535 (October 4, 2023).

[20] *Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Large Municipal Waste Combustors Voluntary Remand Response and 5- Year Review*, 89 FR 4243 (January 23, 2024).

[21] 90 FR 4708 (16 January 2025).

[22] *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards*, 88 FR 4296 (January 24, 2023); *Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles*, 89 FR 27842 (April 18, 2024); *Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles-Phase 3*, 89 FR 29440 (April 22, 2024).

[23] *California State Motor Vehicle and Engine Pollution Control Standards; Heavy-Duty Vehicle and Engine Emission Warranty and Maintenance Provisions; Advanced Clean Trucks; Zero Emission Airport Shuttle; Zero-Emission Power Train Certification; Waiver of Preemption; Notice of Decision*, 88 FR 20688 (April 6, 2023).

[24] *California State Motor Vehicle Pollution Control Standards and Nonroad Engine Pollution Control Standards; The ''Omnibus'' Low NOx Regulation; Waivers of Preemption; Notice of Decision. 90 FR 643 (6 January 2025)*.

Region. The member states entered into a memorandum of understanding in June 2022 agreeing to work together to pursue additional NOx reductions from MWCs in the region.

DEEP also participates in two Northeast States for Coordinated Air Use Management (NESCAUM) workgroups related to emissions from buildings: the Building Electrification Initiative Task Force (BEI Task Force) and the Equipment Emissions Standards Cohort (EESC), which is a subset of the BEI Task Force. The BEI Task Force is a multi-state group focused on planning and information sharing for states on building electrification topics. The BEI Task Force developed a memorandum of understanding committing to accelerate the adoption of heat pump technology in residential buildings. On February 7, 2024, nine states, six of which are part of the Ozone Transport Region, signed this memorandum of understanding. This agreement sets a target for heat pumps to make up 65% of residential space heating and cooling and water heating shipments by 2030 and 90% by 2040 across the participating states. To implement this agreement, the BEI Task Force is developing an action plan informed by information shared within the BEI Task Force, environmental justice considerations from the Environmental Justice Advisory Group, and stakeholder engagement through the development of a Stakeholder Advisory Group. The EESC is developing a model rule for states to adopt regarding the regulation of GHG emissions from space and water heaters. Although Connecticut is not a signatory state on this memorandum of understanding and DEEP is not currently pursuing adoption of the model rule when finalized, the regional NOx reductions anticipated to result from this agreement and rule implementation in other states will assist in progress toward ozone attainment in Connecticut. DEEP is pursuing the implementation of heat pump technology in residential buildings through its recently funded Climate Pollution Reduction Grant, The New England Heat Pump Accelerator.[25]

C. Connecticut's Efforts Including RACM

This section provides a discussion of RACM for attainment of the reclassification of the Connecticut portion of the NY-NJ-CT non-attainment area to severe non-attainment for the 2008 ozone NAAQS. A RACM analysis includes point, area and mobile source measures. According to the Implementation Rule, the state must demonstrate that "it has adopted all reasonable measures (including RACT) to meet RFP [*reasonable further progress*] requirements and to demonstrate attainment as expeditiously as practicable and that that no additional measures that are reasonable will advance the attainment date or contribute to RFP for the area."[26] RACM is further defined by EPA as any potential control measure for application to point, area, on-road or nonroad emission source categories that meets the following criteria:

- The control measure is technically feasible;
- The control measure is economically feasible;
- The control measure does not cause "substantial widespread and long-term adverse impacts;"
- The control measure is not "absurd, unenforceable or impracticable;"

[25] States of Connecticut, Maine, Massachusetts, New Hampshire, and Rhode Island, EPA (July 22, 2024). https://www.epa.gov/inflation-reduction-act/states-connecticut-maine-massachusetts-new-hampshire-and-rhode-island.

[26] Implementation Rule at 12282.

- The control measure can advance the attainment date by at least one year. [27]

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 sources that emit NOx or VOC at levels above the major source thresholds. RACT is analyzed later in this document.

Previously Adopted Measures

This RACT/RACM analysis and conclusions for the 2008 75 ppb 8-hour ozone NAAQS reclassification to severe nonattainment build on the RACT/RACM analyses for the earlier classifications for the 2008 ozone NAAQS as well as the analyses conducted for the 1997 ozone NAAQS of 0.08 ppm under which the state was originally classified as moderate statewide. The RACT SIP submitted to EPA on 8 December 2006 identified a series of control measures recommended by the OTC, many of which Connecticut was pursuing at that time and has subsequently adopted or strengthened. The attainment demonstration dated 1 February 2008[28] added several more measures to those identified in the RACT SIP, together resulting in the following measures related to the 1997 NAAQS:

VOC Control Measures	**Connecticut statute (CGS) or regulation (RCSA)**
Automotive refinishing operations	RCSA section 22a-174-3b(d)
Reformulation of consumer products	RCSA section 22a-174-40, subsequently amended
Architectural and industrial maintenance products	RCSA section 22a-174-41
Restrictions on asphalt used for paving operations	RCSA section 22a-174-20(k)
Restrictions on manufacture and use of adhesives and sealants	RCSA section 22a-174-44
Solvent cleaning	RCSA section 22a-174-20(l)
NOx Control Measures	
Reductions in the sulfur content of heating oil	CGS section 16a-21a, RCSA section 22a-174-19a RCSA section 2a-174-19b
Industrial, commercial and institutional boilers	RCSA section 22a-174-22

[27] EPA continues to apply existing RACM guidance to the 2008 ozone NAAQS. See, e.g., Guidance on the RACM Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas. John S. Seitz. Memo. November 1999. Additional Submission on RACM from States with Severe 1-hour Ozone Nonattainment Area SIPs. John S. Seitz. Memo. 14 December 2000.

[28] 8-hour Ozone Technical Support Document, February 1, 2008. Microsoft Word - Title Page with logo & ADA language.doc

Standards for municipal waste combustion	RCSA section 22a-174-38

For the 2008 ozone standard, the August 2017 attainment demonstration[29] for the reclassification to moderate nonattainment identified additional measures that were adopted as RACT:

- Additional NOx reductions from municipal waste combustors, RCSA section 22a-174-38; and
- Adoption of new emission limits for fuel-burning equipment at major sources of NOx, RCSA section 22a-174-22e.

While not addressing major sources of NOx and hence not a RACT measure, Connecticut also adopted daily ozone season emissions caps for fuel-burning equipment in RCSA section 22a-174-22f.

Also identified in the 2017 attainment demonstration are eleven VOC control measures enacted since 2011 which are CTG- or ACT- based, including additional requirements for VOC emissions from transfer and dispensing of gasoline such as CARB-approved P/V vent valves and an annual pressure decay test, which exceeded the CTG requirements.

Control Measure	Connecticut regulation	Adoption date	Basis
Metal furniture coating	22a-174-20(p)	04/06/2010	CTG for metal furniture coatings (2007)
Paper, film and foil coating	22a-174-20(q)	04/06/2010	CTG for paper, film and foil coatings
Flexible package printing	22a-174-20(ff)	04/06/2010	CTG for flexible package printing (2006)
Offset lithographic and letterpress printing	22a-174-20(gg)	04/06/2010	CTG for offset lithographic printing and letterpress printing (2006)
Large appliance coatings	22a-174-20(hh)	04/06/2010	CTG for large appliance coatings (2007)
Industrial solvent cleaning	22a-174-20(ii)	04/06/2010	CTG for industrial cleaning solvents (2007)
Spray application equipment cleaning	22a-174-20(jj)	04/06/2010	State-specific requirements

[29] 8-Hour Ozone Attainment Demonstration for the Connecticut Portion of the New York-Northern New Jersey-Long Island (NY-NJ-CT) Nonattainment Area Technical Support Document. August 2017. southwestconnecticutattainmentsipfinalpdf.pdf

Miscellaneous metal and plastic parts coating	22a-174-20(s)	10/31/2012	CTG for miscellaneous metal and plastic parts coating (2008)
Pleasure craft coating	22a-174-20(kk)	10/31/2012	CTG for miscellaneous metal and plastic parts coating (2008)
Aboveground storage tanks	22a-174-20(a)	03/07/2014	ACT for volatile organic liquid storage in floating and fixed roof tanks (1994) Control of volatile organic emissions from petroleum liquid storage in external floating roof tanks (1978) Control of volatile organic emissions from storage of petroleum liquids in fixed roof tanks (1977)
Transfer and dispensing of gasoline	22a-174-20(a), 22a-174-30a	07/08/2015	Design criteria for Stage I vapor control systems – gasoline service stations (1975)

The June 2022 attainment demonstration for the reclassification to serious nonattainment added several mobile source RACM for measures resulting from the VW settlement, Disel Emission Reduction Act grants for reductions in diesel emissions, and deployment of electric vehicles. [30] This RACM analysis must be read with these previously adopted measures for the 1997 and 2008 ozone NAAQS in mind.

To be considered RACM for this analysis, a measure must produce emissions reductions in 2024-2026 ozone seasons. For this timeframe, Connecticut has adopted or commits to adopt 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 for a minimum of one year.

[30] RACT Analysis. 23 November 2020. Page 5. attachment-a-1-final-ract-sip-revision-rev.pdf

Stationary Sources
Aside from the measure identified as RACT of Section IV of this document, no additional measures could reasonably be adopted in the time allowed for the implementation of measures for the reclassification to severe non-attainment for the Southwest Connecticut non-attainment area for the 2008 ozone NAAQS.

Area Sources
While this analysis identifies some area source measures such as building electrification in Section II.B. and space and water heating in Section II.D., these potential measures will not produce NOx reductions in the 2024-2026 ozone seasons and thus cannot be considered as RACM.

Mobile Sources
This portion of the RACM analysis updates the mobile source measures beyond transportation control measures identified in the most recent RACM submission of May 2023 for the reclassification to moderate non-attainment for the Greater Connecticut area for the 2015 ozone NAAQS. The identified measures are not limited to a single non-attainment area as DEEP implements its programs statewide.

The 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 GHG reduction goals,[31] the programs will yield reductions in NOx and/or VOC emissions and thus will assist in attaining the 2008 ozone NAAQS as expeditiously as possible. However, the listed measures are not sufficient to advance the attainment date for the Connecticut portion of the NY-NJ-CT non-attainment area by one year. The cost per ton for many of the mobile source measures is high, but such measures are considered feasible given the availability of public funding. These emissions reductions in the 2024-2026 period will be used to determine attainment by the attainment date of 20 July 2027. DEEP is not aware of additional technically and economically feasible mobile source measures, which may be implemented in time to be considered RACM for the 2008 ozone NAAQS.

- **VW Settlement**. Approximately $6 million has been awarded in grants to expand access to the Electric Vehicle Supply Equipment Program. The fifty-five projects selected for funding under this funding cycle, over their lifetime, will cost-effectively reduce 2,760 tons of NOx emissions from environmental justice communities and other areas of Connecticut that bear a disproportionate share of air pollution. The award letters for these projects were sent out at the end of June 2023, and the projects must be finished by 30 June 2025.
- **Diesel Emission Reduction Act (DERA) Grants**. The DERA program is designed to achieve reductions in diesel emissions. The total of all projects awarded under the 2021-2022 Connecticut DERA Grant program is expected to yield lifetime NOx reductions of 164.19 tons. Much of the new equipment purchased with 2021-2022 funds will be in service in the 2024 ozone season.

[31] Connecticut General Statutes Sec. 22a-200a. Reduction of greenhouse gas emissions: Mandated levels.

- **Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR)**. CHEAPR is a statutory incentive program, which 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 29 March 2023, which provides rebates for new and used eligible vehicles and will soon include light-duty fleets. From May 2015 through 19 January 2024, the program issued 13,411 total rebates of which 5,348 were plug-in hybrid electric vehicles and 8,063 were highway capable electric vehicles. Additionally, on 28 June 2023, CHEAPR expanded to include an Electric Bicycle (eBike) Incentive Program which provides vouchers for the purchase of eligible eBikes at participating Connecticut based eBike retailers. Throughout the first round of the eBike Incentive Program, there were 468 total vouchers approved and 422 total vouchers redeemed.
- **Charging and Fueling Infrastructure Grant**. DEEP applied for and received a U.S. Department of Transportation grant for $13 million to install 92 direct current fast chargers and 8 level 2 EV chargers in seven towns around Connecticut. This grant is expected to be executed during the 2024-2026 timeframe.
- **Clean School Buses**. Public Act 22-25 mandated that all school buses in environmental justice neighborhoods transition to electric buses by 2030, and all school buses in Connecticut by 2035. To support this effort, DEEP has been allocated $20 million to help support school districts to apply for additional funding from EPA. To date, Connecticut towns have been approved for 75 electric buses which are expected to be operational in the next two years.
- **Inspection and Maintenance Improvements**. In the last two years, DEEP has worked with the Connecticut Department of Motor Vehicles to improve the Connecticut Inspection and Maintenance Program. Program improvements include the implementation of online Certified Testing Inspector training and exams, planning to train students in the Automotive Program at Connecticut Vocational Schools to become Certified Testing Inspectors, and increased oversight and monitoring of the program.

While the emissions reductions in the design value years of 2024-2026 from the projects listed above are minimal, no reasonable controls have been excluded. Because of the overwhelming influence of transported emissions, no additional feasible controls on in-state sources will advance attainment by one year. The listed efforts are working to reduce the pool of ozone precursors and will continue to produce emissions reductions throughout the lifetimes of the projects, which will assist Connecticut in eventually resolving its ozone non-attainment.

D. GHG Reduction Efforts and Ozone Co-Benefits

Recent efforts by EPA and states upwind to Connecticut to reduce GHGs have had the co-benefit of reducing NOx and VOC, the precursors to ozone, and therefore reducing the transport of ozone from upwind states to Connecticut.

On 9 May 2024, EPA finalized standards of performance for GHG emissions from new and existing fossil fuel-fired electric generating units (EGUs) and repealed the Affordable Clean

Energy Rule.[32] If the rule is implemented, it will benefit Connecticut's ozone attainment issue. By reducing GHG emissions from fossil fuel-fired power plants in upwind states, Connecticut would receive less transported ozone due to the reduction in co-pollutants such as NOx and VOC, thus helping Connecticut reach attainment of the ozone standard. However, the rule is currently under reconsideration so any future benefits are questionable.[33]

At the regional level, the Regional Greenhouse Gas Initiative (RGGI) aims to reduces carbon dioxide (CO_2) emissions from fossil fuel-fired EGUs with a capacity of 25 megawatts (MW) or greater through a CO_2 budget trading program. Between 2008 and 2021, the nine founding states of RGGI –Connecticut, Delaware, Maine, Massachusetts, Maryland, New Hampshire, New York, Rhode Island, and Vermont– have reduced CO_2 emissions from power plants by nearly 50%.[34] CO_2 emissions will be further reduced as RGGI continues to regulate CO_2 emissions from EGUs.

Although many upwind states are in the process of procuring offshore wind projects to further reduce GHG emissions by replacing fossil-fuel derived energy with zero-emissions renewable energy, a presidential memorandum issued in January 2025 halted all new offshore wind leasing and paused permit projects.[35] Some examples of planned upwind state offshore wind projects include the New York State Energy Research and Development Authority (NYSERDA) is currently solicitating proposals for new offshore wind projects to achieve New York's goal of developing 9,000 MW of offshore wind capacity by 2035.[36] Also, New Jersey has procured 3,742 MW of offshore wind capacity to reach the state's goals of procuring 11,000 MW of offshore wind capacity by 2040 and achieving a 100% clean energy economy by 2035.[37] Maryland has procured 2022.5 MW of offshore wind capacity which is expected to be operational in 2026.[38] The delay and uncertainty produced by the presidential memorandum suggests that expected benefits of offshore wind projects may not be realized.

Upwind states are also working to reduce GHG emissions by incentivizing the purchase of zero-emission electric vehicles through state tax credits and rebates.[39] To the extent that any such

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[32] *New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule*, 89 FR 39798 (May 9, 2024).

[33] *Repeal of Greenhouse Gas Emissions Standards for Fossil Fuel-Fired Electric Generating Units.* 90 FR 25752. 17 June 2025.

