

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

IN THE MATTER OF:
MHA Nation Clean Fuels Refinery
NPDES PERMIT ND-0030988

Case No.

PETITION FOR REVIEW

BY

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I. NATURE OF THE CASE AND FACTS RELEVANT TO THE ISSUES PRESENTED FOR REVIEW

On August 4, 2011 the United States Environmental Protection Agency (EPA), through its Region 8 office, issued a five-year National Pollutant Discharge Elimination System (NPDES) permit under section 402 of the Federal Clean Water Act (CWA), 33 U.S.C. § 1342, Permit No. ND-0030988, to the Mandan, Hidasta, and Arikara Nation (MHA Nation) to operate the MHA Nation Clean Fuels Refinery (MHA Refinery).¹ The permit will become effective October 1, 2011. As part of issuing this permit, EPA was required to comply with the National Environmental Protection Act (NEPA), 42 U.S.C. §§ 4321-4370. Because of EPA's failure to comply with NEPA and legal flaws in the NPDES permit, the Environmental Awareness Committee submits this Petition for Review, pursuant to 40 C.F.R. § 124.19 to the Environmental Appeals Board (the "Board" or "EAB").

A. NEPA Process for the MHA Refinery

The MHA Nation applied to EPA for a NPDES permit for discharges from the MHA Refinery in 2004. Permit. No. ND-0030988, Fact Sheet/Statement of Basis [hereinafter NPDES Fact Sheet].² The application was for discharges from an oil refinery that processed synthetic crude oil. *Id.* at 1. EPA, pursuant to its obligations under NEPA, issued a Draft EIS in 2006. Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara Nation's Proposed Clean Fuels Refinery Project, vii (Aug. 2009) [hereinafter FEIS].³ Before issuing the Draft EIS, EPA determined that the proposed project would not be a major source of air pollution and that Clean Air Act Best Available Control Technology (BACT) limits and permitting requirements for constructing new sources would not apply. FEIS, at E-50 ("In an April 2005 letter to the

¹ Ex. 1.

² Ex. 2.

³ Ex. 3.

MHA Nation, EPA made a non-applicability determination for federal air permits for the proposed refinery”). During the public comment period, EPA received 31 letters and 20 comment cards, including comments from Jodie White, Joletta Bird Bear, Theodora Bird Bear and other members of the Environmental Awareness Community. Letter from Joletta Bird Bear, member of the Environmental Awareness Community to Robert Roberts, EPA Regional Director Region 8 and William Benjamin, Great Plains Regional Bureau of Indian Affairs (BIA) Director (Aug. 9, 2006); Letter from Theodora Bird Bear to William Benjamin, Great Plains Regional BIA Director; Letter from Residents of Mandaree to Robert Roberts, EPA Regional Director Region 8 and William Benjamin, Great Plains Regional BIA Director (Sept. 13 2006), Letter from Julia May to William Benjamin, Great Plains Regional BIA Director and Robert Roberts, EPA Regional Director Region 8 (Aug. 14, 2006) [collectively hereinafter Comment Letters].⁴ These comment letters included concerns about the air emissions, the designation of the facility as a minor source, and the surface water impacts from waste water discharges from the MHA Refinery. *Id.* EPA issued a FEIS for the project in August of 2009. FEIS.

On February 4, 2010 the MHA Nation notified EPA that it would process Bakken crude oil instead of synthetic crude oil as contemplated in its NPDES permit application. Record of Decision, Mandan, Hidatsa, and Arikara Nation’s Proposed Clean Fuels Refinery Project (Aug. 3, 2011) [hereinafter ROD].⁵ Upon learning of this change, EPA asked the MHA Nation to prepare an addendum to the *Air Quality Technical Report for the FEIS for the MHA Nation Proposed Clean Fuels Refinery Project*. Supplemental Information Report, 7 (Jul. 29, 2011) [hereinafter SIR].⁶ The Addendum is dated March 9, 2011. Addendum, Air Quality Technical Report for the Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara

⁴ Ex. 4.

⁵ Ex. 5.

⁶ Ex. 6.

