

OhioEPA
Division of Surface Water

Response to Comments

Project: FirstEnergy Lake Shore Plant, National Pollutant Discharge Elimination System (NPDES) Permit

Ohio EPA ID #: 3IB00004

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Ohio EPA held a public hearing on January 21, 2010, regarding FirstEnergy Lake Shore Plant's National Pollutant Elimination System (NPDES) Permit. This document summarizes the comments and questions received at the public hearing and/or during the associated comment period, which ended on February 22, 2010.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format.

General Comments

Comment 1: U.S. EPA talks about 3-5 parts per billion in its research. How does this translate to nanograms per liter?

Response 1: Nanograms per liter are parts per trillion; therefore 3-5 parts per billion equal 3000-5000 nanograms per liter.

Comment 2: No mercury variance should be granted to this plant or any other discharger to Lake Erie. Lake Erie is the most valuable natural resource in Northeast Ohio. It has not recovered from past abuses. When making environmental impact decisions, we need to consider

how it will affect the next seven generations! I urge you to reject FirstEnergy's efforts to waive responsibility for mercury mitigation.

Response 2: FirstEnergy will not be able to waive responsibility for mercury mitigation. The conditions of the Pollutant Minimization Program (PMP) require prevention of mercury contamination, maximizing the removal capability of the current treatment system, and an evaluation whether mercury in the effluent is suspended and therefore treatable. These evaluations may lead to additional controls in the next permit renewal, due in mid-2011.

Comment 3: The current mercury emission is probably 100 fold more stringent than 50 years ago. Power companies have reduced air and water emissions. Conditions are much better than 50 years ago. The 1.3 ng/l standard is below the natural background level. Spending \$10 million attempting to meet this level when we have more pressing needs is ridiculous.

Response 3: While there have certainly been reductions in water emissions of mercury from this plant, mostly when the fly ash discharge ceased, it is difficult to quantify exactly how much because low-level analytical methods have been available only since mid-2000. We acknowledge your comment on costs.

Comments on Public Information / Outreach / Environmental Justice

Comment 4: Were other state and local health agencies notified and permitted to comment on this permit modification?

Response 4: Yes. Ohio EPA notified the city and county health departments, local mayors and councils, and the county commissioners and engineer.

Comment 5: In the community around the Lake Shore Plant 90% of the people are minorities, and 50% make less than \$15,000/year. People in this neighborhood fish for food frequently, feeding their families and sometimes a whole block from the catch. Any additional mercury concentration adds to the problem of contamination; it is the same as poisoning a garden.

People here are uninformed about risk. They either don't know about fish advisories, or don't believe them. The mercury in the catch affects the entire community.

Response 5: The Ohio Water Quality Standards (WQS) are based on data on average fish consumption in the Great Lakes Basin; they are not set to protect subsistence fishing. In places where fish tissue data show that this

standard is not met, Ohio EPA develops fish advisories that detail how often fish can be safely eaten.

Ohio EPA circulates fish advisory information to fisherman and vulnerable people in several ways. We have three publications that are distributed annually: (1) one goes out to anglers on request; (2) one is distributed to Ohio EPA and Ohio Department of Natural Resources district offices, as well as to certain health departments; and (3) one is sent to Women, Infant and Children Clinics around the state. Ohio EPA also posts fish information on its web site, and does an annual news release on fish advisories.

FirstEnergy is not requesting to increase mercury discharge. The PMP noted in Response #2 is designed to reduce mercury in the discharge.

Comment 6: Residents in this area find themselves above the 90th percentile nationwide in terms of risk for cancer (95.1 percentile), neurological hazards (95.3 percentile) and respiratory hazards (91.5 percentile). It is imperative that the wastewater concentration be lowered below the 1.3 ng/l limit because subsistence anglers from the surrounding community use fish from Lake Erie to supplement their diets. As is typical of an environmental justice community, local residents have little or no ability to move away or otherwise protect themselves from this source of pollution.