[34] Butterworth, B., Tamayo, P.A., and Boyd, A. (2023). *Regional Greenhouse Gas Initiative Findings and Recommendations for the Third Program Review*. Acadia Center. https://acadiacenter.wpenginepowered.com/wp-content/uploads/2023/04/AC_RGGI_2023_Layout_R6.pdf

[35] *Temporary Withdrawal of All Area on the Outer Continental Shelf from Offshore Wind Leasing and Review of the Federal Government's Leasing and Permitting Practices for Wind Projects*. 20 January 2025.

[36] Offshore Wind Supportive Manufacturing and Logistics Request for Proposals. https://portal.nyserda.ny.gov/

[37] NJBPU Approves Over 3,700 MW of Offshore Wind Capacity in Combined Award. https://www.nj.gov/bpu/newsroom/2023/approved/20240124.html

[38] Offshore Wind Projects in Maryland. https://offshorewindmaryland.org/offshore-wind-projects-in-md/

[39] *See* Drive Electric in New York State, https://www.nyserda.ny.gov/All-Programs/ChargeNY/Drive-Electric; Incentives to Drive Green, https://dep.nj.gov/drivegreen/affordability-incentives/; Zero Emission Vehicles, https://mde.maryland.gov/programs/air/mobilesources/pages/zev.aspx; Delaware Laws and Incentives,

actions reduce GHG emissions in states upwind to Connecticut, co-benefits of NOx and VOC emissions reductions will be achieved, thus reducing ozone transport to Connecticut.

Connecticut has implemented programs to reduce GHGs and recently received specific funding for such efforts. EPA's climate pollution reduction grant (CPRG) implementation grant program provides $5 billion in competitive grants to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing GHG emissions and other harmful air pollution. DEEP submitted three CPRG implementation grant program applications in April of 2024 and was awarded funding for two of these applications on July 22, 2024.[40] The first selected application is the New England Heat Pump Accelerator, which is a coalition project with Massachusetts, Maine, New Hampshire, and Rhode Island, of which DEEP is the lead applicant. This project will leverage $450 million to rapidly accelerate the adoption of heat pump space and water heaters in residential buildings across the coalition region through the multi-state market. This project aims to install nearly 580,000 heat pumps and sets a target for heat pumps to make up 65% of residential space heating and cooling and water heating sales by 2030 and 90% by 2040.[41] The second selected application is the Clean Corridor Coalition, which is a coalition headed by the New Jersey Department of Environmental Protection and includes Connecticut, Delaware, and Maryland. This project will use the awarded $248.9 million of funding to support the deployment of electric vehicle charging infrastructure for commercial zero-emission vehicle traveling along the I-95 freight corridor from Connecticut to Maryland.

Connecticut has worked with EPA to develop an application of one of EPA's models to estimate the ozone benefits of GHG reduction efforts. During the winter of 2020, EPA's Office of Research and Development and EPA Region 1, along with the Joint Global Change Research Institute began a two-year collaboration with DEEP to use the GCAM (Global Change Analysis Model) Long-term Interactive Multi-Pollutant Scenario Evaluator (GLIMPSE) to analyze the co-benefit in criteria pollutant reductions of different GHG emission reduction efforts in Connecticut and states with major contributions to Connecticut's ozone levels. Some of the policies and programs included in the model are state Clean Energy Standards, RGGI, renewable portfolio standard targets, and CAA section 177 light-duty vehicle sales targets. The project team also explored ways to translate these emission changes into insights about ozone attainment. The modeling suggests that NOx emissions reductions yield ozone benefits starting before 2026 and increasing significantly thereafter. According to the modeling, the NOx reductions under these decarbonization scenarios could reduce ozone concentrations at Connecticut monitoring sites by an average of 7-11 ppb by 2032 relative to 2023, with reductions growing to nearly 15-20 ppb by 2050.[42] Although EPA no longer supports the GLIMPSE model, DEEP may work with other states to better estimate the ozone impacts of decarbonization efforts in a manner suitable for use in attainment planning.

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https://afdc.energy.gov/laws/all?state=DE; Electric Vehicles in PA, https://www.dep.pa.gov/Business/Energy/OfficeofPollutionPrevention/ElectricVehicles/Pages/default.aspx.

[40] *See* https://www.epa.gov/inflation-reduction-act/general-competition-selected-applications-table.

[41] Note that these targets are the same as those in the memorandum of understanding developed by the BEI Task Force.

[42] EPA Research Partner Support Stories | US EPA. See the "Air" tab, project 2.

While none of the discussed GHG measures yield NOx co-benefits that will serve as RACM for this reclassification because the emissions reductions do not occur in the required timeframe, the GHG measures may assist in eventual attainment if implemented as planned.

III. RACT Analysis

This section sets out DEEP's analysis of its RACT requirements for CTG sources and major sources of NOx and VOC. Connecticut's current regulatory requirements accomplish a RACT level of control for both VOC and NOx. DEEP is exploring three regulatory improvements which may be considered RACT as each applies to either a CTG source or a major source of NOx. However, DEEP considers only one of the three regulatory improvements (additional NOx reductions at municipal waste combustors) to be necessary now to maintain a RACT level of control for the 2008 ozone NAAQS reclassification to severe non-attainment for the Connecticut portion of the NY-NJ-CT non-attainment area. The other two measures may be considered beyond RACT for this reclassification but may not be implemented in time to produce reductions for this reclassification.

DEEP has completed additional regulatory revisions which are necessary to apply RACT correctly for the 2008 ozone NAAQS reclassification to severe non-attainment for the Connecticut portion of the NY-NJ-CT non-attainment area. Such regulatory revisions were necessary to correct a difference in EPA and Connecticut's definitions of the Connecticut portion of the NY-NJ-CT non-attainment area. While these regulatory revisions do not involve control technology, the revisions do increase the number of sources subject to major source RACT and so serve as necessary regulatory infrastructure for the 2008 ozone NAAQS reclassification to severe non-attainment.

A. CTG Sources

In the 2023 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 2023 RACT SIP, EPA has not published any new CTGs. The information submitted in 2023 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 located at the end of this document. Table 2 also includes information to satisfy EPA's recent due diligence review framework for CTG sources[43] including a comparison with other state regulations, EPA's Menu of Control Measures, New Source Performance Standards, and National Emissions Standards for Hazardous Air Pollutants, as appropriate. Based on the information in Table 2, DEEP concludes that new or revised RACT regulations are not necessary for this reclassification to severe non-attainment, except as identified for certain source categories in this section.

[43] Ozone NAAQS Resource Document: Due Diligence Review Framework for Air Agencies Developing RACT SIP Revisions (December 19, 2024). https://www.epa.gov/system/files/documents/2024-12/o3_ract_dd_resource_12-19-24.pdf

Aboveground VOC Storage Tanks

Although the current regulatory requirements for aboveground storage tanks storing petroleum liquids are consistent with the corresponding CTGs as indicated in Table 2, DEEP has identified a potential new RACT requirement for aboveground storage tanks. While RCSA section 22a-174-20 currently disallows degassing events during the ozone season, it does not yet include requirements for the use of VOC control technology during degassing events. Degassing controls are already in place in several other states.[44] Some facilities in Connecticut have already voluntarily requested to use such controls during degassing events.[45] The already widespread use of VOC controls during degassing demonstrates that this technology is technically feasible. This is reinforced by EPA's proposal to adopt NSPS Subsection Kc, which proposes to use VOC controls at a 98% control efficiency during degassing events.[46] These controls have been demonstrated to be economically feasible as well. Cost estimates for the use of VOC controls during degassing range from $13,159 to $20,000 per ton of VOC removed.[47] Although these cost estimates are higher than typical VOC RACT in Connecticut, the cost of these controls would not be experienced annually, as degassing typically occurs once approximately every ten years. Furthermore, when the Maine Department of Environmental Protection developed their most recent amendment of 06-096 CMR chapter 170, which added VOC control requirements to tank degassing, they did not receive any comments regarding cost during the public comment period.[48] Because degassing controls are both technologically and economically feasible, DEEP is preparing an amendment to RCSA section 22a-174-20 to require the use of a vapor control system rated at a minimum 95% efficiency until the organic vapor concentration is 5,000 parts per million by volume (ppmv) or less as methane or is 10 percent of the lower explosive limit , as methane, whichever is lower. This requirement would significantly reduce VOC emissions from degassing events, which are highly concentrated and occur over a short period of time. However, given the infrequency of degassing events and the resulting low annual emissions from degassing, the effort is unlikely to have an impact on monitored levels of ozone. Nonetheless, controls may serve to reduce local exposures to VOC and serve as an environmental justice effort in Connecticut, since many of the storage tanks are located in environmental justice communities. DEEP is also considering provisions to enhance monitoring for aboveground VOC storage tanks with addition of lower explosive limit monitoring.

However, the aboveground storage tank measure is unlikely to be completed and applied to sources in time to produce emissions reductions in the 2026 ozone season,[49] so we are not committing to it as RACT for this review. Given the environmental justice benefits of this action and EPA's recent actions to reclassify the state as serious non-attainment for the 2015 ozone NAAQS, DEEP is pursuing adoption of this measure.

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[44] *See, e.g.*, NJ 7:27-16.2; ME Chapter 170; SJVAPCD Rule 4623; TX 115.54; 310 CMR 7.24;CO Regulation 7; CA Subarticle 13; SCAQMD Rule 1149.

[45] *See, e.g.*, Gulf Oil 117-0257-TV Minor Modification Application - Tank 112, in technical review.

[46] New Source Performance Standards Review for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), 88 FR 68535 (October 4, 2023).

[47] *See* South Coast Air Quality Management District Final Staff Report: Proposed Amended Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing, Attachment F (April 2008); NSR Engineering Evaluation for Buckeye Terminals, Permit number 117-0384 (February 24, 2022).

[48] Personal communication via email.

[49] In addition to a lengthy regulation adoption timeline (12 months to complete a simple amendment), DEEP anticipates additional time to develop this measure to allow for outreach related to environmental justice.

Tank Trucks and Gasoline Loading Terminals

Although Connecticut's current regulatory requirements for tank trucks and gasoline loading terminals are consistent with the corresponding CTGs as indicated in Table 2, DEEP is preparing an amendment to RCSA section 22a-174-20(b) which proposes to reduce the loading rack emission limit for gasoline loading from 80 mg/L to 10 mg/L. This reduced limit was derived from existing permit limits in Connecticut. Maine has already adopted a loading rack emission limit lower than the CTG limit[50], and Connecticut's proposed limit would be more stringent than Maine's limit.

Metal & Plastic Parts Coatings

Connecticut's current regulatory requirements for the metal and plastic parts coatings source category are consistent with the CTG requirements and other state regulations. Maine's regulatory requirements for this source category are also consistent with the CTG, except one of their control options requires a 95% overall control efficiency,[51] while the CTG and Connecticut's requirements in RCSA section 22a-174-20(s) require a 90% overall control efficiency. However, it is important to note that the overall control efficiency control option is one of several control options, and Maine's coating VOC content limits, which are another control option, are consistent with those of the CTG and Connecticut. Therefore, increasing the overall control efficiency control option without also decreasing the coating VOC content limits to be more stringent than the CTG would likely not produce any additional emissions reductions.

Printing Industries

Connecticut's current printing industries regulatory requirements in RCSA section 22a-174-20(gg) are consistent with the CTG requirements. Massachusetts and Vermont have provisions in their regulations for this source category which are more stringent than the CTG and Connecticut's requirements: Massachusetts has a lower alcohol substitutes limit (3% instead of 5%), a lower fountain solution VOC content limit (8% instead of 8.5%) for sheet-fed offset lithographic printing, and a lower coldset offset lithographic printing VOC content limit (2.5% instead of 5%)[52], and Vermont has a more stringent requirement for the overall control efficiency for controls on heatset dryers (99% instead of 90-95%).[53] However, adopting these more stringent provisions is unlikely to produce significant VOC emissions reductions, especially considering the extra costs incurred in order to achieve these emissions reductions. Thus, DEEP intends to maintain its current regulatory requirements for this source category.

Paper, Film, & Foil Coatings

Connecticut's current requirements in RCSA section 22a-174-20(q) for paper, film, and foil coatings are consistent with the CTG requirements for this source category. Although other states have requirements which are more stringent that the CTG and Connecticut's requirements

[50] ME Chapter 112.
[51] ME Chapter 129.
[52] MA 310 CMR 7.18(25).
[53] VT APCR 5-253.9.

(e.g., Maine requires a 95% overall control efficiency instead of 90%[54]). However, adopting these more stringent provisions is unlikely to produce significant VOC emissions reductions, especially considering the extra costs incurred in order to achieve these emissions reductions and the number of such coating lines currently operating in Connecticut.

Cutback Asphalt

The primary purpose of RCSA section 22a-174-20(k) is to reduce emissions of VOCs resulting from road paving and maintenance activities using cutback and emulsified asphalts during the ozone season (May 1 through September 30), when violations of the ozone NAAQS are most likely to occur. The emissions reductions result from a seasonal ban on the use of cutback asphalt and seasonal restrictions on the VOC content of emulsified asphalt. Some states have rules that prohibit the use of cutback asphalt throughout the year unless the asphalt contains less than 0.5% VOC. These rules may be considered more stringent than Connecticut's regulation. However, ozone season controls are more important than annual controls for ozone attainment. Also, asphalt paving operations in colder months in Connecticut will have difficulty curing, particularly if the VOC content is limited.

Other Rules

Although not resulting from a CTG, DEEP has adopted several other regulations to limit VOC emissions. These regulations are based on model rules or recommendations of the OTC and include limitations on the VOC content of consumer products, architectural and industrial coatings and adhesives and sealants. These regulations provide VOC emission reductions that assist the state in attaining the ozone NAAQS but none of them are considered RACT measures as the regulations do not apply to distinct CTG source categories nor do they regulate major sources of VOC.

The OTC recommended measures also include a recommendation for cold cleaning, which is a CTG source category. For this category, DEEP has adopted a limit on the vapor pressure of solvents used in cold cleaning of 1.0 millimeters of mercury in RCSA section 22a-174-20(l), which makes the cold cleaning requirements more stringent than those of the CTG.

Connecticut also notes that the requirements for Stage I vapor control systems are more protective than those of the applicable CTG, which was published in 1975. Regulations of Connecticut State Agencies (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.

B. Major Non-CTG Sources of NOx and VOC

Under CAA section 182(b)(2)(C), states must adopt RACT for all major sources of VOC located in the non-attainment area, and CAA section 182(f) applies this requirement to NOx. As set out in the preamble to the proposed Reclassification Rule, areas classified as severe must adopt RACT for all sources in the non-attainment area that emit, or have the potential to emit, at least

[54] ME Chapter 123. EPA Menu of Control Measures. https://www.epa.gov/sites/default/files/2016-02/documents/menuofcontrolmeasures.pdf notes that this control efficiency is also required in the NESHAP and six other state regulations.

25 tpy of VOC or NOx.[55] In the most recent RACT determination in 2023, DEEP examined control technologies for sources emitting 50 tpy or more. As a result, this review is required to focus on sources with the potential to emit between 25 and 50 tpy of VOC or NOx in the non-attainment area.

As DEEP has been applying a new source review permitting threshold of 25 tpy for NOx and VOC in part of the non-attainment area for decades, a RACT level of control has been applied to sources in part of the non-attainment area because DEEP retained by definition the non-attainment designations of severe and serious originally adopted for the 1979 1-hour ozone standard.[56] However, beginning with the area designations for the 1997 8-hour ozone NAAQS, when EPA expanded the size of the Connecticut portion of the NY-NJ-CT non-attainment area, the non-attainment area established in the Connecticut air quality regulations was smaller than the non-attainment area defined by EPA. At that time, DEEP's definition of "severe non-attainment area for ozone" included most of Fairfield County. However, the area that EPA defined as the severe non-attainment area, beginning with the 1997 ozone NAAQS, also includes the towns in New Haven and Middlesex Counties.

