

we energies



231 W. Michigan St.
Milwaukee, WI 53203
kris.krause@we-energies.com

Kristine M. Krause, P.E.
Vice President - Environmental

SUBMITTED ELECTRONICALLY

June 11, 2007

Mr. Robert Eckdale
Wisconsin Department of Natural Resources
Bureau of Air Management
P.O. Box 7921
Madison, WI 53707

RE: Proposed Revisions to chs. NR 440 and 446, Wis. Adm. Code, relating to the establishment of provisions for major electric generating units in Wisconsin to comply with the Clean Air Mercury Rule promulgated by the U.S. Environmental Protection Agency (EPA) AM-32-05

Dear Mr. Eckdale:

By this letter, Wisconsin Electric Power Company, doing business as We Energies (“We Energies” or “the company”), is providing comments on the Department of Natural Resources (“Department”) proposal to establish provisions for major electric generating units in Wisconsin to comply with the Clean Air Mercury Rule (CAMR) promulgated by the U.S. Environmental Protection Agency (“U.S.EPA”).

We Energies is the principal utility subsidiary of Wisconsin Energy Corporation. The company is based in Milwaukee, Wisconsin, and serves more than 1.1 million electric customers in Wisconsin and Michigan's Upper Peninsula and more than one million natural gas customers in Wisconsin. The proposed mercury rules will affect We Energies electricity generation facilities and our customers in southeast Wisconsin.

The company estimates it will need to invest in excess of \$1 billion across its fleet to comply with new federal and state air rules related to sulfur dioxide (SO₂), nitrogen oxide (NO_x), and mercury (Hg) emissions. Between the years 2000 and 2012, we plan to reduce SO₂ and NO_x emissions by more than 65% from our coal-fueled power plants. A critical part of our emission reduction plan is to maximize the mercury reductions that occur as co-benefits to investing in and installing controls to reduce SO₂ and NO_x.

We Energies provided comments in December 2005 in response to the Department’s request for public input regarding revisions to the state mercury rule to make it consistent with U.S.EPA’s

CAMR. U.S.EPA published the CAMR on May 5, 2005. The existing state mercury rule obligates the Department to update the rule within 18 months of issuance of a federal emission standard limiting mercury emissions from utilities. That rule update deadline has not been met and we continue to face uncertainty regarding our 2010 CAMR compliance obligation.

The proposed rule is in conflict with state energy policy because it discourages the addition of cleaner new generation, creates a disincentive to retiring old coal plants, and adds costs without accompanying environmental benefits. In addition, the rule contains procedural deficiencies and is incomplete with respect to provisions for treatment of new electricity generation units. We are anxious for the Department to revise the rule consistent with the federal CAMR, as required by both the existing NR 446 Administrative Code provisions (NR 446.029) and according to underlying statutory obligations, Wis. Stat. §§ 285.11(9) and 285.27.

We provide the following comments on the proposed rule:

- Participating in the national cap and trade program is the most cost-effective option for achieving mercury reductions and is aligned with the scope of mercury in the environment:
 - Opting into the national program offers several practical advantages and benefits, including consistency with the Department’s objectives for streamlining its air quality programs and providing administrative savings to the Department;
 - Due to economies of scale, the outcome of allowing emissions trading will result in reductions at the highest emitting units in the state;
 - Banking provisions support technology development, early emission reductions, compliance flexibility, and reduced costs;
 - The federal emission allocations make the most sense because they are well understood and supported by many years of program implementation experience - they avoid unintended consequences;
 - There are still significant gaps in the definition and implementation details of the proposed state allocation methodology, so the federal allocations are the only fully developed provisions available;
 - The state allocation method (lack of a constant unit baseline) penalizes utilities that install SO₂ and NO_x controls to meet the Clean Air Interstate Rule (CAIR) due to the impact of extended outages on continually changing unit baseline calculations;
 - Modification to the federal allocations discourages retirement of old units;
 - The proposed treatment of new units discourages addition of clean new units, and results in higher implementation costs.

- There are several procedural deficiencies associated with the proposed rule, and the rule significantly exceeds the announced rule scope:
 - The Department applies more stringent limits than those set forth under the CAMR without preparing the analysis required under state law;
 - It is not appropriate to include new standards for SO₂, NO_x, and particulate matter in this rule making, i.e., the New Source Performance Standards (NSPS) for fossil fuel electric steam generating units;
 - Additionally, the NSPS standards proposed in the rule are out of date and inconsistent with the current federal standards.

