

Appendix J

BART Survey and Supplemental Information

November 11, 2004

Contact

Facility Name

Facility Street Address

Facility City, State, ZIP

Dear Contact:

I would like to request your assistance in gathering information needed about your facility related to the federal regional haze program. In 1999, the Environmental Protection Agency (EPA) issued regulations for the protection of visibility in our Natural Parks and Wilderness Areas (See http://www.epa.gov/ttn/oarpg/t1/fr_notices/rhfedreg.pdf). These regulations require states to establish goals for improving visibility by developing long-term strategies for reducing emissions of air pollutants that cause visibility impairment. The State of Missouri is working as a member of the Central States Regional Air Planning Association (CENRAP) to meet these requirements. CENRAP is an association of states, tribes, federal agencies, and other interested parties organized for the purpose of studying visibility impairment and of assisting individual states and tribes in preparing plans to address the problem. CENRAP includes the states and tribal areas of Minnesota, Nebraska, Iowa, Kansas, Missouri, Oklahoma, Arkansas, Texas, and Louisiana.

Missouri has been working jointly with these states and tribes to locate and operate air monitors, to develop and share emission inventories, and to conduct regional computer modeling to help identify potential strategies to reduce haze. Each state will use this information to develop individual state implementation plans (SIPs) to meet each states' obligation under the federal regulations. Missouri is required to submit a SIP to EPA by December 31, 2007. While three years seems like a long period of time, the state rulemaking timelines have grown to the point that we need to begin now to consider potential regulations in place by then. One of the first steps is to determine which air pollution units will be subject to the federal Best Available Retrofit Technology (BART) regulations.

BART applies to emission units in existence on August 7, 1977, that had begun operation after August 7, 1962, and that, individually or in combination with other such units, have the potential to emit 250 tons per year or more of any visibility-impairing pollutant. Having commenced construction on or before August 7, 1977, BART-eligible sources were in existence prior to the Prevention of Significant Deterioration (PSD) permitting requirements of the 1977 Clean Air Act Amendments.

Visibility impairing pollutants include: ammonia (NH₃), nitrogen oxides (NO_x), particulate matter less than ten microns (PM₁₀), sulfur dioxide (SO_x), and volatile organic compounds (VOCs). Affected emission units must also fall into one of 26 source categories, including electric generating units, industrial boilers, and other large industrial operations. Attachment A is a list of the 26 source categories.

It is important that we ensure the accuracy of Missouri's final list of BART-eligible sources. To that end, we are asking for your participation in this process. We have queried our Emission Inventory Questionnaire (EIQ) database using the Standard Industrial Classification and Source Classification Codes to identify sources that correspond to the 26 BART source categories listed in Attachment A. We then attempted to eliminate sources that we knew had been constructed after August 7, 1977, and sources that have basic or intermediate Operating Permits (who therefore have facility-wide emissions of less than 100 tons per year). Certain units at your facility were not eliminated, so you are still on our list of potentially BART-eligible sources. Your assistance is needed to confirm our finding and help us further determine if your facility should remain on the list.

The enclosed questionnaire summarizes information related to your emission unit(s) and requests additional data. The questionnaire lists information for each unit of interest at your facility and includes blanks for you to insert the following information:

- 1) The "In existence date", or indication (yes/no) that the unit was in existence on August 7, 1977,
- 2) The "Began operation date", or indication (yes/no) that the unit began operation after August 7, 1962,
- 3&4) Confirmation of the industrial classification of your facility,
- 5) Potential emissions of the five pollutants (NH₃, NO_x, PM₁₀, SO_x, & VOCs),
- 6) Maximum heat input rate (million BTU/hr) if the unit is a fossil-fuel boiler,
- 7) Storage capacity (barrels) if the unit is a petroleum storage tank, and
- 8) Your conclusion summarizing your determination of whether your unit is BART-eligible or not.

In completing the questionnaire I ask that you follow the enclosed "Instructions for BART Information Request Form" for each unit, insert the requested information, and provide your own evaluation of whether you believe the unit falls within the construction time span that would identify your unit as a BART-eligible source. I also ask that you identify any additional

emission units at your facility that we have failed to identify, but that you believe meet the BART-eligible requirements.

Please complete the questionnaire and return it to the department at the following address:

Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102
Attn: John Rustige, P.E.