Expansion of the Severe Non-Attainment Area

As necessary regulatory infrastructure for RACT for the reclassification to severe non-attainment for the Connecticut portion of the NY-NJ-CT non-attainment area for the 2008 ozone NAAQS, DEEP expanded the definition of "severe non-attainment area for ozone" by forty-three towns to include all of towns EPA includes in the severe non-attainment area effective November 13, 2023.[57] This regulatory revision ensures that RACT requirements continue to be applied to the correct set of sources within the state. This regulatory revision also furthers attainment by bringing new sources into major source status, whereby such sources are subject to more stringent emissions control requirements. [58] Even before this change in the definition of the

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[55] *Determinations of Attainment by the Attainment Date, Extension of the Attainment Date and Reclassification of Areas Classified a Serious for the 2008 Ozone National Ambient Air Quality Standards*, proposed rule, 87 FR 21825 (13 April 2022).

[56] By definition in RCSA section 22a-174-1, the "severe non-attainment area for ozone" is the Connecticut portion of the NY-NJ-CT non-attainment area and the "serious non-attainment area for ozone" is the Greater Connecticut non-attainment area.

[57] *Air Plan Approval and Operating Permit Program Approval; Connecticut; Revision to Definitions. Final rule.* 89 FR 9771 (12 February 2024). "Severe non-attainment area for ozone" is defined in RCSA section 22a-174-1(106). "Serious non-attainment area for ozone" is defined in RCSA section 22a-174-1(105). eRegulations - Browse Regulations of Connecticut State Agencies These definitions apply to all sections of the air quality regulations including new source review permitting (RCSA section 22a-174-3a), Title V operating permits (RCSA section 22a-174-33), VOC limitations for various sources (RCSA section 22a-174-20), control of NOx emissions (RCSA section 22a-174-22e) and RACT for VOCs (RCSA section 22a-174-32). Connecticut also continues to include two towns in Litchfield County as part of the severe non-attainment area as an anti-backsliding measure, since those towns were included in the area that Connecticut originally defined as the severe non-attainment area for ozone.

[58] Connecticut's definition of "major stationary source" relies on the non-attainment area definitions: From RCSA section 22a-174-1:

> (65) "Major stationary source" means "major stationary source" as defined in 40 CFR 51.165(a)(1)(iv), provided that:

severe non-attainment area was effective in Connecticut, sources with a potential to emit 25 tpy in the area designated by EPA as the severe non-attainment area were considered major sources and subject to new source review as of the effective date of the reclassification, November 7, 2022. In addition to the change to the definition of "severe non-attainment area for ozone," DEEP also added compliance timing requirements to RCSA section 22a-174-22e for the sources that would become subject to this regulation as a result of the change in the definition of non-attainment area.[59] RCSA section 22a-174-22e sets out NOx emission limits for fuel-burning equipment at major sources of NOx.

In sum, for the period since the reclassification to severe non-attainment became effective, new source review permitting has been applied in the severe non-attainment area to sources emitting or with the potential to emit 25 tons or more per year of NOx or VOC. Through the permitting process, individual sources may be subject to more stringent technology control measures than RACT including 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 non-attainment areas, is the lowest achievable emission rate of the non-attainment pollutant that can be achieved by the source without respect to cost. BACT 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 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. [60] 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 the major source threshold required for this RACT analysis within the non-attainment area classified as severe.[61] As these controls are generally

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(A) A stationary source that emits or has the potential to emit twenty-five (25) tons per year of volatile organic compounds or nitrogen oxides as an ozone precursor in any severe ozone non-attainment area is a "major stationary source;" and

(B) A stationary source that emits or has the potential to emit fifty (50) tons per year of volatile organic compounds or nitrogen oxides as an ozone precursor in any serious ozone non-attainment area is a "major stationary source."

[59] The amendment was effective on 13 November 2023. The amendment was submitted to EPA as a SIP revision but has not yet been approved.

[60] Implementation Rule at 12279. 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 non-attainment SIPs."

[61] 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

more stringent, it is unlikely that any source which 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 which 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. In reviewing sources that emit or have the potential to emit NOx or VOC in amounts between 25 and 50 tpy in the severe non-attainment area, DEEP has identified the need for enhanced NOx control at the single MWC facility in the non-attainment area.

Table 3, located at the end of this document, 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.[62] Although this analysis is focused on the Connecticut portion of the NY-NJ-CT non-attainment area, the list of sources in Table 3 is provided for the entire state.[63] The threshold used to identify major sources of NOx or VOC in the severe non-attainment area is 25 tpy. In the Greater Connecticut non-attainment area, the threshold used to identify major sources of NOx or VOC is 50 tpy. Because the definition of "severe non-attainment area for ozone" was recently changed, the sources listed in Table 3 include one source in the severe non-attainment area for which a Title V permit application has been submitted, but the permit has not been issued.[64] Sources that operate 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 tpy in the NY-NJ-CT non-attainment area and 50 tpy in Greater Connecticut. In general, all major sources of NOx, with the exception of MWCs, 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.[65]

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, at the time of

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ozone." As a result, major source thresholds for NOx and VOC are 50 and 25 tpy. See also the definition of "major stationary source" in RCSA section 22a-174-1. As indicated earlier in the text in this report, the size of the severe non-attainment was smaller than the area classified as such by EPA until the definition was revised effective November 13, 2023 to include all of towns that EPA includes in its severe non-attainment area. Historically, the difference from EPA's identification of the two non-attainment areas in Connecticut was not important as long as the areas were classified as serious non-attainment or a lower classification.

[62] A list of all active Title V permits is maintained on DEEP's website along with the associated NSR permits: Title V Operating Permit Program (ct.gov)

[63] Facilities outside of the severe non-attainment area are marked by an asterisk.

[64] SMM (Sims Metal) New England Corporation located in North Haven submitted a Title V operating permit application in November of 2023. The permit is currently in the technical review phase. DEEP is currently developing a consent order to address VOC RACT at Sims Metal.

[65] DEEP is in the process of issuing a consent order to Algonquin Transmission, LLC to establish emission standards to satisfy RACT pursuant to RCSA section 22a-174-32(e)(1)(D) for the Cromwell facility. That consent order will be submitted to EPA as a SIP revision for review and approval.

determination. While some facilities listed in Table 3 include older equipment that is subject to a registration rather than a NSR permit, the principle RACT regulations -- RCSA sections 22a-174-20, -30a, -22e, -32, -38 -- 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. The control technologies available for controlling NOx and VOC have not changed substantially since the submission of the RACT SIP in 2023, with the exception of SNCR applied to MWCs.

Fuel-Burning Equipment

RCSA section 22a-174-22e for NOx emissions from fuel-burning equipment continues to satisfy RACT for the 2008 ozone NAAQS. The Phase 2 NOx standards of RCSA section 22a-174-22e, for which compliance began on June 1, 2023, are considered RACT until May 1, 2028, the date on which all compliance options and case-by-case emission limits expire.[66] DEEP has benchmarked the standards of RCSA section 22a-174-22e against those of other states. Most categories continue to compare favorably as set out in Table 4, located at the end of this document. While DEEP recognizes that some categories should be revised in the near future to ensure that the emissions limits do not become deficient with the passage of time, DEEP does not consider such changes to be necessary now for the major sources of NOx located in the Connecticut portion of the NY-NJ-CT non-attainment area and identified in Table 3 since those sources are controlled to a RACT level for the 2008 ozone NAAQS. DEEP intends to begin the regulatory adoption process now to revise the necessary emission limits so that such revised emissions limits may be effective before the May 1, 2028 expiration of the Phase 2 emission limits. The compliance date for the new limits will allow time for owners and operators to budget, plan, contract and construct any replacement equipment or additional control equipment that may be necessary. Such updates to some of the source categories are necessary given the reclassification of the state to serious non-attainment for the 2015 ozone NAAQS.[67] The evaluation of standards and regulatory development will be performed with the assistance of a stakeholder workgroup and will commence in late 2025. Examples of possible reductions to NOx emissions limitations in RCSA section 22a-174-22e include:

- 0.10 lb/MMBtu to 0.08 lb/MMBtu for the gas-fired limit for a boiler serving an electric generating unit;
- 0.10 lb/MMBtu to 0.08 lb/MMBtu for the other oil-fired limit for industrial-commercial-institutional (ICI) boilers with a maximum rated capacity greater than or equal to 25 MMBtu/hr and less than 100 MMBtu/hr;
- 0.10 lb/MMBtu to 0.06 lb/MMBtu for the gas-fired limit for ICI boilers with a maximum rated capacity of greater than or equal to 100 MMBtu/hr; and

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[66] *See* RCSA section 22a-174-22e(g)(11), (h)(4), and (n)(10) and (11). The validity of the Phase 2 emission limits as RACT was verified during the development of the amendment to the rule effective November 13, 2023, which added provisions for new major sources of NOx created by the change in the definition of "severe non-attainment area for ozone."

[67] *Designations of Areas for Air Quality Planning Purposes; New York, New Jersey, Connecticut; New York-Northern New Jersey-Long Island, NY-NJ-CT 2015 8-Hour Ozone Nonattainment Area; Reclassification to Serious*. 89 FR 60314 (July 25, 2024). *Designations of Areas for Air Quality Purposes: Greater Connecticut 2015 8-Hour Ozone Nonattainment Area; Reclassification to Serious*. 89 FR 60827 (July 29, 2024).

- 40 ppmvd to 25 ppmvd for the gas-fired limit and 50 ppmvd to 42 ppmvd for the oil-fired limit for simple cycle combustion turbines.

The evaluation will also address whether any new equipment types or source categories, require specific emission limits. DEEP has determined that new specific emission limits are not required for equipment at gas transmission compressor stations as the lower limits under consideration for simple cycle combustion turbines are adequate. Four of the state's five natural gas compressor stations are major sources of NOx and subject to RCSA section 22a-174-22e.[68] At each facility, natural gas-fired simple cycle combustion turbines are used to recompress the pipeline natural gas. Each facility also includes an emergency engine, which is exempt from RCSA section 22a-174-22e.

The NOx emission limit under consideration for natural gas-fired simple cycle combustion turbines (25 ppmvd) is the same as the most stringent limit recommended for gas-fired combustion turbines in the Ozone Transport Commission's Regulatory and Technical Guideline for Control of NOx Emissions from Natural Gas Pipeline Compressor Fuel-Fired Prime Movers.[69] This level of control is also consistent with the lowest limits for combustion turbines in other states.

Municipal waste combustors

Connecticut has four facilities that burn municipal waste. Together, these four facilities are the largest stationary sources of NOx in the state and account for more than half the NOx emissions of Connecticut's Title V source universe. The four MWC facilities are regulated by RCSA section 22a-174-38, which is based on EPA's emissions guidelines for MWCs promulgated under Sections 129 and 111(d) of the CAA.

RCSA section 22a-174-38 became effective on June 28, 1999 and has been revised on several occasions to reduce the NOx emission limits to create additional reductions in ozone precursors for the purpose of ozone attainment and to update the regulation to remain consistent with the federal emissions guidelines. The most recent significant amendment of RCSA section 22a-174-38, effective on August 2, 2016, reduced the NOx emission limits for the nine waterwall units at the four facilities to 150 ppmvd as a RACT measure.

DEEP recognizes that the existing NOx emissions limits for MWCs no longer represent RACT given the OTC MWC Report and the adoption of lower emissions limits for MWCs in other states in the region[70] based on advances in NOx control technologies for the sector.

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[68] Algonquin Gas Transmission LLC operates three facilities located in the towns of Chaplin, Cromwell and Oxford. Iroquois Gas Transmission System LP operates the fourth facility in Brookfield.

[69] May 14, 2019. Microsoft Word - OTC_RegAndTechGuideline_NGPipelineCompressorPrimeMovers_Final_05142019.docx

[70] The Virginia Department of Environmental Quality has determined that Covanta's proprietary Low NOx technology is RACT for Covanta MWCs. The Covanta facilities in Virginia are permitted to emit 110 ppmvd of NOx on a 24-hour average basis @7% O2, and 90 ppmvd of NOx on an annual average basis @7% O2 (permits issued by the Commonwealth of Virginia and dated February 2019). In addition, the limits of 110 ppmvd @7% O2 on a daily average and 90 ppmvd @7% O2 on an annual average have been adopted into The Commonwealth of

The OTC Report recommends two NOx emission limits as RACT for MWCs: 110 ppmvd on a 24-hour average basis and 105 ppmvd on a 30-day average basis. DEEP is pursuing an amendment to RCSA section 22a-174-38 to adopt such limits as a RACT measure. DEEP has met with the MWC operators to discuss the new limits and planned timing. DEEP is working to obtain the approvals necessary to publish a notice of intent concerning the amendment.

IV. Conclusion

Connecticut's existing regulatory programs continue to apply a RACT level of control to major stationary sources of NOx and VOC and CTG sources in Connecticut, with the exception of the MWC combustor category, which DEEP is working to change so that the category is controlled to a RACT level. A number of characteristics of these regulatory programs contribute to the continued adequacy of Connecticut's requirements for the reclassification to severe non-attainment in the Connecticut portion of the NY-NJ-CT non-attainment area for the 2008 ozone NAAQS:

- Connecticut maintains a stringent control level given Connecticut's longstanding non-attainment designations from the 1979, 1997, 2008 and 2015 NAAQS. The RACT reviews associated with each standard and each reclassification continue to result in at least a RACT level of control since non-conforming emission limitations are rapidly identified and corrected. Such adjustments are in evidence with the planned changes to the MWC NOx emission limitations, which we are working to adopt in the required timeframe. DEEP is also moving forward to seek additional controls for aboveground storage tanks and for certain fuel-burning equipment at sources that emit above major source thresholds, although such efforts are not considered RACT for the current reclassification and are unlikely to be completed in the designated timeframe.
- Major source applicability thresholds for NOx and VOC have been historically maintained at 50 tpy except in portions of Fairfield and Litchfield counties where the threshold has been 25 tpy. Effective in November 2023, DEEP added 43 towns to its regulatory definition of "severe non-attainment area for ozone" so that all of the towns in Fairfield, New Haven and Middlesex Counties are subject to a major source threshold for NOx and VOC of 25 tpy.
- DEEP has adopted regulatory controls for every source category existing in the state for which a CTG has been issued. DEEP plans to adopt more stringent requirements than required in the applicable CTGs for storage of VOCs in aboveground storage tanks.
- DEEP continues to work with other OTC states to identify and develop additional opportunities to reduce emissions of NOx and VOC. DEEP participated in the OTC

Virginia's SIP as RACT for the 2008 ozone NAAQS for both facilities (Submittal to EPA Region III for a SIP revision by the Commonwealth of Virginia entitled, "Statement of Legal and Factual Basis, Covanta Alexandria/Arlington, Permit No. NRO-RACT 71895," February 2019 and "Statement of Legal and Factual Basis, Covanta Fairfax, Permit No. NRO-RACT 71920," February 2019). Maryland also requires that municipal waste combustion facilities meet a NOx 30-day rolling average emission rate of 105 ppmvd @7% O2 beginning on May 1, 2020. (Md. Code Regs. 26.11.08.10 - NO[x] Requirements for Large Municipal Waste Combustors | State Regulations | US Law | LII / Legal Information Institute (cornell.edu)). Pennsylvania requires a presumptive RACT emission limitation of 110 ppmvd NOx @ 7% O2 (25 Pa. Code § 129.112. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule. (pacodeandbulletin.gov)).

workgroup that produced the MWC Report. DEEP is exploring possible building electrification and appliance standards through work with regional workgroups.

- DEEP has implemented a number of GHG reduction strategies that produce ancillary reductions in NOx and VOC including vehicle electrification incentives, energy efficiency, participation in RGGI, clean energy goals and renewable portfolio standards.