- Mercury-specific control technology is not yet commercially available and a requirement to accelerate the emission reduction levels and compliance dates would require utilities to invest now in controls that are unproven and would result in significant, but potentially unnecessary, cost impacts.
- Based on agency and peer-reviewed science, more aggressive rules in Wisconsin will not result in any measurable environmental benefits and will not reduce the number of fish advisories for Wisconsin's lakes and rivers.
- Characterizations of the “90%” mercury rules in surrounding states are incomplete, misleading, and incorrect:
 - In Minnesota, the 90% requirement applies to a total of just three facilities, and six units out of a total of 27 coal-fired units. The state hasn't yet announced their intentions for developing a state plan to implement the CAMR requirements for the remaining 21 coal-fired units;
 - In Illinois, less than one-half of Illinois electricity is produced by coal-fired power plants. This is significantly less than the 75% coal-fired generation in Wisconsin;
 - Mercury rules are still being developed in Michigan. The Governor's Directive for a 90% mercury rule includes two important provisions – a technology and a cost exception. Neither of these exceptions has been developed yet. Michigan is also proposing to allow intra-state trading among state utilities.

The remainder of this letter will discuss these points and provides additional supporting information.

Under separate cover We Energies is submitting a Response to the “Citizens’ Petition for the Revision and Adoption of Rules to Govern the Release of Mercury Emissions to the Air”. This is a joint submittal of the Wisconsin utilities and seeks to:

- present information about the Wisconsin electricity generating fleet;
- discuss the interaction of the applicable federal air quality regulations and the anticipated emission reductions they will achieve in Wisconsin;
- discuss the status of mercury control technologies, their applicability and costs to Wisconsin's coal-fired power plants;
- provide more information about the status of mercury regulations in surrounding states; and
- provide a summary of the science which supports U.S.EPA's assessment that minimal changes in mercury loading to Wisconsin's environment would likely result from more aggressive mercury regulations in Wisconsin.

We also endorse the findings included in the comments submitted by Atmospheric and Environmental Research, Inc. (AER). This study estimates the contribution of coal-fired power plants to the atmospheric deposition of mercury in Wisconsin. The study confirms the results of AER's earlier environmental assessment work done in conjunction with the development of the existing NR 446 rule. The 2002 study concluded that mercury emissions from coal-fired power

plants located in Wisconsin contribute less than 5% to total mercury deposition over most areas of the state. This is consistent with modeling done by U.S.EPA as part of the development of the CAMR.

Finally, we reference a recent cost study prepared by the Center for Energy and Economic Development (CEED). This study estimates that implementation of the proposed Wisconsin mercury rule would cost the state utilities and ratepayers an additional \$450 million, more than twice the estimated cost of implementing CAMR according to the federal rule provisions. We Energies and the other Wisconsin utilities provided utility-specific electricity system information to assist CEED in preparing the study. The CEED study is being submitted as comment to the proposed rule under separate cover.

State Participation in the National Cap and Trade Program

The national cap and trade program is the most cost effective means of achieving mercury emission reductions.

We Energies views a national cap and trade program as the most cost effective option for achieving mercury reductions. We are supportive of a federal program because it is most closely aligned with the global nature of mercury in the environment. The federal trading program allows maximum flexibility for both encouraging technology innovation and minimizing compliance costs while achieving the mercury reduction goals.

U.S.EPA has extensive experience with cap and trade programs, including 12 years implementation experience with the Acid Rain Program and the more recent NO_x Budget Trading Program. U.S.EPA's Brian McLean, Director, Office of Atmospheric Programs, recently delivered Congressional testimony before the House Committee on Energy and Commerce, Subcommittee on Energy and Air Quality. Following are excerpts from his testimony.

“The Acid Rain Program and the NO_x Budget Trading Program have reduced SO₂ and NO_x emissions faster and at far lower costs than anticipated, yielding wide-ranging health and environmental improvements. The results of these programs show that a combination of emission-reducing mandatory caps, a viable allowance trading market, rigorous emission monitoring and reporting protocols, and clear consequences for noncompliance ensure success. We have learned through our experience that, for certain regional or larger scale air pollution problems, a well-designed cap and trade program is cost-effective, flexible, and easy to implement with clear benefits that can be sustained into the future.¹”

“Some of the demonstrated benefits of cap and trade programs are: certainty that a specific emissions level is achieved and maintained; regulatory certainty for affected sources; compliance flexibility as sources may choose from many alternatives for reducing emissions

