

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

NOTICE OF FINAL DETERMINATION TO REISSUE A WISCONSIN POLLUTANT DISCHARGE
ELIMINATION SYSTEM (WPDES) PERMIT No. WI-0000914-08-0

Permittee: Wisconsin Electric Power Co Oak Cr Plnt Elm R, 11060 S. Chicago Road, Oak Creek, WI, 53201

Facility Where Discharge Occurs: Wisconsin Electric Power

Co Oak Cr Plnt Elm , 11060 S. Chicago Road

Receiving Water And Location: Lake Michigan at permittee address

Brief Facility Description: The Oak Creek Elm Road (OCER) facility consists of the Oak Creek Power Plant (OCPP) and the Elm Road Generating Station (ERGS). The facility consists of 6 coal fired steam electric power generating units located on the shore of Lake Michigan.

Permit Drafter's Name, Address and Phone: Jason Knutson, 101 S. Webster St. PO Box 7921, Madison, WI, 53707, (608) 267-7894, Jason.Knutson@wisconsin.gov

Basin Engineer's Name, Address, and Phone: Bryan Hartsook, 2300 N Dr Martin Luther King Jr Dr, Milwaukee, WI 53212, (414) 263-8512, Bryan.Hartsook@wisconsin.gov

Date Permit Signed/Issued: **Enter Date Permit Signed/Issued**

Date of Effectiveness: October 1, 2019

Date of Expiration: September 30, 2024

Public Informational Hearing Held On: February 11, 2019

Following the public informational hearing and public comment period, the Department has made a final determination to reissue the WPDES permit for the above-named permittee for this existing discharge. The permit application information from the WPDES permit file, comments received on the proposed permit and applicable Wis. Adm. Codes were used as a basis for this final determination.

The Department has the authority to issue, modify, suspend, revoke and reissue or terminate WPDES permits and to establish effluent limitations and permit conditions under ch. 283, Stats.

Following is a summary of significant comments and any significant changes which have been made in the terms and conditions set forth in the draft permit:

Comments Received from the Public (Note: comments of similar substance were combined/summarized below for the reader's efficiency)

1. **ELG Compliance Date:** The permittee should meet the Effluent Limitation Guidelines' requirement to convert wet ash handling systems to dry ash handling systems sooner than 2023 (some individuals requested this to occur as early as 2020). The default compliance date is November 1, 2020 unless specific reasons represent cause for DNR to delay the compliance date. Potential for future rule changes is not one of those reasons.

Response: The compliance date for ending the discharge of bottom ash transport water has been adjusted forward by 24 months to December 31, 2021, which is 27 months after the effective date of the permit. The basis for this date is the Utility Water Act Group (UWAG) timeframe for compliance (see Sierra Club's comment 1A below). In recognition that the rule has been in effect for some time, the early bound of UWAG's forecasted compliance timeframe was chosen.

For capital projects exceeding a certain cost threshold, Construction Authorization from the Public Service Commission (PSC) is required. In recognition that this process is largely outside the permittee's control, if PSC Construction Authorization is required, the date for compliance may be delayed by the sooner of six months or the amount of time between the date on which the permittee applies for PSC authorization and the date on which authorization is granted. See Section 4 of the permit. The date for compliance may not be later than June 30, 2022.

If the permittee elects to comply with 40 CFR 423.13 (k) by re-using bottom ash transport water in the flue gas desulfurization scrubber, effluent from the scrubber must meet the limitations for mercury and arsenic immediately and must meet the limitations for nitrate and selenium by December 31, 2023 (see 40 CFR 423.13 (g)).

2. **Claim that permit allows an increase in mercury loading rate:** Many commenters stated that the proposal will allow the permittee to increase its mercury load, discharging up to three times more than the water quality standard of 1.3 parts per trillion (ng/L) mercury that is considered safe for wildlife, bypassing essential safety measures.

Response: This is an incorrect statement and has been a topic of misinformation and misreporting during the comment period. The proposed permit does not allow the permittee to increase its mercury discharge. The current permit (effective 2005-2019) does not contain a mercury limit. It only contains mercury monitoring. In fact, the proposed reissued permit imposes the first ever effluent limitation for mercury at outfall 007, creating a backstop to prevent an increase in mercury loading while requiring source reduction measures aimed at achieving incremental reductions in mercury loading and eventual compliance with the water quality standard without any allowance for dilution.

3. **Basis for interim mercury limit at outfall 007:** The coal ash spill associated with the bluff collapse event occurred around the same time as the peak in mercury effluent concentrations at outfall 007. This event should not be used as a baseline for allowing an increase of mercury discharged to the lake. The interim limitation should be based upon the most recent representative data.

Response: The release of material associated with the October 31, 2011 bluff collapse did not occur via outfall 007. Therefore, the effluent data for outfall 007 was unimpacted by the event. Additionally, elevated mercury levels were not observed at outfall 007 until nearly a year later. However, the department has updated the interim mercury limitation based on the 1-day 99th percentile value derived from the most recent 5 years of effluent data. This has yielded a new interim variance limitation of 3.7 ng/L (decreased from the proposed limitation of 4.1 ng/L). See also the response to Sierra Club's comment #2B.

4. **Drinking water concerns:** Lake Michigan is a water supply (including drinking water) for many people, cities (Franklin, Racine, etc.), industries, and wildlife, and it must be protected. The variance will harm human health, as mercury is a pollutant that causes fiber myalgia and harm to the brain, nervous systems, heart, kidneys, lungs, and immune systems of people of all ages, but especially children. Consideration should be given to long-term effects and future generations, and Lake Michigan, as an important freshwater resource, must be protected. One commenter expressed concern that Franklin does not test for mercury in its drinking water.

Response: The maximum contaminant level (MCL) for mercury in drinking water is 2 ug/L (2000 ng/L) annual average, and the human threshold criterion for mercury is 1.5 ng/L. The permittee has, over the last five years, discharged an average concentration of 1.29 ng/L mercury via outfall 007 at an average discharge flow rate of 3.14 MGD, although variability has occurred over this period. The interim variance limit at outfall 007 is designed to allow for daily variability but to prevent any increase in loading. As the response to comment #20 indicates below, the flow-weighted average from all regular process outfalls, including outfall 007, is 0.37 ng/L, calculated using data from the last five years. The lake's average concentration, as measured at the permittee's intake structure, measured 0.41 ng/L during that same time period. The lake and the flow weighted average of all regular process effluent streams at the facility are below the 1.5 ng/L human threshold criterion and the 2 ug/L maximum contaminant level for drinking water, and the effluent streams all mix together with ambient lake water and one another prior to withdrawal by any intake structures serving municipal water supplies. While this information was not used in decision-making relating to the proposed water quality standard variance, it is of importance when evaluating human health considerations.

5. **Request to Establish a Effluent Limitation of Zero for Mercury:** Some commenters requested that the permittee be given a limit of zero for mercury, citing medical experts and bioaccumulation and stating that there is no safe level of mercury exposure.

Response: The department lacks authority to impose a water quality based effluent limitation (WQBEL) of zero for outfall 007. The most stringent water quality criterion for mercury in Lake Michigan is the wildlife standard of 1.3 ng/L. Chapter NR 106, Wis. Adm. Code includes procedures for calculating water quality based effluent limits. These procedures are based on mass balance calculations of effluent pollutants and ambient pollutants and only authorize limitations that are sufficiently stringent to ensure attainment of water quality standards. Therefore, the lowest limit that could be calculated and imposed for outfall 007 is one equal to the water quality standard.