Table 2. List of Issued CTG Source Categories with Connecticut Regulatory Requirements and Other State Requirements Corresponding to Each Listed CTG.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
Aerospace	Aerospace (MACT) (see 59 FR 29216, June 6, 1994); CTG (Final), EPA-453/R-97-004, December 1997.	VOC content limit for different coating categories varying form 0.6 lb/gal to 5.2 lb/gal. Instead of meeting VOC content limits, facilities may use control devices with: ≥ 81% overall emission control efficiency, or ≥ 90% destruction/removal efficiency and ≥ 85% capture efficiency.	RCSA Section 22a-174-32 RACT for VOCs. RCSA section 22a-174-20(s) Miscellaneous Metal and Plastic Parts Coating.	RCSA section 22a-174-32 applies to this source category per RCSA section 32(b)(1)(D): (D) the owner or operator of aerospace manufacturing and rework operations with potential VOC emissions of twenty-five (25) tons or more per calendar year. RCSA section 22a-174-20(s) has requirements to comply with VOC content or to install, operate and maintain air pollution control equipment with an overall control efficiency of at least 90%. Application methods and work practices are also covered. Connecticut's requirements are consistent with CTG.	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)	PA - 48 Pa.B. 4814 Control of VOC Emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing and Rework; Additional RACT Requirements for Major Sources of Nitrogen Oxides (NOx) and VOCs. MA. Aerospace manufacturing and rework operations are subject to the emission limitations set forth in 310 CMR 7.18(11)(d)1. MD. COMAR 26.11.19.13-1 Aerospace Coating Operations. This regulation applies to an aerospace coating operation at a premises where the total actual VOC emissions from all aerospace coating operations is 20 pounds or more per day. NY. 6 NYCRR Part 228-1. Other states analyzed have essentially similar requirements to CT consistent with CTG.	Regulatory requirements are consistent with the CTG and represent RACT under 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		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.

[1] Control Techniques Guidelines and Alternative Control Techniques Documents for Reducing Ozone-Causing Emissions | US EPA.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	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						
Cutback Asphalt	Control of Volatile Organic Compounds from Use of Cutback Asphalt, EPA-450/2-77-037, December 1977	This CTG addresses the control of VOC from liquified asphalt or cutback asphalt. The substitution of emulsions for cutback asphalt nearly eliminates the release of VOC air pollutants form paving operations.	RCSA section 22a-174-20(k) Restrictions on cutback asphalt.	RCSA section 22a-174-20(k). Limits the VOC content of emulsified asphalt. This subsection prohibits the use and application of cutback asphalt; or emulsified asphalt, during the ozone season (from May 1 through September 30).	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)	DE. Regulation 1124, Control of Organic Compound Emissions Test Methods and Compliance Procedures. Section 34. Ozone season restrictions on cutback and emulsified asphalt. NH Env-A 1218 – Limits use of cutback asphalt during summer; limits VOC solvent content of emulsified asphalt. ME Chapter 131 – essentially similar requirements to NH; provides additional test methods for demonstrating VOC content of cutback and emulsified asphalts.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
					12/29/2008; 8/22/12; 77 FR 50595; …(c)(100)	VT APCR 5-253.15 – essentially similar requirements, but in effect year-round. NY. 6 NYCRR Subpart 220-3. Asphalt Mixture Manufacturing Plants. Applies to asphalt plants with calculated annual production level of asphalt paving material is equal to or greater than 75,000 tons per year. NJ. N.J.A.C. 7:27-16.19 regulates the use of cutback asphalt. MA. Cutback asphalt is subject to the emission limitations set forth in 310 CMR 7.18(9). The application of cutback asphalt for paving purposes is prohibited from May 1 through September 30. Other states analyzed have essentially similar requirements to CT consistent with CTG. Menu[2]: reformulation, process modification.	
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.

[2] EPA's Menu of Control Measures (Menu).

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
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.	VOC content limit for fabric coating = 2.9 lb/gal. VOC content limit for vinyl coating = 3.8 lb/gal. The CTG recommends either using compliant coatings or installing emission control systems (e.g., thermal oxidizers) that achieve at least 90% VOC control efficiency.	RCSA section 22a-174-20(o) Fabric and vinyl coating.	RCSA section 22a-174-20(o) regulates VOCs in fabric and vinyl coating. Fabric coating: 2.9 lb/gal. Vinyl coating: 3.8 lb/gal. Connecticut's requirements are consistent with CTG.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	NY. 6 NYCRR Part 228-1, specifically within 6 NYCRR Part 228-1.4. NJ. N.J.A.C. 7:27-16.7. MA. 310 CMR 7.18(15). MD. COMAR 26.11.19.07 for coating or printing installations and emission standards for paper, film, and foil product coating with VOC emissions (potential to emit) of 25 tons or greater per year. Coil coating subject to COMAR 26.11.19.05. Other states analyzed have essentially similar requirements to CT consistent with CTG.	Regulatory requirements are consistent with the CTG and represent RACT under 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,	Overall control ranging from 65 to 80% depending on installation date, or equivalent VOC content limits of 0.8 kg VOC/kg solids, or 0.16	RCSA section 22a-174-20(ff) Flexible package printing.	RCSA section 22a-174-20(ff) regulates VOCs from flexible package printing. Use only individual inks, coatings and adhesives with an as-applied VOC content	4/06/10 6/9/14 79 FR 32873 (c)(102)	NH Env-A 1215.05 - .07 - Same overall control range as CTG and VOC content limits as CTG. Maine Chapter 154 – essentially similar requirements.	Regulatory requirements are consistent with the CTG and represent RACT under the

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	216KB) EPA-453/R-06-003-*2006/09*	kg VOC/kg material applied.		that does not exceed 0.8 kg VOC/kg of solids (0.8 lb VOC/lb of solids) or 0.16 kg VOC/kg of materials (0.16 lb VOC/lb of materials); And use only inks, coatings and adhesives so that the daily weighted average of the VOC content of the inks, coatings and adhesives used in a single printing line does not exceed 0.8 kg VOC/kg of solids (0.8 lb VOC/lb of solids) or 0.16 kg VOC/kg of materials (0.16 lb VOC/lb of materials). Connecticut's requirements are consistent with CTG.		NY. 6 NYCRR Part 234. Essentially similar requirements to CT consistent with CTG. NJ. N.J.A.C. 7:27-16.7. Emissions from graphic arts operations, including flexographic and rotogravure printing, commonly used in flexible package printing. MA. 310 CMR 7.18(12). Packaging Rotogravure and Packaging Flexographic Printing (formerly Graphic Arts) incorporates the 2006 Flexible Package Printing CTG. MD. Flexible package printing is covered by COMAR 26.11.19.10-1. Other states analyzed have essentially similar requirements to CT consistent with CTG. Menu – Add-on controls, work practices, and material reformulation/substitution. 67% control efficiency for add-on controls.	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	Stage I vapor recovery controls, submerged fill, leak tight conditions, vapor collection systems	RCSA section 22a-174-20(a) and (b) Loading of gasoline and other volatile organic compounds. RCSA section 22-174-30a sets out the parameters of the Stage I vapor recovery system in the state.	RCSA section 22a-174-20(a) has requirements for storage of volatile organic compounds and restrictions for the Reid vapor pressure of gasoline, and subsection (b) regulates loading of gasoline and other volatile organic compounds. Connecticut's requirements are at least as stringent as EPA's CTG.	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)	NH Env-A 1217.08, Env-A 1217.09 Stage 1 vapor balance controls during load and unloading operations; submerged fill, leak inspections; vapor tight fittings, automatic close upon disconnection. Maine (ME) Chapter 133: essentially similar requirements; fewer requirements for smaller tanks. Vermont (VT) APCR 5-253.3; essentially similar requirements; exemption for tanks with less than 3,000 gal/month throughput	Regulatory requirements are consistent with the CTG, and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
					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)	NY. Title 6. Chapter III. Part 230. Gasoline Dispensing Sites and Transport Vehicles. Stage I vapor recovery systems are required for the transfer of gasoline into gasoline storage tanks. NJ. Title 7 Chapter 27 Subchapter 16. MA 310 CMR 7.24(4). MD. COMAR Chapter 13 for bulk plants and bulk terminals. Paragraph 04(B) for bulk plants and Paragraph 04(A)(1) for bulk terminals. The statewide standard for bulk plants indicates that the vapor tight vapor balance system should be operated with submerged/bottom load system (loading rack). 40 CFR Part 63, Subpart CCCCCC.	
Graphic Arts	Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VIII: Graphic Arts - Rotogravure and	Rotogravure: add-on control equipment such as adsorbers or incinerators to achieve a 65 to 75% reduction. Flexography: incineration to achieve a 60% reduction; for both types, if feasible, water-borne inks w/	RCSA section 22a-174-20(v) Graphic arts rotogravures and flexography.	RCSA section 22a-174-20(v) regulates VOC in graphic arts rotogravures and flexography. Connecticut's requirements are consistent with CTG.	10/10/80 2/17/82 47 FR 6827 ..... (c)(25) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	NH Env-A 1204.18; Env-A 1204.36; Env-A 1215 Rotogravure: both types of add-on controls must achieve a 90% reduction; Flexography: add-on controls must achieve a 60 to 75% reductions depending on process type; both types, 25% or lower VOC solvent content. Maine Chapter 132 – essentially similar provisions; daily weighted averaging option.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	Flexography, EPA-450/2-78-033, December 1978.	solvent content 25% or lower.			11/18/93 3/10/99 64 FR 12024 ..... (c)(75) 8/1/95 10/19/00 65 FR 62624 ..... (c)(84)	NY. Title 6. Chapter III. Part 234 Graphic Arts. NJ. Title 7 Chapter 27 Subchapter 16. N.J.A.C 7:27-16.7. MA. VOC content limit of graphic arts coating specified in 310 CMR 7.25(11)(c)1 Table 1 as 500 grams/liter. MD. VOC content limit of graphic arts coating specified in COMAR 26.11.39.05 Table 1 as 500 grams/liter. Other states analyzed have essentially similar requirements to CT consistent with CTG. RBLC[3] – BACT determination for rotogravure facility requiring 98% control efficiency. Menu – Permanent Total Enclosure (PTE). CTG, add-on controls for 96% for rotogravure, 67% for flexography 40 CFR Part 60, Subpart QQ 40 CFR Part 63, Subpart KK	
Industrial Adhesives	Control Techniques Guidelines for Miscellaneous Industrial Adhesives (PDF 47 pp, 350KB) EPA	29 VOC content limits for general and specialty adhesive application processes and adhesive primers from Table 1; recommended application techniques;	RCSA section 22a-174-44 Adhesives and sealants.	RCSA section 22a-174-44 regulates VOC content in adhesives and sealants. Tables 44-1 and 44-2 set out the VOC content limit for adhesives, sealants, adhesive primers and sealant primers, with some exceptions.	11/18/08 6/9/14 79 FR 32873 (c)(103)	NH Env-A 1220 Adopted all 29 VOC content limits as recommended by CTG; application method requirements; work practice standards; add-on control option at 85% control efficiency.	Regulatory requirements represent RACT under the reclassification of the 2008 ozone NAAQS.

[3] EPA's RACT/BACT/LAER clearinghouse (RBLC).

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	453/R-08-005-*2008/09*	add-on control option at 85% control efficiency; work practice recommendations.		While there are differences between the adhesive categories and emission limits in the CTG and RCSA section 22a-174-44, those differences are inconsequential compared to the broader applicability of RCSA section 22a-174-44.		Maine Chapter 159 – essentially similar requirements with some differences in limits selected from Table 1 and Appendix B of CTG. VT APCR 5-253.8 – essentially similar requirements with some differences in limits selected from Table 1 and Appendix B. NY. Title 6. Chapter III. Subchapter A. Part 228. Surface Coating Processes, Commercial and Industrial Adhesives, Sealants and Primers. NJ. Title 7 Chapter 27 Subchapter 26. Prevention of Air Pollution from Adhesives, Sealants, Adhesive Primers and Sealant Primers. MA. 310 CMR 7.03(15). 310 CMR 7.18(30) regulates adhesives, sealants, adhesive primers, and sealant primers in Massachusetts. MD. COMAR 26.11.35 regulates VOC emissions from adhesives. Other states analyzed have essentially similar requirements to CT consistent with CTG. Menu – CTG. Solvent substitution. Low VOC adhesives and improved application methods.	
Large Appliances	Control Techniques Guidelines for Large Appliance Coatings (PDF 44 pp, 374KB) EPA	EPA recommended three alternatives: (1) emission limits that can be achieved through the use of low-VOC coatings; (2) equivalent emission limits that can be achieved through the	RCSA section 22a-174-20(hh) Large appliance coatings.	RCSA section 22a-174-20(hh) controls VOC in large appliance coatings. Connecticut's requirements are consistent with CTG.	4/29/10 6/9/14 79 FR 32873 (c)(103)	NY. 6 CRR-NY 228-1.4. VOC content limits vary between 2.3 and 3.5 pounds per gallon, depending on the coating category and whether the coating is baked or air-dried. NJ. New Jersey's regulation governing VOC emissions from large appliance surface coating operations is codified at N.J.A.C. § 7:27-16.7.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	453/R-07-004-*2007/09*	use of low-VOC coatings or a combination of coatings and add-on controls; and (3) an overall control efficiency of 90 percent for add-on controls.				This regulation is aligned with the EPA's CTGs for surface coating of large appliances. MD. COMAR 26.11.19.06 regulates large appliance coatings. This regulation sets out the standards for large appliance coatings. MA. 310 CMR 7.18(5) for Large Appliance Surface Coating. Other states analyzed have essentially similar requirements to CT consistent with CTG. Menu: Low-VOC coating materials.	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	Emission limit of 1.7 lb/gal or use add-on controls to achieve 90% reduction.	RCSA section 22a-174-20(r) Wire coating.	RCSA section 22a-174-20(r) regulates VOC in wire coating. VOC emission limit of 1.7 lb/gal. Connecticut's requirements are consistent with CTG.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	NH Env-A 1204.13; Env-A 1210 1.7 lb/gal VOC content limit; applicable to facilities w/PTE of 10 tons/year or greater; add-on control option. NY. 6 CRR-NY 228-1.4 (d) Class D coating line. VOC Content Limit is 1.7 lb VOC/gal coating. NJ. N.J.A.C. § 7:27-16.15. Regulates VOC emissions from magnet wire coating operations. The VOC content limit for sources constructed or modified before May 19, 2009 is 2.9 lb/gal. For sources constructed or modified on or after May 19, 2009, the maximum allowable VOC content is 0.8 lb of VOC per lb of solids applied. MA. 310 CMR 7.18(6). Magnet Wire Coating Requirements. Emission limit of 2.2 lb/gal. Highter than CT's limit and higher than CTG. Other states analyzed, except MA, have essentially similar requirements to CT consistent with CTG. MA limit is higher than the CTG.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
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.	Cans – coating VOC content limit 2.8 to 5.5 lb/gal; available control options: incineration, water-borne/high solids/powder coatings, carbon adsorption, ultraviolet curing. Coils – coating VOC content limit 2.6 lb/gal; available control options: incineration, waterborne/ high solids coatings	RCSA section 22a-174-20(m) Can coating. RCSA section 22a-174-20(n) Coil coating.	RCSA section 22a-174-20(m) controls VOCs in can coating. VOC content limit of 2.8 to 5.5 lb/gal. RCSA section 22a-174-20(n) regulates VOCs in coil coating. VOC content limit of 2.6 lb/gal. Connecticut's requirements are consistent with CTG.	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	NH Env-A 1206, Metal Can Coating; Cans – limits for various coating types range from 2.8 to 5.5 lb/gal; alternative compliance options available if approved by state and EPA; Env-A 1211 Metal Coils Coating Coils – 2.6 lb/gal; alternative compliance options available if approved by state and EPA; Auto and light duty trucks – not applicable in New Hampshire. ME Chapter 129 – essentially similar requirements; exempts coating lines using less than 50 gal/month; also exempts facilities using only powder or other non-VOC emitting coatings. NY. 6 NYCRR 228-1.4. NJ. Title 7 Chapter 27 Subchapter 16. The Maximum Allowable VOC Content per Volume of Coating (minus water) for coil is 2.6 lb/gal or 0.31 kg/liter. MD. Coil coating is subject to COMAR 26.11.19.05. VOC limit is 2.6 lb/gal. Can coating is subject to COMAR 26.11.19.04. VOCs in can coating. VOC content limit of 2.8 to 5.5 lb/gal. Other states analyzed have essentially similar requirements to CT consistent with CTG. 40 CFR Part 60, Subparts TT, WW. 40 CFR Part 63, Subparts KKKK, SSSSS.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
						RBLC: cans – 40 CFR Part 60, Subpart WW, compliant coatings, thermal oxidation, cleaning solvent and ink VOC content.	
Metal Furniture	Control Techniques Guidelines for Metal Furniture Coatings (PDF 100 pp, 293KB) EPA 453/R-07-005-*2007/09* AND Control of Volatile Organic Emissions from Existing Stationary Sources – Volume III: Surface Coating of Metal Furniture (1977)	Control options: 1) coating VOC content limits (2.3 to 3.5 lb/gal), 2) equivalent VOC emission rate limits (combination of low-VOC coatings and add-on controls), or 3) overall control efficiency of 90% for add-on controls. Application methods: electrostatic application, HVLP spray, flow coat, roller coat, dip coat, or another method achieving an equivalent or better transfer efficiency than HVLP spray application. Work practices: closed containers for storage and transfer, minimization and cleaning of spills and leaks.	22a-174-20(p) Metal furniture coating	Control options: 1) coating VOC content limits (all limits equal to CTG limits), 2) overall control efficiency of 90% for add-on controls, or 3) an equivalent method of control approved by the commissioner (22a-174-20(p)(5)). Application methods: electrostatic application, flow coating, dip coating, roll coating, HVLP spray application, hand application, or another method achieving an equivalent or better transfer efficiency than HVLP spray application (22a-174-20(p)(4)). Work practices: closed containers for storage and transfer, minimization and cleaning of spills and leaks (22a-174-20(p)(6)).	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)	NH Env-A 1209: essentially similar requirements to CT consistent with CTG. NJ: negative declaration. NY 6 CRR-NY 228-1: essentially similar requirements to CT consistent with CTG. MA 310 CMR 7.18(3): essentially similar requirements to CT consistent with CTG. MD 26.11.19.08: essentially similar requirements to CT consistent with CTG. ME Chapter 129: essentially similar requirements to CT consistent with CTG. VT: No comparable regulation (negative declaration). 40 CFR Part 60, Subpart EE: Coating VOC content limit of 0.90 kg/L (7.5 lb/gal). 40 CFR Part 63, Subpart RRRR: Emission limits for organic HAP: 0-0.83 lb/gal. Control options: compliant materials or emission rate with or without add-on controls. Work practices: same as CTG. Menu of Control Measures: CTG. Control efficiency = 35%.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
Metal & Plastic Parts Coating[4]	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings (PDF 143 pp, 897KB) EPA 453/R-08-003-*2008/09*	Control options: 1) coating VOC content limits, 2) equivalent VOC emission rate limits (combination of low-VOC coatings, application methods, and add-on controls), or 3) overall control efficiency of 90% for add-on controls. Application methods: electrostatic application, HVLP spray, flow coat, roller coat, dip coat, airless spray application, air-assisted airless spray application, or another method achieving an equivalent or better transfer efficiency than HVLP spray application. Work practices: closed containers for storage and transfer, minimize spills.	22a-174-20(s) Miscellaneous metal and plastic parts coating 22a-174-20(kk), Pleasure craft coating	**22a-174-20(s)**: Control options: 1) coating VOC content limits (all limits equal to CTG limits), 2) equivalent VOC emission rate limits (combination of low-VOC coatings, application methods, and add-on controls), 3) overall control efficiency of 90% for add-on controls, or 4) an equivalent method of control approved by the commissioner (22a-174-20(s)(3)). Application methods: electrostatic application, flow coating, dip coating, roll coating, HVLP spray application, airless spray application, air-assisted airless spray application, hand application, or another method achieving an equivalent or better transfer efficiency than HVLP spray application (22a-174-20(s)(4)). Work practices: closed containers for storage and transfer, minimization and cleaning of spills and leaks (22a-174-20(s)(5)). **22a-174-20(kk)**: Control options: 1) coating VOC	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)	NH Env-A 1212: essentially similar requirements to CT consistent with CTG; VOC content limits all equal to CT's limits. NJ 7:27-16.15: essentially similar requirements to CT consistent with CTG; VOC content limits all equal to CT's limits. NY 6 CRR-NY 228-1: essentially similar requirements to CT consistent with CTG; VOC content limits all equal to CT's limits. MA 310 CMR 7.18(11): essentially similar requirements to CT consistent with CTG; VOC content limits all equal to CT's limits with additional limits for clear coatings, air-dried coating lines, and all other coatings and coating lines. MA 310 CMR 7.18(21): essentially similar requirements to CT consistent with CTG; VOC content limits similar to CT's limits. MD 26.11.19.07-02 (plastic parts and products coating): essentially similar requirements to CT consistent with CTG; VOC content limits all equal to CT's limits with additional limits for decorative coating of other plastic parts, plastic vehicle parts coating, and vinyl coating. MD 26.11.19.08 (metal parts and products coating): essentially similar requirements to CT consistent with CTG; VOC content limits all equal to or lower than CTG limits.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