Nation's Proposed Clean Fuels Refinery Project, 2-1 (Mar. 9, 2011) [hereinafter Addendum].⁷

The MHA Nation also submitted an Air Quality Modeling analysis on June 6, 2011. Air Quality Modeling Analysis, Air Quality Modeling Update for the Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara Nation's Proposed Clean Fuels Refinery Project (June 6, 2011) [hereinafter Modeling Update].⁸ EPA analyzed all of this new data in less than two months and issued a SIR by the end of July. *See* SIR. Based on the SIR, EPA concluded that a "Supplement to the FEIS is not warranted, since a change in feedstock to Bakken crude, as compared to the refinery using synthetic crude, will not significantly change the proposed action or its impacts in the FEIS." ROD, at 2; SIR, at 15. Finally, in EPA's ROD, the agency stated that its decision to issue the NPDES permit is based on several assumptions including that the "the capacity of the refinery and refinery process units will be consistent with the revised proposal described in the SIR." ROD, at 13.

B. EPA's Assessment of Switching the MHA Refinery Feedstock to Bakken Crude

EPA's analysis of environmental impacts in the FEIS was premised on the assumption that the refinery would be a minor source of air emissions and that the refinery would not impair the ambient air quality in the project area for any of the criteria pollutants. FEIS, at 401-402; E-50. EPA's FEIS and the agency's response to comments assumed that the MHA Refinery would not be a major source and therefore would not be subject to permitting requirements or Best Available Control Technology (BACT) requirements. *Id.* EPA's FEIS also stated that "the cumulative effects modeling analyses demonstrated that the refinery would have negligible impacts on the quality of air." FEIS, at 4-137. This conclusion was based on the finding that

⁷ Ex. 7.

⁸ Ex. 8.

“the modeled results showed the potential emissions of criteria pollutants from the refinery are below all NAAQS.” *Id.*

SIR stated the agency’s conclusions would not necessarily hold if the MHA Refinery were to process Bakken crude instead of synthetic crude. But, the EPA never assessed the emissions projections for the proposed change to Bakken crude independently. EPA did voice the agency’s skepticism in a letter notifying the MHA Nation that it would withdraw its non-applicability of Clean Air Act major source permitting requirements because:

- EPA believed the refinery would need additional modifications to handle Bakken crude, which contain higher sulfur content than the MHA Addendum assumed.
- EPA questioned the accuracy of the MHA Nation’s Addendum because “the lack of design details and specifications [in the Addendum] leads to uncertainty regarding emissions” from flaring, sulfur recovery, and variability inherent in the Bakken crude feedstock.
- EPA could not confirm “the validity of the 500 lb/hr flare gas loading assumption.”
- EPA stated that it could not enforce the assumption that the additional process units, needed to refine the Bakken crude, would not operate simultaneously with other units.

Letter from Stephen S. Tuber, Assistant Regional Administrator, Region 8 to Tex G. Hall, Chairman, Three Affiliated Tribes (May 9, 2011) [Withdrawal Letter].⁹ The SIR also states that “the hourly SO₂ standard may be exceeded if the flare operates more frequently than anticipated.” *Id.*

⁹ Ex. 9.

C. Underestimated Air Emissions

The evidence presented to the EPA by MHA demonstrated that emissions would increase. For example; Nation, nitrogen dioxide (NO₂) emissions will increase by 21.1 tons per year (tpy), Particulate Matter (PM_{2.5}/PM₁₀) will increase by 22 tpy, sulfur dioxide (SO₂) will increase by 29.3 tpy, and volatile organic compounds (VOCs) will increase by 9.2 tpy. SIR, at 7. However, EPA provides no explanation in the SIR as to why these increased emissions do not constitute a significant change in impacts. *Id.*¹⁰

But these projections underestimate emissions for several reasons. First, the Addendum assumed that every heater at the refinery will emit NO_x at a rate of 40 parts per million (ppm) or lower. Addendum, at 2-1. The Addendum based this assumption on 40 C.F.R. Part 60 Subpart Ja's NO_x limit of 40 ppm for heaters with a capacity of 40 million British Thermal Units per hour (MMBTU/HR). *Id.*; 40 C.F.R. § 60.102a(g)(2). The proposed refinery will have 21 heaters. Addendum, at 1-1. Only one of these twenty heaters has an operating capacity that is greater than 40 MMBTU/HR. *Id.* at Appendix B, MHA Process and Exhaust Data Calculations Page-5. Furthermore, the vendor letter included in the Addendum states that NO_x emission rates range from 100 ppm to 20 ppm, but that the lower emission rate are for heaters that use Ultra LoNO_x or LoNO_x burners. *Id.* at Appendix A.

