

SIP Minute - Control Measure Applicability

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Acronyms & Initialisms

Nonattainment / NSR

- RACM – Reasonably Available Control Measures
- RACT – Reasonably Available Control Technology
- BACM – Best Available Control Measures
- BACT – Best Available Control Technology
- MSM – Most Stringent Measures
- LAER – Lowest Achievable Emission Rate

Regional Haze

- RP – Reasonable Progress
- BART – Best Available Retrofit Technology

HAPs

- MACT – Maximum Achievable Control Technology - Major source and area source industrial, commercial and institutional boilers; commercial and industrial solid waste incinerators; and sewage sludge incinerators. See 76 FR 15608, 76 FR 15554, 76 FR 15704 and 76 FR 15372, respectively. These rules promulgated limits on emissions of mercury, particulate matter (as a surrogate for non-mercury metallic HAP), HCl and carbon monoxide as a surrogate for organic HAP.



Reasonably Available Controls

- **Applicable Programs:** Generally for Moderate Nonattainment, Nonattainment areas with no classification scheme, and/or Minor New Source Review (NSR)
- **Pollutants of Interest:** Ozone (40 CFR §51.1112 & CAA §182(b)); PM2.5 & PM10 (CAA §189(a)); Carbon Monoxide, Lead, Nitrogen Dioxide, and Sulfur Dioxide (CAA §172(c)(1))
- **RACM** – The lowest emission limitation that a particular source is capable of meeting. The control technology must be considered reasonable based on technologic and economic feasibility. Adopted to meet nonattainment area reasonable further progress and demonstrate attainment.
 - RACM is a giant menu of control measures a state can consider when compiling a SIP for an area. RACM can apply to point or nonpoint emission sources.
- **RACT** – Subset of the RACM menu applicable to stationary sources. RACT is required on existing major stationary sources in nonattainment areas and is considered for minor NSR.

- **Applicable Programs:** Generally for Serious PM Nonattainment and/or for NSR Prevention of Significant Deterioration (PSD)
- **Pollutants of Interest:**
 - BACM & BACT - PM_{2.5} & PM₁₀ (CAA §189(b), may be needed to demonstrate attainment, NSR program)
 - BACT - Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, and Sulfur Dioxide (NSR PSD program or may be needed to demonstrate attainment)
- **BACM** – High degree of emission reduction (considering energy, environmental, and economic impacts). BACM is required in Serious PM nonattainment areas and is generally implemented when an area cannot demonstrate attainment with RACM implementation alone.
- **BACT** – Subset of the BACM menu applicable to stationary sources. More stringent than RACT and is designed for new or modified major sources in an attainment area.
 - May additionally apply to other PSD program regulated pollutants (e.g. sulfuric acid mist, hydrogen sulfide, etc.)

Highest Control Stringency

- **Applicable Programs:** Generally for Nonattainment NSR and/or Nonattainment Areas requiring more stringent requirements than BACM
- **Pollutants of Interest:**
 - LAER - Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Sulfur Dioxide, and PM2.5/PM10 (Nonattainment NSR program or may be needed to demonstrate attainment)
 - MSM - PM2.5 & PM10 (CAA §189(b) or may be needed to demonstrate attainment)
- **LAER** – The lowest possible emissions threshold for a new or modified major source in a nonattainment area. LAER controls are the most stringent and do not take economic feasibility into account.
 - Applicable to nonattainment NSR (new major or major modification to an existing source in an area not attaining the NAAQS)
- **MSM** – Any permanent and enforceable control measure that achieves the most stringent emissions reductions in direct PM2.5/PM10 emissions and/or precursors. Control measures which are either included in the SIP for any other NAAQS, or have been achieved in practice in any state, and that can feasibly be implemented in the relevant PM2.5/PM10 NAAQS nonattainment area.
 - Generally applicable to sources in serious nonattainment areas

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RACT/BACT/LAER Clearinghouse (RBLC) Basic Information

This page provides an overview of the RBLC web site and includes instructions for searching the data bases. Scroll down the page or use the links to the right to learn more about the RBLC. If you want detailed instructions about searching the data bases, download our User's Manual from the [RBLC Products webpage](#).

