

OZONE NAAQS RESOURCE DOCUMENT:
DUE DILIGENCE REVIEW FRAMEWORK FOR AIR AGENCIES DEVELOPING RACT SIP REVISIONS
December 19, 2024

I. PURPOSE

The Clean Air Act (CAA) and the Environmental Protection Agency's (EPA) implementing regulations for ozone national ambient air quality standards (NAAQS) require that state, local, and tribal air agencies submit state implementation plan (SIP) revisions addressing reasonably available control technology (RACT) requirements for nonattainment areas classified as Moderate or higher, and portions of states located in an ozone transport region (OTR).¹ The purpose of this document is to provide air agencies with a recommended framework for assessing relevant information in support of RACT SIP revisions, along with examples and suggested resources. The EPA informally refers to this assessment process as "due diligence review" and considers it a necessary component of approvable RACT SIP revisions. While applying this framework will support the approvability and defensibility of RACT SIP revisions, please note that the EPA's action on a RACT SIP revision is ultimately case-specific and made in full consideration of the facts of the air agency's submittal and relevant public comment.

II. RACT BACKGROUND

- The EPA has defined RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. Air agencies with ozone nonattainment areas classified as Moderate or higher and in states located within the OTR are required to implement RACT for each category of volatile organic compound (VOC) sources covered by an EPA Control Techniques Guideline (CTG) document and for all other major stationary sources of VOC and nitrogen oxides (NO_x) within the relevant nonattainment or OTR area.² If an air agency has identified no covered sources for a given CTG, they may submit a negative declaration.
- An air agency will typically be required to submit RACT SIP revisions because of initial nonattainment area designations, mandatory area reclassifications for failure to attain, voluntary area reclassifications and, less frequently, the EPA's issuance of a new CTG document. In these actions, the EPA establishes deadlines for SIP revision submittals and RACT implementation for affected areas.
- The EPA has promulgated multiple revisions to ozone standards first established in 1971, including the 1979 1-hour NAAQS and 1997 8-hour NAAQS (both since revoked), and the two "active" 8-hour ozone standards promulgated in 2008 and 2015. As a result, many air agencies have adopted regulations into SIPs to meet RACT requirements for their areas under prior ozone standards.
- After going through a due diligence review, an air agency may conclude that new or revised RACT regulations are not necessary to meet RACT requirements for a revised ozone NAAQS. In

¹ See CAA sections 172(c)(1), 182(b) through (f), and 184; and 40 CFR 51.1112, 1116, 1312, and 1316.

² The major source applicability threshold for RACT varies by nonattainment area classification and becomes more stringent (*i.e.*, lower) at higher classifications: Moderate (100 tpy), Serious (50 tpy), Severe (25 tpy), and Extreme (10 tpy).

such situations, an air agency may submit SIP revisions certifying that existing RACT regulations are adequate to meet applicable nonattainment area or OTR RACT requirements for a revised ozone NAAQS (these are referred to as “certification SIPs”). For EPA to approve a certification SIP, there must be an accompanying analysis showing why no new or revised RACT regulations are necessary.

III. DUE DILIGENCE REVIEW BASIS

- A key concern underlying due diligence review is that the analysis of appropriate controls contained within a CTG document degrades as new and more advanced control technologies become available over time.
 - Where a CTG document may have had control strategies equivalent to RACT upon its issuance, subsequent advances in process and equipment design, and control technologies may mean that controls contained within a CTG no longer represent RACT.
 - Even the EPA’s most recently issued CTG, “Control Techniques Guidelines for the Oil and Natural Gas Industry” (2016), cannot automatically be presumed to represent RACT for its various covered sources as the industry and related standards continue to evolve, including the more recent Emissions Guidelines and New Source Performance Standards (NSPS) promulgated by EPA in December 2023.
 - An air agency’s previous negative declarations for CTGs, which signify that no sources covered by the CTG exist within the relevant nonattainment or OTR area, may also lose validity over time with the addition or permanent removal of CTG-covered sources.
 - Similarly, previous categorical and source-specific RACT determinations for non-CTG major sources may not currently represent RACT due to advances in process and equipment design, and control technologies.
- Therefore, the EPA expects that any new determination or certification that an existing state regulation implements RACT should be supported in the record with due diligence review. This position has been articulated in ozone SIP requirement rules (SRRs):
 - “[S]tates should refer to the existing CTGs and ACTs for purposes of meeting their RACT requirements, **as well as all relevant information (including recent technical information and information received during the public comment period) that is available at the time that they are developing their RACT SIPs...**” ([2008 ozone SRR](#) at 80 FR 12279, March 6, 2015; reiterated in the [2015 ozone SRR](#) at 83 FR 63002, December 6, 2018).
 - “An air agency choosing to provide a written certification in lieu of submitting a new or revised regulation must provide the certification to the EPA qualifying as a SIP revision in accordance with CAA section 110 and 40 CFR 51.102, 103 and part 51 Appendix V. **An air agency should identify the related applicable requirements and explain how each is met for the revised ozone NAAQS by the regulation previously approved for a prior ozone NAAQS.**” (2015 ozone SRR at 83 FR 63002).
- This recommended due diligence review framework is mainly intended to support the development of approvable certification SIPs for previously adopted RACT regulations for CTG-covered sources and non-CTG major sources. However, this framework also applies to new SIP revisions to implement RACT where an air agency is relying on CTGs in any way to demonstrate