¹ Testimony of Brian McLean, Director, Office of Atmospheric Program, Office of Air and Radiation, U.S.EPA, before the Committee on Energy and Commerce, Subcommittee on Energy and Air Quality, United States House of Representatives, March 29, 2007, p. 16.
http://www.epa.gov/airmarkets/presentations/docs/CapTradeTestimony3_29_07.pdf

(including installing pollution control equipment, switching fuel, or buying allowances if that appears to be less costly than abating); and lower permitting and transaction costs. To date, these programs have required fewer administrative resources by both industry and government, allowing government to focus on setting environmental goals and assuring results, rather than on reviewing and approving individual compliance action. Finally, by placing an economic value on reducing emissions, cap and trade rewards innovation and early reductions, and can make further environmental improvements economically feasible.²”

“Overall, the results of the Acid Rain Program have been dramatic — and unprecedented. Compliance has been greater than 99 percent every year. Now, with over a decade of implementation experience, we know that the greatest SO₂ emission reductions were achieved in the highest SO₂-emitting states; acid deposition dramatically decreased over large areas of the eastern United States in the areas where reductions were most critically needed; trading did not cause geographic shifting of emissions or increases in localized pollution; and the human health and environmental benefits were delivered early and broadly. Compliance flexibility and allowance trading (and banking) have reduced compliance costs by more than two-thirds from initial EPA and industry estimates.³”

In January of this year the U.S.EPA Clean Air Markets Division conducted an analysis of the federal CAMR trading program to evaluate the impact of States’ decisions to participate in it. Based on actions announced by the States as of July 2006, approximately 29 States and the two Tribes would participate in the national trading program. EPA’s analysis indicates that about two-thirds of all allowances will be available for trading, and over 700 units representing over 200 GW of capacity are anticipated to have the federal trading program available as a compliance alternative.⁴

Based on this analysis, EPA expects a viable mercury allowance market and considerable efficiency gains under CAMR even though the mercury allowance market is smaller due to less than 100% participation among the states. U.S.EPA notes that the successful allowance market that has developed under the NO_x Budget Trading Program is based on approximately the same number of eligible units. Finally, U.S.EPA’s experience with cap-and-trade programs shows that many of the efficiency gains come from intra-state or intra-company trades.

Opting in to the national cap and trade program offers several practical advantages and benefits.

The success of federal cap and trade programs has already been demonstrated. Opting in the national mercury trading program offers several practical advantages and benefits. First, taking advantage of this alternative is consistent with the Department’s objectives for streamlining its

² Testimony of Brian McLean, p. 3.

³ Ibid, p. 5.

⁴ Discussion Paper - CAMR Market Update, U.S.EPA, January 2007, <http://www.epa.gov/airmarkets/progsregs/camr/docs/CAMRMarketDevelopment.pdf> This report states that a more recent analysis suggests that 33 States and the two Tribes will participate in trading.

air quality programs and regulatory requirements. Participating in the national program offers an administrative savings to the Department, and offers an opportunity to leverage federal resources to administer CAMR. U.S.EPA would administer all of the emissions monitoring, reporting, quantification, and verification processes and associated databases. Starting up a separate and full scale monitoring and reporting program would require a significant investment of Department administrative, technical, and staff resources – all within a compressed timeline. Participating in the federal trading program avoids regulatory duplication and eliminates creating state-only regulations for a national emission reduction program.

The national cap and trade program compels utilities to achieve emission reductions at their largest and highest emitting facilities.

Emission reductions from larger units with the highest mercury emissions will be among the first units to be controlled since the cost per pound of mercury controlled will be the lowest at these units. “Hot spots” will not be created by a cap-and-trade program. U.S.EPA conducted extensive modeling as part of the rule development for CAMR⁵, and they concluded that no areas of in the U.S. will have increased mercury deposition attributable to trading by the utilities:

“...EPA evaluated whether, following CAIR and, furthermore, following CAMR, there would be any utility hotspots, defined as water bodies that are a source of consumable fish with MeHg tissue concentrations attributable solely to utilities greater than the MeHg water quality criterion of 0.3 mg/kg. See 70 FR 16026. EPA’s analysis showed that after implementation of CAIR and, furthermore, after CAMR we do not believe that there will be any utility hotspots. See 70 FR 16027.” (71 FR 33393)

Overall, setting aside the analytical modeling results, concerns about local levels of mercury deposition will be addressed through a cap and trade program since the first reductions to be made by a utility will be at its facilities with the highest mercury emissions. Presumably these would be the locations of greatest concern for local mercury deposition. The units at these locations would be the ones that would be targeted for emission controls since utilities are driven by the need to minimize costs and rate impacts and to reduce emissions across a utility’s system as cost effectively as possible.

