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TITLE 326 AIR POLLUTION CONTROL BOARD

FIRST NOTICE OF COMMENT PERIOD

#05-116(APCB)

DEVELOPMENT OF NEW RULES CONCERNING MERCURY EMISSIONS FROM COAL-FIRED POWER PLANTS

PURPOSE OF NOTICE

The Indiana Department of Environmental Management (IDEM) is soliciting public comment on new and amended rules concerning mercury emissions from coal-fired power plants.

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 3; 326 IAC 11; 326 IAC 12; 326 IAC 21; 326 IAC 24.

AUTHORITY: IC 13-14-8; IC 13-17-3-1; IC 13-17-3-4.

SUBJECT MATTER AND BASIC PURPOSE OF RULEMAKING

Basic Purpose and Background

On March 15, 2005, U.S. EPA issued the first-ever federal rule to permanently cap and reduce mercury emissions from coal-fired power plants serving a generator larger than twenty-five (25) megawatts that produces electricity for sale. The Clean Air Mercury Rule (CAMR) builds on U.S. EPA's Clean Air Interstate Rule (CAIR) to significantly reduce emissions from coal-fired power plants, the largest remaining source of mercury emissions in the nation. CAIR was also recently signed by the U.S. EPA administrator and IDEM is taking comment on state adoption of this rule in a separate rulemaking.

When fully implemented CAMR will reduce nationwide utility emissions of mercury from forty-eight (48) tons a year to fifteen (15) tons, a nationwide reduction of nearly seventy (70) percent. The CAMR establishes "standards of performance" limiting mercury emissions from new and existing coal fired power plants and creates a market-based cap and trade program that will reduce utility emissions of mercury in two phases. The first phase nationwide cap is thirty-eight (38) tons, due in 2010, with emissions reductions that are considered "co-benefit" reductions. These are mercury reductions that will be achieved by reducing sulfur dioxide (SO₂) and nitrogen oxides (NO_x) emissions under CAIR. In the second phase, due in 2018, coal fired power plants will be subject to a second cap, which will reduce emissions to fifteen (15) tons upon full implementation. New coal fired power plants will have to meet new source performance standards (NSPS) in addition to being subject to caps (40 CFR part 60, subpart Da).

Reducing the amount of mercury emitted into the air is an important step in improving the health of Indiana's citizens. Once mercury is released to the air from coal combustion and other sources it can fall to the Earth through rain and snow (wet deposition), or dust particles (dry deposition). After it settles in lake or river sediments, mercury can be converted by bacteria into methylmercury, a more toxic form of mercury. Methylmercury readily accumulates in the food chain and can build up in fish tissue. Mercury in fish, both freshwater and marine, is then consumed by people and wildlife. Women of childbearing age are considered the population of greatest concern for mercury exposure, because the developing fetus is most sensitive. Children are at risk as well since their nervous system is still developing. According to the U.S. EPA, approximately six hundred thirty thousand (630,000) children are born every year nationwide with some risk of neurological impairment from mercury exposure. At nearly two and one-half (2.5) tons per year, Indiana ranks fourth in the nation for amount of mercury emitted from power plants. Overall, utilities in the United States emit one (1) percent of the 1999 estimated global mercury emissions. All Indiana rivers, streams, and over forty-seven thousand (47,000) lake acres are under a mercury advisory by the Indiana Department of Health limiting how much fish should be consumed because of mercury contamination. U.S. EPA evaluated the impact of CAMR on mercury deposition in 2,150 watersheds encompassing the United States and found the deepest reductions in deposition would be in places where utilities had the biggest impact. By 2020, utility emissions will account for no more than twenty (20) percent of deposition in any one watershed. This is a reduction from the maximum fifty-five (55) percent contribution in the 2001 base case. On average, U.S. utilities will contribute two and one-half (2.5) percent to deposition rates in 2020 after CAMR, CAIR, and other Clean Air Act programs are in place.