To assist you in completing this questionnaire we have included definitions and guidance material in a Frequently Asked Questions (FAQs) attachment to this letter. The *Proposed Guidelines for Best Available Retrofit Technology (BART) Determinations Under the Regional Haze Regulations* is also available at EPA's website at http://www.epa.gov/ttn/oarpg/t1/fr_notices/bart6-21.pdf

How will this data be used?

This is just the initial step in determining BART sources. After Missouri has compiled a list of BART-eligible sources, there are several additional steps that have to be taken in the BART process. The following is a brief summary of those steps:

- 1) *Identification of sources subject to BART controls.* Sources subject to BART controls are those BART-eligible sources which “emit a pollutant which may reasonably be anticipated to cause or contribute to any impairment in any Class I area.” This will require air pollution modeling studies to determine each individual sources’ contribution to see what impact each source has on visibility in the Class I area.
- 2) *Engineering analysis.* For each source that is subject to BART controls an engineering analysis of emission control alternatives will be required. This process will be similar to the Best Available Control Technology (BACT) process that new major sources undergo during construction permit review. This step requires the identification of available, technically feasible, retrofit emission controls. For each technology identified, an analysis must be made of the cost of compliance, and the energy and non-air quality environmental impacts, taking into account the remaining useful life and existing control technology operated at the source. For each source, a “best system of continuous emission reduction” is selected based on this engineering analysis.
- 3) *Enforceable limits.* Considering the engineering analysis, states must establish enforceable emission limits, including a deadline for compliance, for each source subject to BART.

We appreciate your assistance in completing the questionnaire to assist us in determining if your facility is or is not subject to BART. Please respond even if you believe that your units do not

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meet the BART-eligible criteria so that we can eliminate them from our list. We request that you return your questionnaire to us no later than December 17, 2004.

If you have any questions about the questionnaire, regional haze, or the BART process, please contact John Rustige at P.O. Box 176, Jefferson City, MO 65102 or by phone at (573) 751-4817. Thank you for your assistance.

Sincerely,
AIR POLLUTION CONTROL PROGRAM

A handwritten signature in black ink that reads "Leanne Tippet Mosby". The signature is written in a cursive, flowing style.

Leanne Tippet Mosby
Director

LJT:jrl

Attachment

Attachment A

Source Categories Eligible for BART:

1. Fossil-fuel fired steam electric plants of more than 250 million Btu/hr heat input
2. Coal cleaning plants (with 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 plants)
17. Primary lead smelters
18. Fuel conversion plants
19. Sintering plants
20. Secondary metal production plants
21. Chemical process plants
22. Fossil-fuel boilers (or combinations thereof) totaling more than 250 million Btu/hr heat input
23. Petroleum storage and transfer facilities with a total storage capacity exceeding 300,000 barrels
24. Taconite ore processing facilities
25. Glass fiber processing plants
26. Charcoal production facilities.

Frequently Asked Questions (FAQ's)

Q. What is regional haze?

Haze obscures the clarity, color, texture, and form of what we see. Some haze-causing pollutants (mostly fine particles) are directly emitted to the atmosphere by a number of activities (such as electric power generation, various industrial and manufacturing processes, truck and auto emissions, burning related to forestry and agriculture, construction activities, etc.). Others are formed when gases emitted to the air form particles as they are carried downwind. Examples include sulfate, formed from sulfur dioxide, and nitrates, formed from nitrogen oxides. The Regional Haze Rule was issued by the Environmental Protection Agency (EPA) to improve visibility, or visual air quality, in 156 Class I areas across the country.

Q. What is a Class I area?

The Clean Air Act defines mandatory Class I Federal areas as certain national parks (over 6000 acres), wilderness areas (over 5000 acres), national memorial parks (over 5000 acres), and international parks that were in existence as of August 1977. There are currently 156 Class I areas listed in the United States. These areas include many of our best known and most treasured natural areas, such as the Grand Canyon, Mt. Rushmore, Yosemite, Yellowstone, Mount Rainier, Shenandoah, the Great Smokies, Acadia, and the Everglades. Two class I areas are located in Missouri. Hercules Glade Wilderness Area (12,300 acres) is located approximately 35 miles southeast of Springfield, Missouri and the Mingo Wilderness Area (7,700 acres) is located approximately 20 miles southwest of Poplar Bluff, Missouri.