Second, the MHA Nation's Addendum further assumed, for the purpose of the SO₂ and VOC emissions calculations, that flaring emissions during malfunctions would be minimal. *See* SIR, at 7; FEIS, at 4-113 (explaining that upset emissions "can be prevented by better operational and maintenance practices"). The Addendum does not include any VOC emissions from flaring

¹⁰ The SIR does make a general statement that "after thorough interdisciplinary review, we find that a change in feedstock to Bakken crude as compared to the refinery using synthetic crude will not significantly change the proposed action or its impacts." SIR at 15. The evaluation regarding the change in impacts is much more specific for other sections. For example the EPA stated that the additional impacts of truck traffic are insignificant because the "potential impacts from accidents and spills will be comparable to those discussed in the EIS." SIR at 6.

during normal operations or upset events. *See* Addendum, at Appendix B, MHA Refinery Potential Air Pollutant Emission Calculations, Flare Normal Emissions, Flare Startup Emissions. Furthermore, the Addendum only accounts for SO₂ emissions during normal operations and startup of the refinery. *See Id.* EPA noted the omission of other sources of flaring emissions in their letter to the MHA Nation withdrawing their non-applicability determination regarding Clean Air Act New Source Review (NSR) limits and permitting requirements.

II. ARGUMENT ON THE ISSUES PRESENTED

A. Introduction

The Clean Water Act permit issued by EPA to the MHA Nation Refinery must comply with the applicable requirements of the Clean Water Act (CWA) and its implementing regulations. *See* 40 C.F.R. § 122.4(a). EPA must also comply with the NEPA and its implementing regulations before issuing the permit. *See* 40 C.F.R. § 6.101. Petitioners bring this appeal because:

- EPA did not fully evaluate the environmental impacts as required by NEPA; and
- EPA included permit conditions that are clearly erroneous based on a finding of fact or conclusion of law.

B. Standing

The rules governing this Petition limit who may appeal a final permit to those that participated in the public comment process, except that anyone may bring an appeal for changes that occurred between the draft and the final permit. 40 C.F.R. § 124.19(a). The Board has explained that this requirement is imposed to “ensure that the Region has an opportunity to address potential problems with the draft permit before the permit becomes final.” *In re*

Envotech L.P., 6 E.A.D. 260, 266-67 (EAB 1996) (quoting *In re Beclqnan Prod. Serv.*, 5 E.A.D. 10, 16 (EAB 1994)).

Petitioners are concerned about the significant changes authorized by the NPDES Permit and resulting impacts to air and water quality in the Makoti area and the East Fork of Shell Creek watershed which flows into Lake Sakakawea. The continued protection of air and water quality is of vital significance and importance to the health of petitioners and the quality of fish harvested from Lake Sakakawea. The Petitioners swim, boat, and fish in Lake Sakakawea which is downstream from the proposed outfalls of the MHA Refinery.

As reflected in Appendix E to the Final EIS, each of the Petitioners participated in the public comment process. Jodie White and Theodora and Joletta Bird Bear submitted written comments on the Draft EIS on behalf of themselves and the Environmental Awareness Committee.

Comment Letters.

C. The NPDES Permit Violates the National Environmental Policy Act.

EPA must comply with NEPA when issuing a permit to a new source. 40 C.F.R. § 6.101(a). Pursuant to NEPA, EPA has an ongoing obligation to evaluate the environmental impacts of any proposed action. NEPA's implementing regulations state:

Agencies shall prepare supplements to either draft or final EIS's if:

1. The agency makes substantial changes in the proposed action that are relevant to the environmental concerns; or
2. There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

40 C.F.R. § 1502.9(c).

The primary problem in the issuance of this Permit is that EPA did not take a hard look at the new information before deciding that a supplemental EIS is unnecessary and the agency's decision based on the information it did consider was arbitrary and capricious.

In reviewing an agency's decision not to prepare a supplemental EIS, a court must undertake a two-step inquiry. First, the court must determine whether the agency took a hard look at the proffered information. Second, if the agency did take a hard look, the court must determine whether the agency's decision not to prepare a supplemental EIS was arbitrary and capricious.