Again, based on U.S.EPA’s experience,

“Flexibility under the Acid Rain Program has not adversely affected attainment of national air quality standards. Independent analyses of the program by Resources for the Future,⁶ Environmental Defense,⁷ and the Environmental Law Institute⁸ demonstrate that trading has not

⁵ U.S. EPA provided extensive information about the results of their environmental impact assessment in their response to comments document, May 31, 2006 , http://www.epa.gov/ttn/atw/utility/final_com_resp_053106.pdf

⁶ Carlson, Curtis, Burtraw, Dallas, et. al., “Sulfur Dioxide Control by Electric Utilities: What are the Gains from Trade?” In *Journal of Political Economy*. 2000, vol.108, no.6, pp. 1292-1326.

⁷ “From Obstacle to Opportunity: how acid rain emissions trading is delivering cleaner air.” *Environmental Defense*, 2000.

⁸ Swift, B. “Allowance trading and potential hotspots: good news from the Acid Rain Program.” *Environmental Law Institute Environment Reporter* 31: 954-959, 2000.

created “hotspots,” or increases in localized pollution. In fact, the greatest SO₂ emission reductions were achieved in the highest SO₂-emitting states, acid deposition decreased, and, consistent with projections, the environmental benefits were delivered in the areas where they were most critically needed.”⁹

Banking provisions support technology development, early emission reductions, compliance flexibility, and reduced costs.

Banking of allowances is the single most effective means of providing an incentive for early mercury emission reductions. Banking provides an immediate and tangible value for decreasing emissions below allowable levels earlier than required. Providing sources the ability to save or bank unused allowances for use at a later time in the program provides an added incentive since the associated value is maintained into future years. Furthermore, the proposed rule’s prohibition on banking prevents We Energies from achieving the maximum return on its capital investment in new air quality control equipment, i.e., if over-control is achieved in any single compliance year, then the excess emission reductions have no economic value since they cannot be sold, traded, or banked for future use.

Banking provisions mitigate the risk associated with installing innovative and new technologies into power plant operations. The ability to bank allowances for future use provides compliance planning flexibility, and acts as additional compliance alternative for future year’s technology installations and operation.

Banking provisions have an environmental benefit as well. Since mercury bioaccumulates in the environment, then any associated benefit of removing mercury from the environment occurs sooner, in advance of program compliance requirements. If reducing mercury in the environment is the underlying objective of a rule, then banking provisions are clearly supportive of this goal.

Changes to the federal emission allocations are not supported and do not accomplish any environmental benefits.

We Energies endorses the allocation methodology that U.S.EPA used in the federal rule and urges the Department to adopt it. The allocations proposed by the Department deviate significantly from the federal rule in several ways. There is no explanation, and there are no supporting materials in the rule package that justify deviations from the federal allocations. Just one reference is made in the March 6, 2007 memo from the Department Secretary to the Natural Resources Board regarding the proposed allocation methodology. The statement is made that allocating allowances based on output data instead of the heat input approach used in the federal rule is the same approach used in Chapter NR 432, which implements the Clean Air Interstate Rule (CAIR). We note that a final CAIR rule is still delayed due to controversy over the NR 432 allocation methodology.

⁹ Testimony of Brian McLean, p. 6.

We repeat the same comments that we made on the NR 432 allocation methodology.

Allocation Basis. The proposed rule uses an electrical output versus a heat input basis for allocating allowances to existing units. The actual proposed allocations were made based on a mix of “gross” generation data and “net” generation data. The output based allocation methodology makes winners out of those units whose allocations are based on gross generation data, and losers out of those whose allocations are based on net generation data.

The federal rule’s heat input based allocation methodology is supported by over a decade of regulatory experience consistent with Clean Air Act (CAA) Acid Rain Program’s emissions monitoring requirements. CAA Acid Rain provisions require utilities to measure and report on heat input data. There is no comparable CAA requirement to measure or report on output data, and all utilities in the Acid Rain program currently use the same Part 75 methodology to determine heat input, which provides consistent and accurate monitoring data. These data are the appropriate data to use for emission allocation purposes.