6. **Technical feasibility of mercury treatment:** Treatment of effluent for mercury removal below 1.3 ng/L is technically and economically feasible. One commenter noted that experimental work in mercury removal includes chemical precipitation using aluminum sulfate, activated carbon adsorption, coagulation, filtration, bio films, reverse osmosis. It is cheaper to treat the effluent than to pay for cleanup of the lake later. One commenter questioned how use of treatment equipment from Pleasant Prairie can improve treatment if treatment is infeasible. One commenter stated that the alternatives analysis in the Economic Impact and Feasibility section of the mercury variance application is insufficient to justify a variance and should, at a minimum, evaluate switching to a dry ash handling system, converting the plant to run on natural gas, and retiring the Oak Creek Power Plant portion of the facility.

Response: The department spoke with consultants and conducted a literature review on this subject. While one consultant asserted that, in specific situations for specific wastewaters, it may be possible for treatment to attain 1.3 ng/L, they did not provide documentation or studies demonstrating consistent attainment for this type of wastewater, as requested by the department. Many factors, including speciation of mercury into elemental, methyl, and ethylmercury, affect the potential efficacy of treatment technologies, warranting

pilot testing prior to installation. The pollutant minimization plan associated with the proposed variance requires pilot testing of emerging technologies. If one of these technologies proves feasible, the permit may be reopened to require installation of the technology at full scale and compliance with the final limit of 1.3 ng/L. However, at this time, the department does not have information suggesting that attainment of 1.3 ng/L is feasible using treatment at this outfall. The department does believe that source reduction activities have a likelihood to yield reductions, however. See the response to Sierra Club Comment #2 for more information.

7. **Technical feasibility of eliminating mercury discharge entirely:** One commenter notes that the federal Steam Electric ELGs require coal plants to eliminate the release of coal ash waste, so technology does exist to treat for mercury. The commenter cites three permits issued in Maryland that enforce these regulations as evidence that this technology exists.

Response: The department agrees that technology to eliminate discharge of bottom ash transport water does exist, and both the publicly noticed draft permit and the proposed permit for this facility include a requirement that the permittee eliminate bottom ash transport water discharges as a condition of the variance and in a manner compliant with the federal ELGs. This is the same requirement as was enforced in the referenced Maryland permits and in other steam electric facilities' WPDES permits in Wisconsin. The proposed permit has moved the date by which this must occur forward by two years. See the response to public comment #1 for more information. However, bottom ash transport water is just one of many waste streams at power plants. Other mercury sources also exist, and the proposed variance also requires that these sources be eliminated and/or minimized to the extent possible during the permit term.

8. **Economic feasibility of mercury treatment:** WE Energies has the financial ability to implement safer and cleaner solutions. Some commenters indicated a willingness to pay more in rates to cover costs of treatment. Commenters noted that WEC Energy Group's 2018 net income and earnings per share were the highest in company history, and 2018 marks the 15th consecutive year of higher dividends. Over those 15 years, total shareholder return has averaged 15.1 percent per year.

Response: The department's basis for the variance is that treatment to reliably and consistently meet 1.3 ng/L is technically infeasible. Because treatment is technically infeasible, it is also economically infeasible, as no amount of money can purchase treatment that does not exist. See the responses to public comment #6 and Sierra Club comment #2 for more detail.

9. **Lake Michigan Mercury Impairment:** Multiple comments stated that "Lake Michigan is currently at 0.39 ng/L which is considered impaired, [as] the DNR limit is 1.3 ng/L..."

Response: The ambient concentration of 0.41 ng/L in Lake Michigan is less than the most stringent applicable water quality criterion of 1.3 ng/L. Therefore, Lake Michigan meets the applicable designated use and is not considered impaired for ambient mercury concentrations since the ambient concentrations are well beneath the water quality standard. However, there is a fish consumption advisory, as there is in most of the state, that causes the lake to be listed as impaired for fish consumption. Fish consumption is not listed as a subcategory of the public health and welfare standard nor as a separate use in the designated use categories in s. NR 102.04. While the lake is listed as impaired due to the fish consumption advisory, it is supporting the designated uses established in ch. NR 102 and its ambient mercury concentration is below the most stringent applicable water quality criterion for mercury in Great Lakes, which is 1.3 ng/L.

10. **Fish consumption advisories and concerns:** Comments noted concern regarding fish consumption in Lake Michigan, should the variance be approved. A fish consumption advisory already exists for mercury in yellow perch in Lake Michigan

Response: Please see the response to comment #9 above for detail on the fish consumption advisory for yellow perch. Please see the response to comment #20 for data indicating that the discharges from the facility as a whole do not appear to contribute to a worsening of mercury concentrations in the lake as a whole.

11. **Potential Sources of Additional Mercury:** WE Energies recently changed its coal source in 2017. The new coal is sourced from Wyoming and is softer with a lower BTU content than the previously used anthracite coal from the eastern US, requiring a larger volume of coal to be stored and burned. One commenter hypothesized that this may be the source of elevated mercury in the 007 effluent.

Response: The department has not observed a substantial change in mercury effluent quality between the pre- and post-2017 effluent data for mercury at outfall 007. The elevated mercury levels occurred following a sharp increase and subsequent decrease in mercury effluent concentrations in 2012.

12. **Dates for PMP Actions:** One comment stated, "We Energies did not previously need a variance, at least as late [as] 2008 it appears their mercury emissions [discharges] were under the DNR limit. Since at least 2012 there has been a problem with mercury emissions [discharges], including a mercury discharge of 24.45 ng/L on 8/22/2012. Despite knowing there was an issue, there is no evidence WE Energies has engaged in any investigation of the source, or real analysis of action they could take to reduce emissions. WE Energies just waited until renewal time, and now are asking for time to figure it out. That is unacceptable." Another commenter asked when the department became aware of the increase in mercury discharge and what steps the department has taken to stop the discharge of mercury.

Response: The currently effective WPDES permit for We Energies' Oak Creek-Elm Road facility (effective 2005-2019) does not include a water quality based effluent limitation for mercury at outfall 007 because, at the time of last reissuance, based on the procedures codified in ch. NR 106, Wis. Adm. Code, the discharge did not show reasonable potential to cause or contribute to an exceedance of water quality standards for mercury. Mercury monitoring was required under the current permit. In recognition of the change in mercury concentrations during the past permit term, the department is taking steps in this proposed reissuance to place an interim limitation on the outfall that prevents an increase in mercury loading and requires the facility to take tangible steps to eliminate or minimize mercury sources to outfall 007. In its mercury variance application, the permittee notes that it installed an alkali-sulfide process for removal of mercury and other metals from flue gas desulfurization (FGD) wastewater at the Elm Road Generating Station, and this was completed in 2011. In 2012, the Oak Creek Power Plant's FGD system was completed, and wastewater from this system was also routed to the alkali-sulfide treatment system. This treatment system removes 99.99% of mercury from the FGD wastewater, reducing mercury concentrations in this specific waste stream to approximately 15 ng/L. The department receives monthly discharge monitoring reports from the facility no later than the 15th of each month. These reports include data collected during the previous month. As was mentioned above, at the time of the last permit issuance, based on the procedures codified in ch. NR 106, Wis. Adm. Code, the discharge from outfall 007 did not represent reasonable potential to cause or contribute to an exceedance of water quality standards, so the currently effective permit (2005-2019) did not include an effluent limitation for mercury. Therefore, the increase of mercury loading was not flagged as a violation and was not subject to enforcement.