New River Valley Greens v. U.S. Dept. of Transp., 161 F.3d 3, 4 (4th Cir. 1998) (citing *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 443 (4th Cir. 1996); *Chemical Weapons Working Group v. U.S. Dept. of Defense*, 665 F.Supp.2d 18 (D.D.C. 2009); *North Carolina Alliance for Transp. Reform, Inc., v. U.S. Dept. of Transp.*, 713 F.Supp.2d 491, 506-07 (M.D.N.C. 2010); *Piedmont Environmental Council v. U.S. Dept. of Transp.*, 159 F.Supp.2d 260, 269 (W.D.VA 2001); *See also Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989). Under this standard, the NPDES permit should be remanded to EPA to correct the following errors in EPA's decision that a supplemental EIS is unnecessary:

- 1) EPA did not take a hard look at the additional air emissions to determine if using Bakken crude will significantly change the proposed actions or its impacts; and
- 2) EPA's decision, based on the new information it did analyze, is arbitrary and capricious.

1. EPA Did Not Take a Hard Look at the Air Emissions Data

EPA could not have made a reasoned and informed decision about the additional impacts of refining Bakken Crude because the agency did not take a hard look at the data. The first step in reviewing an agency's decision to not prepare a supplemental EIS is to determine if the agency took a hard look at the new information. *New River Valley Greens v. U.S. Dept. of Transp.*, 161 F.3d 3, 4 (4th Cir. 1998) (citing *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 443 (4th Cir. 1996). In *Marsh*, the Army Corps of Engineers issued an EIS and SEIS authorizing the construction of a dam. *Marsh*, at 366. Prior to building the dam new information became available regarding the impacts of the dam. *Id.* at 369. The Army Corps of Engineers hired two

independent experts to evaluate the new information and carefully scrutinized the information internally. *Id.* at 378-385. The Court explained that this type of hard look and “careful scientific” analyses shielded the agencies decision under the arbitrary and capricious standard. *Id.* at 385. In this case, the EPA did not engage in any such evaluation of the environmental impacts of the proposed change.

With regards to the change in the quantity of air emissions, EPA stated “due to the preliminary nature of the design, EPA was not able at that time to make a determination.” SIR, at 9; Withdrawal Letter. If EPA had looked at the design specification in the Modeling Update, EPA would have found that the emissions projections grossly underestimated SO₂, NO_x, and VOCs. Furthermore, EPA evaluated the ambient air quality impacts of switching to Bakken crude oil based on this faulty data.

SO₂ Emissions

The Addendum assumed that the total sulfur dioxide emissions from the refinery would be 80.5 tpy. Addendum, at pin 1-2. This basis for this assumption is flawed. First, the calculation did not include any SO₂ flaring emissions for shutdown events. *Id.* Shutdown events because of planned maintenance and malfunction events are unavoidable. Julia May, Expert Report; Environmental Assessment Board; U.S. EPA, NPDES Permit Appeal; MHA Nation Proposed and Re-Designed Oil Refinery, 23 (Sept. 12, 2011) [hereinafter JM Expert Report].¹¹ Conservatively, shutdown emissions could range from 48.4 to 64.4 tpy. *Id.* at 23. Furthermore, the Modeling Update, severely undercounted startup flaring SO₂ emissions. The Addendum assumed much lower sulfur content in Bakken crude than is the case. Withdrawal Letter; *See also* JM Expert Report at 21-22. Adjusting the calculations using the actual sulfur content of the Bakken crude, the refinery would likely emit 48.4 – 64.4 tpy more than was calculated in the

¹¹ Ex. 10.

Addendum. JM Expert Report at 22-23. Furthermore, EPA recognized the likelihood of this underestimation in the Withdrawal Letter and stated that it “cannot confirm the validity of the 500 lb/hr flare gas loading assumption” the MHA Nation used to calculate the potential flaring emissions of switching the feedstock of the refinery to Bakken Crude. Withdrawal Letter. For these reasons, EPA did not take a hard look at the increase in SO₂ emissions.

NO_x Emissions

NO_x emission from the MHA Nation Refiner will exceed 100 tpy. The MHA Nation projected annual NO_x emissions to be 55.8 tpy assuming much lower emission rates for the facility’s heaters and boilers. Addendum, at 1-2. First, The Addendum assumed that every heater at the refinery would comply with 40 C.F.R. Part 60 Subpart Ja’s NO_x limit of 40 parts per million. Addendum. This assumption is flawed for several reasons:

