

*Wayne Stroessner - Random Lake*

It would seem unfair to those plants that have already cleaned up their emissions to set their baseline at the present levels. Scientifically, it would appear that laboratory research would be used to determine the amount of mercury emitted from a measured random mix of coal types. (i.e. determine how much mercury is emitted from one ton of selected coal.) This amount would be used as the baseline for all coal-burning plants. This same method could be used for baseline determination for gas plants, oil plants, incineration plants, etc.

*Mark Yeager - ECCOLA*

Averaging annual Hg emissions for 1998-2000 is a fair way to set this baseline (medically a "baseline" is established at the point of optimum conditions prior to contamination). The goal is to actually reduce emissions rather than obtain credit for reductions since 1990. Emission "spikes" in a current year (or years) before compliance (but after promulgation) could result in a misleading baseline and less reductions than intended.

**CITIZEN ADVISORY COMMITTEE RETREAT  
ISSUE B - INTERACTION OF STATE VERSUS FEDERAL REQUIREMENTS**

**What is the relationship between a Wisconsin regulation and pending federal regulations that will require mercury emission reductions from electric utility boilers and industrial boilers?**

**ALTERNATIVES:**

1. Set a reasonable first stage reduction that can be met. Then set a second stage reduction consistent with the federal MACT or federal law.
2. Develop specific rule language that avoids penalty for early action if MACT rules are defined as percent reduction from historic baseline.
3. Clearly state in rules that requirements i.e. cap, offsets do not apply to sources covered by a MACT standard.
4. Instead of having two reviews of the rule at certain dates, have the first review occur immediately after promulgation of MACT standard and the second as currently written in the proposed rule.
5. Include rule language that mandates that the state proposal be consistent and no more stringent than the federal MACT for utilities (applies to any federal MACT).
6. Indefinitely postpone the state rule until the federal programs for mercury emissions are in place.
7. Set the first and second stage reductions conditional on the federal MACT or federal law.

**COMMITTEE DISCUSSION:**

This is a very significant issue for the committee. Most committee members agreed that one of the goals of the proposed rules is to encourage and accomplish early action at the state level in anticipation of federal standards. However, no clear preference arose out of the dialogue. It is clear that there is a shared interest in having timely comparisons of state rules with federal proposals, particularly evaluations of two pending federal MACT standards, industrial and commercial boilers and utility boilers (see Issue C).

However, for some committee members it is important to have specific rule language, as in Alternative 5., that mandates how the rules should change in response to a promulgated federal MACT standard or new federal law. It is clearly the interest of some committee members not to have more stringent state requirements than requirements that would eventually be set in federal regulation or federal law. Taking action before federal requirements is acceptable to some committee members but not at the risk of economic penalty if the action they take goes beyond the eventual federal requirements. Some committee members noted that state rules must provide a means for assuring baseline protection and avoiding penalty for early action.

Other committee members are not in favor of prescriptive language in the rules. Instead they suggest that staff conduct an evaluation focusing on reconciliation of the differences and make recommendations to the Natural Resources Board on appropriate actions including suggested possible revisions to state rules.

**PROVISIONS IN THE PROPOSED RULE:**

No specific provisions in the proposed rules.

## **ADDITIONAL BACKGROUND:**

The Technical Advisory Group is preparing a brief on this issue.

*Jeff Schoepke - WMC*

Wisconsin law, Stat. §285.27(2)(a), provides the following relating to this issue:

If an emission standard for a hazardous air contaminant is promulgated under section 112 of the federal clean air act, the department shall promulgate by rule a similar standard but this standard may not be more restrictive in terms of emission limitations than the federal standard . . .

USEPA is under court order to promulgate utility emission standards (MACT) under section 112 of the federal clean air act. Those regulations will specifically regulate mercury emission from the four "major utilities" that would be subject to the proposed rule, as well as certain other utilities covered as "major stationary sources." The court-ordered deadlines for this rule are as follows:

- Dec. 15, 2003 – Proposed rule
- Dec. 15, 2004 – Final rule
- Dec. 15, 2007 – Compliance Deadline

USEPA is also promulgating industrial boiler MACT under section 112 of the clean air act. Those regulations will specifically regulate mercury emission from the all the industrial sources listed in the draft rule as "major stationary sources" due to mercury emissions from boilers. The current schedule for this rule-making effort is as follows:

- Summer, 2002 – Proposed rule
- Summer, 2003 – Final rule
- Summer, 2006 – Compliance Deadline

## **SUMMARY OF PUBLIC COMMENT:**

*Wisconsin Utilities Association* - We are concerned that the State of Wisconsin has set its sights too high in order to be leader and influence federal mercury rules. The federal government, through the EPA, will be, coming out with rules in 2003 requiring utilities nationwide to cut mercury emissions. Wisconsin utilities will be subject to these regulations. Wisconsin can still be a leader by treating rules that bridge the gap to the pending federal regulations.

*Wisconsin Paper Council* – A national approach to mercury control would avoid the potential for conflicting state and federal regulations. Debate at the federal level needs to be finalized before potentially conflicting state regulations are considered.

*Wisconsin Electric* – The federal MACT process drives stringent mercury controls for utility boilers, with a compliance date of 2007. The proposed state rules are an assurance that some action is being taken by Wisconsin, even if there are delays at the federal level. Recommend moving forward with implementing a reasonable first rule phase, and then condition the second phase of the rule on the outcome of the federal MACT standard. At this point, we see no need for a third phase. The state rules must also provide a means for facilitating a transition to federal standards, including assuring baseline protection and avoiding penalty for early action. Without a predetermined mechanism, sources that make reductions in advance of a federal MACT standard will automatically lower their baseline for applicability of the federal standard, and/or will not

have the opportunity to use early reductions as part of a future compliance margin – which is especially important when implementing new control technologies.

*Alliant Energy* – The rule provisions offer no certainty that Wisconsin utilities will not continue to be subject to more stringent mercury reduction requirements than the rest of the country. The proposed rules should have language that Wisconsin facilities will not be required to control mercury beyond any federal requirements.

*Wisconsin's Environmental Decade* – Wisconsin must send a strong message to other states and the federal government about addressing the largest source of mercury pollution that we have control over and by acting first we can positively influence federal mercury regulations, the result being a “Wisconsin-friendly” regulation.

*Stora Enso* – Concerned that the proposed rules conflict with federal regulations currently being considered for both utility and industrial boilers. There is no advantage for the DNR to move forward ahead of USEPA. A federal rule will provide a more consistent approach to mercury control and will not cause an economic disadvantage for sources located in Wisconsin.

*Wisconsin Manufacturers and Commerce* – Sources covered by federal hazardous air emission standards must be exempt from the state mercury rule. According to state statutes if a source is subject to federal hazardous air emission standard, DNR mercury rules cannot be more stringent. In addition, proceeding ahead of the pending federal programs will be counterproductive, as inconsistencies in the state and federal programs will hamper implementation of mercury emission programs.

#### **COMMITTEE MEMBER INTERESTS:**

##### *Bill Skewes - WUA*

This refers to certification of reductions, but additional language is needed to ensure that Wisconsin utilities are credited for mercury emission reduction achieved prior to enactment of federal rules.

##### *Joe Shefchek- Alliant Energy*

Since federal MACT is mandated it must be promulgated by 2004 with initial compliance by 2007. Federal MACT is a performance standard compared to NR 446 that also includes cap and trade provisions. These are two fundamentally different regulatory approaches that may conflict in defining which emissions sources are subject to each rule and also what technologies are used to reduce mercury emissions. In addition, triggering thresholds and compliance methods (testing, monitoring, record keeping and reporting) may not be the same for NR 446 and federal MACT. Finally, it is not clear whether sources will get credit for early mercury reductions made under NR 446 towards compliance with MACT. Similarly, under federal rules cannot be certified as credits for pollution reduction projects.

Thus reconciliation of the WI Hg rule versus the proposed Federal MACT is not only critical to a successful program, but also legally necessary per Wisconsin law, Stat. §285.27(2)(a), provides the following relating to this issue:

If an emission standard for a hazardous air contaminant is promulgated under section 112 of the federal clean air act, the department shall promulgate by rule a similar standard but this standard may not be more restrictive in terms of emission limitations than the federal standard.

*Marc Looze - WED*

It is crucial that WI move ahead of the federal government in reducing mercury. The Bush Administration has expressed interest in eliminating the MACT process of the Clean Air Act through the "Clear Skies Initiative." Waiting for a MACT standard that may never go into effect ignores the impact that WI's mercury emissions have on our state's and others' waters. A WI rule offers several advantages over simply waiting for a federal MACT standard:

1. The proposed state rule is more comprehensive (i.e. potentially affects more sources).
2. The proposed state rule will result in emissions reduction sooner.
3. The proposed state rule can reflect characteristics of WI's power plants.
4. WI's rule can put additional pressure on EPA to develop a standard that gets us much needed reductions in upwind states, yet it can provide more flexibility in achieving those reductions (e.g. phasing in reductions to give utilities time to gain experience with new technologies).
5. WI's rule can be more flexible in numerous ways (e.g. a variance provision that takes reliability into account, allows fuel switching, etc.).

*Jeff Schoepke - WMC*

State law prescribes the fundamental test for any air toxics regulation – such regulation must be "similar" and "may not be more restrictive in terms of emission limitations than the federal standard." DNR's proposed mercury rule is on a collision course with this state law. For example, an underlying compliance precept of the proposed rule is the trading of mercury emission reductions. In contrast, section 112 of the clean air act prohibits trading. Thus, we know now that DNR rule will not be "similar" to the pending federal rules. In addition, caps are inconsistent and often more "restrictive" than emission rates, which will be approach taken by EPA in its pending MACT standards.

WMC is aware of no sources listed in the proposed rule that are not subject to existing or will be subject to proposed federal mercury regulations. Because of the inevitable inconsistencies between the federal and state programs, the regional nature of mercury emissions, and the likelihood federal rules will better address the mercury problem, WMC believes the state rule must be indefinitely postponed until the federal programs are in place.

*Wayne Stroessner – Random Lake*

Do not wait for Federal MACT rules to determine Wisconsin's mercury clean-up process. In a March 4, 2002, Milwaukee Journal Sentinel article in the Business section, a caption reads: "Pollution control may shift to states - Administration policies seek lesser role for D.C." "The Bush administration...is seeking to shift responsibility for pollution control to local governments and private interests." If that is the case, it should rightfully be the responsibility of Wisconsin's DNR to set the rules (and not wait for MACT) for protecting our citizens and all of our natural resources.

*Mark Yeager - ECCOLA*

Wisconsin taking definitive action toward cleaning up mercury emissions will bring health & environmental benefits to its citizens sooner than Federal requirements. With the Bush/Enron political approach to energy policy & pending court reviews we cannot rely on the promise that the EPA "will" make clear rules, much less promulgated by 2004 or complied with by 2007. Early WI action will help define the market for technology required to meet cleaner emission standards.

*Ed Wilusz – WPC*

The paper primarily references the utility MACT. However, it should be made clear that there are other MACT standards in various stages of development that could come into play. Of most interest to the paper industry are the chemical recovery MACT (already in place) and the industrial boiler MACT (expected to be proposed later this year). However, there are other MACT standards that affect other source types. With regard to the industrial boiler MACT, we anticipate a mercury limit of 3-4 pounds per trillion BTU to be included in the federal proposal. Because of the potential for mercury limits in other MACT standards, Alternative 2 should be amended to apply to any federal MACT, not just the utility MACT.

Also, there are legal issues, such as state requirements relating to the adoption of federal MACT standards and federal requirements relating to the use of trading as a compliance option, that were presented to the CAC and should be reflected in the issue paper.

**CITIZEN ADVISORY COMMITTEE RETREAT  
ISSUE C - PERIODIC RULE EVALUATIONS**

**What should the frequency and content of the rule evaluation reports to the Natural Resources Board be?**

**ALTERNATIVES:**

1. Instead of having two reviews of the rule at certain dates, have reviews occur immediately after proposal of MACT standard or passage of federal legislation on mercury. Subsequent reviews no more than 18 months after the last review.
2. Develop 2-phased rule package that sets phase I rules, but sets conditional phase II rules contingent on the federal utility MACT standard or federal law. Department to evaluate phase II rules once MACT standard is finalized and report back to the Natural Resources Board. Process to include an advisory committee and public comment period.
3. Stay with the evaluation in the proposed rules.
4. Department will provide Natural Resources Board with a status report upon proposal of federal mercury MACT standards with opportunity for public input. Department shall also prepare a review upon promulgation of federal MACT or federal legislation in order to reconcile state and federal requirements. However, status reports should be prepared a minimum of every 2 years notwithstanding this commitment.

