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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Air Quality

Draft Proposed Rulemaking Chapter 129: Control of VOC Emissions from Large Petroleum Dry Cleaners, Shipbuilding and Repair Coating Operations, and SOCMI Reactors, Distillation, and Air Oxidation Processes

Small Business Compliance Advisory Committee
October 28, 2020
Harrisburg, PA

Tom Wolf, Governor

Patrick McDonnell, Secretary

Overview

Purpose

The proposed rulemaking would control VOC emissions from certain existing sources and assist the Department of Environmental Protection (DEP) in certifying Control Techniques Guidelines (CTG) to meet requirements under the Clean Air Act and the U.S. Environmental Protection Agency's (EPA) 2015 Ozone Implementation Rule.

CTGs addressed by this proposed rulemaking include:

- Large Petroleum Drycleaners,
- Shipbuilding and Ship Repair Coatings,
- Air Oxidation Processes for Synthetic Organic Chemical Manufacturing Industry (SOCMI), and
- Reactor & Distillation Processes for SOCMI.

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Background

Clean Air Act RACT Requirements

- Clean Air Act (CAA) Section 172(c)(1) requires that state implementation plans (SIPs) for nonattainment areas include "reasonably available control measures" (RACM), including "reasonably available control technology" (RACT), for sources of volatile organic compounds (VOC) and nitrogen oxides (NO_X).
- CAA Sections 184(b)(1)(B) and 182(b)(2) provide that states in the Ozone Transport Region (OTR), with certain nonattainment areas, or both, must revise their SIPs to provide for the implementation of RACT for each VOC source category covered by a CTG.

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Overview

Background of CTGs

- EPA issues CTGs in accordance with Section 183(a) of the CAA.
- CTGs provide the EPA's recommendations of what constitutes RACT for the control of VOC emissions from a specific source category in ozone nonattainment areas and the OTR.
- EPA reviews and updates CTGs in accordance with Section 183(c) of the CAA.
- EPA requires the Implementation of CTG RACT in Section 184 (b)(1)(B) of the CAA.

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Overview

The Department faced three challenges in certifying CTG RACT for the 2008 Ozone Standard:

- Submission of individual facility permit requirements as RACT SIP revisions.
- Construction of new facilities affecting previous negative declaration status.
- Demonstrating the requirements in New Source Performance Standards (NSPS) provide equivalent CTG RACT “control measures” at new source and new facility installations for CTG affected source categories.

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Affected Facilities

DEP has determined moving forward that:

- Negative declarations, used prior to the 2008 Ozone National Ambient Air Quality Standards (NAAQS), due to the addition of new units, can no longer apply.
- DEP should avoid relying on individual facility NSPS requirements and individual permitting requirements for certification of CTG RACT for the current 2015 Ozone Standard.
- The proposed rulemaking would clarify CTG RACT requirements for shipbuilders, large petroleum drycleaners, air oxidation processes, and the distillation and reactor processes.

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Affected Facilities

Facilities that could be affected by the proposed rulemaking:

Two Shipbuilders.

- Both meet control measures in the CTG with permit conditions.
- Permit requirements were submitted as SIP revisions.

Pennsylvania has several small petroleum dry cleaners.

- None appear to exceed the VOC applicability threshold recommended in the CTG.
- All meet NSPS or general permit requirements.
- A CTG recommendation is not a regulatory requirement.
- Pennsylvania has no regulation on which to base an exemption for operating below the CTG applicability limit.

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Affected Facilities

Facilities that could be affected by the proposed rulemaking:
(continued)

One existing air oxidation unit.

- SIP approved permit requirements for CTG RACT purposes.

New Distillation and Reactor related processes.

- All are subject to NSPS requirements.
- Control measures for CTG RACT affected Pennsylvania facilities are met by demonstrating NSPS requirements provide equivalent control measures.

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Overview

Information on specific CTGs and related documents can be found on EPA's website at:

https://www.epa.gov/ground-level-ozone-pollution/control-techniques-guidelines-and-alternative-control-techniques

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Background for Large Petroleum Dry Cleaning

Large Petroleum Dry Cleaners

- In September 1982, EPA issued a CTG with RACT recommendations for large petroleum dry cleaners.
- The proposed rulemaking adds Section 129.63b “Control of VOC emissions from large petroleum solvent dry cleaners”.
- The proposed rulemaking is consistent with the CTG’s model rule found in Appendix E.

Large Petroleum Dry Cleaning Applicability Provisions

The proposed rulemaking would apply to the owners and operators of Large Petroleum Dry Cleaners, as follows:

- Section 129.63b(a) applies statewide for the owner and operator of a petroleum solvent washer, dryer, solvent filter, settling tank, vacuum still, and other containers and conveyors of petroleum solvent that use petroleum solvent at their dry cleaning facility and consume 123,000 liters (32,493 gallons) or more of petroleum solvent annually.

- Section 129.63b(b) would define “Consume” as the amount of petroleum solvent purchased less the amount of petroleum solvent sent for disposal or returned for recycling during a calendar year.

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Large Petroleum Dry Cleaning Emission Limitations

Section 129.63b(c) emission limitations:

(1) The owner and operator of a dryer shall do one of the following:

- Limit VOC emissions to the atmosphere to an average of 3.5 kilograms (kg) of VOC per 100 kg dry weight of articles dry cleaned.
- Install and operate a petroleum solvent recovery dryer in a manner that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 milliliters per minute is attained.

