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Comments in response to the Department of Environmental Quality public notice of proposed amendments to OSAHR 2005-38EQ Part 15, Emission Limitations and Prohibitions-Mercury R 336.2501 to R 336.2513 to reduce mercury emissions from coal-fired electric generating units

These comments are being submitted on behalf of Clean Water Action, Ecology Center, Michigan Environmental Council, Michigan League of Conservation Voters, Michigan United Conservation Clubs, National Wildlife Federation, and Sierra Club Michigan Chapter.

Our organizations strongly support the intent of Governor Jennifer M. Granholm's Executive Letter to Michigan Department of Environmental Quality (MDEQ) Director Steve Chester (on April 17, 2006) which directs the MDEQ to "pursue a rule under Michigan's Clean Air Act to reduce mercury emissions from electric utilities by 90% by 2015". While 90% reductions can and should be implemented sooner because the technology has already been proven to be available, effective, and affordable, this proposed rule could be a groundbreaking step for protecting Michigan's children, our recreational tourism-based economy and our environment from this potent neurotoxin. We strongly agree with the Governor's statement that "It is unacceptable that in a state where fishing contributes over \$2 billion to the economy annually, we must warn people not to eat the fish that they catch in our beautiful lakes because of mercury contamination." And, we are pleased that the Governor is attempting to follow through on her 2002 campaign promise to "support the phase-out and elimination of mercury emissions from coal-fired power plants", as her letter states.

Our organizations commend the MDEQ for the time and effort it has put into a creating and implementing multiple stakeholder working groups that have resulted in the proposed rule. Implementation of a true 90% by 2015 reduction in mercury emissions from coal-fired power plants would place Michigan among the leading states in the country in protecting citizens from this potent neurotoxicant. This is fitting for the "Great Lakes State" and would help fill the void left by the fundamentally flawed and weak and ultimately vacated federal Clean Air Mercury (CAMR).

After the Environmental Protection Agency (EPA) promulgated CAMR in 2005, seventeen states including Michigan and various public interest groups sued EPA, arguing that the Clean Air Act requires much steeper cuts in mercury emissions from coal-fired power plants because existing mercury-removal technology could achieve at least 90 percent reductions. In February 2008, the U.S. Court of Appeals for the DC Circuit found that EPA had erred in its process that resulted in the CAMR. The EPA was instructed to de-list CAMR and instead develop Maximum Achievable

Control Technology (MACT) standards for power plant mercury emissions, which are likely to be much stricter than CAMR levels. Indeed, every other state that has proposed stricter statewide limits has continued this approach following the court ruling earlier this year. We maintain that Michigan should not abandon this approach either, and that doing so reflects prudent risk management given the likelihood that EPA will promulgate a far more stringent power plant rule under the next administration. Michigan residents suffer from exposure to dangerous levels of mercury today, and any further delay in lowering their exposure when proven, cost-effective control technologies exist is indefensible from a public health perspective. Michigan has the right and the responsibility to enact a strong power plant mercury rule even as EPA reconsiders its approach and develops a new federal requirement that is likely to be more stringent than what DEQ has proposed.

While we applaud DEQ for developing a proposed rule that is certainly more responsible than the CAMR approach, we are concerned that it still falls short in fully meeting the strong goal proposed by the Governor and does not provide the maximum feasible protection for Michigan's children and others who are threatened by mercury pollution. The MDEQ's own assessment states the following:

“The EPA estimated from the data collected in the 1999 Information Collection Request (ICR) that Michigan EGUs emitted 3,081.2 pounds of mercury into the air each year. The proposed rules *could* result in EGU mercury emissions that are as low as 700 to 800 pounds per year beginning in 2015, depending on the installed generation capacity and electrical demand.” (emphasis added)

(Michigan Air Pollution Control Rules; Part 15, Emission Limitations and Prohibitions – Mercury, R 336.2501 to R 336.2513 (Rules 1501 to 1513), Regulatory Impact Statement)

Therefore, the MAXIMUM expected impact would be a 77% reduction in actual emissions from the baseline year.¹ Our main critique of this rule is that it **does not fully meet the goal of 90% reduction of mercury emissions by 2015**, which is already too long for Michigan's children to wait for protection from this toxic metal. For perspective on what is at stake, consider that young people born when this process began in Michigan are now in elementary school.