Q. Why is Missouri actively participating with other Midwestern states in the regional haze planning efforts of the Central Regional Air Planning Association

Recent research has clearly shown that particulate matter and other haze producing precursors can generally span broad geographic areas and can be transported great distances, sometimes hundreds or thousands of miles. Consequently, haze occurs regionally throughout the nation. Pollutants produced in other states may affect Missouri's Class I areas, and Missouri sources may affect Class I areas located outside our borders. Also, by joining with other states, Missouri is able to share the planning and the rigorous and intensive computer modeling necessary to understand haze formation and its causes.

Q. What does BART stand for?

Best Available Retrofit Technology.

Q. What are the steps in identifying BART-eligible sources?

Step 1: Evaluate emission unit's construction/reconstruction dates.

Step 2: Verify BART category.

Step 3: Determine potential emissions.

Step 4: Provide additional information (boilers & storage tanks only).

Q. What does “in existence on August 7, 1977” mean?

The regulation defines “in existence” to mean that:

The owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (1) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (2) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed in a reasonable time. See 40 CFR 51.301.

Example: The owner or operator obtained necessary permits in early 1977 and entered into binding construction agreements in June 1977. Actual on-site construction began in late 1978, and construction was completed in mid-1979. The source began operating in September of 1979. The emission unit was “in existence” as of August 7, 1977.

Q. What does “in operation before August 7, 1962” mean?

An emissions unit that meets the August 7, 1977 “in existence” test is not BART-eligible if it was in operation before August 7, 1962. “In operation” is defined as “engaged in activity related to the primary design function of the source.” This means that a source must have begun actual operations by August 7, 1962 to satisfy this test.

Example: The owner or operator entered into binding agreements in 1960. Actual on-site construction began in 1961, and construction was completed in mid-1962. The source began operating in September of 1962. The emissions unit was not “in operation” before August 7, 1962 and is therefore subject to BART.

Q. What is a “reconstructed source?”

Under a number of CAA programs, an existing source which is completely or substantially rebuilt is treated as a new source. Such “reconstructed” sources are treated as new sources as of the time of the reconstruction. Consistent with this overall approach to reconstructions, the definition of BART-eligible facility (reflected in detail in the definition of “existing stationary facility”) includes consideration of sources that were in operation before August 7, 1962, but were reconstructed during the August 7, 1962 to August 7, 1977 time period. Under the regulation, a reconstruction has taken place if “the fixed capital cost of the new component exceeds 50 percent of the fixed capital cost of a comparable entirely new source.” The rule also states that “Any final decision as to whether reconstruction has occurred must be made in accordance with the provisions of Secs. 60.15 (f)(1) through (3) of this title.” [40 CFR 51.301] “Secs. 60.15(f)(1) through (3)” refer to the general provisions for New Source Performance Standards (NSPS). Thus, the same policies and procedures for identifying reconstructed “affected facilities” under the NSPS program must also be used to identify

reconstructed “stationary sources” for purposes of the BART requirement. You should identify reconstructions on an emissions unit basis, rather than on a plantwide basis. That is, you need to identify only the reconstructed emission units meeting the 50 percent cost criterion. You should include reconstructed emission units in the list of emission units you identified in Step 1. The “in operation” and “in existence” tests apply to reconstructed sources. If an emissions unit was reconstructed and began actual operation before August 7, 1962, it is not BART-eligible. Similarly, any emissions unit for which a reconstruction “commenced” after August 7, 1977, is not BART-eligible.

Q. How are modifications treated under the BART provision?

In general, the term “modification” refers to any physical change or change in the method of operation of an emissions unit that leads to an increase in emissions. The EPA believes that the best interpretation for purposes of the visibility provisions is that modified emissions units are still “existing”. The BART requirements in the CAA do not appear to provide any exemption for sources which were modified since 1977. Accordingly, if an emissions unit began operation before 1962, it is not BART-eligible if it is modified at a later date, so long as the modification is not also a “reconstruction.” Similarly, an emissions unit which began operation within the 1962-1977 time window, but was modified after August 7, 1977, is BART-eligible.

Q. What pollutants should I address?

Visibility-impairing pollutants include the following:

1. Sulfur oxides (SO_x),
2. Nitrogen oxides (NO_x),
3. Particulate matter. (Please use PM₁₀ as the indicator for particulate matter. PM₁₀ emissions include the components of PM_{2.5} as a subset. There is no need to have separate 250 ton thresholds for PM₁₀ and PM_{2.5}, because 250 tons of PM₁₀ represents at most 250 tons of PM_{2.5}, and at most 250 tons of any individual particulate species such as elemental carbon, crystal material, etc).
4. Volatile organic compounds (VOC), and
5. Ammonia (NH₃).