**COMMITTEE DISCUSSION:**

Strong support expressed by committee members for Alternative 4. It is recognized that federal rules can change from proposal to promulgation, which favors making specific recommendations to the Natural Resources Board, after federal rules are promulgated.

**PROVISIONS IN THE PROPOSED RULES:**

**NR 446.13 Rule evaluation reports.** Requires the Department to report to the Natural Resources Board at least every 18-months with an evaluation of the feasibility of achieving the reduction requirements in NR 446.06 that considers scientific and technology developments. This report may contain recommendations for rule revisions or other actions.

**ADDITIONAL BACKGROUND:**

The Natural Resources Board requested that the proposed rules have provision for a report to the Board by the end of 2007 that:

- a. Evaluates the mercury reduction requirements in light of electric reliability, scientific and technology developments, and federal regulatory activity, and recommends adjustments to the reduction requirements, if appropriate, and
- b. Assesses the impacts of emissions trading on localized water quality and recommends corrective actions if needed.

At the Natural Resources Board meeting in June 2001 revisions were made to the proposed rules that require a report to the Board on an 18-month basis.

## **SUMMARY OF PUBLIC COMMENT:**

*Wisconsin Utilities Association* – The Department has highlighted the fact that they must report to the DNR Board every 18 months to both examine the feasibility of achieving reductions and assess how well the rule aligns with science and technology developments and other regulatory activity. They justify the extensive rule package based on these mid-course reviews, and apparently, potential rule changes. We instead strongly recommend that the Department set out a reasonable rule package to begin with.

*Alliant Energy* – This section is vague, lacking details on the procedures and criteria for compelling technical evaluations. This section also fails to address monitoring of mercury deposition to assess resultant rule impacts on Wisconsin fish advisory levels.

*Wisconsin's Environmental Decade* – While many utilities have argued that this rule will harm electric reliability the rule evaluates impact at each of the reduction phases.

*Wisconsin Electric* - DNR's proposal to evaluate the impact of federal MACT standards on state requirements and make necessary adjustments does not adequately address the need to reconcile state rules with federal standards. A more definitive approach is to move forward with implementing a reasonable first rule phase, then condition the second phase of the rule on the outcome of the federal MACT standard. This would include an abeyance of the second phase of the state rule if it were inconsistent or more stringent than the federal program. The Department would then report back to the Natural Resources Board following a public comment period, and potential recommendations from a reconvened TAG.

## **COMMITTEE MEMBER INTERESTS:**

### *Wayne Stroessner – Random Lake*

Since the Natural Resources Board requested that the proposed rules require a report on an 18-month basis, it would seem reasonable that they be granted that request. Included in this evaluation should be an analysis of the amount of mercury contamination in fish to determine whether the mercury levels are changing. i.e. randomly select twelve lakes; continue to test fish in these same twelve lakes every 18 months; compare the mercury levels over a twenty-year period. This will provide the Natural Resources Board to make decisions concerning the effectiveness of the program.

### *Mark Yeager - ECCOLA*

Although an 18-month evaluation is reasonable, the Department may want to consider an annual review to assess lake response to reduced Hg emissions. In light of Carl Wattras' report on Little Rock Lake. Fund more & similar projects for a more accurate evaluation.

**CITIZEN ADVISORY COMMITTEE RETREAT  
ISSUE D - AFFECT ON ELECTRIC RELIABILITY**

**Are the variance procedures adequate to safeguard electric reliability?**

**ALTERNATIVES:**

1. Provide variance opportunity for non-major utility sources affected by the mercury rules.
2. Maintain existing rules and variance language.
3. Modify rules so they are "cost-effective, reasonable, and do not interfere with the ability of electric utilities to supply the state's energy needs", and fine-tune existing variance language.
4. Maintain existing rules and expand variance language beyond focus on short-term, one-time occurrences of electric supply emergencies or fuel supply disruptions to include situations where the compliance standards are not feasible or lead to fuel-switching.

**COMMITTEE DISCUSSION:**

Committee members felt that the existing variance language in the proposed rules are confusing and needs clarification. Committee members agreed that it would be appropriate to consider adding provisions in the rules to address short-term compliance issues (e.g. maintenance or compliance margins for new technology) in addition to the current variance provisions. The committee members recognized the work of the Technical Advisory Group on this issue and deferred to their efforts to provide recommendations on short-term compliance issues and as well as adjustments to the existing variance language. Committee members also expressed no objection to the addition of variance provisions for sources other than major utilities (Alternative 1.).

**PROVISIONS IN THE PROPOSED RULES:**

**NR 446.12 Variance for major utilities.** This section outlines the process for a major utility to obtain a variance from the baseline mercury emissions and emissions reduction requirements in the proposed rules. An alternative compliance schedule or alternative reduction requirement may be requested. The Department will consider granting a variance based on a demonstration of economic or technological infeasibility. In addition, there is provision that would allow a variance to be granted if electric reliability is threatened. The Department would consult with the Public Service Commission on any variance request that involves issues of electric reliability. Opportunity for public comments and a public hearing, if requested, are also included.

**ADDITIONAL BACKGROUND:**

The Natural Resources Board in their resolution authorizing development of administrative rules directed the Department to "develop proposed rules that are cost-effective, reasonable, and do not interfere with the ability of electric utilities to supply the state's energy needs."

The Board also directed that the following be incorporated:

A provision that would allow the Department to grant variances, such as deadline extensions and alternative emission limits, if it determines that compliance with the reduction requirements is not technologically feasible, would jeopardize electric

reliability or would cause unreasonable hardship as long as the variance would not result in undue harm to human health or the environment.

The proposed rules include provisions that are similar to the electric reliability variance language in the state acid rain law – Section 285.41, Wis. Stats.

The Technical Advisory Group is developing a brief that addresses this issue.

### **SUMMARY OF PUBLIC COMMENT:**

*Wisconsin Public Service Corporation* – Although the variance provision in the proposed rules provides some relief for extraordinary circumstances, the provisions in the section gives little comfort to a source in the event that the equipment fails to perform as DNR has projected.

*Sierra Club* – The rule currently allows for review and reassessment of the goals by the DNR to increase or decrease the timeline and reductions. If the PSC, at the urging of utilities, decides that meeting the rule requirements is technologically or economically unachievable or will harm electric reliability, they can grant a variance to the company. Review of either of these determinations must have adequate public review and input. PSC requests for input on this rule allowed neither adequate time nor opportunity. We recommend that the DNR, not the PSC, have ultimate control over granting any variance.

*Wisconsin Paper Council* – The rule provides a variance from the reduction requirements for utilities, but it does not include a variance provision for sources subject to the mass cap requirement. A variance should be allowed for mass cap facilities.

*Wisconsin Electric* - The proposed rules allow the Department, in consultation with the PSC, to grant variances to electric utilities under certain electric reliability conditions, fuel supply shortages or other events. While we support the inclusion of selected variance provisions in any rule that will have a major impact on a energy supply, we emphasize that the rules should be drafted and enacted primarily based on what *can* be accomplished rather than preparing for instances in which the rules cannot be met. The Department has suggested that the variance provisions provide an assurance that the rule conditions could be modified if the rules result in unacceptable impacts to energy supply. But this kind of contingency-based rule-making actually creates more uncertainty, and is potentially more expensive to comply with than a rule-making that instead focuses on identifying clearly attainable reductions according to a reasonable implementation schedule. We continue to advocate for a reasonable set of rules, and once these have been identified, request that appropriate variance provisions be included.

*Alliant Energy* –Under NR446.12, the variance language in the proposed rule is impractical, weak and not flexible enough to accommodate potential reliability, technology, or cost issues. The rule's provisions for a variance from reduction requirements are clearly written for short term, one-time occurrences of electric supply emergencies or fuel supply disruptions. It will not be adequate for the more difficult situation where the compliance standards are not feasible or are so expensive that other fuel sources must be used. The only proposed opportunity to modify the requirements due to technology infeasibility or costs offers no direction as to what proof DNR will accept related to technological or cost feasibility issues.

Another concern involves situations where the achieved emissions reductions cannot be maintained due to system failures. For example, if a large natural gas-fired unit or a coal fired unit with mercury controls fails, the system-wide mercury emissions may exceed an emission

limit, and a resulting unit shutdown could jeopardize meeting electric demand. The proposed rule contains language that allows the DNR to waive the standards upon a specific showing by a plant operator. However, this language does not provide adequate assurance of protection from an unanticipated or an after-the-fact determination of an exceedance of mercury emissions standards due to equipment failure. If adequate assurances of immunity from prosecution are not available, then it is possible that operators would shut down facilities immediately rather than risk penalties.

*Wisconsin's Environmental Decade* – The rule contains a variance provision that states that the DNR in consultation with the Public Service Commission, may grant a variance to a utility based on a few reasons, one being potential to harm electric reliability.

*Stora Enso* – The proposed rule contains a variance from reduction requirements for utilities but does not contain a similar provision for sources subject to the mass cap requirement.

*Wisconsin Manufacturers and Commerce* – The reliance on a variance provision to remedy the technical and energy policy deficiencies of the rule is questionable. While variance provisions are needed, their ability to address the defects with this proposal is grossly overstated.

#### **COMMITTEE MEMBER INTERESTS:**

##### *Joe Shefchek – Alliant Energy*

Define rule language more clearly, specifying the criteria necessary to meet eligibility for variance - this includes defining key considerations to determine the maximum degree of emission control that is achievable when considering technical feasibility, energy impacts, net multi-media environmental benefits, economic impacts (capital and operational expense) and other potential costs (i.e., monitoring, maintenance).

Define rule language more clearly, regarding the procedures for variance approvals and required qualifications of person(s) responsible for evaluation/approval of variance requests.

Add rule provisions to address short-term system failures that allow for "on the spot" determinations in the event of eminent and immediate issues jeopardizing system reliability - i.e., such as unexpected unit shutdowns, control equipment malfunctions, monitoring equipment problems, etc.

##### *Annabeth Reitter – Stora Enso*

Important issue to consider in developing the reduction levels and cannot just be limited to the variance issue. Involve PSC in an analysis on the impact of electric reliability, fuel mix and energy cost.

##### *Mark Yeager - ECCOLA*

Studies show willingness to pay between \$ 120 and \$ 200 per year per household for as little as 12% Hg deposition reduction. These dollars go directly to the utilities for new clean-up technology and service reliability.... it does not cost utilities anything in profits therefore should not be a reliability threat. Conservation and efficiency programs have yet to be considered, yet the talk has been of "meeting demand." Let's reduce demand before meeting it.

##### *Marc Looze - WED*

-The claim that this rule will require every coal plant to be shut down and be replaced by a natural gas plant is invalid. Although we support retiring old, inefficient and dirty coal plants (e.g. WEPCO's proposed Pt. Washington conversion) the rule is based on retrofitting existing plants.

-Thanks in part to the phasing of the rule, utilities will have time to familiarize themselves with mercury controls, which should help to address reliability concerns.

-A good historical analogy exists to provide clarification of why WI's Hg rule will not impact reliability. The PSC recently authorized utility plans to retrofit nearly every coal plant in the state

with nitrogen oxide control equipment within a four-year period (before the Supreme Court ruled that Wisconsin did not have to make these pollution control investments) and expressed no concerns about reliability. The risk to electric reliability would have been far greater with NOx retrofits in four years as opposed to mercury retrofits in fifteen years.

*Wayne Stroessner – Random Lake*

Certainly utilities should be encouraging conservation of electrical use and efficiency of appliances and energy use.

Our legislature should set up:

1. Production tax credits (PTC) for wind, solar, geothermal, wave, tides, hydro, and any other type of renewable energy source;
2. Net metering for all renewable energy sources.
3. Tax incentives for designing of daylight in buildings.
4. Continue the "non taxable fixed charge" monthly charge found on our utility bills to provide funds for conservation purposes. This is part of a \$52,000,000.00 annual program called "Wisconsin's Focus on Energy" run by the DOA and is designed for low income families to conserve energy;
5. Special tax incentives for fuel cells using hydrogen in which there is no pollution...only electricity, heat and pure water (see ALTERNATIVES).

Utilities should encourage development of the hydrogen economy in which energy can be produced at home, businesses, commercial and industrial locations as well as hospitals, schools and other public buildings.

Utilities could continue being energy producers by producing pure hydrogen via electrolyzers during their "off-peak" hours (this is most effective for nuclear plants, which can run more efficiently 24 hours per day.)