Response 6: Again, the Ohio WQS are set to not protect subsistence fishing; they protect for the average consumption in the Great Lakes Basin. The Lake Shore Plant discharge appears to meet human health water quality standards, as measured by long-term average concentration (2.9 ng/l average discharge vs. the 3.1 ng/l standard). It is the standard for the health of fish-eating birds and mammals that is not being met.

Comment 7 **Is it moral to contribute to pollution of Lake Erie? Is it right for dischargers to exceed standards, no matter what the cost?**

Response 7: Ohio EPA's decision making is bound by the Clean Water Act and state laws. The Clean Water Act contains both principles and restrictions on how those principles are to be achieved. The most basic principle is: "The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (CWA SECTION 101). However, considerations of cost are also built in to the Clean Water Act and state laws that define how this principle is achieved. These were specifically considered in the adoption of the mercury variance rule.

Comments on Antidegradation

Comment 8: We urge the Ohio EPA to reject and deny the FirstEnergy request for permit modifications regarding the discharge of mercury. The degradation of water quality in Lake Erie, whether it exceeds water quality standards or not, is not acceptable. Do we know yet how much mercury is too much? Will we find out later that a little is a problem? Let us not take the chance.

Why is the lowering necessary? It is not necessary from a water quality, human health or wildlife standpoint.

Response 8: Granting the variance and changing the final effluent limit are necessary because there is currently no proven treatment technology that can reliably reduce effluent mercury to these levels. The lowering is based on this technical and economic analysis. See also Response #7.

Comment 9: FirstEnergy is not requesting an increase in mercury discharge from the bottom ash pond, only to maintain the historic average levels. FirstEnergy is not purposefully changing its operations in any manner that would increase mercury emissions. The company will continue to pursue minimization strategies to further identify and eliminate potential sources of mercury in the plant.

Response 9: We acknowledge this comment.

Comments on Public Health

Comment 10: I am writing to ask Ohio EPA to deny FirstEnergy's request for a variance on mercury emissions. As a physician, I am convinced that the current level of mercury in the environment already poses significant health risks. The on-going discharge of mercury will only increase those risks and ensure that the risks continue into the future. While the cost of complying with the more stringent limits is substantial, the cost to society of increasing environmental mercury contamination is even greater. The attached document provides a concise discussion of the impact of mercury emissions from power plants on children's health, and the true cost of the on-going discharge of mercury into the air and water.

Response 11: The current WQS are based on protecting people who currently eat fish as part of their diet. These standards, which are consistent across the Great Lakes States, are based on 15 grams (about 1/2 ounce) of fish consumed daily. This consumption figure is based on the GLI criteria development procedures.

The Lake Shore Plant discharge appears to meet human health water quality standards, as measured by long-term average concentration (2.9 ng/l average discharge vs. the 3.1 ng/l standard). It is the standard for the health of fish-eating birds and mammals that is not being met.

As stated in earlier responses, we expect the PMP to reduce the level of mercury in the discharge.

Comment 12: I would like to strongly urge that Ohio EPA deny FirstEnergy's request to maintain their current level of mercury emissions. FirstEnergy should comply with EPA rules and regulations. This metal has serious effects on people and wildlife. I'm sure that if the people who get their drinking water from Lake Erie knew that their drinking water has mercury in it, and that FirstEnergy does not want to comply with the new stricter standards, people would be in an uproar!

The Great Lakes area has been lobbying for federal money to save the Great Lakes. Recently they have been successful in getting some of these funds. It would seem counterproductive to allow continued discharges into Lake Erie while we are trying to clean up the lake with other funds.

Response 12: As stated in earlier responses, the discharge from the Lake Shore Plant ash pond appears to meet the human health WQS. The permit modification is consistent with efforts to save the Great Lakes. The PMP is a requirement to reduce mercury contamination of the wastewater, and evaluate whether further reduction by treatment of mercury is feasible.

