

DATE: March 6, 2007

TO: Members of the Natural Resources Board

FROM: Scott Hassett, Secretary

SUBJECT: Background Memo on Hearing Authorization Request for Rule Revisions to Chapter NR 446 that Adopt the Federal Clean Air Mercury Rule (CAMR) and Achieve Additional Mercury Reductions from Coal-Fired Electrical Generating Units after CAMR Implementation

Introduction

The Department is proposing revisions to the state's air mercury rule in response to three separate but related actions. They include promulgation of the federal Clean Air Mercury Rule (CAMR) in May 2005, a directive from Governor Doyle in August 2006 to further reduce mercury emissions, and a January 2007 Citizen Petition requesting revisions to Chapter NR 446.

The CAMR was promulgated by the United States Environmental Protection Agency (EPA) and requires the reduction of mercury emissions from new and existing coal-fired electrical generating units through a cap on mercury emissions expressed as an annual state emission budget that includes two phases of reductions. The initial phase begins in 2010 and continues until 2017. The second phase begins in 2018 and continues indefinitely. Wisconsin's budget during the first phase (2010 to 2017) is 0.890 tons (1,780 pounds) of mercury per year and declines to 0.351 tons (702 pounds) of mercury per year in 2018 and for every year thereafter. State mercury budgets are a permanent cap regardless of growth in the electrical sector. A national mercury emissions trading program has been developed by EPA as an option for states to meet CAMR state budget requirements.

Governor Doyle's directive issued on August 25, 2006, requires the Department to develop a rule achieving a 90% reduction of mercury emissions from coal-fired power plants. Governor Doyle's directive did not specify the deadline for achieving the 90% reduction.

The Citizen Petition was submitted on January 22, 2007, to the Department and Natural Resources Board under provisions in s. 227.11(2)(a) and 227.12(1) and (2), Wis. Stats., and NR 2.05 Wis. Adm. Code. The petition requests the Department and Board to conduct rulemaking proceedings to revise and adopt rules that require a 90% or greater reduction in of mercury to the air from coal-fired electrical generating units in the state.

Why are these rule revisions being proposed?

The proposed rule revisions in AM-32-05 would allow the Department to implement the federal Clean Air Mercury Rule (CAMR) in Wisconsin. Under the CAMR, each state is required to submit a plan that details the regulations that will be implemented to meet their statewide mercury emission budget including compliance dates, monitoring, record-keeping and reporting provisions. Failure to submit a timely and acceptable state plan will result in the imposition of a federal plan to implement the CAMR in

Wisconsin. EPA developed a model rule for states to use in developing their plans that would allow participation in a national mercury allowance trading program.

EPA required state plans to be submitted for review by November 17, 2006. At least 29 states, including Wisconsin, did not submit plans by the November deadline. EPA has stated that they would not take action to impose a federal plan if an acceptable state plan is submitted by fall 2007.

States are not prevented by EPA from requiring reductions beyond those required in their state mercury emission budget. However, in Wisconsin, our state mercury rule includes a commitment to be consistent with federal emission standards once they were adopted (s. NR 446.029 Wis. Adm. Code). The commitment to be consistent also includes federal administrative requirements including baseline determination, monitoring, reporting and recordkeeping. The rule revisions being proposed meet the commitment to be consistent in our existing state mercury rule.

These rule revisions also include provisions that commit the Department to adopting rules by June 30, 2010, that would establish a requirement that all coal-fired electrical generating units affected by the CAMR apply control technology to reduce their mercury emissions 90% by January 1, 2020. These requirements would not occur until after the second and final phase of the CAMR becomes effective in 2018. The additional mercury emission reductions beyond those required in the CAMR would meet both Governor Doyle's August 2006 Directive to achieve a 90% reduction from coal-fired electrical generating units and the January 2007 Citizen Petition.

Rule Revisions Summary

Rule revisions to the state mercury rule (Chapter NR 446) being proposed for hearing authorization decline participation in EPA's national trading program to meet the CAMR state emission budget caps. Under EPA's program, mercury emission allowances can be banked for later use or freely traded nationwide among affected electric utilities to meet annual mercury reduction requirements. As a result, it is possible that many coal-fired electrical generating units could delay for many years or even avoid control equipment installations to reduce their mercury emissions by banking allowances or obtaining allowances from other electric utilities. An emission allowance is an authorization to emit an ounce of mercury.

In Wisconsin, this is particularly significant because waterbodies in the northern part of the state have characteristics that make them particularly susceptible to mercury contamination. EPA gives states the choice of whether to participate in their national program to achieve compliance with the CAMR or decline to participate in interstate trading and develop a state specific approach to meet the federal mercury emission reduction requirements.