Updating Unit and State Baselines. There is no explanation provided that supports constantly changing both the unit and state allocation baselines. The federal rule sets a unit baseline and retains it. The proposed state rule updates the unit baseline every other year based on the previous two years of gross electric generation. The federal rule sets a state baseline and updates it after five years of a new unit commencing operations, to transition the new unit into the state baseline. The proposed state rule updates the state baseline every year beginning in 2009.¹⁰ Although the purpose of this constantly changing baseline is unclear, it results in a very negative outcome. It penalizes utilities that install SO₂ and NO_x air quality control systems to comply with the CAIR emission reduction requirements. The reason is that the installation of air quality control systems requires multiple extended outages. Extended outages reduce that unit’s annual generation. Reduced generation results in fewer future year mercury allowances being allocated to that unit.

Eliminating Allocations to Retired Units. There is no explanation provided that supports eliminating allocations to retired units. We Energies is in the process of re-powering its Port Washington coal-based generating units to natural gas. Part of the company’s long-term emissions reduction and generation expansion plan is based on receiving allocations for these retired coal units. Eliminating allocations to retired units penalizes those utilities who retire coal units. The rule language is also unclear whether the allowances are no longer allocated just to the retired units, or if they are retired completely and not returned to the main distribution pool. If they are retired completely, then this penalizes the state electricity generation system overall, as well as the individual utilities that have retired the units.

¹⁰ Note that the state rule language is very confusing and we have not yet been able to confirm with Department staff that our rule interpretation is correct.

There is also no explanation provided that supports retirement of unused allowances in the annual new unit set-aside pool. While it appears the new unit set-aside pool will be oversubscribed for some period of time, this is still an unsupported deviation from the federal rule. The federal rule allocates unused new unit set-aside allocations back to the existing units.

New Unit Allocation Methodology. The proposed treatment of new units discourages addition of new units and results in higher implementation and compliance costs. When the new unit set-aside pool is oversubscribed, the only option for an owner or operator of a new unit is to obtain the necessary emission allocations from the remainder of their generation system in Wisconsin. Since both inter- and intra-state trading is prohibited, there is no other mechanism available from which to secure the allowances necessary to support the intended operation of the new unit. This creates a significant restriction for new units, especially for public power and other small utilities, as explained below.

First, being constrained to using their own system as a source of additional emission allowances could be a costly compliance option. Additional allowances could only be made available by making additional reductions beyond those needed for existing units' compliance obligations. By definition, incremental reductions will have high marginal costs. In this case, lower marginal cost emission allowances would be expected to be available in a federal emission market, and compliance costs for these new units would be lower if the state participated in the national trading program.

Second, if the owner/operator of the new unit has no other electricity generation system in Wisconsin, then they will be forced to either add additional controls (beyond the federal NSPS for mercury) – if there are any additional controls available, switch fuels to natural gas, or restrict operations of the new unit. All of these deter the addition of new coal-fired baseload generation.

The state not participating in the federal trading program creates one other operational risk for new units. Under the proposed rule, new units will get notified by the Department of their allowances in June for the current year of operations, so if the new unit set-aside pool is oversubscribed (and it will be), then the affected utility will have very little time to develop and implement an alternate compliance plan. This makes compliance planning for new units very difficult when there is no allowance market available for obtaining allowances as back-up compliance option. This translates into a risk to the new units being assured of having enough allowances to support necessary operations, and once again creates a difficulty and disincentive for adding new generation.

Finally, the rule language in the proposed state rule related to new unit allocations is incomplete, and again inconsistent with the federal rule. The proposed rule does not establish the criteria that the Department will use to determine the amount of allowances for which a new unit is eligible. In addition, the proposed rule includes a restriction that the new unit set-aside allowances can only be used for emissions from the units which requested them. This is contrary to the federal program which does not restrict their

usage. The new unit set-aside provisions make the proposed rule less certain and more stringent than the federal rule.

Procedural Deficiencies in Administrative Rules Procedure and Rule Scope

The Proposed Rule Violates Chapter 285 of the Wisconsin Statutes.

Numerous provisions in the proposed rule are more stringent than the emission standards and limits created by the CAMR. These include, but are not limited to, the bar on inter-state or intra-state emission trading, the sunseting of emission allowances granted to retired units, the absence of provisions for banking mercury reductions, the use of an output-based allocation methodology, and the lack of provisions to redistribute any unused new unit set-aside allocations.

The proposed rule includes these standards in violation of the statutory requirements contained in Wis. Stat. §§ 285.11(9) and 285.27, and without the statutorily required analysis that would justify these more stringent emission standards as required by Wis. Stat. §§ 285.11(9), and 285.27(2)(b). The Department lacks authority to adopt the proposed mercury standards for existing sources, and to adopt the proposed 90% reduction in mercury emissions standards, until it issues the findings required by Wis. Stat. § 285.27(2)(b).