*Mark Yeager - ECCOLA*

Studies show willingness to pay between \$120 and \$200 per year per household for as little as 12% Hg deposition reduction. These dollars go directly to the utilities for new clean-up technology and service reliability. Scheduling installation must not be made more difficult than major maintenance procedures for a responsible utility. Professionals are aware of peak load times and are capable of managing. Alternative sources (fuel cells, wind, PV) could be considered and some customers will cooperate with scheduled inconvenience in return for cleaner air & water. PSC involvement should be limited to implementing conservation and efficiency programs to reduce demand before mandating meeting "demand." Public input is a must for consideration of a variance.

## **CITIZEN ADVISORY COMMITTEE RETREAT ISSUE E - EMISSION CAPS**

**Should major industrial sources have requirements in the proposed rules that place a cap on their annual mercury emissions?**

### **ALTERNATIVES:**

1. For industrial sources, require energy efficiency improvements in lieu of a cap.
2. Eliminate the rule requirement for major stationary sources and create a provision to allow them to opt-in if they want to create emission reduction credits.
3. Eliminate the requirements for major stationary sources.
4. Maintain existing rules proposal.

### **COMMITTEE DISCUSSION:**

The committee did not reach agreement on the role for industrial sources in the proposed rules. A positive development was interest, shared by many committee members, in an energy efficiency improvement program for industrial combustion sources instead of an emission cap. It was understood that additional discussions are needed to determine what this approach may involve.

Some committee members are doubtful that industrial sources can provide enough emission reduction credits to support the emissions offset requirement for new sources in the proposed rules. Therefore, they believe there is no need to establish baselines and set emission caps on industrial sources. Some committee members don't believe that industrial sources have significant mercury emissions, with a very few exceptions, and therefore regulation under these rules isn't appropriate. These representatives believe that an opt-in approach (Alternative 2.) is all that should be considered in the proposed rules.

Some members of the committee do favor emission caps and feel industrial sources should be regulated in the proposed rules.

### **PROVISIONS IN THE PROPOSED RULES:**

**NR 446.03 Baseline mercury emissions.** This section outlines the requirements for establishing baseline mercury emissions for major electric utilities and major industrial sources. This section also includes the procedures for newly affected sources to establish their baseline mercury emissions. These are sources that become major after the promulgation date of the rules. For major utilities baseline mercury emissions set the level from which reductions are required. The presumptive baseline is the average of annual mercury emissions for 1998, 1999 and 2000. There is an opportunity to request an alternative baseline if the presumptive baseline is felt to be not representative of normal operations. Baseline mercury emissions would become effective 4 years after promulgation of rules.

For the purpose of this rule, a major utility has annual mercury emissions of 100 pounds or more and a major stationary source has annual mercury emissions of 10 pounds or more.

**NR 446.05 Mercury emission offsets.** Requires that new or modified sources with mercury emissions of 10 pounds or more provide emission offsets at a ratio of 1.5 to 1.0 as a requirement

to obtain a permit to construct. This offset requirement would not become effective until 4 years after promulgation.

**NR 446.08 Pollution reduction projects.** This section outlines the procedure for a mercury emission source to create credits for trading. To create emission credits requires a reductions from an established baseline.

**NR 446.09 Registry of certified emission reductions.** Requires the department to maintain a registry of emission credits including availability and use.

**NR 446.10 Compliance alternatives and reporting requirements.** Requires a compliance report for major utilities and major stationary sources annually. If a mercury emission baseline is exceeded a source has until August 1<sup>st</sup> of the following year to true up through the use of emission credits.

**NR 446.11 Annual mercury emissions determination.** Establishes the procedures that must be used to determine annual mercury emissions.

#### **ADDITIONAL BACKGROUND:**

Emission caps for all sources emitting over 10 pounds annually were included in the proposed rules as a way to support a viable trading program. In total this accounts for greater than 90% of reported emissions on the air emission inventory and includes 23 facilities. Only four major utilities, utilities having mercury emissions greater than 100 pounds annually, have a reduction requirement in the proposed rules. In addition to promoting trading, emission caps and offset provisions insure that mercury emissions in Wisconsin do not grow.

The Technical Advisory Group has drafted a brief concerning this issue.

#### **SUMMARY OF PUBLIC COMMENT:**

*Wisconsin Paper Council* – A cap, by itself, would offer no environmental benefit. It would only prevent future increases. A cap unfairly penalizes existing sources as compared to new sources. A cap on mercury emissions from a coal-fired boiler would effectively be a cap on all emissions – and a cap on economic growth. The 10-pound threshold level is arbitrary and effects small emission sources at large industrial facilities. The use of historical emissions to establish a cap may cause compliance problems if future testing shows emissions that are higher. Wisconsin statutes impose restrictions on the ability of the Department to regulate sources subject to a federal MACT standard. Paper industry recovery boilers are subject to a federal MACT standard and should not be subject to the mass cap requirement.

*Stora Enso* – A mercury emission cap placed on sources would essentially be a cap on all emissions and would also be a cap on productivity and economic growth. It is not feasible to control mercury from our coal-fired power boilers and pulp mill chemical recovery furnaces. This would cap production, pulp and paper making, at historic baseline levels.

*Wisconsin Manufacturers and Commerce* – WMC objects to both the emission cap and emission offset requirements proposed for major stationary sources. The emission cap, likely to effect coal-fired industrial boilers, will in effect be a cap on productive capacity and it is also likely that emission offsets will not be available for companies to expand or locate in the state. WMC also

believes that the 10-pound threshold is arbitrary, provides little environmental benefit and should be applied on a unit basis not a facility-wide basis.

*Wisconsin Electric* - Wisconsin Energy does not believe that setting a cap on industrial sources will create a sufficient market to support the proposed offset provisions for new or expanded utility sources. Industrial sources that make operational or physical changes to reduce mercury emissions in order to voluntarily create offsets expose their facilities to the risk of additional state and federal permitting review, and potential additional control requirements.

#### **COMMITTEE MEMBER INTERESTS:**

##### *Jeff Schoepke - WMC*

Regulating facilities emitting as little as 10 pounds per year also produces little, if any, environmental benefits. Assuming an unregulated 10-pound facility's emissions would grow 10 percent in any given year, DNR "captures" all of one pound through its cap. Assuming that 10 percent of those emissions end up in Wisconsin, DNR's regulation of a 10-pound source prevents little more than an ounce of mercury from ending up in the state's environment.

Existing major stationary source will not be able to increase production because of the cap and the likely inability to obtain necessary offsets, particularly those companies that are using coal-fired boilers operating at less than capacity during the baseline years. Given the high demand and tenuous electricity supply in Wisconsin, a utility boiler is likely to be operating at 90 percent or greater of its capacity. However, given current economic circumstances, an industrial boiler, such as that of a paper mill, is more likely to be currently operating at 40 or 50 percent of its design capacity. The cap and lack of offsets will prohibit such companies from increasing their energy output to meet increased production targets in future years. These companies will find it easier to expand out of state than to convert to natural gas.

In addition to limiting their ability to grow, capped sources would face substantial regulatory costs with the regulatory scheme proposed, including burdensome baseline calculations and other administrative burdens. Further, if an industrial facility chooses not to restrict production or if a utility must increase output to serve its customers, they face expensive control or fuel switching costs. There is no justification for imposing these costs on such small sources.

WMC also objects to aggregating all emissions at a facility. For example, a 10-pound facility may have several boilers that together breach the 10-pound threshold. In effect, such a facility with three boilers has a 3.3-pound cap on each boiler. Again, DNR offers no explanation as to why this makes sense. In fact, the petition for this rulemaking by environmental groups argued for a 10-pound per boiler threshold. Whatever threshold level is chosen, WMC requests that DNR consider using a unit versus a facility threshold. This is consistent with other air quality program, as well as the petition.

Because of the concerns noted above, and because the "major stationary sources" listed in the proposed rule are subject to existing or will be subject to proposed federal mercury regulations, WMC believes the state rule should not regulate major stationary sources.

##### *Marc Looze - WED*

An emissions cap, by its very nature, would be beneficial because it prohibits an increase in Hg emissions. However, a cap is the "lowest bar" to set achievement. Other coal burning facilities (e.g. Manitowoc and MG&E's Blount Street) that emit between 10 and 100 pounds of Hg should not be exempted from making reductions.

*Wayne Stroessner – Random Lake*

Emission Caps for utilities should be based upon the number of units of energy produced;  
Emission Caps for other boilers should be based upon the number of BTUs or other units produced;

Emission Caps for incinerators should be based upon the baseline per tonnage burned;

Emission Caps for chlor-alkali plants should be very rigid and subsidies should be used to encourage the paper industry to use "green" paper manufacturing processes;

New or modified sources are already covered in the RULE and might not need revisions.

*Mark Yeager - ECCOLA*

Yes. A cap is necessary to prevent future emission increases. It would also limit an incentive for utilities/industry to increase emissions as a baseline is being established. There is no evidence of limitation of economic growth other than the belief that the WI economy can only be built on industries that are allowed unchecked Hg emissions, e.g. investing in a clean, strong renewable energy industry will also grow the WI economy.

*Ed Wilusz – WPC*

This is an issue where it will be important to include information from the TAG issue brief and to point out the relationship of emission caps to other issues, such as baseline determination, trading, and the lack of variance provision. In particular, it is important that emission reestimates from paper industry boilers be presented (or summarized) and concerns with the viability of a mercury trading program be noted.

**CITIZEN ADVISORY COMMITTEE RETREAT  
ISSUE F – GROWTH IN MERCURY EMISSIONS**

**How should growth in mercury emissions be addressed in the proposed rules?**

**ALTERNATIVES:**

1. To address growth, establish technology-based emission limitations for existing sources as well as new sources.
2. Phase emission offset ratio over time, initially 1.5: 1.0, to a more reasonable ratio of 1.0: 1.0.
3. Instead of emission offsets establish a mercury control technology requirement for new sources and modifications of existing sources with substantial mercury emissions.
4. Eliminate the offset requirement and rely on the rule's emission caps, reduction requirements, and federal MACT standards already applicable to new utility sources.
5. Emission offsets for new sources take effect at rule promulgation.
6. Require mercury emission reductions equal to 150% of the annual mercury emission increase from any new source or modification of an existing source without a lower mercury emission threshold of 10 pounds.
7. Alter emission offset ratio to a more reasonable 1.0:1.0 ratio.
8. Maintain offset provisions in the proposed rules.
9. Require mercury control technology for new sources and modifications of existing sources with substantial mercury emissions only if a finding were made that there would be a benefit from the reductions that would be achieved.

**COMMITTEE DISCUSSION:**

Some committee members oppose new source emission offsets in the proposed rules. These committee members emphasize that the federal program for hazardous air pollutants has technology requirements for major new sources or major modifications (e.g. utility boilers and industrial and commercial boilers) that would result in mercury emission reductions. These committee members are also concerned that the proposed offset provision is a disincentive to replacing older plants and are also concerned that not enough emission credits would be created to meet the stringency of 1.5 to 1.0 offset ratio.

Other committee members supported the proposed emission offset approach for new sources and suggested that it be applied upon rule promulgation instead of 4 years after the rule effective date as currently proposed. Two alternatives were proposed (Alternative 2. and Alternative 7.) to respond to the concern that emission credits availability might be limited.

**PROVISIONS IN THE PROPOSED RULE:**

**NR 446.05 Mercury emission offsets.** Four years after promulgation the proposed rules require new or modified sources that will emit 10 pounds of mercury or more annually to secure emission offsets as a prerequisite to receiving a construction permit. The offset ratio is 1.5 to 1.0.

**ADDITIONAL BACKGROUND:**

When the Natural Resources Board authorized hearings on the proposed rules they also requested that public comment be sought on alternatives to the offset provisions. The following alternatives were offered for comment during public hearings:

- **More Stringent.** Require mercury emission reductions equal to 150% of the annual mercury emission increase from any new source or modification of an existing source without a lower mercury emission threshold of 10 pounds.
- **Latest Available Control Technology.** Instead of emission offsets establish a mercury control technology requirement for new sources and modifications of existing sources with substantial mercury emissions.
- **Latest Available Control Technology with Determination of Environmental Benefits.** Require mercury control technology for new sources and modifications of existing sources with substantial mercury emissions only if a finding were made that there would be a benefit from the reductions that would be achieved.

The Technical Advisory Group is preparing an issue brief on emission credits.

#### **SUMMARY OF PUBLIC COMMENT:**

*Wisconsin Public Service Corporation* – The provision to require offsets for new or modified sources that increase annual mercury emissions of 10 pounds or more is arbitrary and inappropriate. The offset provision has even a greater potential to force utility industry away from constructing new electric generating stations that are powered by coal. The very real potential exists that there will simply not be enough offsets available to permit these new sources.