[4] Note that some states have additional coating limits not included in the CTG. DEEP has not found these limits necessary for CT state operations.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
				content limits[5], 2) equivalent VOC emission rate limits (combination of low-VOC coatings, application methods, and add-on controls), 3) overall control efficiency of 90% for add-on controls, 4) an equivalent method of control approved by the commissioner, or 5) limit VOC PTE to ≤1,666 lb/month (22a-174-20(kk)(4)). Application methods: electrostatic application, HVLP spray application, airless spray application, air-assisted airless spray application, hand application, or another method achieving an equivalent or better transfer efficiency than HVLP spray application (22a-174-20(kk)(5)). Work practices: closed containers for storage and transfer, minimization and cleaning of spills and leaks (22a-174-20(kk)(6)).		MD 26.11.19.27-01 (pleasure craft coating operations): essentially similar requirements to CT consistent with CTG; VOC content limits all equal to CT's limits. ME Chapter 129: essentially similar requirements to CT consistent with CTG; VOC content limits similar to CT's limits with additional limits for clear coatings, steel pail and drum interiors, air-dried coating, and extreme performance coating; overall control efficiency of 95% for add-on controls. VT APCR 5-253.13: essentially similar requirements to CT consistent with CTG; VOC content limits similar to CT's limits with additional limits for clear coatings, steel pail and drum interiors, air-dried coating, and extreme performance coating. 40 CFR Part 63, Subpart MMMM: Emission limits for organic HAP: 1.9-2.6 lb/gal. Control options: 1) VOC content limits; 2) emission limits without add-on controls; or 3) emission limits with add-on controls. Work practices: same as CTG.	

[5] Note that all the VOC content limits are equal to the CTG limits except for the pleasure craft coating VOC content limits for Extreme High Gloss Topcoat, Other Substrate Antifoulant Coating, and Antifouling Sealer/Tie Coating, which are less stringent than recommended in the CTG. During the regulatory adoption process to adopt these limits in 2011, DEEP chose to modify these VOC content limits on recommendation and information supplied by the American Coatings Association (ACA) during the preparation of the regulatory proposal. ACA explained that EPA did not fully consider pleasure craft coating throughout the CTG development process and did not have key information concerning the VOC content limits for these three categories. ACA also commented that the experience of the South Coast Air Quality Management District (SCAQMD) demonstrates that the CTG limits, which were taken directly from SCAQMD Rule 1106.1, are not practical. For example, the "other substrate antifoulant coating" category was recommended for a VOC content limit of 330g/L, even though the Shipbuilding and Repair NESHAP and SCAQMD Marine Rule 1106 require a VOC content limit of 400 g/L for antifoulant coatings. Also, antifoulant coatings with a VOC content below 400 g/L require more applications than the higher VOC content coatings, potentially resulting in more environmental detriment overall given the nature of antifouling coatings.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
						RBLC: consumption limits, VOC content 3.5-7.25 lb/gal, HVLP, closed containers, carbon adsorption. Menu of Control Measures: CTG. Control efficiency = 35%.	
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 reaffirms that no sources meeting the description of this CTG category are operating within the State.
Paper, Film & Foil	Control Techniques Guidelines for Paper, Film, and Foil Coatings	Control options: 1) overall control efficiency of 90% for each coating line for facilities ≥ 25 tpy VOC, 2) content-based emission limits	22a-174-20(q) Paper, film, and foil coating	Control options: for facilities ≥25 tpy VOC, 1) content-based emission limits (0.35 kg VOC/kg solids for all coatings except pressure sensitive tape and label coatings; 0.20 kg VOC/kg	8/31/79 12/23/80 45 FR 84769 ..... (c)(11) 10/31/89 10/18/91 56	NH Env-A 1207: essentially similar requirements to CT consistent with CTG; 0.35 kg VOC/L for facilities ≥10 tpy VOC. NJ 7:27-16.7: Coating VOC content limit of 2.9 lb/gal; coating application system must meet a	Regulatory requirements are consistent with the CTG and represent RACT under the

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	(PDF 102 pp, 488KB) EPA 453/R-07-003-*2007/09*	equivalent to 90% overall control (0.40 lb VOC/lb solids for all coatings except pressure sensitive tape and label coatings; 0.20 lb VOC/lb solids for pressure sensitive tape and label coatings) for facilities ≥ 25 tpy VOC (can be met by a combination of materials and controls), or 3) enforceable limitation on PTE to below 25 tpy. Cleaning materials work practices: closed containers for storage and transfer, minimization of spills and leaks.		solids for pressure sensitive tape and label coatings), 2) overall control efficiency of 90% for each coating line, or 3) an alternate emission reduction plan approved by the commissioner which achieves a level of control equivalent to option 1 (22a-174-20(q)(5)); for facilities with actual emissions ≥15 VOC lb/day, use coatings with VOC content ≤ 350 g/L excluding water and exempt compounds (22a-174-20(q)(4)). Work practices: closed containers for storage and transfer, minimization and cleaning of spills and leaks (22a-174-20(q)(6)).	FR 52205 (c)(58) 4/29/10 6/9/14 79 FR 32873 (c)(103)	transfer efficiency of ≥60%. Work practices: same as CTG. NY 6 CRR-NY 228-1: requirements consistent with CTG. MA 310 CMR 7.18(14): requirements consistent with CTG; 4.8 lb VOC/gal for facilities with actual emissions ≥15 VOC lb/day. MD 26.11.19.07: requirements consistent with CTG. ME Chapter 123: Control options: 1) content-based emission limits (2.9 lb VOC/gal for all coatings except pressure sensitive tape and label coatings; same as CTG and CT for pressure sensitive tape and label coatings) or 2) overall control efficiency of 95% (or reduction to 4.8 lb VOC/gal solids). Work practices: same as CTG. VT APCR 5-253.10: consistent with RCSA 22a-174-20(q)(4); no other requirements. 40 CFR Part 60, Subpart RR: Control options: 1) content-based emission limit (0.20 kg VOC/kg solids or 2) overall control efficiency of 90%. 40 CFR Part 63, Subpart JJJJ: Control options: 1) overall control efficiency of 95-98% or 2) limit organic HAP to ≤1.6-4% of the mass of coating materials (8-20% solids) applied each month. RBLC: no control, VOC content, permanent total enclosure, thermal oxidizer.	reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
						Menu of Control Measures: CTG. Control efficiency = 90%.[6]	
Pharmaceut-ical Products	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products, 450/2-78-029, December 1978.	Process vents at reactors, distillation operations, crystallizers, centrifuges, and vacuum dryers >15 lb/day VOC must control emissions using surface condensers (with condenser outlet gas temperature limits) or equivalent controls. Air dryers and production equipment exhaust systems ≥330 lb/day VOC must achieve 90% VOC reduction. Air dryers and production equipment exhaust systems <330 lb/day VOC must limit VOC to 33 lb/day. Storage tanks >2,000 gal (except tanks equipped with a floating roof, vapor recovery system, or equivalent) storing VOC >4.1 psi must achieve ≥90% vapor balance when receiving truck/rail car	22a-174-20(t) Manufacture of synthesized pharmaceutical products	All operations at a synthesized pharmaceutical manufacturing facility with PTE ≥15 lb/day including, but not limited to, reactors, distillation operations, crystallizers, extraction equipment, centrifuges, decanters, and vacuum dryers must control emissions using surface condensers (condenser outlet gas temperature limits same as CTG limits) or equivalent controls (22a-174-20(t)(2)). Air dryers and process equipment exhaust systems ≥330 lb/day VOC must achieve 90% VOC reduction (22a-174-20(t)(3)(A)). Air dryers and process equipment exhaust systems <330 lb/day VOC must limit VOC to 33 lb/day (22a-174-20(t)(3)(B)). Provide a vapor balance system or equivalent control to limit VOC emissions to 80 mg/L of liquid loaded per delivery from a truck/rail car delivery to a storage tank >2,000 gal storing VOC >4.1 psi (22a-174-20(t)(4)(A)). Storage tanks storing VOC	10/10/80 2/17/82 47 FR 6827 ..... (c)(25) 10/31/89 10/18/91 56 FR 52205 ..... (c)(58)	NH Env-A 505.01: Comply with 40 CFR 63 Subpart GGG. NJ: No applicable regulation. NY 6 CRR-NY 233: requirements consistent with CTG. MA: No applicable regulation. MD 26.11.19.14: requirements consistent with CTG. 40 CFR 63 Subpart GGG: Storage tank control options: 1) control device ≥90-95% efficiency, 2) control until outlet concentration ≤20 ppmv, 3) enclosed combustion device, 4) flare, or 5) another control device. Process vents: reduce emissions by 93-98%. All other process vents control options: 1) control device ≥93% efficiency, 2) control until outlet concentration ≤20 ppmv, 3) enclosed combustion device, 4) flare, or 5) another control device. All process vents must limit emissions to 900 kg/yr HAP. Repair leaks.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

[6] From EPA's Menu of Control Measures: "The CTG does not recommend the 95 percent control level that is currently required by the NESHAP and seven State's regulations."

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		delivery. Storage tanks storing VOC >1.5 psi must have pressure conservation vents set at 0.2 kPa. Centrifuges, rotary vacuum filters, and other filters with an exposed liquid surface ≥3.5 kPa (0.5 psi) must be enclosed. In-process tanks must be equipped with covers that are closed when possible. Repair visible liquid leaks as soon as practicable.		>1.5 psi must have pressure conservation vents or a more effective control system (22a-174-20(t)(4)(B)). Centrifuges, rotary vacuum filters, and other filters with an exposed liquid surface ≥3.5 kPa (0.5 psi) must be enclosed (22a-174-20(t)(5)). In-process tanks must be equipped with covers that are closed when possible (22a-174-20(t)(6)). Repair all visible liquid leaks (22a-174-20(t)(7)).			
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	**Emissions from manufacturing**: Polypropylene plants using liquid phase processes must reduce VOC by 98% by weight or reduce VOCs to 20 ppm from the polymerization reaction section, the material recovery section, and the product finishing section. High-density polyethylene plants using liquid slurry processes must reduce VOC by 98% by weight or reduce VOCs to 20 ppm from	22a-174-20(y) Manufacture of polystyrene resins 22a-174-20(x) Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical & Polymer Manufacturing Equipment	**22a-174-20(y):** Polystyrene resin manufacturing plants must limit VOC emissions to 0.12 kg VOC/1,000 kg product over any 1-hour period from the styrene condenser vent stream and the styrene recovery unit condenser vent stream using surface condensers or an equivalent system (22a-174-20(y)(2)-(3)). **22a-174-20(x):** Visually inspect pumps in light liquid service weekly for leaks (22a-174-20(x)(4)). Monitor pumps, valves, compressors, and safety/relief valves in gas service or light liquid service	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	NH: no applicable regulation. NJ 7:27-16.18: requirements consistent with fugitive emissions CTG. Less frequent Method 21 inspections allowed if previous inspections produce few leaks and semi-annual visual inspection requirement for non-pump component types in light liquid service. Retest repaired leaks within 15 days. NY 6 CRR-NY III A 236: requirements consistent with fugitive emissions CTG. Make an initial repair attempt within 5 days and repair all leaks within 15 days and re-monitor all repaired components within 48 hours. MA 310 CMR 7.18(18): requirements for polystyrene plants consistent with CTG.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	Organic Compound Fugitive Emissions from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment, EPA-450/3-83-006, March 1984	the material recovery section and the product finishing section. Polystyrene plants using continuous processes must limit VOC emissions to 0.12 kg VOC/1,000 kg product from the material recovery section. **Fugitive emissions from manufacturing equipment**: Cap open-ended lines. Monitor pumps in light liquid service (>10% fluid by weight has a vapor pressure >0.3 kPa at 20°C), valves in light liquid service, valves in gas service, compressors, and safety/relief valves in gas service quarterly using EPA Method 21 or an equivalent state method. Visually inspect pumps in light liquid service weekly for leaks. Monitor safety/relief valves after each overpressure relief to ensure the valve has properly reseated using EPA		for vapor leaks quarterly using EPA Method 21 (22a-174-20(x)(5)(A)). Monitor safety/relief valves after each overpressure relief to ensure the valve has properly reseated using EPA Method 21 (22a-174-20(x)(5)(B)). Repair all leaks identified using Method 21 or sight, smell, or sound within 15 days of detection (22a-174-20(x)(4), (5), and (7)). Install a cap, blind flange, plug, or a second closed valve on each open-ended valve (22a-174-20(x)(6)).	polypropylene resins.	MD 26.11.19.16: Visually inspect all components monthly and repair leaks within 15 days. 40 CFR 60 Subpart DDD: requirements for polypropylene plants consistent with CTG. Polystyrene plants limit: 0.0036 kg TOC/Mg product from the material recovery section. Poly(ethylene terephthalate) process lines limit: 0.018-0.04 kg TOC/Mg. Requirements consistent with fugitive emissions CTG with initial repair attempt within 5 days.	