RACT. This framework and suggested resources are less applicable for evaluating substantive changes to RACT rules (*e.g.*, changes to emissions limitations) that rely more heavily on source-specific technical analysis.

IV. DUE DILIGENCE REVIEW FRAMEWORK

- A RACT due diligence review framework can be thought of as differing levels of review and analysis to support an air agency's determination that its regulations meet RACT requirements:
 - Combination (descriptive and demonstrative) approach – *RECOMMENDED*
 - Demonstrative approach
 - Descriptive approach
- The EPA considers a RACT SIP revision that simply declares a new or existing regulation meets a presumptive level of RACT with no discussion of due diligence review to be inconsistent with national policy and not approvable.
 - Examples for CTG-covered sources might include a SIP revision declaring a regulation was adopted to “meet the presumptive level of RACT established in the CTG” or “achieve emission reductions equivalent to the CTG.”
 - Examples for non-CTG major sources might include a SIP revision certifying the adequacy of an existing RACT regulation by referencing a historical RACT determination and EPA approval, but otherwise not addressing how a regulation currently meets RACT.
 - In either scenario, an air agency may be able to establish that a regulation still represents RACT, but the EPA would expect the SIP revision to include a reasoned justification supported by due diligence review, using descriptive and demonstrative approaches discussed below.
- **Combination (descriptive and demonstrative) approach** – the EPA recommends that RACT due diligence reviews incorporate descriptive and demonstrative elements (described below), and that RACT SIP revisions include narrative to explain how state rules represent RACT based on due diligence review and analysis of available resources.
 - Independent of an air agency's RACT due diligence review, the EPA has the authority to look at information outside of an air agency's submission in reviewing and acting upon a RACT SIP revision, which includes responding to any adverse comments received on the EPA's proposed actions.
 - A more detailed RACT due diligence review will enhance both the approvability and defensibility of an air agency's RACT SIP revision.
 - There may be situations where a descriptive approach alone is adequate when an air agency has recently demonstrated or certified that a regulation meets RACT requirements (see below).
- **Demonstrative approach** – including demonstrative elements in RACT due diligence reviews explicitly “shows the work” and can further enhance the approvability and defensibility of RACT SIP revisions.

- An air agency's due diligence review can be demonstrated in a tabular and/or narrative format, as best suited to illustrate the review process and findings.
- Examples of tabular format for CTG-covered sources and non-CTG major sources:

Relevant EPA CTG (with year)	NH Regulation	Summary of CTG Recommendations	Summary of New Hampshire's Requirements	Summary of requirements from other states, and other information examined
4 - Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals (1977)	Env-A 1217.05 - .07	Vapor collection systems, leak tight conditions, submerged fill	Collection and control requirements during filling operations; leak tight conditions for equipment associated with tank truck loading; submerged fill requirement; vapor tightness documentation for tank trucks; periodic leak check requirements	ME Chapter 112 – essentially similar requirements; contains a requirement prohibiting discharge of gasoline to sewers or storage in open containers. VT APCR 5-253.2 – essentially similar requirements; 40 CFR Part 60 Subpart XX 40 CFR Part 63 Subparts R, BBBBBB RBL: submerged fill, minimize spills, vapor recovery unit

Table 1 Comparison of Presumptive NOx Emission Limits for Existing Boilers Serving EGUs					
SR No.	OTR State	NOx RACT Limit	Averaging Period	Effective Date	Rule Citation
1	CT	0.12 lb/MMBTU	Daily Block	6/1/2023	22a-174-22e(d)(2)(C)
2	DC	0.43 lb/MMBTU	Calendar Day	4/16/2004	20 DCMR 805.5(c)(1)
3	DE	0.125 lb/MMBTU	24 Hour Rolling	1/1/2012	Section 4.3 of 1146
4	MA	0.12 lb/MMBTU	Daily	3/9/2020	310 CMR 7.19(4)(b)1
5	MD	0.13 lb/MMBTU	24-Hr Block	6/1/2020	COMAR 26.11.38
6	ME	0.15 lb/MMBTU	90-day Rolling	1/1/2005	Ch 145, Section 3.B.2(b)
7	NH	0.22 lb/MMBTU	24-Hr Calendar Day	8/15/2018	Env-A 1306.06(b)
8	NJ	0.15 lb/MMBTU	Daily	5/1/2015	N.J.A.C. 7:27-19.4(a), Table 3
10	NY	0.12 lb/MMBTU	24-Hr Daily	7/1/2014	6 CRR-NY 227-2.4(a)
11	PA	0.12 lb/MMBTU	30 day	4/23/2016	25-129.97(g)(1)(viii)
12	VA	0.38 lb/MMBTU	Daily	12/15/2006	9VACS-40-743.B, Table 4-51G
13	VT	0.70 lb/MMBTU	N/A	8/31/2018	Subchapter II, 5-251(1)(c)