(2) The owner or operator of a petroleum solvent filtration system shall do one of the following:

- Reduce the VOC content in all filtration wastes to 1.0 kg or less per 100 kg dry weight of articles dry cleaned, before disposal and exposure to the atmosphere.
- Install and operate a cartridge filtration system and drain the filter cartridges in their sealed housings for 8 hours or more before their removal.

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Large Petroleum Dry Cleaner Emission Limitations & Monitoring

Section 129.63b(c) of the proposed rulemaking includes the following emission limitations:

(3) The owner or operator of a petroleum solvent dry cleaning dryer or petroleum solvent filtration system shall repair a petroleum solvent vapor or liquid leak within 3 working days after identifying the source of the leak.

- If the necessary repair part is not on hand to perform the repair, the owner or operator shall order the part within 3 working days following identification of the source of the leak.
- The owner or operator shall repair the identified leak no later than 3 working days following the arrival of the necessary repair part.

Section 129.63b(d) includes compliance monitoring and testing requirements.

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Large Petroleum Dry Cleaner Recordkeeping

- Section 129.63b(e) includes recordkeeping and reporting requirements.

  The owner or operator shall maintain the following records sufficient to demonstrate compliance.

  - (1) Records of the weight of VOC emissions vented from the dryer emission control device, calculated according to subsection (d)(1).
  - (2) Records of the dry weight of articles dry cleaned for use in the calculations in subsections (d)(1) - (3).
  - (3) Records of the weight of VOCs contained in the filtration waste samples required in subsection (d)(1)(i).
  - (4) Records of the weight of VOCs contained in the filtration waste material per 220 lb (100 kg) dry weight of articles dry cleaned.

- Section 129.63(b)(f) would require the owner or operator of an exempt petroleum solvent dry cleaning facility to maintain records of annual solvent consumption onsite for 5 years.

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Background on Proposed SOCMI Rulemaking

SOCMI Air Oxidation Distillation and Reactors

In August 1993, EPA issued a CTG for the "Control of VOC Emissions from Reactors and Distillation Operations Processes SOCMI".

The "Air Oxidation Processes SOCMI" CTG was issued in December, 1984.

- Similar to Philadelphia's RACT SIP approved rule, the proposed rulemaking adopts existing NSPS by reference, and applies the NSPS requirements to all applicable sources recommended in the CTG. It includes 40 CFR Part 60 Subpart III - SOCMI Air Oxidation Unit Processes, Subpart NNN - SOCMI Distillation Processes, and Subpart RRR - SOCMI Reactor.

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Background and Applicability of Proposed SOCMI Rulemaking

NSPS requirements can be found at:

https://www.epa.gov/stationary-sources-air-pollution/new-source-performance-standards

The proposed SOCMI rulemaking would add:

- Definitions into § 121.1.
- § 129.71a "Control of VOC from the synthetic organic chemical manufacturing industry — oxidation, distillation and reactor processes."
- Table 1. The table lists the regulated SOCMI chemicals from the CTGs and NSPS rules.

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SOCMI Applicability Provisions

Applicability in § 129.71a(a)

- Except as specified in bullet 3 below, this Section applies to the owner and operator of a SOCMI facility that has a vent stream originating from a process unit in which an air oxidation unit process, distillation operation or reactor process produces one or more of the chemicals listed in Table 1 as a product, coproduct, byproduct or intermediate.

- For purposes of this section, reference to total organic compounds or TOC in 40 CFR 60 Subpart III (relating to standards of performance for VOC), 40 CFR 60 Subpart NNN (relating to standards of performance for VOC) or 40 CFR 60 Subpart RRR (relating to standards of performance for VOC) shall be considered equivalent to VOC as defined in § 121.1 (relating to definitions).

- The owner and operator of a SOCMI facility located in this Commonwealth that has a vent stream originating from a process unit in which an air oxidation unit process, distillation operation or reactor process produces one or more of the chemicals listed in Table 1 as a product, coproduct, byproduct or intermediate shall meet the requirements of this section unless more stringent requirements in an applicable permit or plan approval issued by the Department apply.

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Background on Draft Proposed Shipbuilding Rulemaking

Shipbuilding and Repair Coatings

In August 1996, EPA issued a CTG for surface coating operations at shipbuilding and ship repair facilities.

The proposed rulemaking:

- Adds definitions to § 121.1.
- Modifies the applicability of § 129.52 to accommodate shipbuilding.
- Adds shipbuilding as a 12th coating category into Table I of §129.52 and adds coating types with standards taken from the CTG.

Shipbuilding Applicability & Recordkeeping Provisions

- The proposed shipbuilding rulemaking would apply to the owners and operators of shipbuilding and repair coatings where a shipbuilding or ship repair facility that has a surface coating operation that uses or applies more than 264 gallons of coatings listed in Table I, Category 12.
- Recordkeeping requirements would include the volume percent of solids for a Table I, Category 12 coatings whose VOC content is expressed in units of weight of VOC per volume of coating solids.
- The other requirements in § 129.52 remain unchanged and apply to the shipbuilding coating category.

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RACT Requirements

Upon final approval, the RACT requirements in proposed §§ 129.52, 129.63b and 129.71a would supersede the requirements specified in a RACT permit issued to the owner and operator of an affected source unless the RACT permit contains more stringent requirements for that facility.

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Anticipated Rulemaking Schedule

- AQTAC
  October 15, 2020 – Proposed Annex
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- SBCAC
  October 28, 2020 – Proposed Annex

- EQB – Proposed Rulemaking
  1st Quarter 2021

- Public Comment Period and Public Hearings
  3rd Quarter 2021

- Final Rulemaking Promulgated
  3rd Quarter 2022

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QUESTIONS????

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