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		Method 21 or an equivalent state method. Repair any component identified as leaking using Method 21 or sight, smell, or sound within 15 days of detection.					
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*	Control options for heatset dryers ≥25 tpy: 1) overall control efficiency of 90% for dryers installed prior to the effective date of a State RACT rule issued after CTG or 95% for dryers installed on or after the effective date of a State RACT rule, 2) limit control device outlet concentration to 20 ppmvd as hexane for situations where the inlet VOC concentration is so low that a 90% or 95% efficiency for add-on controls is not possible, or 3) enforceable limitation on PTE to below 25 tpy (no recommended control for sheet-fed or coldset web inks or varnishes, waterborne coatings, or radiation	22a-174-20(gg), Offset lithographic printing and letterpress printing	Control options for heatset dryers ≥25 tpy: 1) overall control efficiency of 90% for dryers installed prior to January 1, 2011 or 95% for dryers installed on or after January 1, 2011 or 2) limit control device outlet concentration to 20 ppmvd as hexane for situations where the inlet VOC concentration is so low the control efficiency in option 1 is not possible (22a-174-20(gg)(4)). Control options for fountain solution for heatset web offset lithographic printing ≥1 gal reservoir capacity: 1) limit on-press alcohol content to ≤1.6% alcohol, 2) use ≤3% alcohol on-press in the fountain solution if refrigerated below 60°F, or 3) use ≤5% alcohol substitute on-press and no alcohol in the fountain solution (22a-174-20(gg)(3)(A)). Control options for fountain solution for sheet-fed offset	4/29/10 6/9/14 79 FR 32873 (c)(102)	NH Env-A 1216: essentially similar requirements to CT consistent with CTG. NJ 7:27-16.7: essentially similar requirements to CT consistent with CTG; 90% control efficiency minimum applies only to heatset dryers using a carbon adsorption unit or non-thermal control device. NY 6 CRR-NY 234: essentially similar requirements to CT consistent with CTG. MA 310 CMR 7.18(25): essentially similar requirements to CT consistent with CTG; 85-90% minimum control efficiency for heatset dryers at facilitates with PTE ≥50 tpy; lower limits for alcohol substitutes (3%), fountain solution for sheet-fed offset lithographic printing (8%) coldset web offset lithographic printing (VOC content limit ≤2.5%). MD 26.11.19.11: essentially similar requirements to CT consistent with CTG; slightly different control requirements for fountain solution for heatset web offset lithographic printing presses (overall control efficiency of ≥90%) and fountain solution for sheet-fed offset lithographic printing (refrigerate the fountain solution to below 55°F).	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
		cured materials). Control options for fountain solution for heatset web offset lithographic printing: 1) limit on-press alcohol content to ≤1.6% alcohol by weight, 2) use ≤3% alcohol by weight on-press in the fountain solution if refrigerated below 60°F, or 3) use ≤5% alcohol substitute by weight on-press and no alcohol in the fountain solution. Control options for fountain solution for sheet-fed offset lithographic printing ≥1 gal reservoir capacity and ≥11x17 in sheet size: 1) limit on-press alcohol content to ≤5.0% alcohol by weight, 2) use ≤8.5% alcohol by weight on-press in the fountain solution if refrigerated below 60°F, or 3) use ≤5% alcohol substitute by weight on-press and no alcohol in the fountain solution. Control options for fountain solution for		lithographic printing: 1) limit on-press alcohol content to ≤5.0% alcohol by weight, 2) use ≤8.5% alcohol by weight on-press in the fountain solution if refrigerated below 60°F, or 3) use ≤5% alcohol substitute by weight on-press and no alcohol in the fountain solution (22a-174-20(gg)(3)(B)). Control options for fountain solution for coldset web offset lithographic printing ≥1 gal reservoir capacity: 1) use ≤5% alcohol substitute by weight on-press and no alcohol in the fountain solution (22a-174-20(gg)(3)(C)). Use cleaning materials with a VOC composite vapor pressure <10 mm Hg at 20°C or <70% VOC by weight (excluding 110 gal per year of noncompliant cleaning materials) (22a-174-20(gg)(5)). Work practices: closed containers for storage and transfer, minimization and cleaning of spills and leaks (22a-174-20(gg)(6)).		ME Chapter 161: essentially similar requirements to CT consistent with CTG. VT APCR 5-253.9: essentially similar requirements to CT consistent with CTG; more stringent controls for heatset dryers (overall control efficiency of 99% or limit control device outlet concentration to 5 ppmvd as hexane). RBLC: fountain solution VOC content, work practices, thermal oxidizer, water based material VOC content, equipment design.	

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		coldset web offset lithographic printing ≥1 gal reservoir capacity and ≥11x17 in sheet size: 1) use ≤5% alcohol substitute by weight on-press and no alcohol in the fountain solution. Use cleaning materials with a VOC composite vapor pressure <10 mm Hg at 20°C or <70% VOC by weight (excluding 110 gal per year of noncompliant cleaning materials). Work practices: closed containers for storage.					
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	**Control of equipment**: Combust non-condensables from vacuum producing systems in a firebox. Cover the forebays and separator sections of wastewater separators. All process units should be depressurized to a flare, fuel gas system, or to some other combustion device before opening for inspection or maintenance.	22a-174-20(c) Volatile organic compound water separation	Control VOC from VOC and waste water separators ≥200 gal/day of any VOC ≥1.5 psi using 1) a closed, vapor-tight container, 2) a floating roof, 3) a vapor recovery system which reduces VOC by ≥95% by weight, or 4) another control method achieving ≥95% control efficiency approved by the commissioner and Administrator.	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.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	Leaks from Petroleum Refinery Equipment, EPA-450/2-78-036, June 1978.	**Leaks**: Leaks >10,000 ppm should be repaired within 15 days. Monitor pump seals, pipeline valves in liquid service, and process drains annually using a hydrocarbon analyzer instrument. Monitor compressor seals, pipeline valves in gas service, and pressure relief valves in gas service quarterly using a hydrocarbon analyzer instrument. Visually inspect pump seals weekly. Valves (except pressure relief valves) located at the end of a pipe should be sealed with a second valve, a blind, flange, a plug, or a cap.					
Rubber Tires	Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires, EPA-450/2-78-030, December 1978.	Control options for undertread cementers, tread end cementers, and bead dip tanks: 1) carbon adsorption with ≥85% capture and ≥95% control of captured emissions or 2) incineration with ≥85% capture and ≥90% control of captured emissions.	22a-174-20(u) Manufacture of pneumatic rubber tires	Control options for undertread cementers, tread end cementers, and bead dip tanks: 1) carbon adsorption with ≥85% capture and ≥90% control of captured emissions, 2) incineration with ≥85% capture and ≥90% control of captured emissions, or 3) an alternative control device with ≥85% capture and	10/10/80 2/17/82 47 FR 6827 ..... (c) 25 10/31/89 10/18/91 56 FR 52205 ..... (c) 58 Negative declaration	NH Env-A 505.01(ca): Follow 40 CFR 63 Subpart XXXX. NJ: no applicable regulation. NY: no applicable regulation. MA: no applicable regulation. MD: no applicable regulation.	No sources meeting the description of this CTG category are operating within the State. However, Connecticut maintains regulatory

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
		Control options for green tire spray booths: 1) water-based sprays, 2) carbon adsorption with ≥90% capture and ≥95% control of captured emissions, or 3) incineration with ≥90% capture and ≥90% control of captured emissions.		≥90% control of captured emissions (22a-174-20(u)(2)). Control options for green tire spray booths: 1) water-based sprays, 2) carbon adsorption with ≥90% capture and ≥90% control of captured emissions, 3) incineration with ≥90% capture and ≥90% control of captured emissions, or 3) an alternative control device with ≥90% capture and ≥90% control of captured emissions (22a-174-20(u)(3)).	submitted on 05/16/2025.[7]	40 CFR 63 Subpart XXXX: Limit emissions of each HAP to 1) ≤1,000 g HAP/Mg total cements and solvents or 2) 0.024 g/Mg of rubber. Alternatives to emission limits: use cements and solvents which meet the emission limits at purchase or use cements and solvents which meet the emission limits through monthly averaging with or without an add-on control device.	requirements consistent with the CTG and representing RACT under the reclassification of the 2008 ozone NAAQS.
Service Stations	Design Criteria for Stage I Vapor Control Systems - Gasoline Service Stations, November 1975.	Reduce VOC emissions by ≥90% using Stage I vapor recovery controls (two-point system or concentric/coaxial system), submerged fill, inspect and certify tank trucks as vapor tight twice per year, sufficiently sized vapor return lines and connections, closures or interlocks on hose connectors, leak prevention, connect vapor return lines during transfer.	22a-174-30a Stage I vapor recovery Connecticut General Statutes section 22a-174e	**RCSA 22a-174-30a**: Gasoline dispensing facilities with a monthly throughput of ≥10,000 gal (22a-174-20a(b)(1)) must be equipped with a Stage I vapor recovery system which includes a CARB-approved fill adapter and a pressure/vacuum vent valve (CARB-approved with a positive pressure setting of 2.5-6.0 in of water, a negative pressure setting of 6.0-10.0 in of water, and a total leak rate of ≤0.17 ft^3/hr at a pressure of 2.0 in of water and ≤0.63 ft^3/hr at a vacuum of 4.0 in of water if installed on and after July 1,	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)	NH Env-A 1217.08-09: requirements consistent with CTG. NJ 7:27-16.3: requirements consistent with CTG; reduce VOC emissions by ≥98% using Stage I controls and CARB-certified Phase I EVR systems. NY6 CRR-NY 230: essentially similar requirements to CT and consistent with CTG. MA 310 CMR 7.24(3): essentially similar requirements to CT and consistent with CTG; weekly visual inspections of the Stage I system. MD 26.11.13.04(C): Reduce VOCs using a Stage I vapor recovery system and ensure that connections are leak free and immediately close upon disconnection.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

[7] RCSA section 22a-174-20(u) is not being repealed at this time.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
				2015; if installed before July 1, 2015, with a positive pressure setting of 2.5-6.0 in of water (or 3.0 in of water, ±0.5 in, and a vacuum setting of 8.0 in of water ±2.0 in) on each storage tank pipe (22a-174-30a(c)(1)-(3)). Equip gasoline dispensing facilities with a two-point Stage I vapor recovery system (22a-174-30a(c)(4)-(5)). Gasoline dispensing facilities with a monthly throughput of ≥100,000 gal must install and operate a Stage I vapor recovery system which has vapor line connections which are closed upon disconnection, prevents the pressure in the delivery tank from exceeding 18 in of water or 5.9 in of water vacuum during transfer, has properly fitted connectors, has a submerged drop tube, has liquid fill connections and vapor couplings equipped with vapor-tight caps, and can meet the static pressure performance requirement calculated (22a-174-30a(c)(6)). Annually perform a test pressure/vacuum vent valve test, a pressure decay test,		40 CFR 63 Subpart CCCCCC: essentially similar requirements to CT and consistent with CTG; minimize and clean gasoline spills, cover gasoline containers, minimize gasoline sent to open waste collection systems.	

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				and a vapor-space tie-in test (22a-174-30a(d)). **CGS 22a-174e**: Annually perform a pressure decay test and remove from service any Stage I vapor recovery systems which fail (CGS 22a-174e(d)-(e).			
Ships	Shipbuilding/ repair ACT (EPA 453/R-94-032, April 1994) AND CTG, see 61 FR 44050, August 27, 1996	**ACT**: Control options: 1) VOC content limits (340-780 g/L), 2) equipment standards (air, airless, or HVLP spray), or 3) add-on control device. **CTG**: Same as ACT.	22a-174-32 Reasonably Available Control Technology (RACT) for volatile organic compounds	Facilities in a serious nonattainment area for ozone with PTE ≥50 tpy VOC or facilities in a severe nonattainment area for ozone with PTE ≥25 tpy VOC (22a-174-32(b)(1)(A)-(B)) must 1) install and operate a VOC control system which a) reduces VOCs by ≥85%, b) oxidizes ≥95% of non-methane VOCs by incineration, or c) recovers or removes VOCs so that the VOC mass emission rate leaving the outlet is ≤10% of the VOC mass emission rate entering the system, 2) implement a program of reformulation or process change which reduces VOC emissions by ≥80%, 3) use alternative emissions reductions or emission reduction credits in accordance with a permit or order by complying with an applicable CTG, 4)	11/18/93 3/10/99 64 FR 12024 ..... (c)(76) 8/27/99 10/19/00 65 FR 62624 ..... (c)(84)	NH Env-A 505.01(y): Follow 40 CFR 63 Subpart II. NJ: no applicable regulation. NY: no applicable regulations. MA: no applicable regulations. MD: no applicable regulations. 40 CFR 63 Subpart II: requirements consistent with ACT and CTG.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
				implement an alternative compliance plan in accordance with a permit or order, (22a-174-32(e)) or 5) obtain a permit to limit actual emissions to ≤25 tpy (22a-174-32(c)(1)).			
Solvent Cleaning	Control Techniques Guidelines for Industrial Cleaning Solvents (PDF 290 pp, 7.6MB) EPA-453/R-06-001-*2006/09*	Control options: 1) VOC content limit of 50 g VOC/L of cleaning material (0.42 lb/gal), 2) composite vapor pressure limit of 8 mm Hg at 20°C, or 3) overall control efficiency of ≥85% for add-on controls. Work practices: closed containers, minimization of air circulation around cleaning operations, proper disposal of used solvent and shop towels, and minimization of emissions.	22a-174-20(l) Metal cleaning 22a-174-20(ii) Industrial solvent cleaning 22a-174-20(jj) Spray application equipment cleaning	**22a-174-20(l)**: Control requirements: 1) composite vapor pressure limit of 1.0 mm Hg at 20°C (22a-174-20(l)(3)(K)). Work practices: closed containers for storage, minimization of air circulation around cleaning operations, cover and drain the cleaning device, repair leaks (22a-174-20(l)(3)). **22a-174-20(ii)**: Control options: 1) VOC content limit of 50 g VOC/L of cleaning material (0.42 lb/gal), 2) composite vapor pressure limit of 8 mm Hg at 20°C, or 3) overall control efficiency of ≥85% for add-on controls (22a-174-20(ii)(4)). Work practices: closed containers for storage and transfer, minimization and cleaning of spills and leaks (22a-174-20(ii)(5)). **22a-174-20(jj)**: Control options: 1) use an enclosed gun cleaner, 2) VOC content	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)	NH Env-A 1221: requirements consistent with CTG except lower overall control efficiency (≥80%) for add-on controls and additional control option (use a cleaning solvent containing <200g/L VOC (1.67 lb/gal)). NJ 7:27-16.24: requirements consistent with CTG. NY 6 CRR-NY III A 226-2: requirements consistent with CTG. MA 310 CMR 7.18(31): requirements consistent with CTG; additional VOC content limits for electrical and electronic components (100 g/L) and electronic or electrical cables (400 g/L) and work practices. MD 26.11.19.09-01: Control requirement: composite vapor pressure limit of 8 mm Hg at 20°C. ME Chapter 166: requirements consistent with CTG. VT APCR 5-253.17: requirements consistent with CTG. RBLC: vapor condensing/recovery system, operating time limit	Regulatory requirements are consistent with, and exceed in some cases, the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
				limit of 50 g VOC/L of cleaning material (0.417 lb/gal), or 3) overall control efficiency of ≥85% for add-on controls (22a-174-20(jj)(4)). Work practices: closed containers for storage and transfer, minimization and cleaning of spills and leaks (22a-174-20(jj)(5)).	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)		
Synthetic Organic Chemical[8]	Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry, EPA-450/3-84-015, December 1984. AND Control of Volatile Organic	**Air oxidation processes**: Control options: 1) combustion device which reduces VOC by ≥98% by weight or to 20 ppmv, whichever is less stringent, or 2) maintain a total resource effectiveness index (TRE) value >1. **Reactor processes and distillation operations**: For any vent stream with a TRE value ≤1, reduce VOC emissions by ≥98% by weight or to 20 ppmv on a dry basis	22a-174-20(x) Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical & Polymer Manufacturing Equipment	Visually inspect pumps in light liquid service weekly for leaks (22a-174-20(x)(4)). Monitor pumps, valves, compressors, and safety/relief valves in gas service or light liquid service for vapor leaks quarterly using EPA Method 21 (22a-174-20(x)(5)(A)). Monitor safety/relief valves after each overpressure relief to ensure the valve has properly reseated using EPA Method 21 (22a-174-20(x)(5)(B)). Repair all leaks identified using Method 21 or sight, smell, or sound within 15 days of detection (22a-174-20(x)(4), (5), and (7)). Install a cap, blind flange,	2/2/87 5/19/88 53 FR 17934 ..... (c)(38) 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	NH Env-A 503.01: Follow 40 CFR 60 Subpart NNN. NH Env-A 505.01: Follow 40 CFR 63 Subparts F and G. NJ 7:27-16.16: comply with maximum allowable emission rate based on procedure. NY: no applicable regulation. MA 310 CMR 3.18(19): Monitor pumps in light liquid service, compressors, valves in gas and light liquid service, and pressure relief valves in gas service quarterly using Method 21. Monitor any pressure relief valve within 24 hours of venting to the atmosphere using Method 21. Monitor all components identified as leaking using sight, smell, or sound within 24 hours using Method 21. Repair leaks within 15 days.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