- 1) Subpart Ja and the applicable NO_x limits have been stayed by EPA. Standards for Petroleum Refineries, 73 FR 55751. The stay is pending EPA’s reconsideration of the NO_x limits that were challenged by industry as being too strict. *Id.*
- 2) Subpart Ja as written would only apply to one of the 14 heaters MHA is proposing for its refinery. The Ja limits only apply to heaters that have a capacity that is greater than 40 MMBTU/HR. 40 C.F.R. § 60.102(a). EPA set this threshold based on an assessment of the costs and benefits.
- 3) The letter from the manufacturer included in the Addendum states that the NO_x emission rate without Ultra LoNO_x or LoNO_x burners is 100 ppm. While EPA is not required to use a worst case scenario when evaluating environmental impacts, EPA provided no reasonable explanation supporting the assumption that the MHA Refinery

would install pollution control technology that EPA has already determined is not cost effective.

Addendum, at Appendix A. Second, the Addendum assumes that the boilers will emit less than 30 ppm NO_x. *Id.* at 2-1. The Addendum assumes this because of one specification sheet from one vendor. Addendum, at Appendix A. But there is no regulation or other requirement that would require the facility's boilers to emit at this low of a rate. JM Expert Report at 26. Instead, the MHA Nation should have projected emissions using the industry standard emission rate of 100 ppm NO_x. JM Expert Report at 26.

If EPA had conducted its own analysis of the MHA Nation's Addendum, the agency would have found that the facility will likely emit more than 100 tpy of NO_x. JM Expert Report at 25-26. This calculation is based on the fact that the MHA Refinery will use the standard industry practice of not installing LoNO_x or Ultra LoNO_x burners on heaters and boilers at the refinery, when it is not legally required. Because EPA did not independently assess the basis for the MHA Nation's NO_x emission projections the agency did not take the requisite hard look under NEPA

VOC Emissions

The Air Quality Modeling Update assumed that there would be zero VOC emissions from flares. The only way this would be possible is if the flares operated at 100% combustion efficiency. This means that all the refinery fuel gas that is routed to the flare is combusted and any VOC compounds in the gas is turned into carbon monoxide or carbon dioxide. Under optimal conditions, EPA regulations assume that flares operate at 98% combustion efficiency. 40 C.F.R. §§ 60.18(b)-(d), 63.11(b). There is an enormous body of literature showing that flares routinely operate at less than 98% efficiency. *See e.g.* Memorandum from Brenda Shine, EPA to

EPA, POTENTIAL LOW BIAS OF REPORTED VOC EMISSIONS FROM THE PETROLEUM REFINING INDUSTRY, Docket No. EPA-HQ-OAR-2003-0146 (July 27, 2007).¹² Without any analysis of the actual VOC emissions from flares, it is impossible for EPA to have taken a hard look at all the relevant impacts in determining whether a supplemental EIS is necessary.

Hydrogen Sulfide

The proposed switch to Bakken crude oil will result in higher emissions of hydrogen sulfide. Bakken crude oil has higher sulfur content than synthetic crude oil. JM Expert Report at 27; Neil Carmen, Expert Report, COMMENTS ON MHA PETROLEUM REFINERY NPDES PERMIT AND SUPPLEMENTAL INFORMATION REPORT, 4 (Sept. 12, 2001).¹³ As a result, the feedstock will also have higher hydrogen sulfide content than the synthetic crude. *Id.* Hydrogen sulfide emissions are a serious health concern. NC Report at 6-13; Letter from Neil Carmen to Lisa Jackson, Administrator EPA.¹⁴ EPA's FEIS recognized the risks of hydrogen sulfide. But EPA never considered or analyzed the possibility of increased hydrogen sulfide emissions and potential exposure

Ambient Air Quality

This same data, that EPA questioned the validity of in its Non-Applicability Withdrawal Letter, was used by the MHA Nation for its Air Quality Modeling Update. Modeling Update. EPA in turn used this data to evaluate the ambient air quality impacts of the refinery. SIR at 7. EPA's reliance on this faulty data, the validity of which was called into question by the agency itself, is arbitrary and capricious.

¹² Ex. 11

¹³ Ex. 12.

¹⁴ Ex. 13.