- A narrative format would present a longhand discussion of these review elements.
- **Descriptive approach** – unlike an unsupported presumptive RACT declaration, a SIP revision that describes an air agency's due diligence review process and conclusions can help bridge the gap between a historical RACT basis or determination and what currently represents RACT. For example:
 - “As part of the RACT analysis, [air agency] reviewed the CTGs and ACTs and compared them to [state's] point source inventory and existing rules to identify covered sources. [Air agency] also reviewed EPA's RACT-Best Available Control Technology (BACT)-Lowest Achievable Emission Rate (LAER) Clearinghouse (RBL), EPA's Menu of Control Measures, federal New Source Performance Standards (NSPS), federal National Emission Standards for Hazardous Air Pollutants (NESHAP), and regulations applicable in other states' ozone nonattainment areas for potential emission control measures. Any identified potential control measures or strategies were further evaluated to determine whether the measures were reasonably available considering technological and economic feasibility. Revisions to [regulation] [are or are not] being proposed as a result of this analysis. [Air agency] is also

submitting negative declarations for those CTGs for which no covered sources were identified.”

- The due diligence review resources described in the preceding example may also be useful in supporting RACT SIP revisions for non-CTG major sources and are discussed in Section V below.
- A descriptive approach alone may be adequate where an air agency has recently demonstrated (or certified with supporting analysis) that a regulation meets RACT requirements, *e.g.*, for reclassified areas as part of a RACT SIP revision for the immediately preceding classification under the same ozone NAAQS. This could also include Marginal areas within the OTR that are reclassified as Moderate but for which an air agency previously submitted an initial RACT SIP revision addressing Moderate area RACT (as required for all portions of a state within the OTR).
- References for previously approved ozone RACT SIP revisions and EPA actions with due diligence reviews using descriptive and demonstrative elements are provided in Section V below.

V. DUE DILIGENCE REVIEW RESOURCES

- As illustrated in examples above and referenced below, there are various resources that air agencies can research as part of due diligence reviews for RACT SIP revisions. These resources are not directly determinative of RACT but can aid in determining what controls are reasonably available considering technological and economic feasibility.
- Independent of research results, documenting the research process is an important component of due diligence review to help illustrate for the public and the EPA that an air agency considered “all relevant information (including recent technical information and information received during the public comment period) that is available at the time that they are developing their RACT SIPs” (per the 2008 and 2015 ozone SRRs).
 - Useful details include resource description and location, date accessed, and search parameters, *e.g.*, Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes, and date ranges.
 - Where research produces no comparable results, document the lack of comparable results with supporting explanation.
 - Where research does produce comparable results, discuss how the available information supports and/or is distinguishable from the subject RACT determination.
- The EPA has also identified examples of previously approved ozone RACT SIP revisions and related EPA actions that EPA considered at the time of approval to have adequate supporting due diligence review, with references provided below. While not determinative of current or future SIP actions, these examples illustrate how air agencies might apply descriptive and demonstrative approaches in developing new RACT SIP revisions.