13. **Dates for PMP Actions and Duration of the Variance:** Other commenters requested that, if the variance is necessary, the timelines for pollutant minimization plan and other compliance actions be as short as possible. Commenters also requested that the duration of the variance be shortened to no more than the amount of time required for We Energies to return to compliance with the standard of 1.3 ng/L.

Response: The department has adjusted the date for elimination of bottom ash transport water to shorten the amount of time allowed for the permittee to eliminate this source of mercury. For other sources, the permittee is required to identify and eliminate or minimize sources as soon as possible during the permit term. See the response to Comment #3 from MEA below regarding the duration of the variance.

14. **Financial Penalties:** Some commenters requested that the permittee be penalized for each day the facility is out of compliance with the 1.3 ng/L standard.

Response: The WPDES permit contains the required conditions and limitations for the discharge. The department may take enforcement action for violations of the WPDES permit requirements.

15. **PMP Action Follow-through:** Comments expressed concern and skepticism regarding the permittee's commitment to follow through on the Pollutant Minimization Plans' required actions and comply with interim limits.

Response: The permittee is required to comply with all permit conditions. Any noncompliance is subject to enforcement and referral to the Department of Justice, which may result in forfeitures under ch. 283, Stats..

16. **Claim that the permit allows dilution to meet mercury limits:** One commenter claimed that dilution would be used to meet effluent limitations for arsenic and mercury and expressed concern that dilution is not an adequate solution, as it does not decrease mass loading.

Response: This is incorrect, and the department agrees that dilution prior to discharge is not an acceptable solution for compliance with effluent limitations. The department also did not factor in an allowance for dilution in the receiving water after discharge, or a mixing zone, when calculating water quality based effluent limitations for arsenic or mercury. Mixing zones for existing discharges of bioaccumulative chemicals of concern (BCCs) to the Great Lakes are only allowed in limited situations (see s. NR 106.06(2)). If the department had accounted for a mixing zone within the receiving water using standard practice for calculation of limits for discharges to lakes, the discharge from outfall 007 would not demonstrate reasonable potential to cause or contribute to an exceedance of mercury water quality standards, so a water quality based effluent limitation would not be included and the variance would not be necessary. However, the department did not allow for a zone of dilution for this discharge when calculating limitations.

17. **Year of Clean Drinking Water:** The variances are not consistent with Gov. Evers's Year of Clean Drinking Water and DNR's mission statement.

Response: The proposed permit is consistent with provisions of the Clean Water Act, and the proposed variances seek to ensure the highest attainable condition for mercury and arsenic, with a recognition that technical constraints prevent outright attainment of the wildlife mercury criterion of 1.3 ng/L (more stringent than maximum contaminant level of 2000 ng/L for mercury in public drinking water supply systems) and the arsenic criterion of .2 ug/L (more stringent than the maximum contaminant level of 10 ug/L for arsenic in public drinking water supply systems). The proposed permit takes many significant steps toward improving water quality including (1) a first time effluent limitation on mercury at outfall 007 that will prevent an increase in mercury loading, (2) enforceable pollutant minimization plans for arsenic

and mercury, (3) more stringent phosphorus limitations on several large outfalls (003, 004, 005, 006, 007, 013) that represent a decrease in allowable load, and (4) elimination of bottom ash transport water discharge in accordance with the federal ELGs, amongst many other improvements.

18. **General Opposition/Support for Variances:** The department received a large number of comments in opposition to the variance and two comments in support (not from the permittee). Some commenters requested that the variances be rejected.

Response: General comments of support or opposition were noted but do not provide a legal or technical basis for approval, modification, or rejection of the proposed variances upon which the department can rely in making its determination. Please see other substantive comments and responses regarding changes made to the permit and proposed variances.

19. **Plan for restoration:** One commenter asked for “the formal plan for WE Energies to clean up their dumping.”

Response: Please see the pollutant minimization plans (PMPs) in Section 4 of the WPDES permit for details on required actions for reducing arsenic and mercury concentrations in the discharge from Outfall 007. Concerns regarding stormwater and potential for legacy contamination onsite or on neighboring sites have been shared with the other relevant DNR subprograms for further consideration.

20. **Total Mass of Mercury Discharged from the Entire Facility:** It is important to note the total amount of mercury discharged per year from the entire facility.

Response: Average mercury concentrations are provided below for each outfall for which the current permit requires regular mercury monitoring (data is from 1/1/2016 – 10/31/2018). The remaining outfalls are used infrequently and therefore do not have regular mercury monitoring; Outfalls 008, 014, and 015 are only authorized for use under a 10 yr-24 storm event, 010 is an emergency overflow, and 012 is backwash of intake screens using intake water.

| Outfall | Average mercury concentration | Average Daily Flow Rate |
|---|-------------------------------|--------------------------------|
| 001 | 0.41 ng/L (same water as 003) | 13.1 MGD (million gallons/day) |
| 003 | 0.41 ng/L | 241.4 MGD |
| 004 | 0.42 ng/L | 188.0 MGD |
| 005 | 0.38 ng/L | 214.6 MGD |
| 006 | 0.40 ng/L | 156.9 MGD |
| 007 | 1.29 ng/L | 3.1 MGD |
| 013 | 0.33 ng/L | 827.9 MGD |
| Flow-weighted average of all outfalls | 0.37 ng/L | |
| 706 (intake) – Ambient Lake Michigan Water | 0.41 ng/L | |

The data from the above outfalls suggest that, cumulatively, these outfalls actually discharge less mercury than is withdrawn from the Lake, including outfall 007 for which a variance is proposed. Nonetheless, the department would like to reiterate that each outfall is evaluated separately for purposes of compliance with water quality standards; that is, dilution with other outfalls was not considered when evaluating the need for inclusion of effluent limitations or demonstration of need for a water quality standards variance.

21. **Other Water Quality Standard Variances:** One commenter asked for a list of water quality standard variances approved during the last five years.

Response: The requested information was provided to the commenter and is available upon request.

TSS Monitoring Frequency: One commenter disagreed with allowing calculation of the TSS mass load and waiving of requirements for TSS monitoring of the ERGS treated process wastewater.

22. **Response:** Monitoring of TSS at this sample point (107) is not waived but rather is required in this permit. It is impossible to *directly* measure the total mass of TSS passing through sample point 107. To achieve this, the entirety of flow, amounting to millions of gallons of water per day, would need to be trucked to a laboratory for analysis. Mass loading is commonly measured via sampling and calculation by multiplying measured concentration (mass/volume) by flow rate (volume/time), which yields units of mass/time.

23. **Request for Surface Water Testing:** WE Energies should pay for testing of surface waters surrounding the facility.

Response: The department lacks authority to require private entities to sample surface waters via a WPDES permit, except in cases in which a permittee elects to comply with an effluent limit using adaptive management or in other limited situations. The department’s authority to require monitoring is generally limited to monitoring of effluent (Wis. Stat. §. 283.55).

24. **Request for Runoff Monitoring:** Commenters stated that deposited coal dust runs off into surface waters during rain events. One commenter requested that We Energies pay for testing of waters running off from slag sites, coal piles, fly ash, and unloading docks.