Comment 13: What about costs to public health associated with the variance? This is the other side of the cost numbers! The impacts of mercury pollution and its effects on wildlife and humans are so immeasurable that we object to the FirstEnergy variance request.

Mercury is harmful in small amounts and persists almost forever. It bioaccumulates as methyl mercury and is stored in tissue. Top predators can have mercury over 1 million times higher than surrounding waters. Methyl mercury can cause irreversible harm to brain and nervous system tissue. Low levels of mercury are harmful to the nervous systems of unborn children; mercury levels are associated with loss of IQ. The FDA and EPA advise women who may become pregnant, pregnant women, nursing mothers and

young children to avoid some types of fish and eat fish and shellfish that are lower in mercury.

Before granting a variance to FirstEnergy, Ohio EPA should require that the company undertake a study to investigate the externalized cost of elevated levels of mercury in the plant's effluent to the communities immediately surrounding the plant, and compare this figure with the cost of installing pollution control technology. Such externalized costs could include the cost of increased mental health care for the developmentally disabled and the cost of public education on the dangers of eating mercury-contaminated fish.

Response 13: Ohio EPA does not have information showing that the "...externalized social and economic impacts of elevated mercury discharges far outweigh the cost to FirstEnergy of installing..." mercury removal technology necessary to meet the water quality standard of 1.3 ng/l. Based upon studies conducted for the State of Ohio in 1997, Ohio EPA concluded that requiring dischargers to meet the water quality standard (WQS) for mercury by installing end-of-pipe treatment technology would result in "...substantial and widespread social and economic impact." [Rule 3745-33-07(D)(10) of the Ohio Administrative Code] This rule also states that the Director of Ohio EPA has, "...determined that the increased risk to human health and the environment associated with granting the variance compared with compliance with the WQS absent the variance is consistent with the protection of the public health, safety, and welfare." The findings by the Director in the context of the mercury variance relieve an individual discharger from conducting a study comparing the cost of treatment to the increased risk to human health.

Note that the long-term average mercury concentration being discharged currently is less than the human health criterion. Also, the fish tissue results compiled by Ohio EPA/Ohio Department of Natural Resources (ODNR) and Northeast Ohio Regional Sewer District (NEORS) have not shown fish exceeding the tissue criteria in this area. The WQS assume that mercury bioaccumulates; this is incorporated into the standard.

Comment 14: Has FirstEnergy or Ohio EPA considered a biological approach to assessing mercury, such as growing flora and fauna in a holding tank containing effluent and analyzing the organisms after a period of exposure?

Response 14: Yes. We did not include this type of requirement because we believe that it is difficult to get accurate results from caged fish studies. Mercury gets methylated in the environment; methylated mercury, and therefore

bioaccumulated mercury, may not be detected in caged fish when it may exist in the environment.

Comment 15: Fish advisories are not part of the long-term solution; the long-term solution is zero discharge.

Response 15: True. Fish advisories are meant to be a short- to medium-range strategy to protect public health until zero discharge is feasible, or until treatment capable of meeting the standard is developed.

Comment 16: Part II, Paragraph E of the draft permit indicates that FirstEnergy will assess the impact of the variance on public health, safety and welfare. FirstEnergy should pay for an independent analysis of this. The company should be required to pay for an analysis of externalized costs before this variance is granted.

Response 16: This condition does not require FirstEnergy to assess the impact of the variance. This part of the permit requires data collection to allow the director to assess the impact of the variance. Collecting data on the influent and effluent are minimum data requirements under the rule.

Comments on Treatment, Costs, and the Mercury Variance

Comment 17: The mercury limitations were set in place to protect the public. Surely, the costs were taken into consideration when the limits were set.

Response 17: Treatment costs were not taken into account when setting the water quality standards. The process of setting water quality standards and the assessment of whether dischargers can meet those standards are separate processes. Water quality standards are set using toxicological data, bioaccumulation rates, and an assumption about how much fish people or wildlife eat. It is a scientific risk assessment process to set a safe level.

