
TITLE 326 AIR POLLUTION CONTROL BOARD

FIRST NOTICE OF COMMENT PERIOD

LSA Document #06-208(APCB)

DEVELOPMENT OF AMENDMENTS TO RULES CONCERNING BEST AVAILABLE RETROFIT TECHNOLOGY**PURPOSE OF NOTICE**

The Indiana Department of Environmental Management (IDEM) is soliciting public comment on amendments and new rules in Title 326 of the Indiana Administrative Code (IAC) concerning Best Available Retrofit Technology (BART) for the implementation of the federal regional haze rule. The regional haze rule requires Indiana to submit a state implementation plan (SIP) by December 17, 2007, that includes BART. The United States Environmental Protection Agency (U.S. EPA) published guidelines for BART to assist states with the requirement. IDEM seeks comment on the affected citations listed and any other provisions of Title 326 that may be affected by this rulemaking.

CITATIONS AFFECTED: 326 IAC.**AUTHORITY:** [IC 13-14-8](#); [IC 13-14-9](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#).**SUBJECT MATTER AND BASIC PURPOSE OF RULEMAKING****Basic Purpose and Background**

On July 6, 2005, U.S. EPA published the BART guidelines in the Federal Register (70 FR 39104). These guidelines are a component of the Regional Haze regulations, published on July 1, 1999, that are intended to protect and improve visibility in national parks and wilderness areas.

The Regional Haze rule requires IDEM to submit a SIP to address visibility impairment in federally-protected parks and wilderness areas (Class I areas). To meet this requirement, IDEM must evaluate whether certain emission units within affected industries adversely impact visibility in Class I areas. Although there are no Class I areas in Indiana, there are several in the region that may be affected by emissions from Indiana sources. The BART guidelines provide the mechanism for complying with the requirement to address visibility impairment in Class I areas. IDEM is obligated to submit the regional haze SIP by December 17, 2007, including a commitment that BART will be implemented in accordance with the federal guidelines.

The Regional Haze Rule

In 1999, U.S. EPA published a final rule to address a visibility impairment known as regional haze (64 FR 35714, July 1, 1999). Regional haze is caused by tiny particles that absorb and scatter sunlight, creating white and brown haze. The regional haze rule requires states to submit SIPs to address regional haze visibility impairment in 156 Federally-protected parks and wilderness areas. These 156 scenic areas are called "mandatory Class I Federal areas" in the Clean Air Act (CAA) but are generally referred to as "Class I areas." The 1999 rule was issued to fulfill the requirements of Section 169A and 169B of the CAA. As required by the CAA, U.S. EPA included in the final regional haze rule a requirement for BART at certain large stationary sources. The regional haze rule uses the term "BART-eligible source" to describe these sources. Under the CAA, BART is required for any BART-eligible source that a state determines "emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area." Accordingly, for stationary sources meeting these criteria, states must address the BART requirement when they develop their regional haze SIPs.

Though states have some discretion on use of the BART guidelines for most sources, Section 169A(b) of the CAA and 40 CFR 51.308 (e)(1)(ii)(B) require that states follow the BART guidelines for fossil-fuel fired generating powerplants having a capacity in excess of 750 megawatts.

Overview of the BART Process

The process of establishing BART emission limitations includes identification of those sources that meet the definition of "BART-eligible source", a determination of whether these sources are emitting any air pollutant that may be contributing to any impairment of visibility in a Class I area, and identification of the appropriate type and the level of control for reducing emissions.

Identification of BART-eligible sources.

The CAA defines BART-eligible sources as those sources which fall within one of 26 specific source categories, were built between August 7, 1962, and August 7, 1977, and have potential emissions greater than 250 tons per year. In order to identify these sources, IDEM sent out a survey to sources that were identified as having potential BART-eligible emission units. The responses received are being used to assist in this process.

Sources subject to BART.