The following revisions are included in this rulemaking to address the CAMR and Governor Doyle's Directive:

- Proposed revisions to Chapter NR 440 that adopts the federal New Source Performance Standards (NSPS) for mercury emission controls at coal-fired electric utility steam generating units that are constructed or reconstructed after January 30, 2004.
- Proposed revisions to Chapter NR 446 that requires each utility with coal-fired electrical generating units affected by the federal CAMR to meet an annual emission cap established

through a generation output based allocation of the state mercury emission budget EPA set for Wisconsin.

- A provision that requires the Department to adopt rules by June 30, 2010, that would require all coal-fired electrical steam generating units affected by the CAMR to reduce their mercury emissions by 90% by January 1, 2020.

Below is a brief summary of the provisions in AM-32-05.

Applicability

These provisions affect new and existing coal-fired utility boilers in the state serving generators larger than 25 MW, producing electricity for sale. Cogeneration units serving a generator with a nameplate capacity of more than 25 MWe and providing 1/3 of the unit's output capacity or 219,000 MWh, whichever is greater, are also affected.

New Source Performance Standards

Proposed revisions to NR 440 establish a technology-based standard of performance (pounds of mercury per megawatt-hour) for new coal-fired electrical generating units (those that are constructed or modified after January 30, 2004). In addition to meeting this standard of performance, any mercury emissions from these new sources must also be accommodated under the state mercury cap.

Emission Standards

Annual system-wide mercury emission caps for each of the two reduction phases of the CAMR would be established for each Wisconsin utility with affected coal-fired electrical generating units under their control or ownership. The system-wide caps are established by summing the unit specific mercury allowance allocations provided to their affected units from a main allocation pool and if applicable, a new unit set-aside pool. Owners and operators can also elect to comply on a unit-by-unit basis.

Compliance

Beginning January 1, 2010, and every year thereafter, owners and operators of affected electrical generating units must hold enough mercury emission allowances to equal or exceed calendar mercury emissions from their units in a given year. Owners and operators will be required to maintain annual records of the mercury emissions and held mercury allowances. A compliance report for the previous year is required to be submitted to the Department by March 1.

Allowance Allocation

From 2010 to 2017, 95% of the state phase 1 emission budget of 1,780 pounds will be allocated in ounces of mercury (27,056 ounces). After 2018, 95% of the 702 pound per hour state phase 2 emission budget will be allocated (10,670 ounces). These portions of the state emission budget are the main allocation pool for units that have established an operating baseline.

The portion of the state emission budget remaining will be placed in a new unit set-aside and accessible by owners and operators by request. The new unit set-aside is 5% of the state budget and consists of allowances available for units that have not received allowances from the main allocation pool because

they have not established an operating baseline. The new unit set-aside of 5% of the total annual emission budget is the same percentage EPA proposed in their model rule for states for phase I. The Department is proposing a larger set-aside than the federal proposal because it is expected that Wisconsin will undergo a sustained period of growth in coal-fired generation. EPA proposed a 3% new unit set-aside for phase II. For 2010 through 2017 the new unit set-aside is 89 pounds (1,424 ounces) and beginning in 2018 and thereafter 35 pounds (562 ounces). For the purpose of allowance allocation, a unit is considered new if it commenced operation after January 1, 2001. The following table summarizes the mercury allowances available for allocation.

	State Mercury Emission Budget	Main Allocation Pool – 95%	New Unit Set-aside – 5%
Phase 1 (2010 - 2017)	28,480 ounces	27,056 ounces	1,424 ounces
Phase 2 (2018+)	11,232 ounces	10,670 ounces	562 ounces

Allowances allocated to electrical generating units will be determined by energy output instead of the heat input approach proposed in EPA’s model rule. Using energy output data to determine allowance allocations is the same approach used in Chapter NR 432 which also affects electrical generating units in Wisconsin and addresses requirements in the federal Clean Air Interstate Rule. The Board adopted Chapter NR 432 at its January 2007 meeting.

Notification of Allocation

Within 60 days of the effective date of this rule the Department will notify owners and operators of the annual mercury allowance allocation from the main allocation pool for each of their affected electrical generating units for 2010, 2011 and 2012. Attachment A is an estimate of the mercury allowance allocations for each of those years for existing affected units and for each electric utility system using the allocation methodology proposed. Beginning in 2009 and thereafter written notifications by October 31st would be provided of the Department’s determination of mercury allowance allocations for the year four years in the future.