Ohio EPA created the mercury variance rule at the same time as the standard because there was evidence that treatment systems could not meet the standard. This was verified when industries and public treatment plants began sampling for mercury using low-level methods in the early 2000's. The costs of removing mercury to these levels, if feasible, are very high based on studies done as part of the mercury variance rule; the studies showed that if all dischargers of mercury had to meet these standards it would cause widespread economic impact.

Comment 18: Where in the law is Ohio EPA given the authority to consider costs as a factor?

Response 18: The Ohio Revised Code contains two requirements having to do with costs. First, ORC 6111.03(J)(3) states that “To achieve and maintain applicable standards of quality for the waters of the state adopted pursuant to section [6111.041](#) of the Revised Code, the director shall impose, where necessary and appropriate, as conditions of each permit, water quality related effluent limitations in accordance with sections 301, 302, 306, 307, and 405 of the Federal Water Pollution Control Act and, to the extent consistent with that act, shall give consideration to, and base the determination on, evidence relating to the technical feasibility and economic reasonableness of removing the polluting properties from those wastes and to evidence relating to conditions calculated to result from that action and their relation to benefits to the people of the state and to accomplishment of the purposes of this chapter.”

Also, ORC 6111.042 requires that when the director sets treatment-technology-based limits, the Agency must consider “The appropriate technology for the category or class of point sources of which the applicant is a member, based on all available information, including the administrator’s draft or proposed development documents or guidance; the total cost of achieving the limitations in relation to the effluent reduction benefits to be achieved; the age of equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques and process changes; nonwater quality environmental impact, including energy requirements; and other factors that would have been appropriate for the administrator to consider pursuant to section 304 of the Federal Water Pollution Control Act;” along with “any unique factors regarding the considerations set forth in division (A) of this section.”

ORC 6111.042 parallels federal NPDES rules in 40 CFR 125.3.

Comment 19: The economic analysis used as a basis for the mercury variance rule is outdated; it is based on cost and treatment studies from the 1990’s. Clearly, things have changed since then. First, no compliance cost has been identified by FirstEnergy. Based on the \$10 million per pound figure in the 1990’s economic analysis, costs could be relatively low for the company since they are trying to remove much less than one pound of mercury. How can we be expected to make a decision about this cost-benefit choice when we haven’t been given any information about what it would actually cost to meet the standard? We have never been given the

information and Ohio EPA has not demanded that information from FirstEnergy.

What is the basis for determining that mercury controls are “prohibitively expensive”? Do you have economists or social scientists trained to make this type of analysis? It appears that Ohio EPA simply took the \$10 million per pound figure and extrapolated the costs.

Response 19: While the study is old, the important conclusions are still likely valid. No proven treatment technology has been identified that can reliably meet the WQS.

This cost information was taken into consideration in developing the mercury variance rule – the costs of installing a reverse osmosis system in an attempt to reduce discharges from 12 ng/l to 1.3 ng/l. Costs were estimated assuming that large numbers of dischargers were discharging at 12 ng/l. These costs were applied to all dischargers because costs should be similar for all dischargers trying to make this reduction in mercury. As a result, FirstEnergy is not required to submit additional economic information.

U.S. EPA has also evaluated total recycle of bottom ash wastewater, and determined that it was not a basis for Best Available Technology (BAT) regulations (See the Final Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category, p. 498).

Ohio EPA does have a small economics staff, but projects of this large size would need to be contracted out.

Note that Michigan has recently obtained a Great Lakes Restoration Initiative grant to update the mercury variance cost and treatment studies.

Comment 20: The fact sheet states that FirstEnergy “cannot currently meet” the 1.3 ng/l standard. Yet in Ohio EPA’s response to the 2008 public comments, you wrote that zero discharge is possible, based on experience from AMP and Minnesota. Given that experience with AMP and Minnesota, plus the additional experience gained during the previous year, FirstEnergy could and should have been able to research the available end-of-pipe technology that would allow it to comply with the current law.