[8] Connecticut uses leak repair and detection measures to comply with the CTGs for this source category, and other states take the same approach.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry (EPA 450/4-91-031, August 1993).	corrected to 3% oxygen.		plug, or a second closed valve on each open-ended valve (22a-174-20(x)(6)).	(SOCMI) distillation. 40 CFR § 52.375(f) Certification of no sources of Synthetic organic chemical manufacturing industry (SOCMI) reactor vessels	Visually inspect pumps in light liquid service weekly. Seal open-ended valves. MD: no applicable regulation.	
Storage of Petroleum Liquid in Tanks	Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed Roof Tanks, EPA-450/2-77-036, December 1977 AND Control of Volatile Organic Emissions from Petroleum Liquid Storage in External	**Fixed roof tanks**: Tanks >150,000 liters (40,000 gal) storing VOC >10.5 kPa TVP (1.5 psi) should be retrofitted with 1) an internal floating roof equipped with closure seals or 2) alternative control equipment. Tanks have no visible holes, tears, or other openings in the seal/seal fabric. All openings (except stub drains) are equipped with a cover, seal, or lid which is closed at all times except when in use. Automatic bleeder vents are closed except when the	22a-174-20(a) Storage of volatile organic compounds and restrictions for the Reid Vapor Pressure of gasoline	**22a-174-20(a)**: Control options for tanks ≥40,000 gal storing VOC ≥0.75 psi: 1) prevent all vapor loss to the atmosphere using a pressure tank, 2) equip the tank (storing VOC <11.0 psi) with a fixed roof and floating roof and seals, 3) for fixed roof tanks, equip the tank with a vapor recovery system which reduces VOC by ≥95% by weight, or 4) equip the tank with other equipment capable of reducing VOC by ≥95% approved by the commissioner and Administrator (22a-174-20(a)(2)). For tanks with a fixed and floating roof, maintain the tank with no visible holes, tears, or other	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	NH Env-A 1217.01-04: requirements consistent with CTGs, except visual inspections for fixed roof tanks are annual. NJ 7:27-16.2: Tanks are divided into 3 ranges based on vapor pressure of stored VOC and tank capacity. No controls for range I tanks (smallest). Conservation vents are required for range II tanks. Floating roofs are required for range III tanks (largest). Tanks ≥1,000 gal storing VOC >13.0 psi must be equipped with a vapor control system ≥90% efficiency. Range III external floating roof tank requirements are consistent with the external floating roof tank CTG with an option to replace the annual visual inspection with a Method 21 inspection. Range III fixed roof tanks must be kept in leak-free condition. Degassing and sludge removal during the ozone season must be controlled at 90-95% efficiency. Tanks ≥2,000 gal must be aluminum or white. Additional gap measuring,	Regulatory requirements are consistent with the CTG, and DEEP is planning to amend the requirements to be more protective that the CTG.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
	Floating Roof Tanks, EPA-450/2-78-047, December 1978.	roof is landed. Rim vents are open when the roof is floated off the roof leg supports. Determine compliance with a visual inspection at least every 6 months. **External floating roof tanks**: Tanks >150,000 liters (40,000 gal) storing VOC >10.5 kPa TVP should be retrofitted with a rim-mounted secondary seal for welded tanks storing liquid ≥27.6 kPa (4.0 psi) or riveted tanks. Tanks have no visible holes, tears, or other openings in the seal/seal fabric with no gaps >1/8 in. All openings project below the liquid surface and are equipped with a cover, seal, or lid which is closed at all times except when in use. Automatic bleeder vents are closed except when the roof is landed. Emergency roof drains are covered with a slotted		openings in the seal/seal fabric; cover all openings (except stub drains) with a cover, seal, or lid which is closed at all times except when in use; keep automatic bleeder vents closed except when the roof is landed; keep rim vents open when roof is floated off the roof leg supports; determine compliance using monthly visual inspections and measure gaps whenever the tank is degassed (22a-174-20(a)(3)). For fixed roof tanks, determine compliance with leak-free roof conditions using monthly EPA Method 21 inspections (22a-174-20(a)(2)(C)(iv)). Tanks may not be degassed during the ozone season except for the purpose of emergency repairs (22a-174-20(a)(9)). Tanks ≥2,000 gal must be aluminum or white (22a-174-20(a)(7)).	FR 67642 (c)(110)	Method 21, LEL monitoring, and internal and external visual inspection requirements. NY 6 CRR-NY III A 229: requirements consistent with external floating roof tank CTG. Fixed roof tanks ≥40,000 gal storing VOC ≥1.5 psi must be retrofitted with an internal floating roof or equivalent control (no other requirements). MA 310 CMR 7.24(1): requirements consistent with CTGs; submerged fill pipe requirement; similar requirement to RCSA 22a-174-20(a)(2) but with ≥1.5 psi applicability. MD 26.11.13.03: requirements consistent with CTGs with the option to install a pressure tank system or a vapor control system instead of an internal floating roof for fixed roof tanks. ME Chapter 111: requirements consistent with fixed roof tank CTG; monthly visual inspections; internal inspections every 10 years or when degassed; degassing prohibition during the ozone season and on days which the department has issued an ozone health warning. ME Chapter 170: Tanks ≥39,000 gal at a petroleum storage facility required to obtain an air emissions license must control degassing and sludge removal at 95% efficiency until the VOC concentration is <5,000 ppmv as methane or ≤10% of the LEL as methane and inspect for leaks daily during degassing using EPA Method 21.	

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
		membrane fabric cover or equivalent cover which covers ≥90% of the opening. Determine compliance with a visual inspection and measure gaps at least annually.				ME Chapter 171: Tanks ≥39,000 gal at a petroleum storage facility required to obtain an air emissions license must be equipped with a floating roof with closure seals (or equivalent) and monitor using optical gas imaging quarterly. Internal floating roof tanks must also conduct monthly visual and PID or LEL inspections. VT APCR 5-253.1: requirements consistent with fixed roof tank CTG with additional internal inspection requirements. No external floating roof tank requirements. 40 CFR 60 Subpart Kc: requirements consistent with CTGs with additional requirements for LEL monitoring and controls during degassing (closed vent system, control device (≥98% efficiency), or fuel gas system (until vapor space concentration is <10% LEL or <5,000 ppmv as methane).[9] 40 CFR 63 Subpart CC: requirements consistent with CTGs with additional requirements for Method 21 inspections and controls during degassing (closed vent system, control device (≥95% efficiency), or fuel gas system (until vapor space concentration is <10% LEL or <5,000 ppmv as methane). Tanks storing ethylene oxide must vent emissions through a closed vent system to a flare or to a control device ≥99% efficiency by weight. 40 CFR Part 63 Subpart EEEE: Reduce HAP by ≥95% by weight to an exhaust concentration ≤20 ppmv, route emissions to a fuel gas system, comply with Subpart WW, or use a vapor	

[9] Although 40 CFR 60 Subparts K, Ka, and Kb also apply to this source category, this table summarizes only Subpart Kc, as it is the newest and most stringent.

CTG Category	Relevant EPA CTG[1]	Summary of CTG Recommendations	CT Regulation	Summary of CT's Requirements	SIP Approval of Connecticut Regulation or Negative Declaration Adopted by State/ Approved by EPA/ FR Cite/ 40 CFR 52.370 Citation	Summary of requirements from other states, and other resources examined	Comments
						balancing system. Control degassing at ≥95% efficiency until 10% LEL. 40 CFR Part 63 Subpart BBBBBB: Submerged fill pipe requirement. Work practices: minimize and clean gasoline spills, cover all open gasoline containers, minimize gasoline sent to open waste collection systems. Monthly AVO inspections and annual Method 21 or optical gas imaging inspections. RBLC: submerged fill, aluminum or white color, vapor balancing, fuel specification, MACT CC, internal floating roof, RTO, good design, operating practices, enclosed combustor, stage I and II.	
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	**Loading terminals**: Tank truck terminals with a daily gasoline throughput of >76,000 L must meet an emission limit of 80 mg hydrocarbon/L gasoline loaded using a vapor collection or recovery system or oxidation control system. Monitor terminal operations and control systems visually and using a hydrocarbon detector to minimize leaks. **Leaks**: Limit pressure changes for gasoline tank trucks with vapor	22a-174-20(b) Loading of gasoline and other volatile organic compounds	All loading facilities with a daily throughput of 10,000 gal of VOC with a vapor pressure of ≥0.75 psi must be equipped with a vapor collection and vapor recovery systems (or its equivalent) and limit VOC emissions to <80 mg/L of loaded liquid over a 6-hour period (22a-174-20(b)(2)). Loading facilities with a daily throughput of 10,000 gal of VOC with a vapor pressure of ≥0.75 psi loaded into a delivery vehicle with a capacity of >200 gal must be vapor-tight (22a-174-20(b)(3)). Loading facilities with a daily throughput of 4,000-10,000 gal must use a	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)	NH Env-A 1217.05-07: requirements consistent with CTGs; submerged fill requirement; do not allow gasoline to be discarded in sewers, stored in open containers, or handled to allow evaporation. NJ 7:27-16.3: requirements consistent with CTGs; varied emission limits (40-80 mg/L or reduce VOC by ≥90%); submerged fill requirement. NY 6 CRR-NY 229: requirements consistent with loading terminal CTG; submerged fill requirement. NY 6 CRR-NY 230.6: Gasoline transport vehicles must be vapor-tight and all potential leak sources must remain at <100% of the LEL (measured within 1 in) during loading or unloading.	Regulatory requirements are consistent with the CTG, and DEEP is planning to amend the requirements to be more protective that the CTG.

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	Systems, EPA-450/2-78-051, December 1978.	collection systems to 750 Pa (3 in of water) in 5 minutes when pressurized to 4500 Pa (18 in of water). No avoidable visible liquid leaks (a few drops from disconnection are allowed). All potential leak sources must remain at <100% of the LEL (measured within 2.5 cm) during loading or unloading or repair within 15 days. Gauge pressure in the tank truck must be ≤4500 Pa (18 in of water) and vacuum ≤1500 Pa (6 in of water); monitor as needed using combustible gas detection. Annually certify gasoline trucks as leak tight. Monitor vapor collection systems as needed using combustible gas detection.		submerged fill pipe and vapor balance system during transfer (22a-174-20(b)(5)). Delivery vehicles must be vapor-tight, set pressure relief valves to ≥0.7 psi, load and unload so the delivery vehicle tank pressure is ≤18 in of water or vacuum ≤6 in of water (22a-174-20(b)(10)). Monitor the delivery vehicle tank annually using EPA Method 27 (or another approved method) (22a-174-20(b)(12)(A)). Repair leaks within 15 days (22a-174-20(b)(13) and (17)). The Department may monitor a delivery vehicle for vapor-tightness within one inch using a combustible gas detector when needed (22a-174-20(b)(15)).	4/1/98 10/19/00 65 FR 62624 ..... (c)(84) 07/08/2015 12/15/2017 82 FR 59519 (c)(117)	MA 310 CMR 7.24(4): requirements consistent with leaks CTG. MD 26.11.13.04: Equip the loading rack with a vapor balance system and a top submerged or bottom loading system and ensure that the system is leak-tight. MD 26.11.13.05: requirements consistent with leaks CTG. ME Chapter 112: requirements consistent with CTGs; lower emission limit (35 mg VOC/L of gasoline transferred); do not allow gasoline to be discarded in sewers, stored in open containers, or handled to allow evaporation. VT APCR 5-253.2 and 4: requirements consistent with CTGs; submerged fill requirement. 40 CFR 60 Subpart XX: requirements consistent with CTGs; emission limit of 35-80 mg VOC/L gasoline loaded. 40 CFR 60 Subpart XXa: requirements consistent with CTGs; emission limit of 1.0-10 mg VOC/L gasoline loaded; additional Method 21 and optical gas imaging inspections. 40 CFR 63 Subpart R: Comply with 40 CFR 60 Subpart XX or XXa. Emission limit of 10 mg VOC/L gasoline loaded. Load into vapor-tight cargo tanks only. Inspect equipment for leaks monthly using sight, sound, and smell (or inspect using OGI and Method 21 semiannually); repair within 15 days. Minimize gasoline spills, clean	

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						spills, cover containers, and minimize gasoline sent to open waste collection systems. 40 CFR 63 Subpart BBBBBB: requirements consistent with leaks CTG; submerged fill requirement; minimize gasoline spills, clean spills, cover containers, and minimize gasoline sent to open waste collection systems; additional Method 21 or OGI inspections. RBLC: submerged fill, minimize spills, vapor recovery unit.	
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	Control of Volatile Organic Compound Emissions from Wood Furniture Manufactur-ing Operations. Wood Furniture (CTG-MACT)	Facilities with PTE ≥25 tpy VOC in ozone nonattainment areas must use low VOC coatings (0.8-2.3 kg VOC/kg solids) and work practices (develop and implement a written inspection and maintenance plan to address and prevent leaks (monthly inspections, repair leaks within 15 days),	22a-174-32 Reasonably Available Control Technology (RACT) for volatile organic compounds	Wood furniture manufacturing operations PTE ≥25 tpy VOC (22a-174-32(b)(1)(C)) must 1) install and operate a VOC control system which a) reduces VOCs by ≥85%, b) oxidizes ≥95% of non-methane VOCs by incineration, or c) recovers or removes VOCs so that the VOC mass emission rate leaving the outlet is ≤10% of the VOC mass emission rate entering the system, 2) implement a	11/18/93 3/10/99 64 FR 12024 ..... (c)(76) 8/27/99 10/19/00 65 FR 62624 ..... (c)(84)	NH Env-A 1213: requirements consistent with CTG; specified application techniques; initial leak repair attempt within 5 days. NJ 7:27-16.7(j): VOC content limits for coatings 4.7-6.8 lb/gal; specified application techniques. NY 6 CRR-NY 228-1: requirements consistent with CTG; use HVLP spraying with low VOC coatings or add-on controls with ≥90% overall efficiency; additional work practices; average opacity must be <20% for any consecutive 6-minute period. MA: no comparable regulation.	Regulatory requirements are consistent with the CTG and represent RACT under the reclassification of the 2008 ozone NAAQS.