*Forest County Potawatomi Community* – In order to avoid the potential for new sources to set artificially high baseline levels while avoiding emission offset requirements, it is recommended that the rule require all new sources commencing construction or modification at any time after the effective date of the rule to obtain emission offsets.

*Wisconsin Paper Council* - The Department staff has consistently described the offset procedure as applying to any new source that emits in excess of ten pounds of mercury. However, the language in NR 446.05 could be interpreted to require offsets for any increase in mercury. For example, if a company were required to obtain a construction permit for reasons other than exceeding the 10-pound mercury threshold, sub. (2) could require offsets for any mercury emissions associated with the project. This language should be reviewed closely and amended as necessary.

*Wisconsin Electric* - The current mercury proposal includes an emission cap plus a 1.5 to 1 offset provision for increased emissions from new or modified utility and industrial sources. Wisconsin Electric believes that the two requirements together go far beyond a reasonable state-only program. Programs that include overall emission caps, such as the federal acid rain program under Title IV of the Clean Air Act, do not require offsets. The cap prevents new units from increasing emission burdens over time. In addition, subsequent phases at lower cap levels insure continued environmental improvement over time. Requiring both a cap and offsets is overkill and is not necessary to meet the objectives of a well-designed mercury reduction program. The cap and offset provisions have the potential to limit beneficial modifications of the existing coal units, and prohibit the future development of new coal-fired generation in the state. These provisions will put the state's energy system, as well as business and industry, at a significant competitive disadvantage compared to our neighboring states - without accomplishing clearly defined environmental benefits.

Offsets are simply not necessary for the justifiable scope and timing of a Wisconsin-only mercury program. Any new utility unit is *already* covered by a case-by-case federal MACT standard. This was an important outcome of USEPA's December 2000 regulatory determination for mercury standards applicable to utility boilers. Federal provisions in place right now require the Department to conduct a case-by-case determination of MACT for new or reconstructed coal-fired units. If the Department were to implement the rules as drafted, there would, indeed, be no opportunity for the case-by-case process established in the federal MACT standard.

Wisconsin Electric's existing units by themselves are incapable of producing sufficient offsets for any proposed new advanced coal units given the 90% control requirement applicable to both new and existing units. In order to generate offsets internally, all existing boilers would have to achieve reductions of over 90%, or be retired. It is highly unreasonable to anticipate that a not-yet-proven control technology would be able to achieve greater than 90% mercury removal in order to generate emission offsets. This leaves the future of the planned advanced coal units completely dependent on a brand new, untested offset market. The market availability of "extra" offsets (reductions) produced voluntarily by smaller industrial sources is too small and too uncertain to rely on to support the multi-billion dollar investment in new coal-fired generation.

It is unlikely for an offset market to develop because other portions of the air emissions regulations actually discourage and complicate mercury reduction projects. An industrial process efficiency change that results in reduced mercury emissions may trigger applicability of the federal New Source Review program. Under this program, to generate mercury offsets, a source may actually have to first accept operational limits or install BACT to reduce mercury emissions. Because the emission calculations under NSR would show a net emission increase due to the process change, according to the proposed state offset provisions, the industrial source would additionally be required to obtain emission offsets at a 1.5 to 1 ratio! This example demonstrates how the proposed rule's offset provisions creates significant disincentives and risks for industrial sources to pursue projects and activities to reduce mercury emissions.

*Alliant Energy* - The rule requires that any proposed new or modified source of mercury emissions provide for offsets at a ratio of 1.5 to 1.0. This offset ratio is too high and will not be viable or sustainable. Furthermore, the 10 lb. annual allowable mercury emissions threshold is inconsistent and too restrictive compared to that required under Prevention of Significant Deterioration requirements which is 200 lb.

*Wisconsin Manufacturers and Commerce* - WMC objects to both the emission cap and emission offset requirements proposed for major stationary sources. The emission cap, likely to effect coal-fired industrial boilers, will in effect be a cap on productive capacity and it is also likely that emission offsets will not be available for companies to expand or locate in the state. WMC also believes that the 10-pound threshold is arbitrary, provides little environmental benefit and should be applied on a unit basis not a facility-wide basis.

#### **COMMITTEE MEMBER INTERESTS:**

##### *Joe Shefchek - Alliant Energy*

Complete evaluation to estimate the potential amount future mercury offsets necessary versus the amount of credits that may be available (from pollution controls or mercury-product collection). Assess whether the 1.5:1 offset requirement is feasible and sustainable (i.e., will not result shortages driving up costs).

Add "set aside" provisions to rule (i.e., bank of credits maintained under WDNR or state control versus private entity control) to ensure sufficient credits are available to support new source growth.

Add provisions to rule that allow new sources to apply for a variance in the event there are insufficient emissions credits available, provided that emissions sources are constructed using best available control technologies to reduce mercury emissions.

Revise rule provisions concerning minimum 50 lb. threshold for certifying mercury-containing product reduction projects, thereby increasing availability of credit incentives.

Revise rule provisions concerning minimum 5 lb. threshold for certifying pollution reduction projects, thereby increasing availability of credit incentives.

Revise rule provisions allowing utilities to obtain more than 25% of reductions from mercury-containing products or pollution reduction projects, thereby increasing availability of credit incentives.

Consider the effect that other mercury regulations may have on the pool of available mercury credits (i.e., such as Federal MACT). Reconsider current draft rule provisions that do not allow for certification of credits for emissions reductions required due to other local, state or federal Hg regulations (i.e., mercury reductions are not creditable if required for non-NR446 rules).

Allow sources credit for mercury emissions reductions made before the rule's required baseline years.

*Annabeth Reitter – Stora Enso*

Eliminate the offset reduction requirement. Either new sources are subject to MACT or do a model impact assessment and control to no significant impact taking into account economic and technological feasibility issues.

*Mark Yeager - ECCOLA*

New sources should be held to the strictest/cleanest standards.

*Marc Looze – WED*

Recognizing that virtual elimination of mercury emissions is a future goal, mercury emissions should not be allowed to increase. Utilities should move away from pulverized coal; there are substantially cleaner fossil-based power plant configurations for supplying Wisconsin's energy needs such as coal gasification or natural gas.

*Ed Wilusz – WPC*

It is important that this issue (offsets for new or expanded sources) be related to concerns about the viability of a mercury trading program.

**CITIZEN ADVISORY COMMITTEE RETREAT  
ISSUE G – MERCURY REDUCTION REQUIREMENTS**

**The schedule and stringency of mercury emission reductions required of the four major electric utilities.**

**ALTERNATIVES:**

1. Instead of a percent reduction requirement, the first phase requires major utilities to achieve mercury emission reductions by installing control technology on a significant unit in their system.
2. Require a two-step reduction schedule, 25% by 2006 and 90% by 2010. If trading is allowed, require 90% mercury reductions by 2008. Expand reduction requirement to include all utilities and government owned boilers with more than 10 pounds of mercury emissions in one year including chlor-alkali plants, medical waste incinerators, municipal waste incinerators and other significant sources. Include a provision for the virtual elimination of mercury 20 years after rule promulgation.
3. Include provision for a multi-pollutant reduction alternative that would allow a major utility the opportunity to propose a multi-pollutant reduction program instead of achieving the mercury reduction requirements in the rules. Mercury reductions would still need to be an element of the proposal, which would also require a commitment to provide other environmental benefits beyond existing laws and rules. The proposal would also need to include a schedule to accomplish the alternative program. The alternative program would be subject to a public hearing.
4. Provide an advanced technology option in lieu of a percent reduction requirement.
5. Require a two-step reduction schedule, 10% by 2007 and 40% by 2012.
6. Proceed with the proposed rules.
7. Implement a voluntary program.

**COMMITTEE DISCUSSION:**

No agreement was reached on a schedule and amount of mercury emission reductions for major utilities in the proposed rules. Certain committee members were firm in their support for a two-step reduction schedule (Alternative 5.) of 10% and 40% mercury emission reduction with a multi-pollutant reduction alternative. Other committee members were adamant about the proposed rules achieving a 90% mercury emission reduction from the major utilities (Alternative 2.).

Alternative 1. was discussed extensively at the retreat. It was offered as a way of addressing some of the anticipated conflicts that the pending utility MACT standard or a federal multi-pollutant law might pose if the first phase of the rules remained as a percent reduction requirement. It was also described as a way to encourage and allow technology testing and development. Some committee members indicated that the concept had merit, but viewed it more as a compliance option, or supplemental option. Some committee members indicated they might now support this approach if it required permanent installation of the control that was being developed since the testing could reveal that the technology didn't perform as anticipated, had undesirable plant impacts, or was more expensive than anticipated.

**PROVISIONS IN THE PROPOSED RULES:**

**NR 446.06 Mercury reduction requirements for major utilities.** Requires reduction of mercury emissions from an established baseline in three steps over a fifteen-year period. The reductions are at five-year intervals and don't commence until five years after promulgation. The first step requires a 30% reduction, the second reduction in ten years is 50% and the final reduction required is 90%.

#### **ADDITIONAL BACKGROUND:**

The Natural Resources Board requested that the proposed rules should include the percentage reductions and a phased schedule for achieving the reductions and a methodology for determining baseline emission levels. In addition, when the Natural Resources Board authorized hearings on the proposed rules they also requested that public comment be sought on alternatives to the amount and schedule of mercury reductions. The following alternatives were offered for comment during public hearings:

1. Require a two-step reduction schedule, 25% by 2006 and 90% by 2010. If trading is allowed, require 90% mercury reductions by 2008.
2. Expand reduction requirement to include all utilities and government owned boilers with more than 10 pounds of mercury emissions in one year including chlor-alkali plants, medical waste incinerators, municipal waste incinerators and other significant sources.
3. Include a provision for the virtual elimination of mercury 20 years after rule promulgation.
4. Require a two-step reduction schedule, 10% by 2007 and 40% by 2012.
5. Allow for a multi-pollutant reduction alternative that would allow a major utility the opportunity to propose a multi-pollutant reduction program instead of achieving the mercury reduction requirements in the rules. Mercury reductions would still need to be an element of the proposal, which would also require a commitment to provide other environmental benefits beyond existing laws and rules. The proposal would also need to include a schedule to accomplish the alternative program. The alternative program would be subject to a public hearing.
6. Do not have a regulatory program. Implement a voluntary program.

The Technical Advisory Group is working to complete four briefs that relate to this issue. This includes:

- Control Technologies and Options
- Activated Carbon Injection
- Multi-pollutant Control Option
- Control Summary

#### **SUMMARY OF PUBLIC COMMENT:**

*Wisconsin Utilities Association* - We think it's a good idea to reduce the level of mercury in the environment and we are willing, as an industry, to support reasonable state rules for reducing mercury from coal-fired electric generating plants. We support rules that bridge the gap before federal mercury rules are proposed. We support Wisconsin being a leader in taking actions that

will result in environmental improvement. We don't support the proposed rule package. We support reducing mercury emissions and that's why the WUA members and Dairyland Power Cooperative (DPC) stated a commitment to work with the Department in developing state rules, and last December proposed cutting mercury emissions by 10 and 40% over the next 10 years.

*City of Manitowoc* - The 30, 50, 90% mercury emissions reduction rule employed over a course of 15 years would severely hamper the growth of the State of Wisconsin and the quality of life for our people. Such a rule could well force the shut-down of existing solid-fuel plants as well as make utility developers think twice about building new generation in our state. Public and private utilities have banded together to work with the DNR regarding this matter and have come up with a voluntary solution to at least a portion of the mercury emissions problem. The City of Manitowoc and the Manitowoc Public Utilities support a workable mercury program that would employ a two (2) step reduction process resulting in a 10% reduction over 5 years and a 40% reduction over 10 years. I believe that the voluntary reduction program would be good for the State of Wisconsin as we await the federal regulations on mercury emissions that are to be proposed by the US EPA in 2003 with final rules coming in 2004.

*Sierra Club* - The department must maintain an aggressive approach to reductions. It is reasonable to put the ultimate goal at 90% reduction by 2010, with interim goals and review along the way.

*Forest County Potawatomi Community* - The FCPC believes that the DNR should identify sources that are likely to have a more localized impact (e.g., non-combustion sources generating large particulate emissions) and develop appropriate requirements and emission standards for such sources. FCPC suggests that these sources be required to conduct appropriate air deposition modeling and demonstrate that their mercury emissions will not adversely impact the local environment. Furthermore, in addition to the ambient air concentration limits, the DNR should consider establishing a limit on the amount of mercury deposition that may occur within a specified distance of such sources.