Introduction

Under EPA's "New Source Review" (NSR) program, if a company is planning to build a new plant or modify an existing plant such that air pollution emissions will increase by a large amount, then the company must obtain an NSR permit. The NSR permit is a construction permit which requires the company to minimize air pollution emissions by changing the process to prevent air pollution and/or installing air pollution control equipment. See the [New Source Review \(NSR\) Permitting](#) web area for more information.

RBLC Roadmap

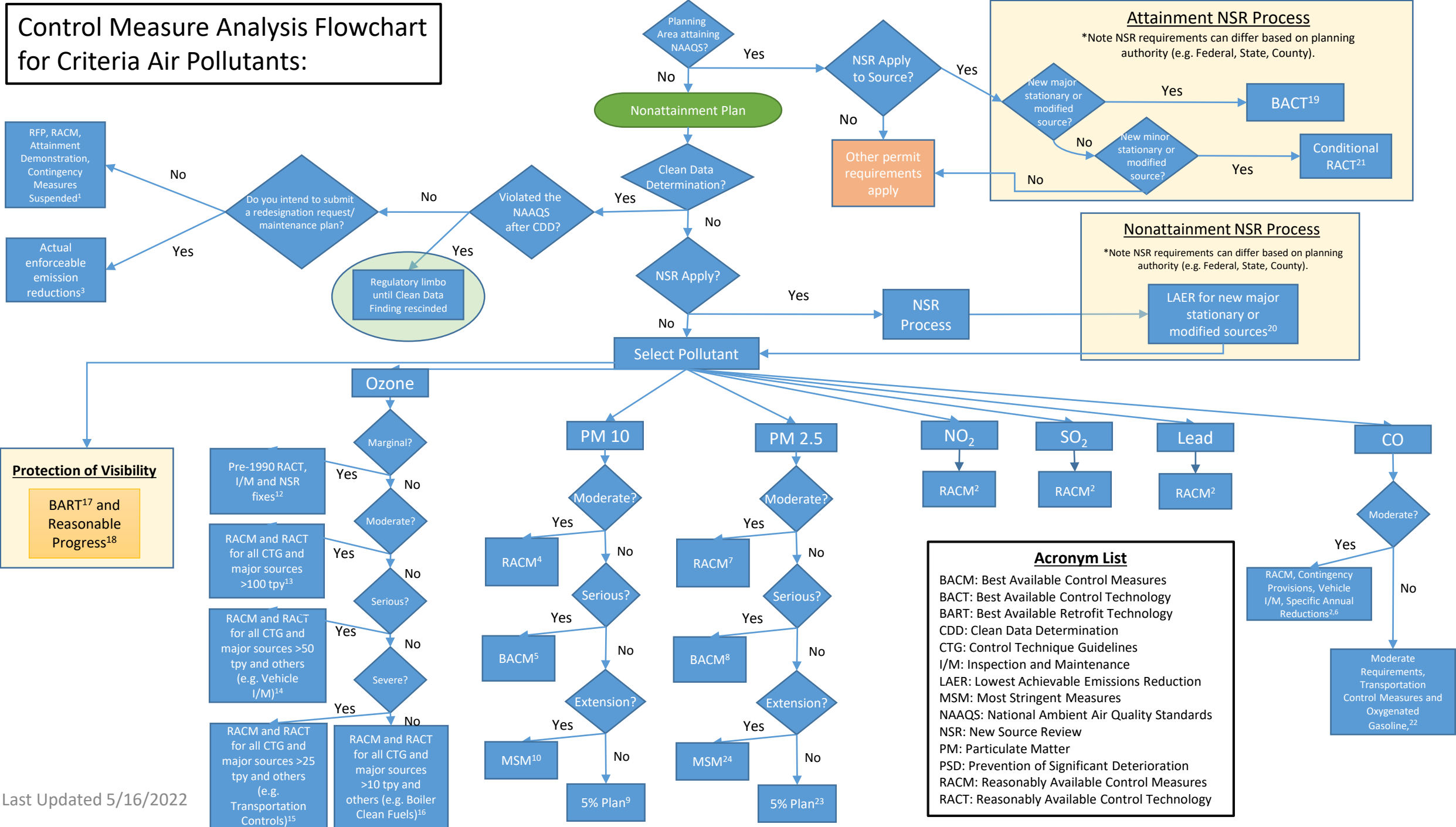
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- RBLC - <https://www.epa.gov/catc/ractbactlaer-clearinghouse-rbhc-basic-information>