Background/Context

Impacts from mercury exposure are well understood and disturbing: mercury is a major threat to public health, especially children's health, to our environment and to our recreational economy. As stated in the Governor's Executive Letter, “mercury is a potent neurotoxin that threatens the health of Michigan families, children, and nursing mothers. Mercury also puts our great water and fishing resources at risk, resources that are critical to our economy which is so dependent on tourism.” Mercury exposure has been directly linked to diminished intelligence, learning

¹ More recent MDEQ estimates of mercury emissions from the state's coal-fired power plants are lower, for example 2488 lbs. according to the Mercury Strategy Staff Report (Aug. 1, 2008 update). It is not clear if the more recent data represent real reductions in emissions over those three years, given the minimal changes in plant configurations or fuel consumption over that period. In addition, if those more recent data are in fact accurate, a target of 800 lbs. statewide emissions would represent only a 68% reduction from that pre-control period. While one could argue that this could be recognizing early actions, again, it is not clear that the data reflect emissions more accurately, or represent real reductions from the previous estimates.

disabilities, and other health problems. EPA scientists estimate that one in six women has enough mercury in her body to put her child at risk should she become pregnant, meaning that 630,000 children nationally are born at risk of health problems, including impaired memory, vision, motor skills, and attention deficits. EPA research has shown that even low-level exposure to mercury can cause learning disabilities, developmental delays, lowered IQ, and problems with attention and memory. Beyond this unacceptable human suffering, loss of earnings due to fetal and early childhood mercury exposure has been estimated at \$8.7 billion annually, with \$1.3 billion attributable to mercury emissions from coal-fired power plants alone.

Fish in Michigan are highly contaminated with mercury - the state has issued a fish consumption advisory for *all* of Michigan's 11,000 inland lakes, to warn residents to avoid or limit consumption of certain fish. The most recent MDEQ Fish Contaminant Monitoring Program report indicated that 13 percent of samples (covering 22 of 37 locations) had mercury levels exceeding the state's trigger level of 0.5 ppm (Michigan Fish Contaminant Monitoring Program 2007 Annual Report, http://www.michigan.gov/documents/deq/wb-swas-fcmp-2007report_233127_7.pdf). However, this trigger level is significantly higher than the value a number of other states in the region use – the trigger level for the first restricted consumption category (2 meals/week) in the current regional protocol is a concentration of 0.05 ppm, or 10-fold lower than what Michigan uses in its U.S. Food and Drug Administration-based approach (Great Lakes Fish Advisory Workgroup, A Protocol for Mercury-based Fish Consumption Advice, May 2007, http://dhs.wisconsin.gov/eh/fish/FishFS/2007Hg_Add_Final_05_07.pdf). If one used an even higher trigger (0.11 ppm, leading to a one meal/week restriction), 24 out of 27 of the low values in the species/location sample sets obtained in the most recent round of reported sampling would exceed this trigger level (see Michigan Fish Contaminant Monitoring Program 2007 Annual Report).

Since power plants are the largest source of Michigan's mercury emissions, this rule – if developed and implemented appropriately – could have a significant positive impact on our state's mercury problem. In Michigan, coal fired power plants are the largest anthropogenic contributor to mercury emissions, responsible for 57% of total emissions (Michigan Mercury Electric Utility Workgroup Report, June 2005). While some forms of mercury travel long distances, it has been proven that reducing nearby sources of mercury pollution has a demonstrable, significant impact on local mercury contamination. For example, a majority of the mercury pollution in Lake Michigan comes from coal-fired electric power plants in the states that surround the Lake. Studies conducted in Ohio, Florida and around the country are demonstrating local and regional impacts of significant reductions in mercury from key sources such as power plants. Despite the claims of special interests, there is little doubt within the scientific community that reducing major sources of mercury pollution in a state have direct, positive impacts on mercury contamination. As the MDEQ states in its "Regulatory Impact Statement," "there is a significant body of evidence demonstrating that a reduction in mercury emissions will result in a reduction of deposition, which will result in a proportional reduction in methylmercury concentrations in fish tissue."