The proposed rule exceeds the announced rule scope.

There is no mention of the inclusion of new NSPS standards for SO₂, NO_x, and particulate matter (PM) in the scope statement for this rule making, the notice of the public hearings, or the greensheet package. However, the rule language proposes to incorporate the new Federal NSPS standards for fossil fuel electric steam generating units into NR 440. This mercury rule is not the place to adopt other, unrelated federal requirements.

Additionally, the NSPS standards proposed in the rule are out of date and inconsistent with the current federal standards. First, the rule includes both output- and input-based PM standards, but does not include language that that would be used to distinguish which standard applies to a new unit. Second, the proposed PM requirements monitoring requirements are not consistent with the changes that U.S.EPA has proposed as part of the rule reconsideration process.

Mercury Emission Control Technology

Mercury-specific control technology is not yet commercially available.

Mercury-specific control technologies that could be used by coal-fired power plants in Wisconsin are still in the development and testing stage. A requirement to accelerate the emission reduction levels and compliance dates would require utilities to invest now in controls that are unproven and would result in significant, but potentially unnecessary, cost impacts.

Wisconsin utilities use sub-bituminous coal to obtain the significant environmental benefits of lower SO₂ emissions. The properties of the sub-bituminous coals present substantial challenges to capturing mercury emissions. Tests have not been conducted on plants with equipment similar to that used by the Wisconsin fleet. What tests have been conducted have been of short duration (days to weeks) and comprehensive vendor guarantees for control performance and/or balance of plant impacts cannot yet be obtained.

Proponents of stricter mercury emission reduction requirements place great weight on the use of activated carbon injection to capture mercury at Wisconsin's coal-fired power plants. However, sorbent injection will ruin the existing Wisconsin program for beneficial use of fly ash, lead to greater use of landfills for fly ash disposal, and forego the significant CO₂ offsets that result from using fly ash in concrete. The environmental loss would be significant -- beneficial use of utility fly ash in concrete reduces energy use, reduces landfill disposal needs, and annually offsets over 500,000 tons of carbon dioxide (CO₂) in Wisconsin. According to WDNR *Beneficial Use of Industrial Byproducts 2000 Usage Summary*, Wisconsin beneficially utilized 1.31 million tons of coal ash in 2000. This translates to avoiding 860 acre-feet of landfill space. Current beneficial utilization rates and avoided landfill areas are likely to be significantly higher than these year 2000 values.

In 2001, the first "full-scale" test of sorbent injection to control power plant mercury emissions at a sub-bituminous coal-fired plant was conducted at We Energies Pleasant Prairie Power Plant.¹¹ This was a collaboration involving U.S. Department of Energy (DOE), U.S.EPA, the Electric Power Research Institute (EPRI) and ADA Environmental Services. A key objective in this demonstration was to determine whether sorbent technology could reduce mercury emissions and allow beneficial fly ash reuse. Results of several week-long tests using different levels of activated carbon injection showed that, depending on the amount of sorbent injected, between 40 and 70 percent of mercury was removed. However, injection of even small amounts of activated carbon contaminated the fly ash and prevented it from being beneficially used in concrete.

We Energies is currently involved in continuing development and demonstration of the sorbent injection technology. We Energies is the exclusive utility sponsor of a five-year, \$53 million DOE research and demonstration project. The company is working with several partners to develop a new mercury control technology, EPRI-patented TOXECON™ technology, at its Presque Isle Power Plant in Marquette, Michigan.

EPRI's TOXECON concept is to place a fabric filter downstream of an existing ESP (either hot-side or cold-side) and to then inject sorbent upstream of the fabric filter to capture mercury. The fly ash captured by the existing ESP is not contaminated by the sorbent and can be beneficially used. The possible TOXECON solution to the fly ash contamination problem is still under development.

One of the other primary objectives of the TOXECON demonstration project is to determine the feasibility of 70 to 90 percent mercury removal from coal-fueled plants using sub-bituminous

¹¹ National Energy Technology Laboratory, United States Dept. of Energy, *Field Test Program to Develop Comprehensive Design, Operating, and Cost Data for Mercury Control Systems* (May 2003).

coal. The demonstration to date, however, has shown that the performance of the equipment at the 90% or above control level has been limited to a maximum run of just 28 continuous days over the 16+ months of testing.

We reference the Utilities' Response to Citizens' Petition for a more complete discussion of the Wisconsin electricity generation fleet, the interaction of the CAIR & CAMR emission standards and control technology implications, and the status of mercury control technologies.