Response: Most stormwater runoff from the site is covered by an industrial stormwater general WPDES

permit. Coal pile runoff and runoff from the limestone and gypsum area, however, are permitted under this individual WPDES permit, but only during a 10-year, 24-hour storm event. This permit prohibits discharge of coal pile runoff and runoff from the limestone and gypsum area except under a 10-year, 24-hour storm event. Under these weather events, the discharge is considered an emergency overflow and must be sampled prior to discharge via outfalls 008, 014 and 015, at which point it is subject to a 50 mg/L total suspended solids limitation. Any sampling required by this or the stormwater general permit will be paid for by the permittee. This comment seems to refer to runoff from areas of the site on which coal dust has blown from the pile and been deposited, rather than runoff from the limestone or gypsum areas. Such runoff would be covered under the Tier 2 Stormwater General WPDES Permit, which requires implementation of a stormwater pollution prevention plan to prevent stormwater from being contaminated. This comment has therefore been shared with the department's stormwater program.

25. **Request for Drinking Water and Health Testing:** The department should pay for drinking water and health tests for citizens on an annual basis if the variance is approved. One commenter requested a testing service for anglers with elevated risk for elevated blood concentrations of bioaccumulative substances and offered to assist or spearhead the testing initiative.

Response: See also the response to Public Comments #4, 9, and 20 regarding threats to drinking water quality and fish tissue. The current permit does not include a mercury limit for discharges from outfall 007, but the proposed permit does include a first-time limit that is intended to prevent an increase in mercury discharged from the facility. The department does provide fish consumption advisories that are intended to provide information to citizens regarding public health risks and recommends that anglers follow these advisories. Because data suggests that mercury concentrations in the lake are below levels of concern for public water supply, the department will not pay for testing at this time.

26. **Request for a Second Public Hearing:** A second hearing was requested by several commenters. Commenters noted that the hearing room's capacity was smaller than the amount of people who wished to attend, and the time of the hearing was not convenient for all attendees. Comments asserted that the public hearing violated the public meetings law because all interested persons were not able to be present in the room. One commenter stated that notification of the hearing needed to be sent to all residents "in the defined monitoring area per the 2003 agreement."

Response: The department made a reasonable attempt to accommodate the increased interest in the WPDES permit following the public notice. S. NR 203.07, Wis. Adm. Code, requires that public hearings be held in the area affected by the proposed discharge, whenever possible, so the hearing was scheduled at a public location in Oak Creek, WI. The department selected this particular conference room at the Oak Creek Community Center because past hearings related to this permit have been held in this space, and there has been sufficient space. After the department publicly noticed its intent to reissue the WPDES permit and hold a hearing at a set time and location in the Milwaukee Journal Sentinel and on its website, media coverage in the two weeks leading up to the hearing led to broader public interest in the hearing and draft permit. At this time, the department contacted the Oak Creek Community Center to inquire about the possibility of moving the hearing to a larger room on-site, but no larger room was available. S. NR 203.09 (1), Wis. Adm. Code, allows for the changing of a time or place of a scheduled hearing for good cause only prior to any required newspaper publication of legal notice for said hearing. A change in location or time of the hearing after notice of the hearing and broad circulation of that notice via media coverage and social media would have violated this provision and caused much confusion, leading to frustration by citizens that had made arrangements that day to attend the hearing.

At the commencement of the hearing, the hearing examiner and other Department staff announced that the informational presentation would be given a second time after the hearing for anyone unable to see the presentation or hear it. A second presentation regarding the proposed permit and variances was given immediately after the hearing, and Department staff stayed after the second presentation to answer questions. Multiple citizens remained for the second informational presentation and question and answer session. All attendees were advised that, for those unable to stay until their turn to testify, written comments could be submitted that day or submitted up until days after the hearing. Citizens were advised that written comments had the same weight as those made verbally at the hearing. Given the fact that over 600 comments were received, it is evident that the public was given sufficient opportunity to provide comments on the draft permit and variances. In addition, it should be noted that this was in fact the second hearing on a proposed permit reissuance for this facility. A public hearing was previously held on December 14, 2015 for a proposed permit reissuance for this facility.

In summary, all public notice and public hearing procedures complied with state and federal law. The department will not, however, hold a third public hearing on a proposed permit reissuance for this facility.

27. **Request for a Second Public Comment Period:** One comment requested a second public comment period, should DNR determine to approve the variances and send them to EPA for review.

Response: The Department provided an extended comment period to accept written comments on the draft permit and proposed variances (58 days). Given the fact that over 600 comments were submitted, it is

apparent that citizens were given sufficient opportunity to provide comments. See response to Comment 26 for additional detail.

28. **Public Notice Procedures:** One commenter questioned whether the public notice of the proposed permit and variances was properly posted, as they only saw it on social media.
Response: Procedures for publicly noticing a hearing are specified in s. NR 203 Subch. I, Wis. Adm. Code, and additional or more stringent procedures for publicly noticing a proposed variance are specified in 40 CFR 131.14, 40 CFR 131.20 (b), and 40 CFR 25.5. The department fulfilled each of these requirements. The department publicly noticed the intent to reissue the WPDES permit with the proposed variances in the Milwaukee Journal Sentinel, a regional newspaper of broad circulation, and on the department's public website on December 22, 2018. The notice was also sent to a listserv of members of the public who have requested notice for all proposed permit issuances. The publicly noticed documents included all required information pursuant to ss. NR 203.02 and 203.06, Wis. Adm. Code. Federal law requires that the notice occur at least 45 days prior to the public hearing, and, in this case, notice occurred 50 days prior to the hearing. Additionally, the department allowed for submittal of comments until close of business on February 18, 2018, allowing for a total comment period length of 58 days.
29. **Opposition to Coal/Support for Alternative Energy Sources:** Numerous commenters expressed that WE Energies should transition away from coal and toward renewable energy, natural gas, or gasified coal.
Response: Because source reduction activities are an important component of pollutant minimization plans, the department has made a change to sections 4.3 and 4.4 of the permit to include a required evaluation of arsenic and mercury contents of available, feasible fuel sources. Specifically, the permittee must complete a short-term analysis that will detail options for switching to a coal source that will result in lower loading of arsenic and/or mercury. The permittee may make a determination that a fuel source is unavailable due to regulatory, logistical/practical, or other reasons. The permittee must also complete a long-term evaluation that describes the remaining useful life of generating units and options or plans for converting fuel sources away from coal and a description of plans to consider arsenic and mercury loading as part of this long-term planning for the facility. This information may be useful if the permittee is unsuccessful in meeting water quality standards and requests a variance in a future permit term.
30. **Rising Energy Costs:** One commenter expressed concern related to rising energy costs and insufficient electrical capacity, given the closure of the Pleasant Prairie Power Plant, and requested reissuance of the permit.
Response: Energy costs are outside the scope of this WPDES permit, so this comment was not considered in the decision to reissue this permit.
31. **Air Emissions:** The permittee should not be allowed to increase air emissions.
Response: Air pollution is outside the scope of the WPDES permit and is regulated under the Clean Air Act. This permit does not regulate air emissions and therefore does not authorize an increase in air emissions.
32. **Concern regarding Coal Dust:** Coal dust from the facility blows off trucks and train cars and from the plant. This forms a black film on properties, beaches, surface waters, and swimming pools in the area.
Response: Coal dust is regulated by the department's air management and stormwater programs. These comments are outside the scope of this permit, but they have been passed on to other programs at the DNR.
33. **Request for Air Emission Data:** 66 pounds of air deposition was estimated from WE OCER. Numbers on how much mercury is being emitted into the air should be available. Provide assay of fuel stock.
Response: Air pollution is outside the scope of this permit. Data on mercury air emissions may be requested as an open records request from the department's air program. The wastewater program does not regulate the fuel stock of the facility and therefore cannot provide an assay of fuel stock. See the response to public comment #20 for an accounting of mercury withdrawn and discharged by the facility.
34. **Potential Future Site Cleanup/Remediation:** Coal ash being accumulated in the plants' wastewater pond sites also likely contain some mercury and other heavy metals and may become a future toxic waste site of substantial size.
Response: All wastewater storage lagoons must comply with the design requirements of ch. NR 213, Wis. Adm. Code, to minimize risk of environmental contamination and, within two years of the date on which material is last stored or treated, lagoons must be abandoned in accordance with s. NR 213.07, Wis. Adm. Code. Abandonment plans must be reviewed and approved by the department prior to implementation. During reviews of abandonment plans, the department's Water Quality Program collaborates with the Remediation and Redevelopment program to assess need for any remedial actions. The purpose of requiring lagoon designs in compliance with the design standards of ch. NR 213, Wis. Adm. Code, is to prevent any need for remedial actions beyond proper disposal of solids settled to the bottom of the lagoon above the liner.
35. **Request that We Energies Pay the City of Franklin to Offset Economic Impacts:** Kristen Wilhelm, 3rd District Alderman of the City of Franklin, commented, "Previous financial payments related to this same power plant without consideration to other water consumption communities have placed Franklin at a social and economic disadvantage to its neighbor in both economic development and job creation. If

