

REGIONAL HAZE AND BART

The United State Environmental Protection Agency (U.S. EPA) finalized the Regional Haze Regulations and Guidelines for Best Available Retrofit Technology (BART) Determinations on July 6, 2005. This final regulation revises regulatory text to the original regional haze rule promulgated on July 1, 1999 and adds Appendix Y to 40 CFR Part 51 for BART Guidelines. The rule requires states to develop plans to implement the program. Now many states are in the implementation process and industrial facilities are receiving calls for actions from the state agencies.

Effective Date of the Rule

July 6, 2005 (Federal Register Vol. 70, No. 128, pp. 39105 - 39172)
State Implementation Plan Deadline is December 17, 2007.

Purpose

The Clean Air Act required the U.S. EPA to promulgate regulations to protect against visibility impairment (regional haze) in 156 scenic areas across the United States. Regional haze regulations are found in 40 CFR 51.300 through 51.309. The guidelines found in Appendix Y to 40 CFR Part 51, are intended to help States identify sources that are BART eligible and determine the level of control that represents BART.

The BART Process

[The BART Process consists of three steps.](#) The first step is to identify the BART Eligible Sources. If a source is determined to be BART Eligible then the next step is to identify sources that are subject to BART. If a source is subject to BART, then the third and final step is to determine BART controls.

Am I BART Eligible?

In order for a facility to be BART Eligible it must meet three criteria. First - does the facility contain emission units from one or more of the 26 listed source categories (see side bar)? If not, then the facility is not BART Eligible and no further investigation needs to be done. If the facility does contain emissions units from one or more of the listed source categories then the facility needs to look at the construction and operation dates of the

emissions unit. Was the source in existence in August 7, 1977 and did it begin operation after August 7, 1962? If so, then the facility needs to look at the final criteria for BART Eligibility. Are the current total potential emissions from all the emissions units 250 tons per year or more for any single visibility-impairing pollutant? The visibility-impairing pollutants are sulfur dioxide, nitrogen oxides, and particulate matter. They could also potentially include volatile organic compounds and ammonia depending on the State's environmental regulatory authority.

If a facility meets all three criteria, then the source is BART Eligible and is potentially subject to BART.