FCPC also believes that the rule should require all new or modified sources shown to have a localized impact to obtain emission offset credits from the locally impacted area around the source. This would ensure that there is no net increase in mercury deposition in these locally impacted areas. If sufficient offset credits from the affected area are not available then the source should be required to obtain offsets at a greater ratio (e.g., 2 to 1 or 3 to 1).

*Wisconsin Electric Cooperative Association* - The proposed NR 446 is one of the most expensive, least effective, and least science-based rules ever promulgated by the Department of Natural Resources. It is terribly expensive, and will not significantly reduce mercury in the environment. The Natural Resources Board should reject this rule.

*Wisconsin Paper Council* - While we would all like to reduce mercury fish advisories, it appears that there is little that Wisconsin, acting alone, can do to accomplish this goal. We urge the DNR to defer action on NR 446 and to work closely with EPA and other federal officials to develop a national approach that will be more environmentally beneficial, will avoid potentially conflicting regulations, and will hopefully be less costly than independent state action.

We are willing to work with the Department to help develop a voluntary reduction strategy that will improve the quality of Wisconsin's waters, while avoiding the problems that we have identified.

*Citizens' Utility Board* - The Citizens' Utility Board (CUB) registers its support for proposed AM-27-01, a rule to regulate air borne mercury emissions from fossil fuel powered electric generating facilities in Wisconsin.

CUB recognizes the potential for adverse rate impacts as a result of this rule. However, given the severity of the adverse consequences to the general population as a result of exposure to air borne mercury pollution, we strongly support the proposed rule, which establishes a phased approach to reduce mercury emissions by 90% over current levels within fifteen years. We believe that to do anything less would constitute an irresponsible approach to protecting human health and the environment.

*Wisconsin Electric* - supports one or more of the alternatives that were appended to the proposed rule package after the NRB authorized the Department to move forward with public hearings and comment period. We support a mandatory program which would require 10 and 40% reductions from utility sources over five and ten years, respectively. This program would not require emission offsets for new or modified sources, but would instead feature a case-by-case mercury control requirement. The 10 and 40% reduction levels would constitute the base program. Additionally, a source could opt out of these reduction requirements in exchange for developing and reaching a binding agreement with the Department on a multi-emission program alternative. Mercury reductions would need to be an element of the multi-emission agreement.

Wisconsin Electric opposes the rule package as drafted for four main reasons:

1. The controls and cost basis for the rules is incomplete and contains significant errors and omissions.
2. An effort to model and/or quantify the environmental benefit of the proposed rules, or an approximation of environmental impact, is absent from the supporting record.
3. The timing and level of reduction requirements will jeopardize our ability to develop an integrated, multi-emission plan. As a result, our Wisconsin system will not be optimized for either emission reductions or control equipment capital expenditures.
4. The strategy for promoting and leveraging the rules to support a state leadership position is undefined, and the mechanisms to assure that early state reductions are applied to the pending federal mercury control standard for utility sources are also undefined.

The proposed mercury rule does not expressly contain as a compliance option an alternative multi-emission reduction plan. An integrated multiple emissions approach considers the interrelationships and co-benefits of combining various control technologies to achieve optimum reductions of NO<sub>x</sub>, SO<sub>2</sub> and mercury, without creating other negative environmental impacts, such as a need to landfill fly ash. Additionally, the 30% utility system reduction requirement contained in the first phase of the rule would preclude development of such plan for Wisconsin Electric because it would drive restrictive technology decisions and require ash to be landfilled rather than beneficially re-used.

The proposed rules assume a single technology path. The rules are based on progressively installing sorbent injection on each utility boiler in the state. Instead, the rules should encourage the development of mercury-reduction technology. A phased approach that sets an initial reduction level based on the co-benefits of anticipated control technologies for other pollutants, followed by a more stringent level is a more reasonable alternative and fits within the desire to

encourage technology development without negatively impacting state energy supply. We agree that the proposed averaging and trading provisions are critical during both stages because of the impossibility of achieving a uniform level of control at all plants.

Wisconsin Electric has serious concerns about ash contamination resulting from installation of mercury controls. Minimizing, and even reversing, the magnitude of ash landfills is a primary environmental goal for the company. However, at this stage of mercury controls development there are many unanswered questions about ash impacts. Technologies that rely on the flue gas injection of carbon-based sorbent for mercury capture are expected to severely impact fly ash markets and also increase the need for new landfills.

*Alliant Energy* - The reasonable solution to reducing mercury emissions in Wisconsin is beginning with a feasible and realistic first step. We continue to strongly support the recommended alternative of 10 percent and 40 percent reductions in five and ten years respectively, which would then be followed by alignment with the upcoming federal legislation. This approach is a good compromise for all stakeholders involved, allowing mercury emission reductions to be addressed most equitably as a regional and national issue.

*Wisconsin's Environmental Decade* - The DNR proposed rule requires utilities to reduce their emissions 90% in 15 years, which means by the year 2017 (as opposed to 2015). Federal, bipartisan bills are calling for 90% mercury reductions from power plants by 2007. At each of the reduction phases, there is an evaluation period, giving the DNR and utilities ample opportunity to adjust the reduction schedule if needed. The timeline for making 90% reductions should be amended to 2010. The flexibility in compliance options makes this reasonable.

*Stora Enso* - SENA shares the DNR's and the public's concerns about increasing mercury levels in Wisconsin's waters. However SENA is very concerned that NR 446 as proposed has the potential to have a huge impact on the economic growth and development in Wisconsin with little if any environmental benefit. The proposed rule has the potential to significantly impact SENA's Wisconsin facilities both directly and indirectly. The proposed rule will directly impact our power boilers and chemical recovery furnaces and the setting of a mass cap limits has the potential to cap our pulp and papermaking processes and prevent economic growth and development. The proposed rule will indirectly impact our facilities through higher purchased power costs. As a result of these direct and indirect impacts, SENA's Wisconsin facilities may not be able to remain competitive in a global marketplace. Wisconsin should allow the Federal mercury rulemaking efforts to take 'shape" before moving forward and establishing a Wisconsin-only regulation.

*Wisconsin Manufacturers and Commerce* – WMC supports the voluntary program option in the rule package sent to public hearing. WMC recommends that such a program be based on the program run by the State of Minnesota and the Minnesota Pollution Control agency. The combination of court-ordered federal regulations in the pipeline and a problem we cannot fix on our own requires a measured policy approach. Such an approach would take advantage of what we know we can do voluntarily without threatening electric reliability or increasing electric rate by billions of dollars.

#### **COMMITTEE MEMBER INTERESTS:**

*Joe Shefchek – Alliant Energy*

Revise to WUA proposal of 10% reduction in 5 years and 40% reduction in 10 years.

Add a provision that will allow for alignment with Federal MACT and multi-pollutant regulations.

Conduct review of variables affecting time to implement rule (i.e., outage schedules, PSC approvals, joint ownership consideration, design and equipment availability, etc..)

Develop an option in the rule that allows for multi-pollutant controls, considering what the potential total emissions reductions would be versus a Hg-only approach.

Revise language for "rule evaluation reports" to include periodic consideration of federal multi-pollutant bills or regulations to determine interaction with WI mercury rule in order to address rule compatibility.

The exact impact of mercury controls on other air pollutant emissions (such as NO<sub>x</sub>, SO<sub>2</sub> and PM) is not well understood and currently the subject of several studies because there are no commercially proven technologies in operation. Carbon injection could potentially result in increased emissions of particulate. Fuel switching could reduce mercury but increase/change emission of other air pollutants. Construction permits for emissions changes resulting from NR 446 are not exempt and the timeframe necessary to complete permitting approval could be triggered). Alternatively, future controls for NO<sub>x</sub> and SO<sub>2</sub> could impact mercury speciation ultimately affecting selection of the type of mercury control technology, possible stranding costs if what is initially installed for NR 446 becomes less significant (especially if PSD/NSR or dispersion modeling is effective. Consideration of a multi-emission approach is critical for long-term planning regarding capital investments and shutdowns for construction to ensure energy reliability.

*Annabeth Reitter – Stora Enso*

Develop technical and economic basis for establishing controls and reduction levels to include electric rate impacts and environmental benefits analysis. Reduction requirements need to be consistent with Federal requirements.

*Mark Yeager - ECCOLA*

Instead of revising the rule to a more relaxed reduction level, write it for the best (cleanest) that new technology can implement. Committing to the highest standard earliest is also the most cost-effective for utilities to implement. Rather than conduct a review of variables, eliminate redundancy such as PSC involvement; (i.e., PSC having prejudiced themselves by defining their opinion before public hearings were concluded)

NR 446 should deal only with mercury. Much work could be done to clean up other pollutants with other rules yet to be revised.

*Bill Skewes - WUA*

(Issue No. 25 Relationship between early retirement and meeting rule provisions.) This refers to certification of reductions, but additional language is needed to ensure that Wisconsin utilities are credited for mercury emission reduction achieved prior to enactment of federal rules.

*Marc Looze - WED*

-Reduction requirements should be based on what is needed to protect public health; some physicians believe that there is no safe level of mercury in the environment.

-Many industries have reduced or eliminated their use of mercury.

-Since cleaner technologies for producing power are readily available, either in the form of new power plants or control technology retrofits; strong reductions should be mandated. The notion that utilities should only be required to reduce mercury emissions by 40% in 2012 is ludicrous. Technology exists today that could meet or exceed that reduction requirement. The 90% reduction does not go into effect until 2017 at the earliest, giving technology vendors and utilities

many years to develop the most cost-effective mercury control for existing coal plants or to develop plans to build new and cleaner generation.

-WEPCO field tests and projections show that PAC + a fabric filter can achieve high reduction levels with little to no adverse impact on ash and to reflect federal bills, the timeline for reduction should be 2010. Federal bills, that include no trading, would mandate a Hg reduction of 90% well before 2010. In light of these issues, the 90% reduction timeline for WI should be 2010.

-The inclusion of a trading program in WI's rule only further emphasizes the need to stick with a 90% reduction requirement. With trading, utilities will likely never have make 90% reductions from their fleet of plants.

We would entertain a four pollutant compliance alternative (NOx, SO2, Hg, CO2) depending on the levels of reductions for each pollutant.

*Ed Wilusz – WPC*

We understand the cost impacts are among the issues that will be discussed, but for which no issue paper will be prepared. Even though there will be no issue paper prepared, compliance cost is an identified issue and this issue paper should include a discussion about how the reduction requirements relate to costs. We ask that this discussion include potential impacts on industrial energy users (see our public comments relating to cost impacts on the paper industry).

## **CITIZEN ADVISORY COMMITTEE RETREAT ISSUE H - TRADING**

**Should compliance with the proposed mercury rules include provision for emission reduction credits created from mercury product collection projects or pollution reduction projects?**

### **ALTERNATIVES:**

1. Eliminate small source trading (mercury product collection) provision; leave large source trading provision as is. Give credit to sources that made reductions after the baseline years but before rule promulgation.
2. Over the life of the rule phase out the trading program.
3. Do not include mercury containing product reduction program and limit the ability to meet emission reduction requirements by obtaining certified emission reductions from others to 20%.
4. Create an initial pool of emission reduction credits at rule start-up.
5. Eliminate trading provision entirely.
6. Proceed with the trading provisions as outlined in the proposed rules.
7. Limit use of emission credits to an approved variance to a mercury reduction requirement.
8. Do not set limits on the use of certified emission reduction credits.

### **COMMITTEE DISCUSSION:**

The committee is not in agreement that trading of emission credits should be an option in the proposed rules. Some committee members would very reluctantly accept emission credit trading, with restrictions (Alternatives 2., 3., and 7.). Other committee members believe that the compliance flexibility provided by an emission credit trading option is important and that trading is a necessary component of the proposed rules particularly because mercury controls are in the early stages of development. The emission credit provision is also viewed as a way to encourage mercury emission reductions from non-utility sources. For many committee members the specifics of a trading program are dependent upon how other parts of the proposed rules are finalized.

There was some support for Alternative 4. if the mercury product collection program was eliminated and the period of time that emission credits could be claimed was extended. Currently the proposed rules will only consider emission credits for actions that occur after the rule promulgation date. Under this addition to Alternative 4., the period of time to consider reductions would extend back to the baseline years. This combination of Alternatives 1. and 4. was viewed as a way to improve the viability of the emission credit provisions in the proposed rules.

### **PROVISIONS IN THE PROPOSED RULE:**

**NR 446.10 Compliance alternatives and reporting requirements.** Allows a major utility to use certified emission reductions to achieve up to 50% of a mercury reduction requirement. This is further limited by only allowing up to 25% of the reduction requirement from a mercury product collection project and up to 25% of the reduction requirement from a pollution reduction project.

Major stationary sources may also use certified emission reductions to maintain compliance with a baseline mercury emission limit. There is no restriction on the amount of certified emission reduction credits that can be used by a major stationary source to achieve compliance.