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		closed containers for storage and transfer, discontinue use of conventional air spray guns, minimize spills, and operator training).		program of reformulation or process change which reduces VOC emissions by ≥80%, 3) use alternative emissions reductions or emission reduction credits in accordance with a permit or order by complying with an applicable CTG, 4) implement an alternative compliance plan in accordance with a permit or order, (22a-174-32(e)) or 5) obtain a permit to limit actual emissions to ≤25 tpy (22a-174-32(c)(1)).		MD: no comparable regulation. ME: no comparable regulation. VT APCR 5-253.16: requirements consistent with CTG; additional work practices; facilities which are a major source of HAP must use coatings with specified HAP limits. 40 CFR 63 Subpart JJ: Emission limits for facilities at a major source of HAP (0.8-10.0 kg VHAP/kg solids); work practices consistent with CTG with additional work practices. RBLC: coating reformulation, proper spraying techniques, paint filter.	

Table 3. List of major sources of NOx and VOC located in Connecticut.

Major Sources of NOx	**Major Sources of NOx**	**Major Sources of VOC**	**Major Sources of VOC**	**Major Sources of VOC**	**Sources Subject to VOC RACT Orders**
Ahlstrom Power Windsor Locks, LLC*	Metropolitan District*	Ahlstrom Power Windsor Locks, LLC*	Lake Road Generating Company LLC*	US Navy Submarine Base*	Algonquin Gas Transmission Company, Cromwell
Algonquin Gas Transmission Company, Chaplin*	Middletown Power	Allnex USA, Inc. (formerly Cytec Industries, Inc.)	Metropolitan District*	Win Waste Bridgeport, L.P.	Algonquin Gas Transmission Company, Oxford
Algonquin Gas Transmission Company, Cromwell	Milford Power Co, LLC	Ametek Specialty Minerals Products Division	Middletown Power	Yale University Central/Science Campus	Hamilton Sundstrand Corporation*
Algonquin Gas Transmission Company, Oxford	Montville Power, LLC*	Bridgeport Energy LLC	Milford Power, LLC	Yale School of Medicine/Sterling Power Plant	Kimberly-Clark Corporation (New Milford Mill)
Bridgeport Energy LLC	Plainfield Renewable Energy, LLC*	CPV Towantic, LLC	New Haven Terminal (East Haven)	**Municipal Waste Combustors (Major Sources of NOx)**	Roehm America (formerly Evonik Cyro)
Connecticut Jet Power, LLC	Pratt & Whitney Div. of Raytheon Technologies Corporation, Middletown	Devon Power, LLC	New Haven Terminal (New Haven)	Covanta Bristol, Inc.*	SMM (Sims Metal) New England Corporation
CPV Towantic, LLC	University of Connecticut, Storrs*	Electric Boat Corporation*	Plainfield Renewable Energy, LLC*	Covanta Southeastern Connecticut Company*	**Major Sources of VOC Subject to MACT Standards**
Devon Power, LLC	U.S. Navy Submarine Base New London*	Equilon Enterprises, LLC dba Shell Oil Products US (New Haven) (formerly Motiva Enterprises, LLC)	Pratt & Whitney Division of Raytheon Technologies Corporation, East Hartford	Win Waste Bridgeport, L.P.	Buckeye PT Terminals, L.P. (Forbes Avenue Terminal)
Electric Boat Corporation*	Wallingford Energy LLC	GB II Connecticut LLC, Bridgeport Harbor Station	Pratt & Whitney Div. of Raytheon Technologies Corporation, Middletown	Win Waste Lisbon Inc.*	Buckeye PT Terminals, L.P. (Waterfront Terminal)
GB II New Haven LLC, New Haven Harbor Station	Waterbury Generation	GB II New Haven LLC, New Haven Harbor Station	Sikorsky Aircraft Corporation		Equilon Enterprises, LLC dba Shell Oil Products US (New Haven) (formerly Motiva Enterprises, LLC)
GB II Connecticut LLC, Bridgeport Harbor Station	Yale University Central/Science Campus	Gilman Brothers Company*	Sonoco Protective Solutions, Inc. (formerly Tegrant Diversified Brands, Inc.)*		Gulf Oil Limited Partnership
Iroquois Gas Transmission System, L.P. dba Iroquois Pipeline Operating Company	Yale School of Medicine/Sterling Power Plant	Gulf Oil Limited Partnership	Stanley Black and Decker, Inc.*		New Haven Terminal (East Haven)
Kimberly Clark Corporation (New Milford Mill)		Holcim Solutions and Products US, LLC*	Total Petrochemical and Refining USA Inc (formerly Cray Valley USA), Stratford		New Haven Terminal (New Haven)
Kleen Energy Systems, LLC		Kingswood Kitchens	United Aluminum Corporation		Sprague Operating Resources, LLC, Bridgeport
Lake Road Generating Company LLC*		Kleen Energy Systems, LLC	University of Connecticut, Storrs*		

* Major sources of NOx and VOCs located outside of the severe non-attainment area for the 2008 ozone standard as defined in RCSA section 22a-174-1(106).

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

General fuel/ unit type[1]	CT (RCSA 22a-174-22e)	MA (310 CMR 7.19)	NH (Env-A 1300)	PA (25 Pa. Code § 129.97)	DC (20 DCMR 805)	NJ (17:27-19.4)	NY (Subpart 227-2)
Distillate Oil Boilers	**0.10** lb/MMBtu (EGU boilers and ≥25 and <100 MMBtu/hr ICI boilers) **0.20** lb/MMBtu (≥5 and <25 MMBtu/hr ICI boilers) **0.15** lb/MMBtu (≥100 MMBtu/hr ICI boilers) 24-hr avg using CEMS or avg of three 1-hr stack tests **0.15** lb/MMBtu (non-ozone season avg)	**0.12** lb/MMBtu (≥50 and <100 MMBtu/hr boilers) **0.15** lb/MMBtu (≥100 MMBtu/hr boilers) 1-hr avg or 24-hr avg using CEMS	**0.12** lb/MMBtu (≥50 and <100 MMBtu/hr face and tangential fired boilers firing No. 2 oil; 1-hr avg)	**0.12** lb/MMBtu (≥50 MMBtu/hr boilers; 30-day rolling avg using CEMS)	**0.12** lb/MMBtu (≥100 MMBtu/hr boilers) **0.09** lb/MMBtu (≥25 and <100 MMBtu/hr boilers firing oil or co-firing with natural gas) Calendar day avg	**0.29** lb/MMBtu (EGU boilers firing No. 2 and lighter fuel oil) **0.08** lb/MMBtu (≥25 and <100 MMBtu/hr ICI boilers firing No. 2 fuel oil) **0.10** lb/MMBtu (≥100 MMBtu/hr ICI boilers firing No. 2 fuel oil) Calendar day avg during ozone season and 30-day during non-ozone season using CEMS	**0.15** lb/MMBtu (≥100 and 250 MMBtu/hr boilers) **0.08** lb/MMBtu (≥25 and 100 MMBtu/hr boilers co-firing with gas) With CEM - 24-hour ozone season/ 30-day non-ozone season; without CEM - 1-hour
Natural Gas Boilers	**0.10** lb/MMBtu (EGU boilers and ≥100 MMBtu/hr ICI boilers) **0.20** lb/MMBtu (≥5 and <25 MMBtu/hr ICI boilers) **0.05** lb/MMBtu (≥25 and <100 MMBtu/hr) 24-hr avg using CEMS or avg of three 1-hr stack tests **0.15** lb/MMBtu (non-ozone season avg)	**0.10** lb/MMBtu (≥50 and <100 MMBtu/hr boilers) **0.06** lb/MMBtu (≥100 MMBtu/hr) **0.08** lb/MMBtu (>250 MMBtu/hr tangential gas-fired boilers) **0.15** lb/MMBtu (≥250 MMBtu/hr for face-fired boilers) 1-hr avg or 24-hr avg using CEMS	**0.10** lb/MMBtu (≥50 MMBtu/hr; 1-hr avg)	**0.10** lb/MMBtu (≥50 MMBtu/hr) **0.25** lb/MMBtu (≥50 MMBtu/hr refinery gas-fired boilers) 30-day rolling avg using CEMS	**0.05** lb/MMBtu (≥100 MMBtu/hr) Calendar day avg	**0.29** lb/MMBtu (EGU boilers) **0.05** lb/MMBtu (≥25 and <100 MMBtu/hr ICI boilers) **0.10** lb/MMBtu (≥100 MMBtu/hr ICI boilers) Calendar day (ozone season) or 30-day (non-ozone season) using CEMS	**0.05** lb/MMBtu (≥25 and 100 MMBtu/hr) **0.06** lb/MMBtu (≥100 and 250 MMBtu/hr) **0.08** lb/MMBtu (≥250 MMBtu/hr tangential and wall fired boilers) With CEM - 24-hour ozone season/ 30-day non-ozone season; without CEM - 1-hour
Oil-Fired Simple Cycle Turbines	**50** ppmvd (24-hr avg using CEMS or avg of three 1-hr stack tests) **0.15** lb/MMBtu (non-ozone season avg)	**50** ppmvd (≥250 MMBtu/hr; 1-hr avg or 24-hr avg using CEMS)	**75** ppmvd (turbines constructed on/before May 27, 1999; 1-hr avg)	**150** ppmvd (≥1,000 and <6,000 bhp) **96** ppmvd (≥6,000 bhp) 30-day rolling avg using CEMS	**42** ppmvd (@15% oxygen)	**42** ppm (Calendar day avg during ozone season and 30-day during non-ozone season using CEMS)	**100** ppmvd (@15% oxygen; 1-hr avg) **42** ppmvd (ozone season by May 2025; @15% oxygen; 30-day avg)
Gas-Fired Simple Cycle Turbines	**40** ppmvd (24-hr avg using CEMS or avg of three 1-hr stack tests)	**40** ppmvd (≥250 MMBtu/hr; 1-hr avg or 24-hr avg using CEMS)	**25** ppmvd (constructed after May 27, 1999) **55** ppmvd (constructed	**150** ppmvd (≥1,000 and <6,000 bhp) **42** ppmvd (≥6,000 bhp)	**25** ppmvd (@15% oxygen)	**25** ppm (Calendar day avg during ozone season and 30-day	**50** ppmvd (@15% oxygen; 30-day avg)

[1] Coal boilers are not included in this table because there are no units in Connecticut. Residual oil boilers are not included in this table because Connecticut's emission limits are at least as stringent as those in the states represented in this table.

	0.15 lb/MMBtu (non-ozone season avg)		on/before May 27, 1999) 1-hr avg	30-day rolling avg using CEMS		during non-ozone season using CEMS)	**100** ppmvd (ozone season; @15% oxygen) **25** ppmvd (ozone season by May 2025; @15% oxygen) 1-hr avg ozone season
Oil-Fired Combined Cycle Turbines	**42** ppmvd (24-hr avg using CEMS or avg of three 1-hr stack tests) **0.15** lb/MMBtu (non-ozone season avg)	**42** ppmvd (≥250 MMBtu/hr; 1-hr avg or 24-hr avg using CEMS)	**65** ppmvd (constructed on/before May 27, 1999; 1-hr avg)	**96** ppmvd (≥1,000 and <180 MW) **8** ppmvd (≥180 MW) 30-day rolling avg using CEMS	**42** ppmvd (@15% oxygen)	**42** ppm (Calendar day avg during ozone season and 30-day during non-ozone season using CEMS)	Case-by-case
Gas-Fired Combined Cycle Turbines	**25** ppmvd (24-hr avg using CEMS or avg of three 1-hr tests tests) **0.15** lb/MMBtu (non-ozone season avg)	**25** ppmvd (≥250 MMBtu/hr; 1-hr avg or 24-hr avg using CEMS)	**25** ppmvd (constructed after May 27, 1999) **42** ppmvd (constructed on/before May 27, 1999) 1-hr avg	**42** ppmvd (≥1,000 and <180 MW) **4** ppmvd (≥180 MW) 30-day rolling avg using CEMS	**25** ppmvd (@15% oxygen)	**25** ppm (Calendar day avg during ozone season and 30-day during non-ozone season using CEMS)	Case-by-case
Lean-Burn Oil-Fired Engines	**2.3** g/bk hp-hr (24-hr avg using CEMS or avg of three 1-hr stack tests)	**2.3** g/bhp-hr (1-hr avg or 24-hr avg using CEMS)	**4.8** g/bhp-hr (>560 KW) **3.0** g/bhp-hr (≤560 KW) 1-hr avg	**8.0** g/bhp-hr (≥500 bhp; liquid fuel or dual-fuel; 30-day rolling avg using CEMS)	**2.3** g/bhp-hr (≥50 hp engines permitted on or after August 3, 2023) **6.5** g/bhp-hr (≥50 hp engines permitted before August 3, 2023)	**8.0** g/bhp-hr (≥500 bhp) **2.3** g/bhp-hr (≥37 kW) **0.9** g/bhp-hr (≥37 kW operation commenced on/after March 7, 2007)	**2.3** g/bhp-hr (≥200 bhp engines firing distillate oil; 1-hr avg)
Lean-Burn Gas-Fired Engines	**1.5** g/bk hp-hr **2.0** g/bk hp-hr (engines firing landfill/digester gas alone or co-firing with natural gas) 24-hr avg using CEMS or avg of three 1-hr stack tests	**1.5** g/bhp-hr (1-hr avg or 24-hr avg using CEMS)	**2.5** g/bhp-hr (1-hr avg)	**3.0** g/bhp-hr (≥500 bhp; 30-day rolling avg using CEMS)	**0.7** g/bhp-hr (≥50 hp) **0.6** g/bhp-hr (≥50 hp engines firing waste, landfill, or digester gas)	**2.5** g/bhp-hr (≥500 bhp) **1.5** g/bhp-hr (≥37 kW) **0.9** g/bhp-hr (≥37 kW operation commenced on/after March 7, 2007) 1-hr avg	**1.5** g/bhp-hr (≥200 bhp) **2.0** g/bhp-hr (≥200 bhp engines firing landfill gas or digester gas alone or with natural gas) 1-hr avg
Rich-Burn Oil-Fired Engines	**1.5** g/bk hp-hr (24-hr avg using CEMS or avg of three 1-hr stack tests)	N/A	**4.8** g/bhp-hr (>560 KW) **3.0** g/bhp-hr (≤560 KW) 1-hr avg	**8.0** g/bhp-hr (≥500 bhp; 30-day rolling avg using CEMS)	**0.7** g/bhp-hr (≥50 hp)	**1.5** g/bhp-hr (≥37 kW) **0.9** g/bhp-hr (≥37 kW operation commenced on/after March 7, 2007) 1-hr avg	**2.3** g/bhp-hr (≥200 bhp engines firing distillate oil; 1-hr avg)
Rich-Burn Gas-Fired Engines	**1.5** g/bk hp-hr **2.0** g/bk hp-hr (engines firing landfill/digester gas alone or co-firing with natural gas) 24-hr avg using CEMS or avg of three 1-hr stack tests	**1.5** g/bhp-hr (1-hr avg or 24-hr avg using CEMS)	**1.5** g/bhp-hr (1-hr avg)	**2.0** g/bhp-hr (≥500 bhp; 30-day rolling avg using CEMS)	**0.7** g/bhp-hr (≥50 hp) **0.6** g/bhp-hr (≥50 hp engines firing waste, landfill, or digester gas)	**1.5** g/bhp-hr (≥500 bhp) **0.9** g/bhp-hr (≥37 kW operation commenced on/after March 7, 2007) 1-hr avg	**1.5** g/bhp-hr (≥200 bhp) **2.0** g/bhp-hr (≥200 bhp engines firing landfill/ digester gas alone or with natural gas) 1-hr avg