Specific Concerns and Areas for Improvement

- 1) **90% reduction is not really 90% as the rule is proposed:** In part because reduction targets are based on mercury input levels rather than actual emissions, real reductions of mercury emissions could be as low as 74% (Rule 1503 (1) & (2)). The maximum reduction in emissions that MDEQ expects by 2015, based on the Regulatory Impact Statement, is only 77%. What matters to Michiganders' health and our recreational tourism economy is not the ratio of mercury output to input but the actual emissions of mercury from the power plants, which should be the criteria for assessing compliance and should total 90% from the base year of 1999 or from another relevant year. Beyond the issue of measurement methodology, other elements of the proposed rule ensure that the Governor's intent will not be met:
 - Multi-pollutant compliance demonstration project, Rule 1503(2). While we appreciate how this provision offers the potential to significantly reduce other pollutants of concern to human health, it would only require a participating unit to reduce mercury emissions by 75%. Incidentally, participants are not required to submit plans until two years before the compliance deadline. This leaves insufficient time for contingency planning should the DEQ reject the multi-pollutant proposal.
 - Very low mass emitting unit (VLME) exclusion, Rule 1503(3). This exclusion further chips away at the total amount of mercury emissions from generating units. While we acknowledge a cost-effectiveness issue for upgrading the smallest units, there appears to be insufficient enforcement of an alternative plan beyond filing annual progress reports as described in Rule 1513.
 - Stationary source specific standards, Rule 1504. Lansing Board of Water and Light Eckert Station is granted until 2018 for demonstrating full compliance given the anticipated eventual shutdown of that facility. Beyond this, City of Marquette Shiras unit 3 and Michigan South Central Power Endicott unit 1 may request alternate standards that are not even specified. These further erode the Governor's intent to achieve 90% emissions reduction by 2015.
- 2) **Economic extensions provide too much opportunity for gaming:** The Governor's letter states that "additional compliance time would be provided if a power plant demonstrates that the annualized incremental cost of mercury reduction technology to go beyond CAMR will exceed a specified percentage of the gross revenue from electric generation for the utility system". No other state has a similar economic offramp. Unfortunately, the MDEQ's rules allow for four conditions, including "significant economic hardship" that significantly expand the scope of this offramp and could turn it into a loophole for utilities to exploit (Rule 1507). This is especially troubling given the lack of definition of "significant economic hardship". The proposal of the public interest community was a more simple structure, where a 2% overall increase in revenues would trigger a slowdown in requirements to meet the rules. This approach would be less complicated to administer and better protected against any efforts to game the system.
- 3) **Technical extensions provide too much opportunity for gaming:** The Governor's letter allows for a utility to be "given additional time to comply if it installs and operates mercury reduction technology, but upon testing is unable to demonstrate compliance with the required reduction or emission limit." This language would be acceptable to our

groups as a method to ensure that utilities are not unfairly penalized if their good faith efforts fall a bit short because of technical hurdles. Unfortunately, the MDEQ has expanded this original charge by allowing utilities to receive a 2-year extension and possible 3 more years if they can demonstrate that 90% is “technologically infeasible” or “cost-prohibitive”. This flips the original letter’s intent and allows utilities to make a case to opt-out of complying with the rule as opposed to providing a reasonable cushion if good faith efforts do not yield the intended results. The original language from the Governor is preferable. In any case, we strongly emphasize that a technical extension is only to be invoked after mercury controls have been installed and tested.

- 4) **“Hotspots” are not accounted for:** The Governor’s letter states that “the rule could include a utility system-wide approach that does not result in “hot spot” mercury emissions placing Michigan residents at risk.” This provision was critical to obtaining the support of public health, environmental and conservation, and environmental justice communities since it allows for economic flexibility while protecting Michigan families and communities, especially those in close proximity to generating facilities, from unequally high levels of exposure to mercury. It is particularly important since recent EPA research found that the second worst mercury ‘hotspot’ in the nation is located in Michigan, near Detroit. The study also determined that up to 80 percent of the mercury at these hotspots was coming from local and regional sources, such as power plants. Strong consideration should be given to adding this provision back into the rules to ensure that inter-system trading does not intensify existing hotspots or lead to new ones.
- 5) **No interim standards:** Apart from Lansing Board of Water and Light units, the proposed rule does not have interim standards. While we understand that the vacating of CAMR removes an established requirement for interim standards, including them in a state rule would strengthen the overall impact of the rules and allow for more immediate public health, environmental and economic impacts as well as provide DEQ with more leverage to ensure that Michigan residents are enjoying the benefits of lower mercury emissions as quickly as possible.
- 6) **New coal plants allowed to increase mercury pollution:** While new coal plants do have to meet a 90% reduction standard, they are allowed to increase the overall burden of Michigan’s mercury emissions via the proposed rule. New plants should be required, at a minimum, to offset any additional mercury pollution they may cause through inter or intra-system trading. This is particularly important if the effective (but not formal) cap that MDEQ is proposing (through a relatively weaker reduction requirement) is not lowered.
- 7) **Mercury contamination should not be merely relocated.** Much fly ash captured from coal-fired power plants is recycled, including into applications such as cement production. It is crucial that significant mercury reductions achieved at Michigan power plants are not offset by use of mercury-contaminated fly ash in cement production (or other uses), where much of the mercury may then be released to the air (if not adequately controlled), negating the benefits of its earlier control. MDEQ should consider this issue in these rules and other relevant programs.

Conclusion

It is critical that the Department of Environmental Quality complete the rule-making process and establish long-overdue limitations and prohibitions on mercury emissions from coal-fired electric generating units. We urge the Department to make the necessary changes to address the concerns set forth in this letter and proceed to final promulgation of these rules.