A major utility or major stationary source has until August 1<sup>st</sup> to achieve compliance with a previous year's requirement.

**NR 446.07 Mercury-containing products reduction projects.** Projects that collect 50 pounds or more annually can be considered. Only a portion of the collected mercury will be certified as an emission reduction. Studies in Minnesota indicate that a good collection program may prevent 10% of the collected material from becoming an air emission.

**NR 446.08 Pollution reduction projects.** Projects that result in mercury emission reductions beyond what is required in local, state or federal requirements may be eligible to become certified emission reduction credits that can be used to meet requirements in the proposed rules. These provisions allow the department to consider

**NR 446.09 Registry of certified emission reductions.** This is a registry that would record activity related to certified emission reductions including the availability and use of credits. The department would be responsible for maintaining and updating this registry.

#### **ADDITIONAL BACKGROUND:**

The Natural Resources Board requested that the proposed rules have provision for an emission trading and banking system as well as providing alternative compliance options, such as projects that achieve mercury emission reductions from sources not covered in the rules.

The Technical Advisory Group is preparing a brief on emission credits that relates to this issue.

#### **SUMMARY OF PUBLIC COMMENT:**

*Wisconsin Public Service Corporation* – The mercury-containing products reduction projects section appears to have been written to discourage rather than encourage any programs to remove mercury. It limits projects to those that remove 50 lb. or greater annually, it penalizes those who have embarked on effective mercury removal projects in the past and it requests information that contain estimates whereupon the Department apparently will exercise its judgment on how to determine what credit these programs will yield. This section should be developed with the intent of encouraging mercury removal and recognizing efforts that are ongoing and have occurred at least since the baseline years.

*Sierra Club* – Trading needs to be severely restricted or not allowed. A trading program allows a facility to reduce their pollution on paper but not from their smokestacks. Toxic hotspots, where more mercury pollution can occur, threaten the health of local residents and the environment.

*Wisconsin Paper Council* - We have several questions regarding the proposed mercury reduction registry. The sizes of mercury reductions that can be registered appear to be limited by NR 446.07 relating to mercury-containing product reduction projects and NR 446.08 relating to pollution reduction projects. It appears that industrial source mercury reduction efforts would fall under the definition of pollution reduction projects. These projects are subject to a five-pound minimum mercury reduction. Our mercury re-estimates identified several paper industry sources

that are less than five pounds. We are not aware of any technical basis for the five-pound threshold. We recommend that this threshold be lowered to one pound.

The only pollution reduction projects that may be registered are those that begin after the effective date of the rule. This would prevent Appleton Coated from registering a very significant mercury reduction that occurred after the baseline period, but before the effective date of the rule. Companies should be allowed to register pollution reduction projects that have occurred any time after the baseline period.

*Wisconsin Electric* - Supports alternative compliance mechanisms including trading and other market-based mechanisms (including credits for early reduction) that allow affected sources to achieve reductions cost-effectively. Averaging and trading provisions are critical components of a phased reduction program because of the impossibility of achieving a uniform level of control at all plants.

The proposed rule allows for the creation of Certified Emission Reduction Credits. We agree with the provision and support it on the basis that there may be more cost-effective means to reduce mercury in the environment. These credits would also be likely to be viewed and utilized by affected sources as a contingency for compliance assurance.

The development of a separate Certified Emission Reduction Registry is, however, regulatory duplication. The Department has already received authority to create an emission registry in NR437 under authority granted by §285.78, which was enacted in 2000. There also appears to be a three year lag between mercury rule promulgation and establishment of the proposed Certified Emission Registry (see NR446.09). The need for this delay is unclear given the availability of NR437.

Wisconsin Electric has been an active participant in the Advisory Committee convened to develop rules that define the structure and implementation of the NR437 emission registry. We have advocated that this registry be used to encourage and track emission reductions for subsequent application in DNR regulatory programs. The mechanism for the mercury emission registry proposed in this rules is already under development, and is scheduled for completion in 2002. Developing a separate registry in NR446 is therefore unnecessary and duplicative.

Finally, provisions have been drafted in that establish expected mercury reductions from mercury containing product reduction projects. However, the provisions specify that application for certified mercury reductions would not be accepted by the Department until three years after the mercury rules are enacted. It is inconsistent that the proposed rule places so much emphasis on early action, and on the state taking a leadership role in reducing mercury, but then restricts sources from applying for authorized reductions for three years. The Department should accept application for certified emission reductions concurrent with rule promulgation.

*Alliant Energy* - The mercury containing products reduction projects provision should be changed to allow credit for any reduction in multi-media mercury releases in order to provide incentive to undertake these efforts. This program should also include the ability to take credit for voluntary releases that have already occurred as opposed to once the rules become effective. This is a very limited option given that many local counties have already undertaken extensive voluntary mercury-reduction projects. The 50 lb. threshold to qualify projects is too high, further severely limiting this as a meaningful alternative and should be revised to 0.5 lb. which would be consistent with the level at which mercury is tracked for federal Toxic Release Reporting requirements. Finally, the DNR's evaluation of costs fails to recognize the significant time and effort involved in completing this type of project and the magnitude of collection that will be necessary to obtain any substantive credits.

Pollution reduction projects should also be expanded to include multi-media projects with a lower minimum threshold of 0.5 lb., instead of 5.0 lb. There are too many restrictions regarding the registration and use of credits from pollution reduction projects

The rules should have provisions in-place to ensure that a registry is available as soon as possible so that voluntary reductions can be recorded. The rules also will need to clarify the role of the NR446 registry and the voluntary registry that is currently proposed under NR437 and should also clarify the procedures for ensuring the registry is current - especially during the March-August reconciliation period. As done for other state-level emissions trading programs, it is imperative that this section includes provisions for a "set-aside" which would maintain sufficient reduction credits to cover future industrial growth needs or prevent shutdown of a plant solely as a result of achieving compliance with this regulation. Similarly, with the very low quantities of available mercury reductions anticipated to be available, this could lead to an extremely tight market and this rule has no mechanisms to prevent price gouging by credit-holders.

*Wisconsin's Environmental Decade* - Under the DNR's guidelines, utilities are allowed to get 25% of total mercury reductions through mercury containing products reduction projects. Although DNR staff has anecdotally mentioned that ten pounds of mercury collected (from a thermometer take-back program, for example) would equal one pound of smokestack emissions, comparing mercury-containing products to direct emissions into the air is similar to comparing apples and oranges. The potential for smokestack emissions to reach surface waters is remarkably higher.

While we strongly support the removal of mercury containing products from the home and the marketplace, we are concerned that this provision may have a negative effect on the overall reduction of utility mercury pollution. If this aspect of the rule remains unchanged, it further illustrates the ease with which utilities can comply with the rule.

As with the small source provision, the rule allows utilities to get 25% of their total reductions by trading with other large sources. The most obvious benefit of this aspect of the rule is the elimination of mercury emissions from the Vulcan plant in Port Edwards. However, this provides both another opportunity to pass the mercury reduction buck to other industries and exemplifies the flexibility of compliance options. Adding the small and large source trading provisions, it is likely that utilities may have to achieve much less than 90% reductions from their coal-burning power plants. A scenario such as this is unacceptable; coal plants remain the largest source of mercury and the only source that is completely unregulated. Because of this, trading needs to be severely restricted or not allowed.

#### *Ed Wilusz - WPC*

We request that this paper include a discussion on the viability of a Wisconsin-only trading program. We have serious concerns about the viability of such a program. In particular, a viable trading program requires a sufficient number of buyers and sellers. It is highly unlikely that this will occur in Wisconsin. Most likely, there will be one large seller of mercury emission credits and perhaps a few additional sellers of small amounts of credits. The potential number of buyers is unclear, but will be limited in two ways. First, section 112 does not allow the use of trading to comply with federal MACT standards. Second, we expect that most (possibly all) companies subject to reduction requirements will take the steps necessary to meet the requirements without the use of purchased credits (for reasons of economic security and compliance with MACT). Any credits generated by over-compliance will likely be retained as a compliance cushion and to accommodate future growth. Overall, there would probably be few sellers and few buyers.

For industrial facilities subject to mass cap requirements, the only way for these facilities to increase capacity beyond baseline levels would be to purchase credits or install controls (which are economically infeasible). The most likely seller of credits is a supplier to the paper industry. A Wisconsin-only trading program could, in effect, give control of the paper industry's economic growth in this state to one company. Government should not be creating this type of relationship through regulation.

The dangers of a trading program that relies on a single large seller of credits was recently shown in New Jersey. There, one large utility generated and sold credits to other companies that were used for compliance. Recently, the large seller of credits signed an agreement with EPA to eliminate all credits – leaving the purchasing companies high and dry. This is a dangerous situation that should be avoided in Wisconsin.

The paper should also explain the federal restriction on the use of trading for the purpose of complying with section 112 MACT standards.

#### **COMMITTEE MEMBER INTERESTS:**

*Mark Yeager - ECCOLA* – With all due respect to the Natural Resources Board request for a trading provision, trading undermines the goal and spirit of a rule designed to reduce Hg contamination in our soil, water, and air. Business health must not be promoted at the expense of human health. No smokestack emissions should be offset by product collection. Resources for thermometer collections must not be at the expense of real emission reduction. If trading emerges trade only airborne for airborne emissions. Product removal need not be the charge of the business community and therefore they need not suffer proposed limitations (greater than 50 lb. annually). Product reduction can be accomplished through vigorous public and community education and participation programs. Recognize that a voluntary approach by utilities/industry has always been an available opportunity yielding negligible results.

**Appendix F**  
**Member Recommendations for an Integrated State Mercury**  
**Regulation**

## **Mercury Citizen Advisory Committee Recommendations for an Integrated State Mercury Regulation**

At the conclusion of the Mercury Citizen Advisory Committee Retreat held April 30 and May 1, 2002, committee members were given an opportunity to provide a one-page summary outlining their thoughts concerning how a state mercury rule should be developed. The focus of the retreat was to examine eight critical issues in the proposed rules and provide recommendations to resolve those issues, seeking consensus where possible. After reflecting upon the dialogue at the retreat, several committee members were interested in providing their thoughts on how best to integrate these critical issues into a state mercury regulation.

### **Alliant Energy – Joe Shefchek**

Alliant Energy (AE) supports mercury emission standards based on sound science and realistic technology assessments. The standards should take into consideration the potential impacts on electric reliability and price to customers. The proposed NR446 mercury regulations present broad implications to the future viability of Wisconsin's energy systems that will result in significant economic impacts to utility customers. The rule fails to address several critical technical issues that cause it to be unduly burdensome and unfeasible to implement. As drafted, the rule presents many concerns with respect to: 1) assessment of environmental benefits; 2) technical feasibility; 3) costs and revenue impacts (both controls and coal combustion byproduct impacts); 4) impacts to Wisconsin energy policy; and, 5) alignment with Federal mercury rules. AE's primary concerns include:

- Mercury in the environment is a global multi-media issue. Making reductions from Wisconsin emission sources alone will have no impact on fish advisories, without reductions from sources outside of our state.
- A recent EPRI mercury modeling study found that mercury deposition declines by less than 5% over most of the state, when Wisconsin utility emissions are completely eliminated. This study used DNR's most recent inventory of mercury sources, plus actual monitored data collected from the Mercury Deposition Network (which includes four sites in Wisconsin) as well as regional meteorological/geographic data, and estimates of mercury contributions mapped from national inventories and global source estimates.
- There are substantial scientific uncertainties about mercury, its different forms, technology to control it, and its health effects. Wisconsin utilities switched to sub-bituminous coal to cost-effectively achieve Acid Rain SO<sub>2</sub> requirements, however, stack emissions testing has demonstrated this combustion primarily emits elemental mercury - the form most difficult to control and presenting unique challenges.
- The status of commercially available mercury control technologies is only in preliminary development phases and the most promising technology - carbon injection - will cause fly ash contamination, resulting in lost byproduct sales as well as significant landfill impacts.
- There are significant technical implementation issues that remain to be addressed: representative baseline determination methods given data availability, recent plant process changes, natural differences in coal mines and multi-fuel considerations; known inaccuracies of emissions monitoring/testing methods; creditability of early reductions and availability of sufficient offsets; trading procedures and limitations; achievable long-term control results for activated carbon; rule costs including lost sales of coal combustion byproducts plus landfill impacts; short-term relief for temporary system disruptions or equipment malfunctions; magnitude of administrative burden due to complexity of compliance reporting and permitting.