Q. What does the term “potential” emissions mean?

The regional haze rule defines potential to emit as follows:
“Potential to emit” means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

Q. How do I calculate “potential emissions?”

Your facility may have already gone through the potential to emit calculations when applying for your operating permit. Please refer to the potential to emit calculations performed for your operating permit. Potential emissions are the emission rates of any pollutant at maximum design capacity. Annual potential shall be based on the maximum annual rated capacity of the installation assuming continuous year-round, around-the-clock operation. Federally enforceable permit conditions on the type of material combusted or processed, operating rates, hours of operation or the application of air pollution control equipment shall be used in determining the annual potential. Secondary emissions (emissions which occur or would occur as a result of the construction or operation of the installation or major modification but do not come from the installation or modification itself) do not count in determining annual potential.

Q. How do I determine the BART category status of steam electric plants?

“Steam electric plants of more than 250 million BTU/hr heat input.” Because the category refers to “plants,” boiler capacities must be aggregated to determine whether the 250 million BTU/hr threshold is reached.

Example: A stationary source includes a steam electric plant with three 100 million BTU/hr boilers. Because the aggregate capacity exceeds 250 million BTU/hr for the “plant,” these boilers would be identified as BART-eligible.

Q. How do I determine the BART category status of fossil-fuel boilers?

“Fossil-fuel boilers of more than 250 million BTU/hr heat input.” The EPA has proposed two options for interpreting this source category title. The first option would be to aggregate all boiler capacities to determine whether the 250 million BTU/hr threshold is reached. Under the second option, this category would be interpreted to cover only those boilers that are individually greater than 250 million BTU/hr. Until the rule and guidance is finalized, Missouri is collecting information assuming that all boiler capacities will need to be aggregated. If EPA decides to make BART applicable to boilers that are individually greater than 250 million BTU/hr, the surveys collected will provide the information needed to exempt the appropriate units.

Q. How do I determine the BART category status of petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels?

The 300,000 barrel cutoff refers to the total facility wide tank capacity for tanks that were put in place within the 1962-1977 time period, and includes gasoline and other petroleum derived liquids.

Additional Definitions and Guidance

Stationary source means all of the pollutant emitting activities which belong to the same industrial grouping (i.e., have the same two-digit SIC code), are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). [40CFR51.301].

In existence means that the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (1) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (2) entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed in a reasonable time [40CFR51.301]. The potential emissions of all emission units falling within the 15-year BART window and within any of the 26 source categories (they don't all have to be in the same category) must be aggregated for comparison to the 250-ton/year threshold. For the two source categories, fossil fuel fired steam electric plants of 250 million Btu/hr heat input and fossil fuel boilers (or combinations thereof) totaling more than 250 million Btu/hr heat input, the proposed rule (subject to change) requires that the maximum heat input rates of all individual emission units falling within the BART window first be aggregated for comparison to the 250-million Btu/hr threshold. For petroleum storage and transfer facilities, the capacities of all storage tanks falling within the BART window must first be aggregated for comparison to the 300,000-barrel threshold. The total potential emissions of these such units or tanks, along with all other emission units falling within the BART window and within any of the 26 source categories, must then be compared to the 250-ton/year threshold to determine BART eligibility. Note, in the final rule EPA may choose not to aggregate boilers on the basis of heat input rate but, instead, apply the 250-million Btu/hr threshold to individual fossil-fuel boilers. Therefore, all boilers should be listed individually for purposes of this preliminary assessment.

Note: The BART requirements are a core component of the federal regional haze program and are likely to provide the primary basis for implementing substantial pollution reductions to advance visibility goals over the next decade. The BART requirements were outlined in the Clean Air Act Amendments of 1977 and subsequently updated in the regional haze rule of 1999 and in more recent guidance published on July 20, 2001 (Federal Register [66 Fed. Reg., 38108 (July20,2001)]) as a proposed rule.

INSTRUCTIONS FOR BART INFORMATION REQUEST FORM

Work through these steps sequentially for each emissions unit (EU) listed on each form. If we have missed any EUs that meet the BART criteria, please add them to the blank form. Make copies of the blank form as needed.

STEP A. “Dates”: Evaluate EU construction/reconstruction dates.