2. *EPA Decision That a Supplemental EIS is Unnecessary is Arbitrary and Capricious Even if the Scope of Review Only Considered the Information Provided to the Agency by MHA Nation.*

EPA's conclusion that switching the MHA Nation Refinery feedstock to Bakken crude does not significantly change the impacts of the proposed refinery is arbitrary and capricious. EPA must, at the very least, "articulate a rational connection between the facts it has found and its conclusions." *Friends of Clear Water v. Dombeck*, 222 F.3d 522, 561 (9th Cir. 2000) (citing *United States v. Louisiana-Pacific Corp.*, 967 F.2d 1372, 1376 (9th Cir. 1992)). In *Dombeck*, the plaintiffs challenged the Forest Service's SIR for failing to assess the environmental impacts of new information that became available after the original EIS was published. *Id.* at 554-55. The 9th Circuit determined the SIR was adequate because the agency conducted new analyses and provided a rational explanation for why it supported the conclusions of the original EIS. *Id.* at 561. In this case, EPA failed to provide any articulate rational connection between the facts and its conclusions in three instances:

- First, EPA states that it is assuming that the MHA Refinery will not make any additional design changes to accommodate Bakken crude oil. Whereas, an earlier EPA letter states that the agency believes the refinery will need to modify the design of the refinery.
- Second, EPA determined that the refinery may qualify as a major source of air pollution. Whereas, the entire FEIS assessed the impacts based on an understanding that the refinery would be minor source of air pollution
- Third, EPA determined that the refinery may cause exceedances of the SO₂ National Ambient Air Quality Standards(NAAQS). Whereas, the FEIS assessed the health and

environmental impacts of the refinery based on the assumption that refinery would not come close to causing exceedances of the NAAQS.

Switch to Bakken Crude Will Likely Require Additional Refinery Design Changes.

Without any explanation, EPA's justifications for approving the NPDES permit contradict earlier statements made by the agency. This does not demonstrate a "reasoned decision based on the . . . the significance-or lack of significance-of the new information," required by the Court. *Marsh*, at 378. In the ROD, EPA states its decision is based on several assumptions including that "the capacity of the refinery and refinery process units will be consistent with the revised proposal described in the SIR." ROD at 13. But EPA sent a letter to the MHA Nation just three months earlier that it believes "A significant portion of Bakken crudes could contain more sulfur than the refinery design appears to be able to process. In order to process any Bakken crude, the [modified] refinery design may need to be modified to handle the incoming feedstock sulfur content." Withdrawal Letter at 2. Modifying the refinery design will require changes to process units and possibly the refinery's capacity. Without any further explanation, this direct contradiction renders EPA's decision, that a Supplemental EIS is unnecessary, arbitrary and capricious.

Switch to Bakken Crude Will Likely Make the Refinery a Major Source of Air Pollution.

EPA has not provided any explanation in the ROD or SIR that explains why the potential change in status from minor source to major source is not significant change in impacts. In 2005, the EPA sent the MHA Nation a letter determining that the refinery would be a minor source of air pollution. FEIS at E-50. The FEIS evaluated the environmental impacts of the

refinery based on the assumption that the refinery would be a minor source. In response to petitioner's comments the EPA justified not evaluating the need for enforceable Best Available Control Technology Limits because the refinery is a minor source. *Id.* This assumption is no longer true. Changing the refinery feedstock to Bakken Crude may qualify the refinery as major source under the Clean Air Act – EPA acknowledged this fact in its Withdrawal Letter. *See* Withdrawal Letter. Furthermore, the agency wrote in the SIR that it “recommended that the Tribes apply for a PSD permit.” (A PSD permit is a Clean Air Act Permit that is only required of major sources). SIR at 7. This is a significant change, at least in terms of regulatory applicability of the Clean Air Act, and EPA's failure to provide any explanation why it is not significant in terms of NEPA is arbitrary and capricious.

Even if the increase in emissions is not so great as to qualify the refinery as a major source, the increases are substantial. With regards to air emissions, the SIR stated that the change would increase nitrogen oxide (NO_x) emissions by 56%, particulate matter (PM) emissions by 131%, and sulfur dioxide (SO₂) emissions by 57%. The increases are significant in absolute terms as well with increases of 21.1, 22, and 29.3 tons per year respectively. Furthermore, PM₁₀ emissions under the new proposal will cause the ambient levels to increase by more than 52%.

Switch to Bakken Crude Will Threaten to Impair National Ambient Air Quality Standards.