Environmental Impact of Exceeding the Federal Rule

Based on agency and peer-reviewed science, more aggressive rules in Wisconsin will not result in any measurable environmental benefits and will not reduce the number of fish advisories for Wisconsin's lakes and rivers.

Recent advances in our knowledge of atmospheric mercury processes confirm the results of previous studies. The study conducted by AER as part of the previous Department's mercury rule development concluded that mercury emissions from coal-fired power plants located in Wisconsin contribute less than 5% to total mercury deposition over most areas of the state. The results of other modeling studies conducted by federal and regional agencies are consistent with these results.

As part of the development of CAMR, U.S.EPA conducted additional utility mercury modeling.¹² This modeling showed that all coal-fired power plants in the U.S. contributed on average 8.4% to total mercury deposition in Wisconsin. In addition, U.S.EPA calculates that less than 5% of mercury emitted from *all* Wisconsin anthropogenic sources is deposited within Wisconsin.

In January 2002, LADCO released the results of its Midwest mercury study. It estimated that utility sources in Wisconsin contribute one to five percent of the simulated wet deposition as measured at the four Wisconsin Mercury Deposition Network (MDN) monitors.¹³

For more information, we reference the AER submittal confirming the results of their previous modeling of utility source attribution to mercury deposition in Wisconsin. The AER report also presents corroborating modeling results determined through agency and other independent research.

Mercury Rules and Rule Development in Surrounding States

Characterizations of the "90% rules" in the surrounding states of Illinois, Minnesota, and Michigan do not accurately reflect the facts

¹² United States E.P.A., *Regulatory Impact Analysis of the Clean Air Mercury Report*, (ch. 8 EPA-452/R-05-03 2005).

¹³ ICF Consulting, *Application of the REMSAD Modeling System to the Midwest*, Memorandum to LADCO, San Rafael, California (2002).

Characterizations of the “90%” mercury rules in surrounding states are incomplete, misleading, and incorrect. A further investigation of the requirements in our neighboring states reveals that the applicability of the rules and the specific rule provisions are subject to significant caveats. In fact, each of these states takes into account the nature of its electricity generating fleet, fuel type, existing emission controls, and the timing and costs of further reductions.

Illinois

Illinois recently finalized mercury control regulations.¹⁴ The Illinois regulations require a 90% reduction in utility mercury emissions¹⁵ beginning January 1, 2009, with various exceptions that extend the compliance deadline to 2015. It is critical to note that in Illinois, less than one-half of Illinois electricity is produced by coal-fired power plants. This is significantly less than the 75% coal-fired generation in Wisconsin, and has implications for the overall cost of beyond-CAMR mercury regulations to Illinois ratepayers. The lower proportion of affected generation is also a factor in the timeline for compliance with the rule.

The Illinois rule reflects multi-emission compliance alternatives that were developed through individual negotiations with the state’s largest utilities. These alternatives are specifically based on the characteristics of their utility systems, and include compliance extensions intended to allow additional time for control installation on smaller units and to stage installation of emission controls for NO_x and SO₂. The agreements are based on the commitment to achieve deeper levels of NO_x and SO₂ control in exchange for not meeting the performance standard for mercury.

The rule includes other alternatives, including emission averaging across separate emissions units owned by the utility, to achieve the standard subject to some minimum control limits. There is also a “temporary technology control option”. This option recognizes the uncertainty of mercury control technology performance and allows a certain percentage (25%) of generating units to achieve a lesser standard of control than the performance standard.

Minnesota

Minnesota recently enacted the "Mercury Emissions Reduction Act of 2006" (the "Act"¹⁶). The Act is the next step in a comprehensive plan that the state has been following since the 1990s to reduce emissions of mercury from all Minnesota sources. In 2005, Minnesota met a 70% reduction target from 1990 levels of emissions from all Minnesota sources. It was only after this comprehensive effort that Minnesota proceeded to legislation aimed at additional reductions from the state’s largest remaining air sources of mercury (coal units). Importantly, the 90% requirement applies to a total of just three facilities, and six units out of a total of 27 coal-fired units. The state hasn’t yet announced their intentions for developing a state

¹⁴ See Illinois Pollution Control Board Proposed New 35 Ill. Admin. Code 225, Control of Emissions From Large Combustion Sources, Opinion and Order, available at <http://www.ipcb.state.il.us/documents/dsweb/Get/Document-55427/>.