mercury discharge is allowed at the increase requested, a direct payment in justified commensurate with Franklin's water consumption."

Response: As stated in the response to public comment #2, this permit does not authorize an increase in mercury loading. The department does not have authority to require the permittee to pay neighboring communities.

36. **Prices for energy power sold back to the grid:** One comment argued that We Energies buys electricity from homeowners with solar power at a rate much lower than that which they sell electricity, and that paying a fair price would allow We Energies to reduce its emissions.

Response: This comment is outside the scope of the WPDES permit; the department does not have authority to require adjustment of We Energies' purchasing prices for solar power.

37. **Noise Pollution:** One commenter noted concerns about noise pollution from the power plant.

Response: Noise pollution is outside the scope of the WPDES permit.

38. **Traffic Concerns:** One commenter noted concerns related to coal trains inhibiting traffic.

Response: Traffic control is outside the scope of the WPDES permit.

39. **Other Mercury Variances:** Please scale back the amount of mercury all other entities are allowed to discharge to Wisconsin waters. Fish consumption advisories statewide are a manifestation of this issue.

Response: This comment was noted but, as it applies to WPDES permits other than We Energies Oak Creek Power Plant/Elm Road Generating Station, is outside the scope of the comment period for this specific permit. Please see the above responses to comments related to the mercury variance for this permittee for responses relating to this particular permittee.

40. **Self-regulation:** We Energies should not be a self-regulating entity.

Response: We Energies does not regulate its own wastewater discharge. Regulation of discharges of pollutants to waters of the state is authorized by the Clean Water Act and ch. 283, Wis. Stats., and is delegated from the USEPA to the Wisconsin Department of Natural Resources. WPDES permits are issued by the Department of Natural Resources to regulate point source discharges in the State of Wisconsin. Under federal and state laws, the WPDES permit program is a self-monitoring program. The department reviews all sample results and has authority to take samples where warranted to verify reported results. The Department also has authority to and is required to conduct onsite inspections.

41. **Request to Reject the Permit Application:** Please reject the permittee's application for permit reissuance.

Response: Section 283.31 (2) specifies circumstances under which the department shall deny a permit application. The permit does not meet any of the requirements in 283.31(2) that would prevent the permit from being issued and meets the requirements of 283.31(3) for when the department may issue a permit.

Comments received from Alliance for Climate Education, Alliance for the Great Lakes, Black Health Coalition of Wisconsin, Citizens Acting for Rail Safety - Milwaukee Area, Clean Power Coalition of Southeast Wisconsin, Cream City Conservation, Eco-Justice Center, Forward Kenosha, Freshwater Future, Grassroots North Shore, Greening Greater Racine, Interfaith Earth Network Southeast Wisconsin, Kenosha County Democrats, Kenosha Green Congregations, Michigan Environmental Council, Midwest Environmental Advocates, Midwest Environmental Justice Organization, Milwaukee Riverkeeper, Our Wisconsin Revolution, Physicians for Social Responsibility Wisconsin, Racine Dominicans, School Sisters of Notre Dame CP JPIC Office, Sierra Club Southeast Gateway Group, Sierra Club, Beyond Coal Campaign, Sierra Club-John Muir Chapter, Students Allied for a Green Earth (SAGE), The Friends of Grant Park, Water Protectors of Milwaukee, Whitefish Bay Action Team, Wisconsin Environment, Wisconsin Environmental Health Network, Wisconsin Green Muslims:

1. First, we are concerned by the proposed mercury variance, which would allow We Energies to exceed state standards for mercury pollution in water in their discharges into Lake Michigan. The Oak Creek permit requests to allow We Energies to add more mercury into Lake Michigan (an already impaired water body) at more than triple the wildlife standard and nearly triple the human health standard. Given that mercury is a potent neurotoxin and levels of mercury in Lake Michigan are already too high, we are strongly opposed to such a high variance and are asking the DNR to deny the mercury variance.

Response: See the response to Public Comment #9. Additionally, based on more recent data, the proposed interim limit has been decreased from 4.1 ng/L to 3.7 ng/L. The ambient concentration of mercury in Lake Michigan, as measured at the permittee's outfall, is 0.41 ng/L, whereas the most stringent applicable water quality standard is 1.3 ng/L. See the response to Public Comments #4 and #20 for more information on this facility's impacts on overall mercury concentrations in the Lake and human health.

2. Second, we are concerned that this permit gives We Energies too much time to implement best practices around the handling of coal ash, which is a toxic byproduct of coal burning that also has the potential to impact Lake Michigan and other nearby surface water. The federal Steam Electric Effluent Limitations and Guidelines (ELG) rule requires utilities to phase out wet ash handling practices by 2020 in most cases unless "technically and economically infeasible," but this permit would allow We Energies to continue wet ash handling until 2023, the latest possible date under the rule. We can do better. It is already financially and technically feasible to implement best practices for coal ash handling, and We Energies should be required to implement these best practices by 2020 or sooner, not 2023, to protect Lake Michigan.

Response: The federal ELG establishes the earliest compliance date as November 1, 2020. The Department did revise the compliance date in response to public comments from December 31, 2023 to December 31, 2021. See the response to Public Comment #1 and Sierra Club comment #1.

Comments from Sierra Club:

1. **Elimination of Bottom Ash Transport Water:** The permittee is required to meet limits attainable by use of the Best Available Technology (BAT). EPA periodically promulgates national effluent limitation guidelines (ELGs) that reflect BAT for particular discharges, pollutants, and activities found in a category of point sources. In 2015, EPA promulgated ELGs for steam electric power plants such as the Elm Road-Oak Creek facility. Among other things, the new rule prohibits the discharge of pollutants from bottom ash and fly ash transport waters and limits the amount of arsenic, mercury, selenium, and nitrate that may be discharged in FGD wastewater.