Similarly, EPA's SIR has failed to provide any explanation of why the increased SO₂ emissions and the new SO₂ National Ambient Air Quality Standards (NAAQS) are not a significant change requiring an SEIS. EPA's FEIS stated that “the cumulative effects modeling analyses demonstrated that the refinery would have negligible impacts on the quality of air.” FEIS at 4-137. This conclusion was based on the finding that “the modeled results showed the

potential emissions of criteria pollutants from the refinery are below all NAAQS.” *Id.* The FEIS explained that “EPA has established NAAQS . . . to protect public health and welfare with an adequate margin of safety.” *Id.* Under the new proposal, the refinery may cause exceedances of the hourly SO₂ limit. SIR at 7-8, Table 4. This change in impact is the result of three separate factors. First, EPA promulgated a new one-hour ambient air quality standard for SO₂ since it issued the EIS for the MHA refinery. Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 FR 33520 (Jun. 22, 2010). Second, the SO₂ emissions from the refinery are projected to increase by at least 57%. SIR at 7, Table 3. Third, the EIS did not consider SO₂ emissions from flaring when evaluating the impacts on ambient air quality. *Id.* at 7-8; Modeling Update at 4. Because of these three factors, the refinery’s SO₂ emissions may cause exceedances of the new 1-hour NAAQS standard in the project area. SIR at 6. EPA’s SIR does not provide any explanation of why the new proposal to process Bakken crude at the MHA Refinery, which now threatens to cause exceedances of the SO₂ 1-hour NAAQS standards is not significant impact.

D. The MHA Refinery NPDES Permit Violates the Clean Water Act.

The goal of the CWA is “to restore and maintain the chemical, physical and biological integrity of the nation’s waters.” 33 U.S.C. § 1251(a). To achieve this goal, section 301(a) of the CWA, 33 U.S.C. § 1311(a) prohibits any discharge of pollutants into the waters of the United States unless such discharge is authorized by a NPDES permit. *Waterkeepers of N. Cal. v. AG Indus. Mfg., Inc.*, 375 F.3d 913, 915 (9th Cir. 2004) (citing *Ecological Rights Found. v. Pacific Lumber Co.*, 230 F.3d 1141, 1145 (9th Cir. 2000)). The CWA regulations establish effluent limitation guidelines for petroleum refineries that are multiplied by a size factor and process

configuration for the facility. 40 C.F.R. § 419.26; 40 C.F.R. § 419.36. The primary issue with this permit is that it uses an inflated process configuration factor.

1. Standard of Review

A petition for review will be granted by the Board where it is demonstrated that the NPDES permit decision was based on a clearly erroneous finding of fact or conclusion of law, or if the decision involves an important matter of policy or exercise of discretion that warrants review. The Board is the final decision maker for EPA, and therefore its review is not governed by traditional principles of judicial deference; rather its “determination is based on [an] independent review and analysis of the issue[s].” *In re Mobil Oil Corp*, 5 E.A.D. 490, 508, 509 n.30 (EAB 1994). Although the Board may defer to a regional office on technical issues, it will do so only if the “approach ultimately selected by the Region is rational in light of all of the information in the record,” *See* 40 C.F.R. § 124.19(a), and will not defer “[w]here the agency has failed to exercise its expertise.” *Tex Tin Corp. v. EPA*, 935 F.2d 1321, 1324 (D.C. Cir. 1991).

2. The NPDES Permit Applies the Incorrect Effluent Limits.

EPA improperly included technology based limits that are higher than federal CWA regulations require. The CWA’s NPDES permit system provides for a two-step process for establishing of effluent limitations:

- 1) EPA must determine the technology-based effluent limitations;
- 2) EPA must compare these limits against water quality based standards and incorporate the lower of the two into the NPDES permit.

See Waterkeeper Alliance v. EPA, 399 F.3d 486, 491 (2nd Cir. 2004); *Delaware County Safe Drinking Water Coalition, Inc., v. McGinty*, 2007 WL 2213516, *4 (E.D. Pa); *Sierra Club v. Powellton Coal Co.*, 2010 WL 454929 (S.D. W. Va.) In this case EPA did not apply the correct

technology based limit at the first step and the water quality based limit was not more stringent for several pollutants.

EPA Did Not Calculate the Technology Based Limit Correctly

To determine the technology based limits for petroleum refineries, EPA must consider the processing capacity of the facility and its process configuration to derive a size factor and process factor. 40 C.F.R. § 419.36. A refinery’s process factor is derived using a weighted calculation of the refinery’s process configuration. 40 C.F.R. § 419.42(b)(3). The weighting factors are as follows:

- Crude = 1
- Cracking and coking = 6
- Lube = 13
- Asphalt = 12

Id.