¹⁵ As an alternative to the 90% reduction requirement, the rule allows an emissions standard of 0.008 lb Hg/ GWh.

¹⁶ Minn. Stat. § 216B.68 et seq.

plan to implement the CAMR requirements, which would apply to qualifying facilities as well as the remaining 21 coal-fired units.

The Act allows for supplemental units to provide emission reductions as offsets to the requirements at the qualifying facilities. Of the two affected utilities, one utility is able to apply reductions potentially achieved utilizing an innovative control technology employed at a supplemental unit to offset approximately 20% of the reduction requirement at its qualifying facility. This translates to a net emission reduction requirement of approximately 70% across that utility's total system.

The Act requires the public utilities owning these qualifying facilities to develop and submit a mercury emissions reduction plan for each targeted unit. The emission reduction requirement in the Act is also a function of the emission controls already installed at the qualifying facilities for purposes of reducing SO₂. The mercury reduction capacity of these controls is then reflected in the applicable compliance requirements.

The Minnesota Pollution Control Agency (MPCA) and the Minnesota Public Utilities Commission (MPUC) must review and evaluate the emission reduction plans, considering the environmental and public health benefits, the assessment of technical feasibility, competitiveness of customer rates and cost-effectiveness of the utility's proposal. The MPUC must order the implementation of the mercury emission reduction plans unless they determine the plan fails to provide for increased environmental and public health benefits or would impose excessive costs on the utility's customers. No plans for approval have been submitted yet by the affected utilities.

Finally, the Act also establishes how the additional mercury control costs would be passed on to consumers through electricity rate increases. Mechanisms for immediate recovery of all implementation costs (including recovery for costs associated with construction work in progress), as well as an authorization for performance-based ratemaking to reward facilities for reducing emissions beyond 90%, are included in the Act. According to legislative analyses of the Act, the ratemaking authorization was a critical aspect of its passage.

Michigan

Michigan has proposed but has not yet finalized mercury control regulations.¹⁷ The proposed Michigan rules apply to all coal-fired electric generating units with greater than 25 MW capacity. The proposed rule allows in-state trading among affected sources.

The proposed Michigan rule establishes a declining cap on mercury emissions, consistent with the statewide emission cap issued for Michigan by U.S.EPA in CAMR. The initial cap enters into force on January 1, 2010, with the secondary cap entering into force on January 1, 2015. In addition to the secondary cap, beginning in 2015 all units will be required to comply with a 90%

¹⁷ The rules are being developed as Mich. Admin. Code §§ 336.2501-336.2516.

reduction¹⁸ in mercury emissions on a calendar year basis. Importantly, the Governor's Directive for developing these rules¹⁹ includes two important provisions:

1. Technical Exception: "First, a utility would be given additional time to comply if it installs and operates mercury reduction technology, but upon testing is unable to demonstrate compliance with the required reduction or emission limit."
2. Cost-based Exception: "Second, additional compliance time would be provided if a power plant demonstrates that the annualized incremental cost of mercury reduction technology to go beyond CAMR will exceed a specified percentage of the gross revenue from electric generation for the utility system."

Neither of these exceptions has been developed yet.

In closing, we continue to support implementation of the federal rule according to the provisions included in the federal model trading rule. As described in the Department's Notice of Public Hearing, the rule "option" that fits most closely with our rule comments appears to be "Option 3", although we support the allocation methodology included in the federal rule, not as proposed in the state rule. In addition, we disagree with the provision that requires the Department to adopt rules by June 30, 2010, that would require all coal-fired units affected by the CAMR to reduce their mercury emissions by 90% by January 1, 2020. This requirement exceeds the stringency of the federal rule and is not supported by the necessary findings required under Wis. Stat. § 285.27(2)(b).

This concludes the comments on behalf of We Energies. Thank you for the opportunity to comment. We urge the Department to simply implement the federal program and move ahead in accomplishing the significant emission reductions imposed through application of the statewide emissions cap.

Please contact Kathleen Standen, Manager – Environmental Regulatory at (608) 283-3009 or Terry Coughlin, Manager - Air Quality at (414) 221-2293 if you have any questions regarding our comments.

Sincerely,



Kristine M. Krause, P.E.
Vice President - Environmental

cc: Al Shea, DNR, Administrator, Division of Air and Waste Management
Kevin Kessler, DNR, Bureau Director, Bureau of Air Management

¹⁸ As an alternative to the 90% reduction requirement, the rule allows an emissions standard of 0.008 lb Hg/ GWh.

¹⁹ Michigan Governor's Directive, 4/17/06.