After the BART-eligible sources have been identified, it is necessary to decide whether to make

determinations for all the sources, or to exempt those that may not reasonably be anticipated to impact a Class I area. A threshold in deciviews is established to measure the impact on visibility of one or more sources. The deciview is a unit of measurement of haze, implemented in a haze index that is derived from calculated light extinction, and that is designed so that uniform changes in haziness correspond approximately to uniform incremental changes in perception, across the entire range of conditions, from pristine to highly impaired. In general, U.S. EPA recommends that 0.5 deciviews as the highest threshold for determining if a source has an impact on visibility, but the threshold may vary across states based on the number of sources impacting a Class I area. In most situations, a change of one deciview reflects a small but noticeable change in haziness when viewing scenes in a Class I area. In some cases, a change of less than one deciview is likely to be perceptible, especially where the scene being viewed is highly sensitive to small amounts of pollution.

For predicting deciviews, U.S. EPA recommends the use of CALPUFF as the best modeling application available for the BART analysis. CALPUFF can predict a single source's contribution to visibility impairment, and is the only EPA-approved model for use in estimating single source pollutant concentrations resulting from the long range transport of primary pollutants. It can also be used for visibility assessments to account for the chemical transformation of SO_2 and NO_x . U.S. EPA also recommends following the *Interagency Workgroup on Air Quality Modeling (IWAQM)² Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts*, U.S. Environmental Protection Agency, EPA-454/R-98-019, December 1998, for parameter settings and meteorological data inputs.

A decision also needs to be made by states about the pollutants to be considered. U.S. EPA requires that sulfur dioxide (SO_2), oxides of nitrogen (NO_x), and direct particulate matter (PM), including $\text{PM}_{2.5}$ and PM_{10} , be evaluated for contributions to visibility impacts. However, states may decide whether or not volatile organic compounds (VOC) or ammonia should also be considered based on the likelihood they contribute to an impact on visibility at a Class I area.

U.S. EPA suggests several options for making the determination of whether a source emits any pollutants that may impact a Class I area and will allow "other reasonable approaches" for this determination (70 FR 39162).

Option 1: Individual Source Attribution Approach (Dispersion Modeling)

Dispersion modeling can be used to determine that an individual source cannot reasonably be anticipated to cause or contribute to visibility impairment in a Class I area and thus is not subject to BART. This would include an analysis of an individual source's impact on visibility as a result of its emissions of SO_2 , NO_x and direct PM emissions. The state may elect to also assess whether or not sources of VOC or ammonia emissions may be likely to impair visibility and should therefore be subject to BART review.

The emissions estimates used in the models are intended to reflect steady-state operating conditions during periods of high capacity utilization. They do not need to reflect periods of startup, shutdown, and malfunction. U.S. EPA recommends that states use the 24-hour average actual emission rate from the highest emitting day of the meteorological period modeled, unless this rate reflects periods startup, shutdown, or malfunction. The CALPUFF modeling runs provide day-by-day estimates of the sources visibility impacts measured in deciviews. Using this approach, the contribution threshold of .5 deciviews should be compared against the 98th percentile of CALPUFF modeling results. The 98th percentile value represents seven days per year or twenty-one days over three years. This value is compared to the contribution threshold of .5 deciviews to determine if the source is subject to BART. If the 98th percentile value from modeling is less than the contribution threshold, then the source can be determined to not contribute to visibility impairment at any Class 1 areas and is not subject to BART. However, a source that contributes eight or more days in one year or twenty-two or more days over three years to visibility impairment at any Class 1 area is subject to BART.

Option 2: Use of Model Plants To Exempt Individual Sources With Common Characteristics

Under this option, analyses of model plants could be used to exempt certain BART-eligible sources that share specific characteristics. It may be most useful to use this type of analysis to identify the types of small sources that do not cause or contribute to visibility impairment for purposes of BART, and thus should not be subject to a BART review. Different Class I areas may have different characteristics, however, so care must be used to ensure that the criteria developed are appropriate for the applicable cases.

In carrying out this approach, a modeling analyses of representative plants could be used to reflect groupings of specific sources with important common characteristics. Based on these analyses, certain types of sources may be clearly anticipated to cause or contribute to visibility impairment. These types of sources could then be required to undergo a BART determination. The same analysis could show that certain types of sources are not reasonably anticipated to cause or contribute to visibility impairment, and could be exempted from the BART determination process.