In this case EPA derived the process configuration using assumptions described in Table 1. NPDES Permit Fact Sheet at 29.

Table 1: EPA Process Configuration Calculation

Feedstock Process	Feedstock Rate	Relative Rate	Weight Factor	Process Configuration
Crude-Atm. Dist	10	0.769	1	0.769
Cracking (Hydrocracking)	6.872	0.529	6	3.17
Isomerization	3	0.231	13	3.00
Total				6.94

This table shows that EPA assumed that the isomerization process falls in the “Lube” category. But this is not the case: isomerization is not a lube process. First, the regulations direct the permitting agency to EPA’s petroleum refining development documents. 40 C.F.R. § 419.42(b)(3). EPA has issued two of these documents, the first in 1974 and the second in 1982.

EPA, DEVELOPMENT DOCUMENT FOR EFFLUENT LIMITATION GUIDELINES AND NEW SOURCE PERFORMANCE STANDARDS FOR THE PETROLEUM REFINING INDUSTRY POINT SOURCE CATEGORY (Apr. 1974);¹⁵ EPA, DEVELOPMENT DOCUMENT FOR EFFLUENT LIMITATION GUIDELINES: NEW SOURCE PERFORMANCE STANDARDS AND PRETREATMENT STANDARDS FOR THE PETROLEUM REFINING POINT SOURCE CATEGORY (1982) [hereinafter 1982 Development Document].¹⁶

Neither of these two documents suggests that isomerization is a lube process. In fact, the 1982 development documents state that “isomerization waste waters present no major pollutant discharge problems.” 1982 Development Document. EPA has confirmed this and stated “no allocation should be calculated for isomerization.” Letter from Scott Wilson, Energy Coordinator, Industrial Permits Branch, Office of Wastewater Management, EPA to Sparsh Khandeshi.¹⁷ Furthermore, Appendix A to part 419 has a list of lube processes and isomerization is not included as one of them. 40 C.F.R. Pt. 419, App. A. If EPA had not included isomerization as a lube process in the process configuration calculation, EPA would have calculated a process configuration of 3.939 instead of 6.94. Applying the correct process configuration value, EPA would have calculated much lower limits for biological oxygen demand, total suspended solids, chemical oxygen demand, sulfide,¹⁸ and daily maximum chromium and incorporated these in the permit. *See Table 2* (the highlighted cells show where the correct technology based limits are lower than what is included in the final permit).¹⁹ EPA’s calculation of the effluent limits for outfall 002 is based on the agency’s clearly erroneous

¹⁵ Ex. 14. Available at

<http://yosemite.epa.gov/water/owrcatalog.nsf/1ffc8769fdecb48085256ad3006f39fa/766d22d15b20b07b85256b0600723400!OpenDocument>.

¹⁶ Ex. 15. Available at <http://water.epa.gov/scitech/wastetech/guide/petroleum/index.cfm>.

¹⁷ Ex. 16.

¹⁸ EPA has not included any sulfide limit in the Final NPDES permit.

¹⁹ Ex. 17. Table 2 is derived from Exhibit

finding of fact that the isomerization is a lube process. Therefore, EAB should remand the permit to EPA Region 8 to allow the agency to correct these permit limits.

New Source Performance Standards + Runoff Limits			Final NPDES Permit Limits	
Parameter	Max 1 day	Avg. 30 day	Max 1 day	Avg. 30 day
BOD 5 (lbs./day)	55.87	29.79	81	43
TSS (lbs./day)	37.79	24.00	55	35
COD (lbs./day)	344.61	175.76	500	255
Oil and Grease (lbs./day)	17.45	9.43	25.4	13.7
Sulfide (lbs./day)	0.35	0.15	-	-
Total Chromium (lbs./day)	0.84	0.48	1.22	0.035

III. CONCLUSION

For the foregoing reasons, the Petitioners respectfully request that the EAB either remand the Permit to the EPA Region 8 to correct for the legal errors in the NEPA process as well as in setting the NPDES permit limits for outfall 002. EPA's decision making process did not adequately consider the environmental impacts of the proposed MHA Refinery contrary the goals NEPA. Furthermore, the impermissibly high permit limits will allow excessive pollution to enter Lake Sakakawea endangering the health and well-being of Petitioners who swim, boat, and fish on the lake.

Respectfully submitted this 12th day of September 12, 2011.

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