Suggested Resources

- **EPA Control Techniques Guidelines and Alternative Control Techniques Documents (CTGs/ACTs)**
 - CTGs are used to help determine VOC RACT for covered sources, and ACTs describe available control technologies and their respective cost effectiveness for ozone precursors (VOC, NO_x) and other pollutants for various industrial processes.
 - As discussed in Section III above, subsequent advances in process and equipment design, and control technologies may mean that CTGs no longer represent RACT. CTGs and ACTs are instead a starting place for RACT determinations that should also include a due diligence review and analysis of available control technologies.
 - Link: <https://www.epa.gov/ground-level-ozone-pollution/control-techniques-guidelines-and-alternative-control-techniques>
- **Verifying CTG-covered sources and non-CTG major sources for RACT applicability and negative declarations**
 - Air agencies should review their point source inventories to verify that CTG-covered sources and non-CTG major sources of VOC or NO_x emissions are subject to requirements that implement RACT (*e.g.*, major sources ≥ 100 tpy for Moderate areas and ≥ 50 tpy for Serious areas).³
- **Comparison with RACT regulations in other ozone nonattainment areas and the OTR**
 - The EPA considers comparison with RACT regulations in other nonattainment areas and the OTR an important demonstrative element in RACT due diligence reviews, both as a part of the supporting analysis in air agency SIP submittals and the EPA's reviews of and actions on those submittals.
 - Although there is no defined scope for RACT comparisons, a more robust analysis would compare at least several areas. In selecting areas to compare, an air agency should consider areas with a similar mix of industries and sources.
 - Air agencies should consider that including areas with more stringent RACT regulations in the comparison strengthens the analysis, and that EPA may consider such areas in its review of and action on an air agency's submittal.
 - When comparing to areas with similar or differing RACT stringency, air agencies should discuss how factors like physical environment and economic conditions support or distinguish the subject area's RACT determination. Air agencies may also wish to discuss how other factors, like area classification, may impact the levels of controls imposed on stationary sources.

³ A potentially useful tool for verifying CTG negative declarations and comparable facilities in other ozone nonattainment areas is the "Data Axle Reference Solutions U.S. Businesses Database." Searches may identify facilities with CTG-covered sources that are incorrectly omitted from a state's point source inventories, and facilities in other areas with comparable sources subject to RACT requirements. The database is searchable by state and NAICS code and is available at <https://referenceusagov.com/UsBusiness/Search/Custom/> (last accessed December 18, 2024).

- Examples of RACT comparisons are provided in Section IV above and in examples of previously approved ozone RACT SIP revisions and related EPA actions listed below.
- **EPA RACT/BACT/LAER Clearinghouse (RBLC)**
 - Under CAA section 108(h), the EPA is required to make information regarding emission control technology available to states and to the general public through a central database. The RBLC is mainly a repository for air pollution control and pollution prevention technology determinations required for major new and modified sources subject to new source review (BACT and LAER) permitting requirements but can also be informative in RACT due diligence reviews.
 - Users can filter searches of the RBLC based on permit date, process type, pollutant name, and location, with a default time range of the last 10 years (permits go back to 1970).
 - The RBLC is updated periodically (almost 300 permits and 1,800 processes added since January 2020), and recent entries may be more representative of what is currently reasonably available for RACT comparison purposes.
 - Link: <https://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch&lang=en>
- **EPA Menu of Control Measures (MCM)**
 - The MCM was compiled to aid in identifying and evaluating potential control measures for ozone precursors (VOC and NO_x) (as well as direct emissions and precursors of fine particulate matter, PM_{2.5}).
 - The MCM was last updated in 2022 and includes information on measures for large point sources and nonpoint sources of emissions, including the efficiency and cost effectiveness of the measures.
 - Link: <https://www.epa.gov/sites/default/files/2016-02/documents/menuofcontrolmeasures.pdf>
- **EPA New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP)**
 - NSPS are technology-based standards that apply to new, modified and reconstructed affected facilities in specific source categories.
 - Standards are found in [40 CFR part 60](#).
 - Resource page: <https://www.epa.gov/stationary-sources-air-pollution/new-source-performance-standards>
 - NESHAP are technology-based standards that apply to existing, new, and reconstructed sources for hazardous air pollutants in specific source categories.
 - NESHAP require emitters to use the best control technologies already demonstrated by industry sources, referred to as Maximum Achievable Control Technology (MACT).
 - Standards are found in [40 CFR part 63](#).
 - Resource page: <https://www.epa.gov/stationary-sources-air-pollution/national-emission-standards-hazardous-air-pollutants-neshap-8>

- NSPS and NESHAP-MACT can be informative in RACT due diligence reviews, and some NSPS rulemakings may provide information on control device costs and technical feasibility, *e.g.*:
 - New Source Performance Standards Review for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) – Tables 1 through 7 of proposed rule ([88 FR 68535, October 4, 2023](#)).
 - Review of Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations – preamble discussion in final rule ([88 FR 29978, 29982, May 9, 2023](#)).

Example Ozone RACT SIP Revisions and EPA Actions

- **California; Sacramento Metropolitan Air Quality Management District (2008 ozone NAAQS)**
 - [District submittal](#) (Item A-07)
 - [EPA Technical Support Document](#) (Item B-01)
 - Proposed partial approval/partial disapproval ([88 FR 20086](#), April 5, 2023)
 - Final partial approval/partial disapproval ([88 FR 42248](#), June 30, 2023)
- **New Hampshire (2008 and 2015 ozone NAAQS)**
 - [EPA Technical Support Document](#) (Section 1)
 - Proposed approval ([88 FR 43483](#), July 10, 2023)
 - Final approval ([89 FR 34137](#), April 30, 2024)