1. Enter “yes” if EU was in existence on August 7, 1977; otherwise enter “no.”
2. Enter “yes” if EU began operation after August 7, 1962; otherwise enter “no.”

If 1. and 2. are both “yes”, move to Step B.

If 1a and 1b are “yes” and “no” or “no and “yes,” respectively, skip Steps B through D for this EU, move to Step E and complete the form by answering “no, outside date range” to question 8.

STEP B. “BART Category”: Verify BART category.

3. This question contains a number corresponding to the list of BART categories from Attachment A. Review this number and determine whether it is appropriate for this EU, and enter “yes” or “no” as appropriate. If you answered “yes”, continue to Step C.
4. If you answered “no” in number 3, please enter the correct number corresponding to the BART categories listed on Attachment A and continue to Step C. If this EU doesn’t fall within one of the 26 BART categories, enter “none”. If you entered “none” skip Steps C and D for this EU, move to Step E and complete the form by answering “no, source is not a BART category” to question 8.

STEP C. “Emissions”: Enter potential emissions.

5. The actual emissions that you reported to us for calendar year 2002 for each emission unit are summed and provided in table form. Ammonia (NH₄) emissions have not been included because Missouri facilities were not required to report ammonia emissions in 2002. If you see any errors, please bring them to our attention, by noting this on the form.

Enter the current potential emissions for each pollutant for this unit in tons/year. Enter “0” if your potential emissions for that pollutant is “0”. You may have conducted this calculation when preparing your operating permit, and it is suggested that you use these figures when or if they are available.

Potential emissions for this unit shall be calculated in a manner similar to how actual emissions are calculated for your annual EIQ, except that your emissions must be calculated based on the maximum annual-rated capacity of the installation, assuming

continuous year-round around-the-clock operation. Federally enforceable permit conditions limiting the type of materials combusted, or processed, operating rates, hours of operation or the application of air pollution control equipment shall be used in determining the annual potential.

A federally enforceable condition is any limitation or condition that is enforceable by the EPA Administrator. It includes all New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPs), and Hazardous Air Pollutant (HAP) requirements, requirements within the state implementation plan (SIP), any Prevention of Significant Deterioration (PSD) or non-attainment review permits, and any existing construction or operating permits.

Since the construction permit rule is approved by the EPA as part of the Missouri SIP, construction or operating permit limitations are federally enforceable and should be considered in your calculations. These limits can take the form of limits on emissions, production, or even other operational limitations.

In calculating potential emissions, the installation may also consider “inherent physical limitations” in potential to emit calculations. In other words, emissions which are constrained by process limitations external to the unit rather than “maximum capacity” of the unit are process bottlenecks and are considered as a “physical limitations” when calculating potential to emit.

If this EU includes fossil-fuel boilers or petroleum storage tanks, move on to Step D. Otherwise, skip Step D and move to Step E.

STEP D. Additional information (boilers & storage tanks only):

6. Enter the maximum heat input capacity of the boiler in million British thermal units per hour (MMBtu/hr). If there are multiple boilers within this EU, enter the sum of the heat input capacities for all boilers put in place within the 1962-1977 time period. Continue to Step E.
7. Enter the capacity of the petroleum storage tank in barrels. If there are multiple tanks within this EU, enter the sum of the capacities for all tanks put in place within the 1962-1977. Continue to Step E.

STEP E. “Conclusion”: Provide conclusion or notes about this EU.

8. If you have already entered a “no” answer to this question already, then continue with Step A on the next form for your facility (if any).

If your potential emissions is below 250 tons per year for each individual pollutant enter “No. PTE<250 for each individual pollutant for this EU”, then continue with Step A on the next form for your facility (if any).

If your potential emissions is above 250 tons per year for any one or more pollutants enter “yes”. By entering yes you are determining that this unit will be preliminarily classified as “BART-eligible” and staff will be further reviewing this preliminary determination. Please continue with Step A on the next form for your facility (if any).

This question also provides a few lines for you to add any comments or a brief explanation that might help staff understand your conclusion about whether this unit is or is not “BART-eligible”.

NOTE: The 250 ton per year threshold applies to the sum of emissions from all units at the facility that meet the construction/reconstruction date test and the BART category test. If you have multiple units at your facility that meet these tests, staff will use the figures reported on this questionnaire and sum each pollutant to determine the overall potential of each pollutant at your facility.

Please sign and date the forms and return to the following address no later than December 17, 2004.

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102
Attn: John Rustige, P.E.