The new unit set-aside allocations are available upon request. Annually, written notifications of new unit set-aside allocations will be provided by June 30th for those requests received by May 1st. Any mercury allowances remaining in the new unit set-aside that are not allocated in a given year would be retired.

Within 45 days of providing written notifications for allocations from the main allocation pool or new unit aside the Department would issue administrative orders to owners and operators receiving allocations.

Monitoring and Reporting Requirements

All affected electrical generating units must comply with monitoring, recordkeeping and reporting provisions of the CAMR. This includes the installation of continuous emission monitors or sorbent traps for the measurement of total mercury emissions by specific deadlines.

How this proposal affects existing policy.

This proposal is consistent with existing DNR policy which is, as required under s. 285.11(6), Stats., to revise and implement state implementation plans for the purpose of prevention, abatement and control of air pollution in Wisconsin. The proposal is also consistent with the provisions of s. NR 446.029, Wis.

Adm. Code, that mandate that if a federal standard is promulgated the Department would revise the state mercury rule to meet the federal emission standard for mercury.

Has the Board dealt with these issues before? If so, when and why?

Yes. In June 2004, the Board adopted revisions to Chapter NR 446, Control of Mercury Emissions, that require mercury emission reductions from coal-fired electrical generating units operated by major utilities in the state. Wisconsin took action in advance of federal regulations because EPA was very slow to require emission reductions from the nation's largest source of mercury air emissions. The state mercury rule included a commitment to make revisions once a federal regulation was promulgated to ensure that Wisconsin's requirements were consistent with the federal emission standards and administrative requirements.

Who will be affected by the proposed rule revisions? How will they be affected?

The CAMR rule affects new and existing coal-fired utility boilers in the state that serve a generator larger than 25 MW that produces electricity for sale. Also affected is any coal-fired co-generation unit serving a generator with a nameplate capacity larger than 25 MW and either supplies more than 1/3 of its potential electric output capacity or 219,000 MWh, whichever is greater. In Wisconsin, the utilities with electrical generating units that are affected include Alliant Energy, Dairy Power Cooperative, Madison Gas & Electric Company, Manitowoc Public Utilities, MidAmerican Energy Company, WE Energies, Wisconsin Public Service Corporation and Xcel Energy. There are 48 existing coal-fired electrical generating units in Wisconsin.

Owners and operators will be required to meet system-wide mercury emission caps established through a allowance allocations that will be adjusted periodically to reflect operational changes and the construction of new generating units. Since the state budget will not increase with the addition of new units more control of existing units over time would be necessary. Allocations will also decline when the second phase reduction required in the CAMR takes affect in 2018. Wisconsin's annual budget for 2010 to 2017 is 1,780 pounds of mercury which declines to 702 pounds of mercury in 2018 and every year thereafter.

Not all states are adopting EPA's national trading program as their approach to meeting CAMR requirements. As of November 2006, 22 states have adopted or are considering more stringent approaches including greater reductions, reductions sooner then the CAMR schedule, or prohibiting or restricting trading of mercury allowances. State programs in 26 states are mostly consistent with EPA's trading program.

Among the states in EPA's Region 5, Illinois, Michigan and Minnesota are proposing or have adopted requirements more stringent than the CAMR including more mercury emission reductions sooner. Illinois and Michigan are declining participation in the national trading program. Ohio and Indiana are planning to adopt EPA's national trading program to meet CAMR requirements.

Information on Environmental Analysis

An environmental analysis of the impact of the proposed rule revisions is not needed because these changes are considered to be a Type III action under s. NR 150.03(3), Wis. Adm. Code. A Type III action is one that normally does not have the potential to cause significant environmental effects,

normally does not significantly affect energy usage and normally does not involve unresolved conflicts in the use of available resources.

Initial Regulatory Flexibility Analysis

The proposed rule revisions are not expected to have a significant effect on small businesses. The electrical generating units subject to the emission reduction requirements of the CAMR are not small businesses. Any costs which the electric utility industry incurs to meet the CAMR will likely to be passed on to their customers, which will include small businesses. As part of the federal rule promulgation process, the EPA is required under the Regulatory Flexibility Act to consider potential impacts of proposed regulations on small entities. After considering the economic impacts of the rule on small entities, EPA has concluded that the CAMR will not have a significant economic impact on a substantial number of small entities and has determined that it is not necessary to prepare a regulatory flexibility analysis. The small entity definition used by EPA includes: (1) electric utilities that produces 4 billion kilowatt-hours or less; (2) a small governmental jurisdiction that is a government of a city, county, town, district, or special district of less than 50,000; and (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.