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B – Public Notice of Revised Effluent Limitations

C – Supplemental Information Report II

I. INTRODUCTION

On August 4, 2011, the U.S. Environmental Protection Agency Region 8 (“the Region”) issued a Clean Water Act (“CWA”) National Pollutant Discharge Elimination System (“NPDES”) Permit (“Permit”) under CWA § 402, 33 U.S.C. § 1342, to the Three Affiliated Tribes, Mandan, Hidatsa, and Arikara Nation (“MHA Nation” or “Tribes”) of the Fort Berthold Indian Reservation for wastewater discharges associated with the operation of an oil refinery. The permit authorized the MHA Nation to discharge pollutants from a point source into waters of the U.S. in accordance with the conditions listed in the Permit. The oil refinery location is within the exterior boundaries of the Fort Berthold Indian Reservation (“Reservation”), and thus, within Indian country as defined at 18 U.S.C. § 1151. The Reservation is located in western North Dakota. The MHA Nation does not have a federally authorized NPDES program; therefore, the Region is the government authority that issues NPDES permits within the exterior boundaries of the Reservation.

On September 7, 2011, James Stafslie filed a Petition for Review of the Permit (“Stafslie Petition”) with the Environmental Appeals Board (“EAB” or “Board”). On September 12, 2011, the Environmental Awareness Committee, Jodie White, Theodora Bird Bear, and Joletta Bird Bear (collectively, “EAC”) filed a Petition for Review of the Permit (“EAC Petition”) with the Board, and on September 19, 2011, Pastor Elise Packineau filed a Petition for Review of the Permit (“Packineau Petition”) with the Board. On September 22, 2011, the Region filed an unopposed Motion for Extension of Time to Respond to the petitions. On September 30, 2011, the Board issued an order granting the Region’s Motion for Extension of Time to Respond to the petitions until December 16, 2011 as well as consolidating the three

petitions into one action. On November 23, 2011, the Board granted the MHA Nation's motion to intervene in the proceeding. As discussed below, the Board should deny each of the petitions.

II. FACTUAL AND PROCEDURAL BACKGROUND

In 2003, the MHA Nation contacted the U.S. Department of the Interior ("DOI") – Bureau of Indian Affairs ("BIA") and the Region regarding a proposal to construct and operate a "clean fuels" refinery utilizing synthetic crude oil from the Alberta, Canada tar sands deposits as the refinery feedstock. The refinery would produce diesel fuel, gasoline and propane. EPA MHA-06417. On February 5, 2003, the MHA Nation voted to purchase land for the proposed refinery and for additional forage crops. EPA MHA-06385. The MHA Nation purchased 468.39 acres located in the northeast corner of the Reservation and Ward County, North Dakota to be used for economic development to benefit its members. *Id.* The refinery is located on 190 acres of the property. *Id.* The remaining acres would be used to grow forage for the MHA Nation's buffalo herd (buffalo would not be located at the site). *Id.* Following the purchase of the property, the MHA Nation requested that the BIA accept the property into trust status. *Id.* The MHA Nation also applied to the Region for a CWA NPDES permit for wastewater discharges associated with operation of the refinery. *Id.*

As a general matter, federal agencies must comply with the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 *et seq.*, before approving any major federal actions that may have a significant effect on the human environment. NEPA § 102(2)(C), 42 U.S.C. § 4332(2)(C). The BIA with input from the Region determined that the NEPA environmental review should be an Environmental Impact Statement ("EIS") because of the significant impacts that would be caused by the refinery project. The BIA's decision to do an EIS was made in

consideration of the entire refinery project for purposes of making a decision on the MHA Nation's request that the BIA put the land into trust.

The project as proposed would require an NPDES permit from the Region. EPA MHA-06385. Because the Region determined the project is an NPDES "new source", the Region was required to comply with NEPA prior to final action on the NPDES permit. CWA § 511(c)(1), 33 U.S.C. § 1371(c)(1); CWA § 306(a)(2), 33 U.S.C. 1316(a)(2); 40 C.F.R. § 122.29. The DOI/BIA's decision whether to accept the land into trust for purposes of the proposed project constitutes a major federal action and also invoked NEPA. EPA MHA-06403. Initially, the Region acted as a cooperating agency¹ based on its permitting authority for specific aspects of the project. EPA MHA-011750 to 011760, EPA MHA-06404. The BIA asked the Region to act as a co-lead agency because of the Region's regulatory authority and expertise in pollution from refineries. *Id.* The Region agreed, and in 2006, the Region and the BIA signed a Memorandum of Agreement designating each as co-lead agencies for the NEPA analysis. EPA MHA-02273 to 02285. The Tribes assisted in the preparation of the NEPA analysis as a Cooperating Sovereign Nation. *Id.* The U.S. Army Corps of Engineers was a cooperating agency in the preparation of the NEPA analysis because of the potential need for a Clean Water Act § 404 permit for the discharge of dredged or fill material associated with the construction of the refinery. *Id.*

A. NPDES New Source Determination

On November 9, 2004, the Tribes formally submitted an NPDES permit application to the Region. EPA MHA-0187. The Region determined the permit application was complete on

¹ The Council on Environmental Quality regulations implementing NEPA at 40 C.F.R. §§ 1501.6 and 1508.16 define the roles of lead and cooperating agencies.