Response 20: The U. S. EPA Development Document cited above found that certain plants were designed for total recycle of bottom ash wastewater, either due to water quantity restrictions (in the arid western states, for example) or due to local regulations on certain pollutants. U.S. EPA showed that the costs of total recycle were significantly higher for plants retrofitting recycle systems (up to double the cost) than those installing new systems. U.S. EPA also noted that plants installing total recycle systems for bottom ash needed significant acreage (at least 4 acres for a plant of Lake Shore's size) for ash drying. The Lake Shore site may not have space for a recycle system.

This difference between existing and new source costs may explain why AMP (a new source) proposed a total recycle system.

Comment 21: Ohio EPA's mercury variance rule did not evaluate the use of mercury control technologies – such as reverse osmosis, organosulfides, microfiltration and zero liquid discharge systems – upstream from end-of-pipe discharge points. In addition, little or no evaluation of these and other mercury control technologies has been undertaken by Ohio EPA since 1997. In light of the availability of new information, the 1997 rulemaking and study do not provide an adequate basis for granting mercury variances to the Lake Shore Plant or any other plant discharging into Lake Erie.

Response 21: Ohio EPA believes that the 1997 study is still an adequate basis for decision-making at this time. Ohio EPA is not aware of any proven technology capable of consistently meeting 1.3 ng/l. Reverse Osmosis was specifically evaluated in the 1997 study. It was the basis for the cost estimates, and the conclusion that technology could not assure compliance.

All of the other technologies existed for evaluation of both the 1997 study and the 1980's federal effluent guidelines. The 1997 study presumed that effluents would already be well-treated for suspended solids – meeting at least effluent guideline standards. Organosulfide precipitation (or any precipitation technology) is based on removing suspended solids. If the solids have already been largely removed, precipitation technologies will not remove low-level pollutants such as mercury in bottom ash to any significant degree.

The effectiveness of microfiltration technologies depend on the pollutant being suspended, rather than dissolved, in the discharge. The 1997 study assumed that mercury would be dissolved; if mercury is suspended, microfiltration may be a workable technology. This is why the permit includes an evaluation of suspended vs dissolved mercury. If

microfiltration is effective in meeting the WQS, the variance may be removed during the life of the next permit (presuming that the cost of microfiltration will not cause substantial and widespread economic impact).

Comment 22: Companies on the leading edge of water treatment are developing newer and faster treatments for mercury. Technology is evolving rapidly. Ohio EPA should be working closely with permit holders to field test new technologies and procedures. When technology moves from experimental to available/demonstrated, will Ohio EPA require FirstEnergy to implement regardless of cost?

Response 22: Ohio EPA is tracking the experiments in mercury treatment that we know about, such as the one being conducted by NEORSD. When technology does become demonstrated to meet the WQS, Ohio EPA would require FirstEnergy and other dischargers to use that technology to meet the standard; however there is still the economic/cost standard that has to be met. The use of the technology cannot cause substantial and widespread economic impact.

Comment 23: The focus on wastewater alternatives biases the discussion in the company's favor. The process allows the company to focus on the costs of treatment and not on other, broader alternatives. For example, the lowest cost option for meeting mercury limits would be to shut down the Lake Shore Plant. The plant's capacity could be easily replaced with combined heat and power or waste heat recovery generation at other existing power plants and industrial facilities.

FirstEnergy is legally mandated to do a lot of efficiency over the next few years. They could shut down the plant and replace the capacity with energy efficiency measures. This would take care of all of the mercury from the stacks and the ash streams.

This is a problem with the state procedures because a logical alternative may not be able to be considered because it is more than just a surface water issue.

Response 23: We acknowledge this comment. The antidegradation process does focus the discussion on wastewater treatment alternatives to the exclusion of broader alternatives. Ohio EPA does not have the authority to look at these broader issues under the antidegradation rule.