Option 3: Cumulative Modeling To Show That No Sources in a State Are Subject to BART

A state may also submit to EPA a demonstration based on an analysis of overall visibility impacts that emissions from BART-eligible sources in the state, considered together, are not reasonably anticipated to cause or contribute to any visibility impairment in a Class I area, and thus no source should be subject to BART. This may be done on a pollutant by pollutant basis or for all visibility-impairing pollutants to determine if emissions from these sources contribute to visibility impairment.

The BART determination.

IDEM must determine the appropriate level of BART control for each emissions unit and each pollutant subject to BART. Section 169A(g)(7) of the CAA requires states to consider the following factors in making BART determinations: (1) the costs of compliance, (2) the energy and non-air quality environmental impacts of compliance, (3) any existing pollution control technology in use at the source, (4) the remaining useful life of the source, and (5) the degree of improvement in visibility that may reasonably be anticipated to result from the use of such technology.

Alternatives to BART

A state may opt to implement an emissions trading program or other alternative measure rather than to require sources subject to BART to install, operate, and maintain BART, if the alternative achieves greater reasonable progress than BART based on certain criteria. Depending on whether or not there is a difference in the distribution of emissions under BART or an alternative program, the state may have to conduct dispersion modeling to determine the differences in visibility between the programs to demonstrate that the alternative program provides greater reasonable progress.

On March 10, 2005, U.S. EPA issued the Clean Air Interstate Rule (CAIR), requiring reductions in emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) from electric generating units in 28 eastern states and the District of Columbia. When fully implemented, CAIR is expected to result in significant reductions in SO₂ emissions and NO_x emissions in these states. The CAIR imposes specified emissions reduction requirements on each affected state, and establishes an EPA-administered cap and trade program for electric generating units. A cap is established for each state and allowances can be traded to meet the cap. A source that would otherwise be subject to BART and that participates in the CAIR cap and trade program can use compliance with CAIR to satisfy the BART requirement. Indiana is currently pursuing adoption of a CAIR cap and trade program.

In states affected by CAIR, U.S. EPA has determined that CAIR improves visibility more than implementing BART for EGUs (except for EGUs over 750 megawatts that must follow the BART guidelines in accordance with 40 CFR 51.308(e)(1)(ii)(B)). By participating in the CAIR cap-and-trade program, Indiana may choose to use CAIR as a substitute for BART rather than require BART-eligible EGUs to install, operate, and maintain BART. If Indiana chooses to do this, the state also has the discretion to include geographic enhancements in the SIP. U.S. EPA describes a geographic enhancement as "a method, procedure, or process to allow a broad regional strategy, such as the CAIR cap and trade program, to accommodate BART for reasonably attributable impairment."

IDEM is considering establishing a compliance date of less than five years after approval of the SIP to provide expeditious particulate matter reductions for compliance with the PM_{2.5} NAAQS. The NAAQS compliance date for seventeen Indiana counties in nonattainment for PM_{2.5} is April 5, 2010. Bringing these counties into compliance will improve air quality and provide economic benefits to companies desiring to locate or expand in these areas.

Enforceable Limits and Compliance Dates

Indiana must establish enforceable emission limits based on the BART guidelines and require compliance within five years after U.S. EPA approves the regional haze SIP. An enforceable emission limit must be established for each affected emission unit and for each pollutant subject to review that is emitted from the source. Under certain circumstances, a design, equipment, work practice, operation standard, or combination of these types of standards may be used in place of conventional emission limits. U.S. EPA recommends allowing "averaging" emissions across any set of BART-eligible emission units within a fence line, as long as the emission reductions from each pollutant being controlled for BART would be equal to those reductions that would be obtained by simply controlling each of the BART-eligible units that constitute BART-eligible source.

Because the BART requirements themselves are "applicable" requirements of the CAA, they must be included as Title V permit conditions according to the procedures established in 40 CFR Part 70. Section 302(k) of the CAA requires emissions limits such as BART to be met on a continuous basis. Although this provision does not necessarily require the use of continuous emissions monitoring (CEMs), it is important that sources employ techniques that ensure compliance on a continuous basis. Monitoring requirements generally applicable to sources, including those that are subject to BART, are governed by other regulations.