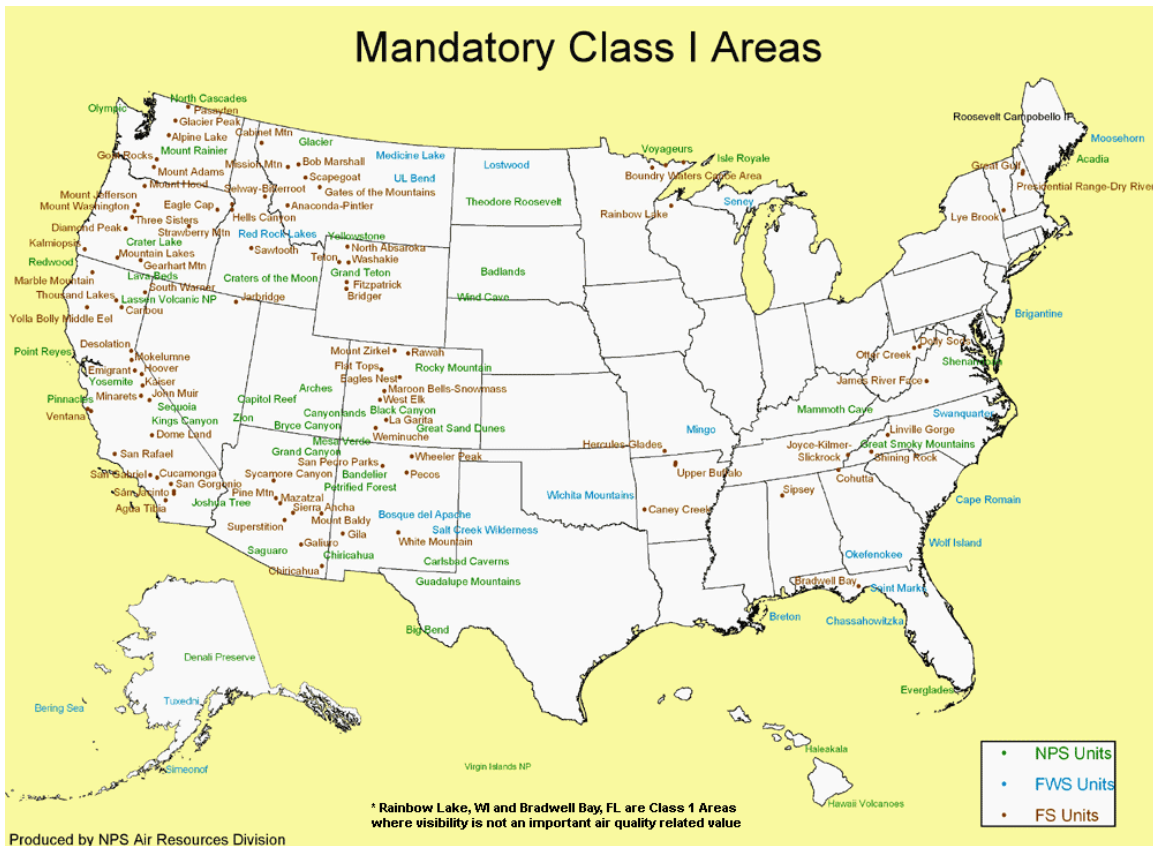
26 Source Categories

- (1) Fossil-fuel fired steam electric plants of more than 250 MMBtu/hr heat input,
- (2) Coal cleaning plants (thermal dryers),
- (3) Kraft pulp mills,
- (4) Portland cement plants,
- (5) Primary zinc smelters,
- (6) Iron and steel mill plants,
- (7) Primary aluminum ore reduction plants,
- (8) Primary copper smelters,
- (9) Municipal incinerators capable of charging more than 250 tons of refuse per day,
- (10) Hydrofluoric, sulfuric, and nitric acid plants,
- (11) Petroleum refineries,
- (12) Lime plants,
- (13) Phosphate rock processing plants,
- (14) Coke oven batteries,
- (15) Sulfur recovery plants,
- (16) Carbon black plants (furnace process),
- (17) Primary lead smelters,
- (18) Fuel conversion plants,
- (19) Sintering plants,
- (20) Secondary metal production facilities,
- (21) Chemical process plants,
- (22) Fossil-fuel boilers of more than 250 million BTUs per hour heat input,
- (23) Petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels,
- (24) Taconite ore processing facilities,
- (25) Glass fiber processing plants, and
- (26) Charcoal production facilities.

I Am BART Eligible, Am I Subject to BART?

Once a list of BART Eligible sources has been developed, the state permitting authority must determine whether or not they cause or contribute to visibility impairment in at least one Class I area (see map below). Whether a source contributes to any visibility impairment may differ from State to State. As a general rule, the threshold that is used for determining whether a source "contributes" to visibility is 0.5 deciviews.

States can use dispersion modeling to determine if an individual source can be reasonably anticipated to cause or contribute to visibility impairment. Currently, CALPUFF is the best regulatory modeling application available for predicting a single source's contribution to visibility impairment. If the State determines that a source causes or contributes to visibility impairment, that source to subject to BART.



I'm Subject to BART, Now What?

BART is an emissions limitation based on the degree of reduction achievable through the application of the best system of continuous emissions reduction for each pollutant which is emitted by a source. The BART analysis takes into consideration 1) the available retrofit control options, 2) any pollution control equipment in use at the source, 3) the costs of compliance with control options, 4) the remaining useful life of the facility, 5) the energy and non-air quality environmental impacts of control options, and 6) the visibility impacts analysis.

There are five basic steps of a Case-by-Case BART Analysis. Step 1 is to identify all available retrofit control technologies. Step 2 is to eliminate the technically infeasible options. Steps 3 and 4 are to evaluate the control effectiveness of the remaining technologies and the impacts of those technologies. The final step is to evaluate the visibility impacts of the technologies.

To complete the BART process, the facility must have enforceable emissions limits established for each subject emissions unit that reflects the BART requirements and that require compliance within a specified period of time.

Based on the Regional Haze rule, various state agencies are in the process of performing screening analyses to determine a list of potential sources that can cause visibility impairment at Class I Areas. These screening analyses have been performed using screening models or emissions and distance thresholds. It is expected that the sources that are not screened out by the state agencies will be required to either perform comprehensive long range transport modeling (i.e., CALPUFF modeling) and/or submit an engineering analysis by March 2007.

For further questions concerning this rule and other air quality management issues, please contact Yousheng Zeng, Ph.D., P.E. or Nimish Katwala using the following contact information.



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