Regional Haze Controls

- **Applicable Program:** Regional Haze, 40 CFR §51.308
- **Pollutants of Interest:** Ammonium Nitrate, Ammonium Sulfate, Coarse Mass, Elemental Carbon, Fine Soil, Organic Mass, Sea Salt
- **BART** – The best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility. The emission limitation takes into consideration the technology available, 1) the costs of compliance, 2) the energy and non-air quality environmental impacts of compliance, 3) any pollution control equipment in use or in existence at the source, 4) the remaining useful life of the source, and 5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.
- **RP** – The emission reduction measures that are necessary to make reasonable progress by considering 1) the costs of compliance, 2) the time necessary for compliance, 3) the energy and non-air quality environmental impacts of compliance, and 4) the remaining useful life of any potentially affected anthropogenic source of visibility impairment. Applicable to major and minor stationary sources or groups of sources, mobile sources, and area sources.

Control Measure Analysis Flowchart for Criteria Air Pollutants:



Acronym List

- BACM: Best Available Control Measures
- BACT: Best Available Control Technology
- BART: Best Available Retrofit Technology
- CDD: Clean Data Determination
- CTG: Control Technique Guidelines
- I/M: Inspection and Maintenance
- LAER: Lowest Achievable Emissions Reduction
- MSM: Most Stringent Measures
- NAAQS: National Ambient Air Quality Standards
- NSR: New Source Review
- PM: Particulate Matter
- PSD: Prevention of Significant Deterioration
- RACM: Reasonably Available Control Measures
- RACT: Reasonably Available Control Technology

Control Measure Analysis Flowchart for Criteria Air Pollutants:

1. See <https://www.epa.gov/ground-level-ozone-pollution/redesignation-and-clean-data-policy-cdp>
2. RACM General - 42 U.S.C. §7502(c)(1)
3. Section 107 Designation Policy Summary. U.S. EPA. Office of Air, Noise, Radiation. April 21, 1983.
4. PM10 RACM - 42 U.S.C. §7513a(a)(1)(C)
5. PM10 BACM - 42 U.S.C. §7513a(b)(1)(B)
6. CO Moderate - 42 U.S.C. §7512a(a)
7. PM2.5 RACM - 40 C.F.R. §51.1009(a)
8. PM2.5 BACM - 40 C.F.R. §51.1010(a)
9. PM10 5% Plan - 42 U.S.C. §7513a(d)
10. PM10 MSM - 42 U.S.C. §7513(e)
11. 2015 Ozone NAAQS RACM - 40 C.F.R. 51.1312(c)
12. Ozone Marginal - 42 U.S.C. §7511a(a)(2)
13. Ozone Moderate - 42 U.S.C. §7511a(b)
14. Ozone Serious - 42 U.S.C. §7511a(c)
15. Ozone Severe - 42 U.S.C. §7511a(d)
16. Ozone Extreme - 42 U.S.C. §7511a(e)
17. Protection of Visibility BART - 42 U.S.C. §7491(b)(2)(A) and 40 C.F.R. §51.308(e)
18. Protection of Visibility RP – 42 U.S.C. §7491(b)(2)(B) and 40 CFR 51.308(f)(2)(i)
19. NSR BACT – 42 U.S.C. §7475(a)(4)
20. NSR LAER - 42 U.S.C. §7503(a)(2)
21. Minor NSR Conditional RACT - Arizona Administrative Code R18-2-334
22. CO Serious - 42 U.S.C. §7512a(b)
23. PM2.5 5% Plan - 40 C.F.R. § 51.1003(c)(1)
24. PM2.5 MSM - 40 C.F.R. § 51.1003(b)(2)(iii)