- A. **Date of Compliance:** The BAT standard for bottom ash transport under the 2015 ELGs is zero discharge, which EPA has determined can be achieved either by dry ash handling or by systems that completely recycle ash-handling water. Currently, Elm Road-Oak Creek does not meet the BAT standard, as bottom ash sluice water from Oak Creek Units 7 and 8, along with coal pile runoff and low volume wastes, discharge to Lake Michigan. The federal rules require that state permitting authorities specify a compliance date for the revised ELGs as soon as possible, beginning November 1, 2020. The phrase “as soon as possible” means November 1, 2020, unless the permitting authority establishes a later date based on well-documented justification and the authority’s consideration of certain enumerated factors in the final rule (40 CFR 423.11 (t)). The rule provides certain criteria that may be used to justify a compliance date later than November 1, 2020, and the possibility that the rule may change is not one of these. Relying upon a possibility of a change to the federal ELGs affords WEPCO superior protection and consideration under the law than it provides to the people of Wisconsin. The preamble to the federal rule directs permittees to begin planning for compliance immediately, rather than at the time of permit reissuance (50 Fed Reg 67882-83), so WEPCO should have begun planning for compliance over three years ago. Industry itself (the Utility Water Act Group) projects that the total time needed for bottom ash system retrofits ranges from 27 to 36 months, from the start of conceptual engineering to final commissioning. Even if WEPCO has not planned at all for elimination of its bottom ash discharges, elimination of bottom ash transport water discharges should be achieved no later than May 2021.

Response: The compliance date within the permit has been adjusted to December 1, 2021, a date 27 months after the effective date of the permit. The basis for this date is the UWAG timeframe for compliance. In recognition that the rule has been in effect for some time, the early bound of UWAG’s forecasted compliance timeframe was chosen. See the response to Public Comment #1 for additional details. The permit language was adjusted to allow for up to 6 months of additional compliance time if construction authorization is required by the Public Service Commission, as this schedule is largely out of the permittee’s control. Technology-based limitations on the FGD wastewater for mercury and arsenic are effective on the first day of the permit.

- B. **Documentation of Justification for Compliance Date:** The rule’s technical support document states that fact sheet or administrative record for the permit should “provide a well documented justification for how [the state agency] determined the ‘as soon as possible’ date” and ‘explain why allowing additional time to meet the limitations is appropriate.’” The current fact sheet does not contain sufficient explanation to justify a compliance date of December 31, 2023.

Response: The soonest compliance date suggested by UWAG’s forecasted compliance timeframe was chosen. This will allow time for We Energies to evaluate options for compliance with 40 CFR 423.13(k), select one option, develop plans and specifications, procure equipment, and construct the system.

2. **The Mercury Variance is Improper:** The department’s justification for the variance is simplistic and fails to consider the full scope of technological and operational changes that We Energies might pursue to reduce its mercury discharges into Lake Michigan. The determination that “treating to produce effluent at concentrations to meet the limit [is] technically and economically infeasible” is insufficiently supported. The Department cites a study from Ohio EPA to support this but does not provide its own analysis of the report, nor does it explain how it found this report or why it believes the report is reliable. The department is obligated to conduct its own independent analysis on what mercury control options are or are not technically and economically feasible.

Response: The department recognizes the study used to justify this mercury variance is an older study; however, the department is still not aware of any known chemical treatment process to remove mercury from wastewater. Thus, the only end-of-pipe treatment technologies that are potentially feasible would be non-membrane filtration. In *Cost Compliance with Water Quality Criteria for Pollutants for Oregon Waters* (2008), EPA’s assessment of the economic impact of complying with a more stringent mercury

criteria in Oregon considered different types of treatment and did not consider enhanced solids removal in cost estimates for implementing more stringent mercury criteria, concluding: “[f]or metals such as mercury and arsenic, technologies that primary target the dissolved fraction of the pollutant are most likely to achieve low effluent levels because most of the particulate fraction would already have been removed with existing treatment controls designed to remove solids.” The study noted that “due to the uncertainty of achievable effluent levels, we did not identify any end-of-pipe treatment technologies capable of producing the necessary effluent concentrations on a consistent and reliable basis.” Moreover, EPA’s *Economic Analysis for the Revision of Certain Federal Water Quality Criteria Applicable to Washington* (2015) repeated the same conclusion regarding the status of mercury treatment technologies. Therefore, at this time the Department still believes the Ohio EPA study is applicable. Source reduction measures are still preferable, as they have been shown to be effective in reducing the discharge of mercury and do not create a concentrated waste stream that must be disposed.

A. Early implementation of the ELG should be considered as a possible way to avoid a variance.

Response: The department has moved forward the date for compliance with 40 CFR 42.313(k) of the ELGs, but it does not expect and cannot definitively conclude that elimination of the bottom ash transport water from Units 7 and 8 will be sufficient action to comply with an effluent limitation of 1.3 ng/L, although it is expected to substantially reduce the mass of mercury discharged. Several other wastewaters, such as nonchemical metal cleaning wastewater, fire protection system drains, noncontact cooling water for equipment heat exchanger, low volume wastewaters, limestone/gypsum area runoff, coal pile runoff, and landfill leachate are treated and discharged via Outfall 007. Because elimination of bottom ash transport water alone is not expected to ensure compliance with an effluent limitation of 1.3 ng/L, this action is required as part of a broader pollutant minimization program and highest attainable condition rather than being required alone as part of a compliance schedule. The facility already complies with other mercury- and arsenic-related provisions of the ELG (i.e. FGD wastewater limitations, which are effective on day 1 of the permit term).

B. There is no justification for the Department’s decision to set the interim limit at a level matching the 99th percentile of mercury concentration ever recorded by Elm Road-Oak Creek. The limit of 4.1 ng/L is higher than all but one of the mercury sampling events from January 2009 through January 2018. DNR must demonstrate that it would be technologically or economically infeasible for WEPCO to meet a standard of 4.0 ng/L before it approves a variance allowing a concentration of 4.1 ng/L (and so on, all the way down to the actual standard of 1.3 ng/L). The variance should be eliminated or the interim limit significantly reduced.

Response: Procedures for calculation of interim effluent limitations for mercury in permits with mercury variances are spelled out in s. NR 106.145 (5), Wis. Adm. Code. These state that “an alternative mercury effluent limitation shall equal the upper 99th percentile of representative daily discharge concentrations.” Using data from the five most recent years of discharge from Outfall 007, a 99th percentile of 3.7 ng/L is calculated (daily maximum basis). The limit in the proposed permit will be revised to 3.7 ng/L, as the derivation of this number includes data points collected since the public notice of the draft permit that proposed an interim limit of 4.1 ng/L.

3. **Regional Sampling Results Raise the Possibility of an Additional Outfall that must be Included in the Permit:**

Recent sampling of surface waters surrounding the permittee’s facility have shown elevated levels of metals. Sierra Club realizes that DNR was made aware of these results only after the draft permit had been published for public comment, and investigation of the source of this contamination may not occur before this draft permit is finalized. Sierra Club states that DNR may be required to modify the permit during the permit term to the extent that this surface water contamination is a result of groundwater pollution from the permitted facility or from the nearby Caledonia landfill which contains wastewater from the wet handling of coal ash produced by the permitted facility. Sierra Club requests that DNR either (a) delay finalization of the WPDES permit until investigation of surface water contamination is complete and offer a second public notice and comment period, or (b) finalize the permit but include in the permit a commitment by the department to investigate the contamination in a timely manner and to issue a proposed updated WPDES permit within one year from issuance of the final permit that reflects any findings from that investigation.

Response: The department will not delay the issuance of this permit any further. This permit includes many new and more stringent permit conditions and limitations, and any further delay in issuance would delay the effectiveness of those conditions. The DNR Water Quality Program will continue to coordinate with Stormwater, Air Management, and other environmental media programs to investigate submitted sample results and address documented environmental problems. through appropriate regulatory mechanism(s) to the extent that a source can be identified.