- The rule would drive energy policy for Wisconsin with fuel switching to natural gas resulting in unintended consequences. Massive fuel switching is not feasible - predominantly due to lack of gas pipeline infrastructure, no long-term fuel storage capacity, time needed for plant siting and permitting. It is clear that the rule's mercury reduction requirements will have major impacts on electric reliability, fuel mix and electric costs in Wisconsin. The implementation of such requirements must incorporate more cost factors and anticipate more complications than are included in the development of this rule package.
- The rule provides no multi-pollutant control alternatives and no clear transition to Federal mercury air rules. Wisconsin law states that this proposed rulemaking must consider EPA's decision to regulate mercury nationwide from electric utilities by 2004, via Maximum Achievable Control Technology (MACT) standards.

EPA acknowledges the lack of scientific data on mercury control and is participating in national research programs to try to answer the many questions. Wisconsin's rule contains no assurance that it would be revised to be consistent with the upcoming MACT rules. Due to the many outstanding technical and regulatory issues, AE recommends focusing efforts on setting a reasonable first-phase 5-year reduction for utilities. This reduction level should be consistent with WUA's recommended alternative, of 10% and 40% reductions, in 5 and 10 years respectively. The rule should also provide for alignment with the upcoming federal rules with clear transitioning to MACT or potential multi-emissions legislation. AE hopes our active efforts in the public process will help to resolve everyone's concerns on these issues. Wisconsin's standards should ultimately align with the rest of the nation's, so as not to put our state at an economic disadvantage. Emissions do not recognize any boundaries, so policies should strive to be consistent in creating equitable solutions that address mercury from a national and global perspective.

#### **ECCOLA – Mark Yeager**

Hope was the mood that seemed most prevalent during our CAC retreat until the last few hours. The first day and a half of discussion felt filled with the promise of listening and an honest dialogue moving toward an end of at least an agreeable compromise, if not entirely comfortable for all. With so many differing positions it was reasonable that all involved live with some discomfort just as victims living with health effects of contaminated air, water & soil have doing for years. The TAG information suggested to me that emission reductions are more easily achieved technologically and the difficulty lies with the will to do so. On the drive back I kept hearing Bert's words and wondered if I might have contributed to talks unraveling by not considering the impact of some of my more spontaneous language. In hindsight I might have been more careful.

By the end of the second day it became clear that to dig in positions would be the accomplishment. What a waste of a valuable opportunity to truly work together. The suggestion that the four major utilities choose one plant and install emerging technology was so considerate to all the utilities reasons for not moving forward. When the Utility/Industry caucus returned with their statement that their "alternative is no rule" the effect was to stay at square one. Concerns that a higher (above 40%) reduction was "too undefined" for the utilities to take action didn't mesh with their agreeable stance toward 0 to 10% reduction. It was not the "undefinition" because they could sign on to an all too easy token reduction and 90% is no more undefined than 10%. I don't understand how a position of 0 to 10 % reduction safeguards the air, soil and water for the people of WI. In spite of Mr. Hoopman's and Mr. Skewes' claims, we are not interested in removing all Hg from Nature. Rule 446 would limit manmade sources from

exacerbating a problem that threatens people today and in the future. TAG summaries showed that even with current technology we are a lot closer to substantial cleanup than 10%.

After caucusing the Utilities/ Industry group acted like WI natural resources belonged solely to them for their own profits. Although they are used to business as usual there exist many other values necessary for quality of life, sometimes contrary to business profits. We must allow room for WI citizens to embrace these values. The DNR has the responsibility of protecting the health of human, wildlife, & plantlife, yet not be limited to protection of business interests.

Most interesting was Mr. Hoopman's comment that "those of us that are grownups in this room" could see there could be no meeting of minds on this {Hg issue}. It certainly leads us to examine what does it mean to be grown up. To only have one value & perspective and no discussion on alternatives? Or to give in to business as usual and allow no hope of healthier air, water or resources for our loved ones? Or maybe something even more hideous?

I believe the offer of allowing the biggest polluters to install emerging technology and learn more is more than fair to business interests and at least starts to move in a healthier direction for WI citizens. Aspects of 446 such as trading and variances and reviews could easily be defined once this is committed to. We've got to start someplace, and now. Profits are not in jeopardy but health is.

#### **Great Lakes Indian Fish and Wildlife Commission – John Coleman**

GLIFWC's member tribes are very concerned about mercury emissions, believe that Wisconsin needs to be a leader in reducing emissions from coal-fired utilities and other stationary sources, and support the most aggressive reduction schedule that is achievable. Within the context of the rule that is proposed, here are some of our current thoughts about the preferred alternatives based on the issues discussed at the retreat.

#### *Baseline*

Use current year fuel mercury content and emission rate data and apply to historic coal throughput during the identified baseline years of 1998 to 2000. Alternatively, baseline can be based on historic emission data and historic coal throughput from the baseline period if the plant's control technology has changed significantly in recent years.

A real-time baseline that is derived from the amount of mercury in the coal and emissions data to calculate removal efficiency is inappropriate because this would require a reformulation of many parts of the rule and would provide an incentive to use high mercury fuels.

#### *State v. Federal Requirements*

Under Periodic Rule Evaluations the DNR is required to review proposed rules and report to the Natural Resources Board on any relevant federal rule or law. The state must also recommend revisions to state law as appropriate so that state and federal laws do not conflict. This is sufficient to insure that there are not conflicting regulations. Wording should be incorporated that aims to avoid penalties under the Federal rules for reductions made after the state regulations are promulgated.

#### *Periodic Rule Evaluations*

We support the language that was developed at the meeting. The language follows:

“The Department will provide the Natural Resources Board with a detailed report upon proposal of Federal MACT with an opportunity for public input. The department shall also prepare a review upon promulgation of Federal MACT or Federal legislation in order to reconcile State and Federal requirements. In addition the Department will report to the Natural Resources Board at least every two years on the status of the mercury reductions.”

#### *Reliability (Variance Procedures)*

Maintain the existing variance language and in addition provide variance opportunity for non-major utility sources affected by the mercury rules. The rule language should be clear that compliance is an annual measure and that there is an adjustment period during which there is an opportunity to compensate for short-term over-emission.

#### *Emission Caps*

Elimination of the cap requirement for sources (facilities, not units) over 10 pounds is appropriate only if there is an enforceable requirement for these sources to limit and reduce mercury emissions through other methods such as increased energy efficiency.

#### *Growth (Offset Requirements)*

Offsets for new sources are needed to insure that there is an overall reduction in mercury emissions. Offsets should be required immediately at the promulgation of the rule so that there is not a dis-incentive for new sources to use control technology during the first four years of the rule. Offsets should initially be 1.5 : 1 with phasing to a ratio of 1 : 1 in the second and third phase of the rules.

#### *Reduction Requirements*

Reduction requirements must be at least as stringent as proposed in the draft rule. However, an approach that has no reduction requirement but requires installation of tested, available technology in the first phase may be an appropriate alternative. However, such an alternative must be linked to a stringent second phase reduction requirement that must be met in 10 years.

The reduction schedule proposed by the utilities of 10% in five years and 40% in 10 years is not sufficient because:

- 10% does not drive the testing/installation/incorporation of the new technologies that will be necessary to achieve higher reductions. New technologies won't get tested or installed until the second phase.
- given the magnitude of the mercury problem and the fact that utilities' mercury emissions have been unregulated to date, it is reasonable that utilities be required to “push” to reach a first phase goal.

A technology based first phase may be acceptable because:

- there are risks on both sides – the fact that the technology may not work as designed is a financial risk for the utilities. There is also an environmental risk – mercury emissions will not be reduced if the technologies do not work.

- this approach eliminates concerns about complying with fixed reduction requirements during the first phase, when uncertainty is greatest. In addition, installation of promising new technology in the first phase may provide larger mercury reductions in early years than would be provided by a simple reduction requirement.

If a technology based approach is used in the first phase, then:

- there must be a stringent second phase requiring at least an 80% emission reduction from baseline beginning in 10 years and 90% or more in the third phase (15 years).
- DNR must approve the choice of technology to ensure that it is likely to provide significant reduction in mercury emissions. The technologies selected should be those that are relatively well developed.
- here must be a requirement that each industry permanently install, within 5 years, the selected technology on their unit emitting the most mercury.

### *Trading*

The trading provision should incorporate a requirement for credits to expire 5 year after they were generated. Credit should be given for reductions after the baseline years but before rule promulgation. This will create an adequate initial pool of credits. Over the life of the rule, the trading program should be phased out.

Trading must be included in the rule in order to encourage non-utility mercury sources to reduce their emissions. It is appropriate to place limits on the amount of reduction that can come from the use of emission credits. It is also appropriate to discount the amount of credit that can be generated from product collection programs in the recognition that not all of that mercury would end up in the atmosphere.

### *Compliance*

As currently written the rule requires an annual measure of compliance with a several month adjustment period. This and the ability to trade for a portion of compliance, is adequate to account for short-term emission problems at a facility.

### **Random Lake Association – Wayne Stroessner**

Whenever one negotiates to settle opposing issues to form a consensus, it is necessary for both sides to be sincere during negotiations. I found that most of the issues at the two-day retreat were handled in a compromising fashion, except for the most important issue which affects the health of people, other organisms and our environment in general. That issue deals with Reduction Requirements.

The RULE, as written, provides sufficient time and sufficient leeway through variances to meet the 30% - 50% - 90% regulations within a fifteen year period. Personally, I would like to see them meet the highest level of regulation immediately, but I realize that is not possible. However, after the utilities/industries caucused and announced that they would accept a 10% reduction in five years and a 40% reduction in ten years, the room became silent. No one responded. I

finally spoke up and asked: "Are we supposed to respond to this?" What do you intend to do? Place a wet sock in your smokestacks? Needless to say, nearly everyone in the room had a good laugh...I believe even utility representatives joined in.

Our entire committee heard results of studies presented by the TAG (Technical Advisory Group) in which they showed that regulations of at least the first two phases could be met. Research done by the utilities themselves have shown that values around 70% can be attained. We also heard that demonstrations in laboratories indicate that reductions as high as 95% might be possible if the experimental models can be brought up to full scale. Responding with a 10%/40% proposal indicates that the utilities/industries are not sincere about their proposal.

I believe that we should, at a minimum, use the Reduction Requirement as presented in the DNR's RULE, or at best, use the recommendation provided by Wisconsin's Environmental Decade to reduce emissions similar to Federal, bipartisan bills which are calling for 90% mercury reductions from power plants by 2007.

What concerns me even more about the two-day retreat, utilities' representatives kept indicating that they would accept some of the environmental regulations if "our side" would not resist their construction of new coal-fired plants. That is an entirely different issue which must not only consider pollution from mercury, but any new construction of a coal-fired plant must consider the following costs including health and environmental damage:

- a. From soot alone - 64,000 deaths per year in the US:
- b. From Acid Precipitation - from both SOx and NOx:
- c. From Smog - from NOx and VOCs:
- d. From Toxins - including mercury, arsenic, and other heavy metals & gases:
- e. From Carbon Dioxide - a Major Contributor of Global Warming:
- f. From Infrastructure for the Fossil Fuel Industries:
- g. From possibilities of another Sept. 11th-type of attack on power plants:

(Details for the above factors are given in more detail on another sheet.)

What is needed is a switch to a hydrogen economy in which fuel cells can provide distributive electricity, heat and pure water for each building whether it be a residence, factory, school, hospital or any type of building. There would be no need for large utility plants to provide electricity to large areas. There would be no need for new smokestacks. There would be no large transmission lines to pass through pristine landscapes and there would be no difficulties associated with the numerous environmental problems listed above.