Comment 24: No data should be eliminated when calculating the variance limit. The statement that "unusual, and possibly invalid, data should be

eliminated from the analysis” does not make sense. “Even if it is valid, including the sample result only raises the variance limit” does not make sense. If unusually high values occur they should become part of the data record. Data must be submitted as it is gathered. The analysis of that data should come after complete and unaltered submission.

If you eliminate the 11.2 ng/l and the 13.8 ng/l, the on-going average is approximately 2.2 ng/l. Only three times do the reported values exceed the new proposed 7.1 ng/l variance limit. The 7.1 ng/l proposed value should be reduced to 3 ng/l (29 of 44 values are already below 3).

Response 24: This comment appears to refer partly to the copper data, where outliers were removed in the PEQ calculation. We are not addressing the subject of outliers in the copper data because we are not acting on the dissolved metal translator data at this time.

We believe that the mercury PEQavg. value and variance limits were correctly calculated. The limit based on PEQ is a limit that ensures “Compliance with an initial effluent limitation which, at the time the variance is granted, represents the level currently achievable by the permittee”, as required by Ohio’s variance rule. We cannot include a limit of 3 ng/l because that level is not a limit that is currently achievable, given that approximately one-third of reported mercury values are higher than 3 ng/l.

No outliers were removed from the low-level mercury data. A few values analyzed with older mercury methods were removed (see the attached page). The mercury variance limit is supposed to be a value that the discharger can currently meet; because of this, it is set at the high end of the data set. We did not eliminate outliers because the values mentioned do not fit the criteria for outliers. The 7.1 ng/l variance limit is a value that they can comply with (only 3 of 44 data points are above the proposed limit).

Comment 25: The proposed modification inexplicably fails to set mercury discharge limitations until November 1, 2010. At a minimum, the Lake Shore plant must be required to meet mercury limitations now, not nine months from now.

Response 25: The Lake Shore Plant discharge is meeting the WQ-based limit applicable at the moment – 14 ng/l. This limit was developed using standard mixing assumption from the Great Lakes Initiative Rule. Based on this WQ-based limit, the discharge does not have the reasonable

potential to contribute to an exceedance of WQS. We made the mercury limit applicable November 1, 2010, because that is when the lower limit (WQS w/o mixing) becomes effective (and when the discharge does have the reasonable potential to exceed WQS).

Comment 26: For toxic pollutants such as mercury the Clean Water Act Section 301 requires that NPDES permits “shall require application of” Best Available Technology (BAT) to reduce pollutant discharges to the maximum extent “technologically and economically achievable” including “elimination of discharges of all pollutants” if it is achievable. These stringent requirements of the Clean Water Act require Ohio EPA to independently evaluate the available pollutant control technologies and require stringent permit limits that reflect BAT and the Act’s goal that pollutant discharges be eliminated.

Response 26: We disagree that the Clean Water Act requires BAT treatment technology-based limits in all cases. Ohio EPA is not required to revisit technology standards that were already addressed by U.S. EPA.

Ohio’s mercury variance rule looked at the treatability of mercury in the nanogram per liter range, and concluded that existing treatment plants of various types could generally meet 12 ng/l as an annual average; discharge levels lower than 12 ng/l could not be met by treatment because (1) additional treatment could not reliably meet lower limits; and (2) even if reverse osmosis could meet the limit, it could not be added to large numbers of dischargers without causing widespread social and economic impact.

Comment 27: The proposed modified permit purports to allow Lake Shore to exceed the 12 ng/l WQS for mercury if the company can show that such exceedance is “due primarily to the presence of mercury in the permittee’s intake water”. It is not permissible to allow a facility to exceed WQS on the basis of such an intake credit – See OAC 3745-2-06(C)(1)(b)(iii) and (iv).