4. **Additional Public Comment Opportunity:** Given the scope of changes that has been requested, DNR also should offer the public an additional opportunity to comment on any updated permit. Sierra Club also

requests that DNR hold a supplemental public hearing on the permit after comments have been considered and incorporated into the permit.

Response: The department has responded to concerns received during the public comment period by moving forward the compliance date for elimination of the discharge of bottom ash transport water by 2 years and by decreasing the mercury interim limitation based upon the most recent 5 years of effluent data, amongst other changes. The department has fulfilled all obligations for public participation and provided an opportunity for all interested parties to submit comments for consideration. Any further delay in reissuance of the draft permit will only delay implementation of new and more stringent conditions and limitations within this draft permit.

Comments Received from We Energies

1. **Permit Term:** The expiration date of the permit should be adjusted to allow for a five-year permit term, as allowed under s. 283.55, Wis. Stats.
Response: Yes, this was a typo. The standard permit term is 5 years, and the expiration date has been adjusted to reflect this.
2. **Typo in Section 1.2.2.1:** Request to revise Section 1.2.2.1 as follows: “The emergency onshore cooling water intake structure ~~described below~~ is authorized for use...”
Response: This was a typo, and the change has been made. A description of the intake, as authorized for use by the permit, is included in the fact sheet rather than the permit, so this change is appropriate.
3. **Clarify that Runoff may be sent to the Elm Road Generating Station’s Wastewater Treatment System:** Request that the first sentence of Section 2.2.8.1 be changed as follows: “The permittee shall report daily the coal pile runoff volume that discharges in the OCPP or ERGS wastewater treatment system.”
Response: Change accepted. This is consistent with the sample point description for this sample point (171).
4. **Whole Effluent Toxicity (WET) Test Dates:** Request that the language in 3.2.2 – 3.2.6 regarding dates for WET Testing after expiration of the permit (if the permit is administratively continued) be updated to reflect the new expiration date and to align with schedules for WET Testing at Outfalls 007 and 013.
Response: The date for the WET tests after expiration of the permit was updated. It is now required to be completed in 4th quarter 2024, in alignment with WET test dates at outfalls 007 and 013.
5. **WET Testing Requirements for Outfall 007:** Request that the instream waste concentration of 9.1% and the required chronic dilution series of “100, 30, 10, 3, 1%, and any additional selected by the permittee” be specified in Section 3.2.6.3 along with other specified requirements for WET Testing.
6. **Response:** This change was made. The department concurs that these values are correct and should be used for WET tests at outfall 007.
7. **Monitoring Frequency for Outfall 008: Storm Water and Coal Pile Runoff:** Request that the monitoring frequency for “flow rate” at this outfall be changed from “monthly” to “per occurrence,” since only coal pile runoff emergency overflow is regulated by this permit.
Response: This change was accepted; only emergency overflows are regulated under this WPDES permit.
8. **Re-use of Bottom Ash Transport Water:** The permittee requested that the variance conditions requiring elimination of bottom ash transport water discharge from Units 7 and 8 be modified to allow re-use of bottom ash in the flue gas desulfurization (FGD) system, as is allowed under the Federal Steam Electric ELG Rule. The permittee notes that, if bottom ash transport water is reused in the FGD system, it “would be partially evaporated and the blowdown from the scrubber would be treated in the state-of-the-art ERGS physical/chemical wastewater treatment system.” The permittee notes that the ERGS wastewater treatment system removes 95% of arsenic and 99.99% of mercury from its current influent wastewater.
Response: The variances each require attainment of the highest attainable condition. The department recognizes that the federal effluent limitation guidelines (ELGs) allow for use of multiple technologies by facilities complying with the requirement to end the discharge of bottom ash transport water. These include a recirculating bottom ash transport system, reuse of the bottom ash transport water in the FGD system, and also conversion to a dry ash handling system. To reach the highest attainable condition, the permittee must implement whichever of these technologies will result in the greatest reduction of mercury and arsenic loading to the receiving waterbody. Should this technology prove infeasible due to technical constraints at the facility, the facility is required to implement the technology with the next greatest reduction in arsenic and mercury loading. The permit was updated to reflect this. See sections 4.2, 4.3 and 4.4.
9. **Duplicative Requirement for Evaluation of Mercury Treatment:** The permittee requested that the last sentence of the “Source Identification” action item in the Mercury Pollutant Minimization Program be deleted. This sentence requires evaluation of wastewater treatment technologies that may remove mercury. This analysis is already required in the “Mercury Treatment” action item of the Mercury Pollutant Minimization Program, so it is duplicative.
Response: The department agrees that the requirement to evaluate mercury treatment alternatives is

sufficiently required by the “Mercury Treatment” action item of the PMP. Therefore, this change is accepted.

10. **Elimination of Sample Points 113 and 114:** When Boilers 1 (sample point 113) and 2 (sample point 114) are drained (infrequent), the water is ultimately routed to sample point 109 where the same monitoring and effluent limits are in effect. After flowing through a cartridge filter, the water is sampled at SP 109 prior to mixing with the circulating cooling water that flows to Outfall 013. Because boiler blowdown is considered a low volume wastewater and because sample point 109 contains only low volume wastewaters, limitations at each of these sample points is redundant and unnecessary.

Response: The department agrees that sample points 113 and 114 are redundant with sample point 109 and has removed these sample points from the WPDES permit.

Comments Received from Clean Wisconsin

1. **ELG Compliance Date:** The permit must require compliance with the Steam Electric Effluent Limitation Guidelines (ELGs) by November 1, 2020, the earliest compliance date allowable under the ELGs. “The department has not provided the ‘well-documented justification’ anticipated by the 2015 Rule for its implementation date decision, and what justification for this delay *is* provided does not constitute a valid justification.” The potential for revision of the federal ELGs cannot be used as a reason for delay of the compliance date. If the compliance date is not set at November 1, 2020, the department must provide a “well-documented justification” for the date selected.
Response: This date set for compliance with 40 CFR 423.13 (k) was adjusted forward in response to this and other similar comments. See responses to Public Comments #1 and Sierra Club Comment #1. The date set for compliance with FGD waste streams is the first day of the permit for arsenic and mercury and December 31, 2023 for nitrate/nitrite as N and selenium. Additional time is allowed for nitrate/nitrite as N and selenium, as upgrades to meet these limitations are expected to occur as a phase 2 project to follow the potential first phase of re-use of bottom ash transport water in the FGD scrubber.
2. **A Mercury Variance should not be Granted for this Facility:** Even exposure to small levels of mercury can cause severe negative health impacts. The variance of 4.1 ug/L is nearly three times the 1.3 ug/L limit.
Response: The mercury variance limit is 3.7 ng/L (parts per trillion) (adjusted down from the initially proposed 4.1 ng/L limit) rather than ug/L (parts per billion), and the wildlife water quality standard is 1.3 ng/L (ppt). See responses to Public Comments #4, #20, and #25.
3. **Justification for Mercury Variance:** DNR relied upon a 1997 study from Ohio EPA to justify that treatment to meet the mercury standard of 1.3 ng/L is technically and economically infeasible
Response: Please see the response to Comment #2 from Sierra Club.
4. **Schedule for Implementation of New Technologies.** DNR must explain how this study justifies the decision to approve the variance for this facility. Because DNR determined treatment was infeasible, it did not estimate the time needed or costs associated with implementation of new technologies.
Response: Please see the response to Comment #2 from Sierra Club.
5. **Variance Conclusion Conflicts with Technical Basis for ELGs:** DNR’s conclusory statement that no feasible technology exists to lower mercury effluent levels to the WQBEL conflicts with EPA’s conclusion in the 2015 Rule that technologies are available and feasible for the ELGs in that Rule.
Response: The ELGs require elimination of bottom ash transport water via conversion to a dry ash handling system or re-use of the ash transport water in the FGD system. This is not treatment technology, but rather source elimination. Furthermore, the proposed variance requires this source to be eliminated as a condition of the variance, so the variance is consistent with the technologies specified as available and feasible in the ELG. That is, bottom ash transport water is a likely source of mercury at outfall 007, and the variance requires elimination of this source, just as the ELG does. Second, the ELGs do require treatment of certain process wastewaters, but the mercury BAT limit for those specific process wastewaters varies widely depending upon the type of wastewater, and none of these wastewaters are present in outfall 007. See also the response to Comment #2A from Sierra Club.