BART Process in Indiana

IDEM identified sources that were likely to have BART-eligible units and sent a survey to obtain additional information to develop a list of BART-eligible sources. Most of the sources surveyed have replied, but there is still missing information for a few of the sources. IDEM has determined that the following sources have at least one unit that is BART-eligible:

County	County ID	Plant ID	Name
Cass	017	00006	Logansport Municipal Light & Power
Cass	017	00005	ESSROC Materials, Inc.
Clark	019	00008	ESSROC Cement Corporation

Dearborn	029	00002	American Electric Power-Tanners Creek
Dearborn	029	00033	PSEG Lawrenceburg Energy
Gibson	051	00013	PSI Energy - Gibson
Jasper	073	00008	NIPSCO - R. M. Schahfer
Lake	089	00318	Mittal Steel USA Inc.- Indiana Harbor West
Lake	089	00003	BP Products North America, Inc. - Whiting Refinery
Lake	089	00112	Carmeuse Lime, Inc.
Lake	089	00121	US Steel - Gary Work
Lake	089	00316	Mittal Steel USA Inc.- Indiana Harbor East
Lake	089	00117	NIPSCO - D. H. Mitchell Station
Laporte	091	00021	NIPSCO - Michigan City
Lawrence	093	00002	Lehigh Cement Company
Marion	097	00033	IPL Harding Street Station
Montgomery	107	00003	Crawfordsville Electric Light & Power
Pike	125	00002	Indianapolis Power & Light/AES Petersburg
Pike	125	00001	Hoosier Energy - Ratts Station
Porter	127	00002	NIPSCO - Bailly Station
Porter	127	00001	Mittal Steel USA Inc.- Burns Harbor
Posey	129	00002	GE Plastics Mt. Vernon, Inc.
Posey	129	00010	SIGECO - A. B. Brown
Putnam	133	00002	Buzzi Unicem USA
Tippecanoe	157	00012	Purdue University
Vanderburgh	163	00001	SIGECO - Ohio River
Vermillion	165	00001	PSI Energy - Cayuga
Vermillion	165	00009	Eli Lilly and Company-Clinton Labs
Vigo	167	00021	PSI Energy - Wabash River
Warrick	173	00002 & 00007	ALCOA Inc.
Warrick	173	00001	SIGECO - F. B. Culley Generating Station
Wayne	177	00009	Richmond Power & Light

IDEM has been working with the Midwest Regional Planning Organization (MRPO) using CALPUFF for a consistent regional and national modeling approach for addressing BART eligibility and the analyses to determine which sources are subject to BART. This work is based on Option 1 of the federal guidelines is nearing completion, but additional modeling is still being conducted. The modeling considers impacts on the following Class I areas:

- Boundary Waters Canoe Area, Minnesota
- Brigantine National Wildlife Refuge, New Jersey
- Dolly Sods - Otter Creek Wilderness, West Virginia
- Great Gulf Wilderness, New Hampshire
- Great Smoky Mountains National Park, Tennessee
- Hercules-Glades Wilderness, Missouri
- Isle Royale National Park, Michigan
- James River Face, Virginia
- Linville Gorge, North Carolina
- Lye Brook Wilderness, Vermont
- Mammoth Cave National Park, Kentucky
- Mingo Wilderness, Missouri
- Seney Wilderness, Michigan
- Shenandoah National Park, Virginia
- Sipsy Wilderness, Alabama
- Voyageurs National Park, Minnesota

Of the sources identified as BART-eligible, modeling to date indicates that the following non-EGU sources are likely to be subject to BART: ALCOA Inc., GE Plastics Mt. Vernon, Inc., Mittal Steel USA Inc.-Burns Harbor, and U.S. Steel-Gary Works. Modeling has not yet been conducted on the EGUs because a decision still needs to be made on whether to agree that CAIR will satisfy BART for EGUs. As noted below, this is an alternative on which IDEM is seeking comments. Based on IDEM's analysis to date, the following fossil-fuel fired generating powerplants have a capacity in excess of 750 megawatts and therefore are required to be included in the rule: Indiana Michigan Power - Rockport, PSI Energy - Gibson, PSI Energy - Cayuga, and Indianapolis Power &

Light/AES Petersburg. IDEM invites comments on the modeling efforts described in this notice.