Response 27: The cited state rule and the Great Lakes Initiative allow the director to find that a pollutant in a discharge does not have the reasonable potential to cause or contribute to an excursion of water quality standards if the pollutant is in the discharge solely due to intake concentrations.

That said, it is very unlikely that an ash wastewater discharge could qualify under this paragraph. It is unlikely that a discharger could make the “no additional mass” demonstration required in OAC 3745-2-06(C)(1)(b)(ii).

Comment 28: The variance process is not serving Ohio's communities, health or environment. FirstEnergy has had 10-13 years to reduce mercury. It is past time to say no. Ohio EPA must ask each discharger to prove that they will make investments in their businesses; they should be required to show evidence of this investment in mercury emission reduction to get or continue a variance. Ohio EPA should reject the variance and use the PMP to secure a commitment to reduce mercury emissions. Keeping the limit is the only incentive for FirstEnergy to reduce mercury.

Response 28: We disagree that having a limit provides the only incentive to reduce mercury. The PMP requirements are an incentive in the sense that showing progress is the only way to maintain a variance into the next permit cycle. The PMP requires the company to: (1) prevent or remove potential sources of mercury in the plant; (2) assess the treatment system in an effort to remove additional mercury; and (3) assess the forms of mercury in the discharge to determine if additional treatment would remove any additional mercury.

Comment 29: Pollutant Minimization Programs are meant to minimize mercury, not increase the allowable amount. Mercury will be minimized by denying the variance request.

Response 29: PMPs are meant to minimize mercury, and do so through the means cited in the response above. Denying the variance does not give any additional assurance that the standard will be met. See previous responses on the PMP.

Comment 30: The PMP approach does not set time frames or goals for when the water quality criteria will be met. Ohio has been criticized by the General Accounting Office (GAO) for setting limits based on what is achievable, rather than using the WQS. Ohio EPA must acknowledge the deficiencies cited in the GAO report and take aggressive actions to reduce mercury levels.

Response 30: These are not Ohio's deficiencies, but the Great Lakes Initiative Rule's limitations. The GLI Rule contains variance provisions, and did not set up a mechanism to force technology development; nor have any of the Great Lakes states set up such a mechanism to our knowledge.

Comment 31: The PMP is inadequate as a means to reduce mercury. The barebones 1.5-page document submitted by FirstEnergy as their PMP contains no detailed discussion of best management practices or other control mechanisms. There is no discussion at

all of pollution prevention or treatment. The plan for identifying plant sources only notes already-initiated monitoring plans.

The PMP should include control of fugitive coal dust in the loading area, replacing fluorescent lights, and removing mercury thermometers and switches from the facility. FirstEnergy should also be required to consider buying lower-mercury coal, including the cost and feasibility.

The permit does not include a timeline for the implementation of the mercury PMP. Firm deadlines for the completion of the steps required by the plan must be included in any modified permit. Lake Shore should also be required to monitor and study the effectiveness of its PMP, and make that information available to Ohio EPA and the public.

Response 31: A Plan of Study submitted with a mercury variance application is an outline of how a PMP is to be conducted – what sources will be looked at, what evaluations are to be done, etc. The rule requirements for Plans of Study are general. FirstEnergy has submitted the minimum required data under the rule.

We have added requirements to the PMP based on our analysis and comments from the first public hearing on this application. The permit contains an investigation of coal sources, and maximization of treatment with the current system. We have also added deadlines for the completion of these evaluations.

Comment 32: Part II, section M. of the proposed modification requires a control strategy to locate, identify, and, where cost-effective, reduce levels of mercury. It appears that Ohio EPA is allowing FirstEnergy to determine what is or is not cost-effective. This is tantamount to self-regulation. Ohio EPA should require FirstEnergy to identify all strategies, not merely strategies that the company deems “cost-effective”. After FirstEnergy identifies all strategies, OEPA can then determine which strategies should be implemented.