The federal CAMR establishes a cap and trade system for mercury similar to U.S. EPA's Acid Rain Program. In CAMR, U.S. EPA has assigned each state and two tribes an emissions "budget" for mercury. Indiana's annual electric generating unit mercury budget in CAMR is two and ninety-eight thousandths (2.098) tons in years 2010 through 2017, a fifteen (15) percent reduction from 2002

levels and eight hundred and twenty-eight thousandths (0.828) tons in 2018 and thereafter, a sixty-six (66) percent reduction from 2002 levels. The cap is permanent, regardless of growth in the coal fired electric utility sector. The trading program promotes reductions at the sources with the lowest control costs, typically the larger sources. Controls will primarily reduce emissions of ionic mercury, the form of mercury that deposits locally. Each state must submit a State Plan revision detailing how it will meet its budget for reducing mercury from coal-fired power plants. State Plans are due eighteen (18) months from the date the U.S. EPA administrator signed CAMR, or September 15, 2006. CAMR includes a model cap and trade program (40 CFR Part 60, Subpart HHHH) that states can adopt to achieve and maintain the mercury emission budget. Emission monitoring and reporting requirements ensure that monitored data are accurate, reporting is consistent among sources, and that the emissions reductions occur. The flexibility of allowance trading creates financial incentives for coal fired power plants to look for new and low cost ways to reduce emissions and improve the effectiveness of pollution control equipment.

To ensure consistency, states participating in the national cap and trade program need to adopt the following key operational elements: allowance management; banking without restriction; accountability for affected sources; and enforcement requirements. The model cap and trade rule does allow states to modify language to best suit their unique circumstances with regard to allocation methodologies. Mercury allocation methodology elements for which states have flexibility include: 1) the cost of the allowance distribution (e.g., free distribution or auction); 2) the frequency of allocation (e.g., permanent or periodically updated); 3) the basis for distributing the allowances (e.g., heat-input or power output); and 4) the use of allowance set-asides and their size, if used (e.g., new unit set-asides or set asides for energy efficiency, for development of integrated gasification combined cycle (IGCC) technology generation, for renewables, or for small units).

The State Plan must demonstrate how the state will limit statewide emissions from affected new and existing sources to the amount of the budget. States may meet their statewide emission budget by allowing their sources to participate in a national cap and trade program or by developing some other regulatory system. Nothing in CAMR precludes states from requiring stricter controls and still being eligible to participate in the mercury budget trading program. The federal rule allows for states to implement more stringent mercury emissions requirements.

IDEM is taking comment on options to meet the requirements in CAMR. The Air Pollution Control Board was petitioned by the Hoosier Environmental Council (HEC) in June of 2004 to regulate mercury emissions from power plants. This rulemaking notice includes the HEC petition as an alternative to adopting CAMR. The HEC petition requested mercury limits for coal fired electric generating units of six-tenths pounds of mercury per trillion British thermal units (0.6 lbs Hg/TBtu) or an emissions rate equal to ninety (90) percent reduction of mercury from the measured inlet conditions, regardless of coal type. The HEC petition did not allow for emissions trading among sources and required compliance by July 2008.

Another alternative to adopting the federal CAMR or the HEC petition is to adopt the federal rule with modification. Types of rule modifications on which IDEM is inviting comment on include, but are not limited to, reduced overall state cap, earlier compliance date for phase II, and individual unit emissions limits, either as an antibacksliding measure or to limit future growth in unit-specific emissions. IDEM invites comments on these or other regulatory options.

At this time IDEM is also considering two options for the location of CAMR requirements in the Indiana Administrative Code. One option is to adopt the new source performance standard and trading program for mercury from power plants into Article 11, Emission Limitations for Specific Types of Operations. The second option is to add a new article for power plants that would address both CAMR and CAIR rules. Under either option the additions and changes under 40 CFR part 75 for emission monitoring requirements can be addressed in Article 21, Acid Deposition Control. IDEM invites comments and suggestions on placement of the mercury rule in the administrative code.

Alternatives To Be Considered Within the Rulemaking

Alternative 1. Adopt federal rule.

Alternative 1 is to adopt CAMR, including the model trading rule (40 CFR Part 60, Subpart HHHH). Indiana would still need to determine how to allocate mercury allowances, either according to the methodology in the model trading rule or by a different method, and invites comment on this aspect of the rule.