In this rulemaking, IDEM intends to include the process to comply with BART based on the requirements of 40 CFR 51 and the guidelines in Appendix Y to Part 51 with an appropriate compliance schedule to achieve compliance within five years after approval of the SIP by U.S. EPA (BART compliance date). IDEM proposes that sources subject to BART will be listed in the rule with a requirement to submit the analysis and supporting documentation for the BART determination to IDEM for review and approval. The final BART determinations will become modifications to the source's Title V permit. IDEM seeks comments on appropriate time frames for achieving the milestones necessary to complete the BART determinations to ensure sources can comply by the BART compliance date.

Alternatives To Be Considered Within the Rulemaking

Alternative 1. Except for the requirement to use BART for fossil-fuel fired powerplants with a capacity of more than 750 megawatts, should Indiana follow the BART guidelines for other BART-eligible sources or use an alternative?

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? No.
- Is this alternative imposed by federal law or is there a comparable federal law? This alternative is an option provided by federal guidelines and is at the discretion of the state.
- If it is a federal requirement, is it different from federal law? Not applicable.
- If it is different, describe the differences. Not applicable.

Alternative 2. Should Indiana accept that CAIR should be a substitute for BART for electric generating units?

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? No.
- Is this alternative imposed by federal law or is there a comparable federal law? This alternative is an option provided by federal guidelines and is at the discretion of the state.
- If it is a federal requirement, is it different from federal law? Not applicable.
- If it is different, describe the differences. Not applicable.

Alternative 3. Should Indiana adopt a visibility threshold of .5 deciviews for comparison to the 98th percentile of the number of days modeled to identify "sources subject to BART?"

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? No.
- Is this alternative imposed by federal law or is there a comparable federal law? This alternative is an option provided by federal guidelines and is at the discretion of the state.
- If it is a federal requirement, is it different from federal law? Not applicable.
- If it is different, describe the differences. Not applicable.

Alternative 4. Other than the required pollutants (sulfur dioxide, nitrogen oxides, and particulate matter), should volatile organic compounds, ammonia, or any other pollutants be considered?

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? No.
- Is this alternative imposed by federal law or is there a comparable federal law? This alternative is an option provided by federal guidelines and is at the discretion of the state.
- If it is a federal requirement, is it different from federal law? Not applicable.
- If it is different, describe the differences. Not applicable.

Alternative 5. Should Indiana establish a compliance deadline of less than five years to help bring the seventeen nonattainment counties into attainment for the PM_{2.5} National Ambient Air Quality Standard?

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? No.
- Is this alternative imposed by federal law or is there a comparable federal law? This alternative is an option that would be at the discretion of the state.
- If it is a federal requirement, is it different from federal law? Not applicable.
- If it is different, describe the differences. Not applicable.

Applicable Federal Law

Section 169A and 169B of the Clean Air Act (CAA) contain authority and requirements to regulate pollutants that contribute to visibility impairment in mandatory Class I Federal areas. The Regional Haze Rule under 40 CFR 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans) is the federal regulation addressing these visibility issues, and contains the Best Available Retrofit Technology (BART) guidelines at 40 CFR 51 Appendix Y (Guidelines for BART Determinations Under the Regional Haze Rule). In addition, the Clean Air Interstate Rule provisions under 40 CFR 51 may be applicable depending on options chosen in the course of this rulemaking.

Potential Fiscal Impact

IDEM anticipates that there may be a fiscal impact of these rules, however, analysis of the potential impact will be dependent on the alternatives chosen during the rulemaking process.

Potential Fiscal Impact of Alternative 1. The fiscal impact of this alternative depends on whether BART or an alternative is chosen to comply with the federal requirements.

Potential Fiscal Impact of Alternative 2. If CAIR is accepted as substituting for BART, there would be no additional cost above that imposed by the CAIR rule for affected electric generating units of less than 750 megawatts.