Response 32: The language in the permit does what you request. FirstEnergy is required to identify measures to reduce mercury. They must implement those measures that are cost-effective. It is possible that the company and Ohio EPA may disagree at some point about what is, or is not, cost-effective. Ohio EPA may require implementation of alternatives through a permit action.

Comment 33: The fact sheet refers to “reasonable progress” in implementing the PMP. Will you have pre-existing criteria to measure the progress, and if so, what will they be?

Response 33: There are several indicators of progress in a PMP. The most direct indicators are the levels of mercury in the influent and effluent of the treatment system (data collected for Outfalls 600 and 001 in the permit). Other indicators would be how much of the PMP items were completed.

Other Comments

Comment 34: The largest source of mercury is the air emissions from this power plant. Controlling the air emissions should be a bigger priority because the plant releases more mercury in the air.

Response 34: It is true that air emissions of mercury are the largest sources of the pollutant at the plant. Mercury air emissions are controlled by the federal Clean Air Act, implementing state statutes and state and federal regulations.

Comment 35: FirstEnergy has shown 12 consecutive months of violation. This shows a lack of willingness to meet standards.

Response 35: The quarters of non-compliance refer to an on-going U.S. EPA investigation into modifications of the facility, and whether these modifications triggered a new source review; these do not refer to exceedances of the air pollution control permit limits.

U.S. EPA had requested information from FirstEnergy on the modifications; when the company did not respond within the allotted time, U.S. EPA took enforcement action, issuing an administrative order (May 2008) followed by a consent order (July 2008) to collect this information. FirstEnergy sent parts of the information requested to U.S. EPA on December 12, 2008, January 2, 2009 and May 1, 2009. U.S. EPA indicated that some information remains to be submitted under these orders. This is still the current status of the case.

End of Comments

Parameter name: Mercury, Total (Low Level)

Reporting code: 50092 (6/4/2001-11/12/2008)

Units of measure: ng/l

# of Obs.	# of Obs. > MDL	# of Obs. excluded	Min. Value	Max. Value	MaxChk Value	PEQ Method	R ² Value	PEQ average	PEQ max.
48	44	4	0.591	13.8	16.867	B	0.9933	7.1316	11.505

Permit number: 3ib00004

Outfall number: 002

Date	Reported Value	A Code	MDL	Enter "x" to exclude as outlier
6/4/2001		AA	0.2 UG/L	x
6/10/2001		AA	0.2 UG/L	x
6/18/2001		AA	0.2 UG/L	x
6/28/2001		AA	0.2 UG/L	x
8/9/2001	5.57			
12/17/2001	5.5			
3/12/2002	1.33			
6/20/2002	2.01			
8/7/2002	2.03			
12/10/2002		AA	0.5 NG/L	
3/17/2003	0.705			
6/9/2003	3.25			
8/12/2003		AA	.5 NG/L	
12/8/2003	0.84			
3/15/2004	1.31			
6/15/2004	7.71			
8/17/2004	5.36			
12/16/2004	0.962			
3/8/2005	1.07			
6/30/2005		AA	0.5 NG/L	
8/16/2005		AA	0.2 NG/L	
12/19/2005	6.78			
3/16/2006	3.08			
6/12/2006	2.12			
8/8/2006	11.2			
9/14/2006	1.24			
10/11/2006	3.24			

11/13/2006	2.81
12/6/2006	1.96
1/18/2007	2.59
2/12/2007	0.591
3/6/2007	2.66
4/4/2007	1.27
5/7/2007	1.42
6/4/2007	0.614
7/31/2007	0.744
8/9/2007	6.74
9/19/2007	3.65
11/2/2007	1.59
11/20/2007	3.1
12/10/2007	13.8
1/10/2008	3.72
2/13/2008	5.77
3/4/2008	3.18
4/3/2008	2.35
5/5/2008	1.08
6/4/2008	0.711
7/2/2008	1.1
8/11/2008	3
9/8/2008	1.74
10/2/2008	1.64
11/12/2008	1.1