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? Yes.
- Is this alternative imposed by federal law or is there a comparable federal law? Yes.
- If it is a federal requirement, is it different from federal law? No.
- If it is different, describe the differences. Not applicable.

Alternative 2. Ninety (90) percent control, no cap and trade, and 2008 compliance date (HEC petition).

- 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? Yes, CAMR was signed on March 15, 2005.
- If it is a federal requirement, is it different from federal law? Yes.
- If it is different, describe the differences. The federal program provides for a less stringent mercury emissions limit, later compliance date, and allows emissions trading.

Alternative 3. Adopt federal rule with modifications.

Options include, but are not limited to, reduced overall state cap, earlier compliance date for phase II, and individual unit emission limits, either as an antibacksliding measure or to limit future growth in unit specific emissions.

- 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? Yes, CAMR signed on March 15, 2005.
- If it is a federal requirement, is it different from federal law? Yes.
- If it is different, describe the differences. The federal program would provide for a less stringent mercury emissions limit or later compliance date.

Applicable Federal Law

This rulemaking is related the federal Clean Air Mercury Rule (CAMR) signed by the U.S. EPA administrator on March 15, 2005. The federal rule has not been published in the Federal Register yet.

Potential Fiscal Impact

Potential Fiscal Impact of Alternative 1. This alternative would have no additional state fiscal impact since the requirements are already imposed under federal law. U.S. EPA estimates that the projected nationwide annual costs of CAMR to the power industry are one hundred and sixty (160) million dollars in 2010, one hundred (100) million dollars in 2015, and seven hundred and fifty (750) million dollars in 2020. These costs represent the total cost to the electric-generating industry of reducing mercury emissions to meet the caps in CAMR and are incremental costs to the requirements to meet the Phase 1 NOx and SO2 emissions caps set forth in CAIR. U.S. EPA also estimated that retail electricity prices are projected to increase roughly two-tenths (0.2) percent higher with CAMR in 2020 when compared to CAIR and natural gas prices roughly one and six-tenths (1.6) percent.

Potential Fiscal Impact of Alternative 2. The National Wildlife Federation's (NWF) report, "Getting the Job Done: Affordable Mercury Control at Control Burning Power Plants" provides cost estimates for ninety (90) percent mercury control at power plants in Indiana. The NWF cost estimates are based on an assumption that activated carbon injection and a polishing fabric filter would be needed to reliably reach ninety (90) percent mercury capture at most boilers in Indiana. NWF applied U.S. EPA cost estimates for these technologies and power plant configurations to calculate the cost of retrofitting Indiana's power plants. NWF estimated that total annual cost of ninety (90) percent mercury control at one hundred eighty-three (183) million dollars. IDEM has not conducted a separate cost analysis and invites comment on the fiscal impact of this alternative.

Potential Fiscal Impact of Alternative 3. There is likely to be an additional fiscal impact associated with any modifications to the federal rule that are more stringent. However, IDEM has not estimated the cost of these modifications and invites comment on them.

Public Participation and Workgroup Information

An external workgroup has been established to discuss issues involved in this rulemaking. The workgroup is for both CAMR and CAIR rulemakings, referred to as the "Utility Rules Workgroup." The workgroup is made up of IDEM staff and a cross-section of stakeholders. If you wish to provide comments to the workgroup on the rulemaking, attend meetings, or have suggestions related to the workgroup process, please contact Susan Bem, Rules Section, Office of Air Quality at (317) 233-5697 or (800) 451-6027 (in Indiana). Please provide your name, phone number and email address, if applicable, and where you can be contacted. A workgroup meeting to discuss this rulemaking has been scheduled for June 16, 2005 at 1:00 P.M.. The meeting will be held in the Indiana Government Center South Conference Center, Room #18 located at 402 West Washington Street, Indianapolis, Indiana. More information about meeting location can be found on IDEM's Web site at:
http://www.in.gov/serv/eventcal?PF=idem&Clist=16_153_154_155_156

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:

#05-116(APCB) Mercury Rule
Susan Bem 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 July 5, 2005.

Additional information regarding this action may be obtained from Susan Bem, Rules Section, Office of Air Quality, (317) 233-5697 or (800) 451-6027 (in Indiana).

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