Potential Fiscal Impact of Alternative 3. The fiscal impact of determining which sources are subject to BART depends on how many sources are identified and what controls will be needed.

Potential Fiscal Impact of Alternative 4. Inclusion of any pollutants beyond those required would be likely to result in a fiscal impact on affected sources. Quantification of the impact would depend on the pollutants added and what controls were required.

Potential Fiscal Impact of Alternative 5. A compliance deadline of less than five years could increase the cost to comply with the rule, depending on the financial situation of each source and the availability of materials and labor.

Small Business Assistance Information

IDEM established a compliance and technical assistance (CTAP) program under [IC 13-28-3](#). The program provides assistance to small businesses and information regarding compliance with environmental regulations. In accordance with [IC 13-28-3](#) and [IC 13-28-5](#), there is a Small Business Assistance Program Ombudsman to provide a point of contact for small businesses affected by environmental regulations. Information on the CTAP program, the monthly CTAP newsletter, and other resources available can be found at www.in.gov/idem/ctap.

Small businesses affected by this rulemaking may contact the Small Business Regulatory Coordinator:

Sandra El-Yusuf
IDEM Compliance and Technical Assistance Program
OPPTA - MC60-04
100 N. Senate Avenue
W-041
Indianapolis, IN 46204-2251
(317) 232-8578
selyusuf@idem.in.gov

The Small Business Assistance Program Ombudsman is:

Eric Levenhagen
IDEM Small Business Assistance Program Ombudsman
External Affairs - MC50-01
100 N. Senate Avenue
IGCN 1301
Indianapolis, IN 46204-2251
(317) 234-3386
elevenha@idem.in.gov

Public Participation and Workgroup Information

At this time, no workgroup is planned for the rulemaking. If you feel that a workgroup or other informal discussion on the rule is appropriate, please contact Christine Pedersen, Rules Development Section, Office of Air Quality at (317) 233-6868 or (800) 451-6027 (in Indiana).

STATUTORY AND REGULATORY REQUIREMENTS

[IC 13-14-8-4](#) requires the board to consider the following factors in promulgating rules:

- (1) All existing physical conditions and the character of the area affected.
- (2) Past, present, and probable future uses of the area, including the character of the uses of surrounding areas.
- (3) Zoning classifications.
- (4) The nature of the existing air quality or existing water quality, as the case may be.
- (5) Technical feasibility, including the quality conditions that could reasonably be achieved through coordinated control of all factors affecting the quality.
- (6) Economic reasonableness of measuring or reducing any particular type of pollution.
- (7) The right of all persons to an environment sufficiently uncontaminated as not to be injurious to human, plant, animal, or aquatic life or to the reasonable enjoyment of life and property.

REQUEST FOR PUBLIC COMMENTS

At this time, IDEM solicits the following:

- (1) The submission of alternative ways to achieve the purpose of the rule.
- (2) The submission of suggestions for the development of draft rule language.

Mailed comments should be addressed to:

#06-208(APCB) BART
Christine Pedersen Mail Code 61-50
c/o Administrative Assistant
Rules Development Section
Office of Air Quality
Indiana Department of Environmental Management

100 North Senate Avenue
Indianapolis, Indiana 46204.

Hand delivered comments will be accepted by the IDEM receptionist on duty at the Tenth Floor reception desk, Office of Air Quality, Indiana Government Center-North, 100 North Senate Avenue, Indianapolis, Indiana.

Comments may be submitted by facsimile at the IDEM fax number: (317) 233-2342, Monday through Friday, between 8:15 a.m. and 4:45 p.m. Please confirm the timely receipt of faxed comments by calling the Rules Section at (317) 233-0426.

COMMENT PERIOD DEADLINE

Comments must be postmarked, faxed, or hand delivered by August 25, 2006.

Additional information regarding this action may be obtained from Christine Pedersen, Rules Development Section, Office of Air Quality, (317) 233-6868 or (800) 451-6027 (in Indiana).

Kathryn A. Watson, Chief
Air Programs Branch
Office of Air Quality

Posted: 07/26/2006 by Legislative Services Agency
An [html](#) version of this document.