\* \* \* \* \*

### **COSTS TO SOCIETY FOR A FOSSIL FUEL ECONOMY**

**a. From soot alone:**

- 1) the 64,000 deaths/year;
- 2) viral respiratory infections like pneumonia, chronic lung diseases, like asthma, that destroy lives over the course of years;
- 3) the 603,000 asthma attacks nationwide every year;
- 4) probable heart attacks and arrhythmia and the incidence of strokes and heart failure;

**b. From Acid Precipitation:**

- 1) upsetting the delicate balance and making lakes and streams unable to support life;

- 2) the cost to tourism for lost fishing and recreational use of those lakes and streams;
- 3) destruction of forests, killing plant and animal life and eating of manmade monuments and buildings;

**c. From Smog:**

- 1) more than 100 million Americans live in regions that fail to meet health-based smog standards;
- 2) the loss of tourism for lost sight-seeing in state and national parks;
- 3) asthma attacks and other respiratory illnesses;
- 4) the 159,000 trips to the emergency room, 53,000 hospital admissions, and 6 million asthma attacks each summer in eastern US;

**d. From Toxins:**

- 1) more than one billion pounds of toxic pollution in 1998;
- 2) including 9 million pounds of toxic metals and metal compounds;
- 3) 750 million pounds of dangerous acid gases;
- 4) the many compounds that are known or suspected carcinogens and neurotoxins and can cause acute respiratory problems, and aggravate asthma and emphysema;
- 5) mercury emissions - a known neurotoxin that may affect brain, and also lung, and kidney damage, as well as reproductive problems, and even death in humans and other animals;
- 6) the fishing and tourism industry because of "fish advisories" from mercury contaminated fish;
- 7) NOTE! "Just one drop of mercury can contaminate a 25-acre lake to the point where fish are unsafe to eat";
- 8) the six million women of childbearing age have levels of mercury in their bodies that exceed what the EPA considers acceptable and that 375,000 babies born each year are at risk of neurological problems due to exposure to mercury in the womb;
- 9) the numerous other heavy metals such as arsenic as well as a known carcinogen, asbestos, are all released from the burning and handling of fossil fuels;

**e. From Carbon Dioxide - a Major Contributor of Global Warming:**

- 1) 490.5 million metric tons of CO2 from coal-fired power plants alone;
- 2) the 30% increase of CO2 since the beginning of the Industrial Revolution;
- 3) the 1990s were the hottest decade on record;

**f. From Infrastructure for the Fossil Fuel Industries:**

- 1) the cost of maintaining loading docks, rail transport, harbor maintenance, etc.;
- 2) subsidies provided by taxpayers for these industries including such items as Desert Storm and other battles fought over our energy supplies;
- 3) oil clean ups, oil spills, street contamination from exhaust fumes, water contamination from contaminated streets, etc.;
- 4) destruction of surface soil and waters from coal mining operations;
- 5) the present federal administration's desire to permit the removal of mountain tops for these precious resources;
- 6) etcetera!

(Information taken from Sierra Club Web site - arranged by Wayne Stroessner)

**Wisconsin Electric - Kathleen Standen**

Wisconsin Electric (WE) supports a mandatory program which would require 10 and 40% reductions from utility sources over five and ten years, respectively. This two-phased approach would stimulate the technological development necessary to achieve cost-effective mercury

reductions without environmental disbenefits. It would also assist in facilitating the transition to pending federal rules for electric utility units.

Necessary features of this reduction schedule include multi-emission alternative, and elimination of offset requirement. The multi-emission alternative would allow a source to opt out of predetermined reduction requirements in exchange for developing and reaching a binding agreement with the Department on a multi-emission program alternative. The multi-emission agreement would address, at a minimum, NO<sub>x</sub>, SO<sub>2</sub>, and mercury. Each agreement would include a specific multi-emission plan optimized across mercury and other emissions for the applicable electric system. Objectives of this multi-emission, cross-media plan are to reduce mercury, to continue to beneficially re-use combustion products, to avoid the need to expand landfill requirements, and to manage emission control and by-product disposal costs.

The offset requirement would be replaced with case-by-case mercury controls for new sources as currently required by federal MACTS standards. Any new utility unit is *already* covered by a case-by-case federal MACT standard. This was an important outcome of U.S.EPA's December 2000 regulatory determination for mercury standards applicable to utility boilers. The federal case by case MACT standard combined with the two-phased reduction schedule represent a comprehensive state-only program without the addition of emission offset requirements. In fact, the offset provisions have the potential to limit beneficial modifications to existing coal units, and prohibit the future development of new coal-fired generation in the state. Additional capital investments on older units would be needed to generate offsets, and this investment would financially delay the retirement of those very units. It is unlikely that a sufficient offset market would be developed based on voluntary excess reductions from industrial sources. Regulatory disincentives (NR406 state permitting rules, and federal New Source Review regulations) exist that would discourage additional reductions from industrial sources.

We would also support an advanced technology option, although this has not been fully defined as an alternative. The focus of an advanced technology option would be to encourage and allow technology testing and development as a compliance supplement. The advanced technology option would stop short of requiring permanent installation of the control that was being developed. The intention would be to encourage and recognize applied development of innovative technology, not to force adapting a technology that results, for example, in sub-optimum performance, undesirable consequences, or unacceptable costs.

Along with the basic features of the regulation (the reduction schedule, elimination of offsets and compliance alternatives) there are several underlying implementation issues to be resolved. WE can accept a historic emission baseline, provided that the new data collected through the U.S.EPA ICR, and through subsequent mercury testing, is applied. We propose replacing the mass balance compliance demonstration with a method based on unit-specific mercury emission factors obtained from periodic stack testing combined with coal consumption and mercury coal concentration coal data. The rules would require stack testing to determine unit-specific emission factors. Stack testing would be required to occur shortly after the rule is promulgated, unless approved stack tests were done in advance of rule implementation. Periodic testing and development of updated emission factors would occur consistent with the Title V testing frequency, or if the source changes fuel type of emission control equipment. The coal sampling and analysis frequency in the proposed rule is acceptable, although the analysis procedures and methods need to be updated to take into account new analytical techniques and methods. Finally, construction permitting requirements in NR406 need to be modified so avoid permitting complications for mercury control projects.

The narrow scope of the existing variance provisions may create a reliability risk. Variance provisions need to be expanded to provide short-term compliance flexibility in the event that electric utilities are faced with control technology malfunctions or operational situations which force them to choose between remaining in compliance or shutting down units which are needed to meet system electric demand. The rules need to recognize and provide variance provisions in light of the early status of technology development and lack of operational experience with mercury-specific controls. Without this kind of variance opportunity, utilities will be forced to build redundancy into their control investments in order to avoid the risk of non-compliance. This results in additional costs that are either passed on to ratepayers or assumed as a shareholder risk.

Trading and averaging provisions are a necessary part of the rule package, including mercury product collection or pollution reduction projects. All sources of mercury releases to the environment should be eligible as a means to supplement installation of mercury controls. Trading is important during the early compliance stages as mercury-specific controls are being developed and as operational experience is accumulated. Trading is important in the later phase of mercury rules since it may be a more cost-effective compliance option.

The state rules must provide a means for facilitating a transition to federal standards, including assuring baseline protection and avoiding penalty for early action.

#### **Wisconsin's Environmental Decade – Marc Looze**

Wisconsin's Environmental Decade (WED) wishes to see a state rule that requires deep cuts in mercury emissions from coal-fired utility boilers. We recognize the need to move forward immediately with state action to curb further mercury releases into Wisconsin's and other states' surface waters. It is imprudent to choose a course of inaction and wait for a federal reduction requirement, whether in the form of a MACT standard, a bill in Congress or a Presidential proposal that may never go into effect or may be held up in court by numerous legal challenges. The Bush Administration's "Clear Skies Initiative" would mandate a 70% reduction in national mercury emissions from electric utilities by 2018; other than a no-action alternative, this is the lowest percent reduction proposed. WED maintains that a 90% reduction of mercury emissions is necessary but in light of pending federal action, we support an alternative that would require major utilities to install mercury control technology on a significant unit in their system as a first phase of a Wisconsin rule.

Recognizing that Wisconsin's rule must be somewhat consistent with federal mercury policy, we support an evaluation of the rule when we are more certain of federal law, with status reports occurring roughly every two years.

Because utilities have largely avoided or received exemptions from making mercury emissions reductions in the past, WED believes that trading should be restricted greatly; the use of emission credits from small source reduction programs should not be a part of the final rule package. Ideally, large source trading would not exist in the rule either; our state is poised to set a precedent and the establishment of a liberal mercury trading program would set a bad precedent nationally. However, the inclusion of such a provision may assist utilities in complying with the rule while providing additional environmental benefits (i.e. the elimination of fugitive mercury emissions at Vulcan's chlor-alkali plant).

Since elimination of anthropogenic mercury emissions is the ultimate goal (though not the outcome of WI's rule) emission caps and growth are essential issues. We support phasing the emission offset ratio over time, from 1.5:1 to 1:1. No source should be allowed to increase

mercury emissions. Energy efficiency improvements (in lieu of a cap) would likely lead to mercury reductions, but such a reduction would need to be guaranteed.

The rule needs to insure that electric reliability is not jeopardized, which is why we support the existing variance language. In the event of short-term service interruptions, utilities may request a variance when reporting annual emissions.

### **Wisconsin Manufacturers and Commerce – Jeff Schoepke**

As the DNR assembles its mercury rule package, it must first ask itself the primary question of legislative directive and statutory authority. State law, SS.285.27(2)(a) prescribes the fundamental test for any air toxics regulation – such regulation must be “similar” and “may not be more restrictive in terms of emission limitations than the federal standard.” DNR’s proposed mercury rule is on a collision course with this state law. For example, an underlying compliance precept of the proposed rule is the trading of mercury emission reductions. In contrast, section 112 of the clean air act prohibits trading. Other provisions will inevitably be inconsistent. Thus, we know now that DNR rule will not be “similar” to the pending federal rules. In addition, major source caps are inconsistent and often more “restrictive” than emission rates, which will be the approach taken by EPA in its pending MACT standards.

Beyond issues of inconsistencies, DNR has not shown a need for this rule in light of the pending federal programs. In fact, because most mercury comes from out of state, DNR has always agreed with us that the real solution is a federal program. On this point, WMC is aware of no sources listed in the proposed rule that are not subject to existing or will be subject to proposed federal mercury regulations.

Because of the inevitable inconsistencies between the federal and state programs, the regional nature of mercury emissions, and the likelihood federal rules will better address the mercury problem, WMC believes the state rule must be indefinitely postponed until the federal programs are in place.

If a rule is to move forward, at a minimum the major source cap must be eliminated. The cap is in effect a cap on the productive capacity of some industrial boilers. Further, the 10-pound threshold is arbitrary, provides little environmental benefit and should be applied on a unit basis not a facility-wide basis.

In addition, if the trading element of the rule is removed, the argument for major source caps is even weaker as they will not be needed to provide the credits needed to make such a program robust. The department has stated several times that a robust trading program was a major reason for including the cap in the rule.

WMC is interested in exploring the option developed by the CAC to replace the major source cap with energy efficiency agreements between the DNR and companies. However, more detail is need before we can sign onto such a concept.

Further, any utility reductions should be reasonable and implementable. They should not be more than is expected of utilities in other states, as resulting higher electric rates will put Wisconsin companies at a competitive disadvantage. While we have significant concerns about the rate impacts of the proposal by the Wisconsin Utility Association calling for 10% and 40% reductions, this appears to be a much more reasonable approach.

Mercury credits will not be available, particularly as more and more sources will be required to move from state to federal program, less likely to allow trading. Therefore the rule's requirement for new sources to get offsets should be eliminated.

#### **Wisconsin Paper Council – Ed Wilusz**

The following responds to the opportunity for Mercury Citizen Advisory Committee members to submit a "one pager" that integrates the various issues into a single, short summary. These comments have been reviewed by Annabeth Reitter. Please see our public comments on NR 446 for a more complete discussion of these issues.

While mercury contamination is a legitimate issue, it is likely that proposed NR 446 will provide little, if any environmental benefit. Mercury air deposition is a global phenomenon, with Wisconsin sources contributing only a tiny fraction to the global emission pool. Research on the cause and effect of mercury emissions is incomplete and inconclusive. As a result, it is impossible to predict what environmental benefit, if any, will result from specific emission reduction scenarios. Evidence from the Department's Air Emissions Inventory suggests there will be little benefit (estimated mercury emissions dropped 30% from 1990 to 1996, yet more fish advisories were issued).

The paper industry could bear both direct and indirect costs from the proposed rule. Indirect costs would be in the form of increases electric rates. One utility, serving thirteen paper companies, estimates that the cost of the proposed rule would increase rates by 25%, when fully implemented. This translates into an annual energy cost increase of almost \$21 million for these thirteen companies.

Direct costs from an emissions cap include limiting the economic growth of affected sources (unless expensive controls are installed, which is unlikely). WPC estimates show that affected companies would be limited to about one-half to two-thirds of available boiler capacity. DNR estimates are similar.

Two other points are worth noting. First, the federal industrial boiler MACT will be proposed later this year and will likely include a mercury limit, immediately putting NR 446 at odds with the national standard. Second, a Wisconsin-only emissions trading program is probably not viable under any circumstances. Even if it were, the role of industrial boilers would be very limited.

The paper industry represents a small fraction of total mercury emissions in Wisconsin — approximately 140-240 pounds based on Department estimates. The largest individual unit emits approximately 10 pounds. These are insignificant sources of mercury that would be capped with no resulting environmental benefit, but that would incur increased costs in terms of higher energy rates, limited economic growth, and potential regulatory conflicts with federal regulations. These sources should not be regulated by the state.