Comments Received from Midwest Environmental Advocates

1. **DNR has not justified the need for the variance:** The mercury variance data sheet indicates that the justification for this variance is the third factor in 40 CFR 131.10(g) (“Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct that to leave in place.”). However, the support for this determination cites a 1997 Ohio EPA study and s. NR 106.145 (1), Wis. Adm. Code, which states that it is found that wastewater treatment technology to meet mercury water quality standards would result in widespread adverse social and economic impacts, and concludes treatment is technically and economically infeasible. The department does not estimate the costs that the permittee and rate payers would incur if the permittee were to be required to meet the water quality based effluent limit for mercury. The department needs to re-evaluate the validity of the 1997 Ohio EPA study and determine whether there have been any advances in mercury treatment technology in a documented decision. The most recent triennial standards review acknowledges

that an updated mercury variance process is the second highest priority and “would include an updated justification for variances.” MEA speculates that the department’s basis for the proposed variance approval is “coal and combustion products.”

Response: The justification for the mercury variance is a Factor 6 variance (40 CFR 131.10 (g)); the box for a Factor 3 justification was inadvertently checked on the mercury variance data sheet, but the text in this document supports a Factor 6 variance. See the response to Sierra Club Comment #2 above regarding reliance upon the 1997 Ohio EPA study.

- 2. DNR has failed to comply with EPA regulations for establishing the Highest Attainable Condition:** In order to comply with EPA regulations, DNR should have evaluated whether there are *additional* feasible pollutant control technologies that would enable the permittee to reduce the concentration of mercury in its effluent beyond current levels. This would ensure incremental progress toward compliance with the ultimate water quality objective, even if outright compliance is not possible at this time. Dry bottom ash handling is an additional feasible pollutant control technology, and this should be evaluated and required from the outset rather than as part of the Pollutant Minimization Program (PMP).

Response: The Department recognizes that variances are a temporary change to a water quality standard. The Department is also aware of the federal requirements that establish the need for sufficient justification and a statement of highest attainable condition (HAC). Additional pollutant control technology to meet an interim limit would not be consistent with the highest attainable condition. Pollutant minimization and source reduction eliminate mercury from entering the system, rather than adding an end of pipe technology which would displace the mercury from the wastewater to the land or wherever the filtrate would be disposed. Collectively, pollutant minimization measures could be viewed as control technology. Furthermore, pollutant minimization programs have been shown to be effective in making progress toward achieving the water quality standard. Thus, the Department expects to see progress toward achieving the mercury water quality standard through the implementation of We Energies’ pollutant minimization program (PMP) and considers that progress to represent the highest attainable condition. Dry bottom ash handling is required both as part of the ELG implementation and as part of the PMP and HAC.

- 3. DNR has not justified the term of the variance:** The department must submit information to EPA demonstrating that the term of the variance is only as long as is necessary to achieve the HAC. This must describe the pollutant control activities needed to achieve the HAC and show that term of the variance “reflect[s] only the time needed to plan activities, implement activities or evaluate the outcome of activities.” The term of the variance must be limited to the amount of time needed to complete the PMP and not be tied to the length of the permit term.

Response: The Department believes it has adequately justified the term of the variance. There is no clear guidance for justifying the term of the variance. Coordinating the variance term with the permit term allows the permittee time to plan and implement practices, make any necessary facility changes, and evaluate the outcomes of those actions. Individual pollutant minimization measures are not easily quantifiable, but when applied collectively through a PMP, those measures can be effective in reducing pollutant loads – as has been demonstrated elsewhere. Additionally, the longer a facility has to implement a PMP, the more actions are taken and consequently more reductions are seen. The Department considers that five years is a reasonable period for this first-time variance, as it allows the permittee an appropriate amount of time to assess sources of mercury and implement its PMP. Finally, the department has re-ordered the contents of sections 4.3 and 4.4 and added language to more clearly align required actions with annual progress reports and provide additional direction on the steps to be taken in each year of the term of the variance.

- 4. DNR has failed to follow Great Lakes Water Quality Initiative Procedures:** The department must show that the increased risk associated with the proposed interim limit for mercury at this facility still protects public health and welfare. MEA states that the proposed mercury interim limit is nearly three times the human threshold criterion for mercury.

Response: See responses to Public Comments #4, and #25. It is important that the public realize that the human threshold criterion for mercury is a monthly average limitation. The effluent from outfall 007 varies fairly widely, and the 4.1 ng/L limitation (now adjusted to 3.7 ng/L) is a daily maximum limitation rather than a monthly average limitation. On a longterm average basis, the Outfall 007 effluent actually averages 1.29 ng/L mercury, which is below both the wildlife and human threshold criteria. When viewed collectively with all other outfalls at the facility, data indicates that the facility does not contribute additional public health concern related to mercury (See response to Public Comment #20). Additionally, this permit includes the first-time imposition of an effluent limit for mercury at outfall 007 that is designed to prevent an increase in mercury loading and therefore does not represent increased risk.

- 5. DNR has failed to review its Water Quality Standard Findings for Mercury:** 40 CFR 131.10-131.15 requires that the department “hold public hearings for the purpose of reviewing applicable water quality standards adopted... and, as appropriate, modifying and adopting standards.” This provision should be applied to s. NR 106.145 (1), Wis. Adm. Code, as it directly modifies water quality standards that have

been adopted pursuant to 40 CFR 131.14 (water quality standard variances). MEA notes that the findings of s. 106.145 (1) have not been reviewed since 2002.

Response: Please see the response to Sierra Club Comment #2.

Comments Received from EPA or Other Government Agencies and Any Permit Changes as Applicable

None

As provided by s. 283.63, Stats., and ch. 203, Wis. Adm. Code, persons desiring further adjudicative review of this final determination may request a public adjudicatory hearing. A request shall be made by filing a verified petition for review with the Secretary of the Department of Natural Resources within 60 days of the date the permit was signed (see permit signature date above). Further information regarding the conduct and nature of public adjudicatory hearings may be found by reviewing ch. NR 203, Wis. Adm. Code, s. 283.63 Stats., and other applicable law, including s. 227.42, Stats.

Information on file for this permit action may be inspected and copied at either the above named permit drafter's address or the above named basin engineer's address, Monday through Friday (except holidays), between 9:00 a.m. and 3:30 p.m. Information on this permit action may also be obtained by calling the permit drafter at (608) 267-7894 or by writing to the Department. Reasonable costs (15 cents per page for copies and 7 cents per page for scanning) will be charged for copies of information in the file other than the public notice and fact sheet. Pursuant to the Americans with Disabilities Act, reasonable accommodation, including the provision of informational material in an alternative format, will be made to qualified individuals upon request.