December 2, 2004. EPA MHA-01379. On the same date, the Region determined that the proposed refinery was a “new source” within the meaning of CWA § 306(a)(2), 33 U.S.C. § 1316(a)(2), and 40 C.F.R. § 122.2. EPA MHA-01380. In accordance with 40 C.F.R. § 122.21(l), the Region published a notice of the “new source” determination in the New Town News on December 23, 2004 (EPA MHA-0168); the Minot Daily News on December 25, 2004 (EPA MHA-0170); the Dickinson Press on December 29, 2004 (EPA MHA-0174); the Bismarck Tribune on December 29, 2005 (EPA MHA-0177); and the Williston Herald on January 6, 2005 (EPA MHA-0175). The notification also stated that the EPA’s NEPA regulations applied to this action, and that BIA, the MHA Nation and the Region would be preparing an EIS.²

Any interested party may challenge an initial “new source” determination by requesting review pursuant to 40 C.F.R. § 124.19 within thirty days of the notice. 40 C.F.R. § 122.21(l)(4). However, no party appealed the “new source” determination for the proposed refinery. Therefore, the Region proceeded with evaluating the project as a “new source.”

B. Development of NPDES Permit and NEPA Analysis

In September 2003, the MHA Nation held a series of informational meetings throughout the Reservation to describe the Tribes’ proposed actions and answer questions. EPA MHA-06411. Formal scoping for the NEPA analysis of the proposed refinery began on November 7, 2003, with the publication in the Federal Register of the Notice of Intent (“NOI”) to prepare an EIS. EPA MHA-01413 to 01414. The Region provided scoping comments to the BIA on

² The Region notes that prior to September 19, 2007, EPA’s regulations at 40 C.F.R. Part 6 – Procedures for Implementing the Requirements of the Council on Environmental Quality on the National Environmental Policy Act – explicitly contained procedures for environmental review for new source NPDES permits at 40 C.F.R. Subpart F §§ 6.600-6.607. On September 19, 2007, EPA issued a new revised final 40 C.F.R. Part 6 - Procedures for Implementing the National Environmental Policy Act and Assessing the Environmental Effects Abroad of EPA Actions. 72 Fed. Reg. 53652 (Sept. 19, 2007). The revised 40 C.F.R. Part 6 no longer contains the Subpart F §§ 6.600-6.607 provisions.

February 12, 2004. EPA MHA-011688 to 011702. The BIA compiled comments and issues identified in the scoping process in a draft scoping report, which was made available to the public for review and comment on October 1, 2004. EPA MHA-01723. The BIA accepted comments on the report until November 18, 2004. *Id.* The report summarized the scoping efforts conducted through September 2004 and the concerns and issues previously identified. *Id.* The agencies held a public hearing on November 9, 2004, to solicit public comment on the draft scoping report and any additional concerns regarding the environmental review of the proposed refinery. *Id.* The Final Scoping Report was issued in April 2005, and incorporated comments submitted on the Draft Scoping Report. EPA MHA-01715 to 01914.

On June 29, 2006, the BIA and the Region announced in the Federal Register (and in various newspapers in North Dakota) the availability of the Draft Environmental Impact Statement (“DEIS”) and the draft NPDES permit for public comment. EPA MHA-02455 to 02827. The DEIS analyzed two sets of agency specific project alternatives: 1) the DOI/BIA alternatives related to taking the land into trust; and (2) the Region alternatives related to wastewater disposal. EPA MHA-02467. The project alternatives for DOI/BIA were: Alternative 1 (proposed action) - accept the land into trust, construct and operate the refinery and produce forage for buffalo; Alternative 2 – accept land into trust without construction of the proposed refinery; Alternative 3 – construction of the proposed refinery without taking the land into trust; Alternative 4 – modification of Alternative 1 proposal to reduce impacts to wetlands and revised design of the refinery to reduce regulatory requirements under the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. § 6901 *et seq.*; and Alternative 5 – No action under which no refinery would be constructed, BIA would not accept the 469 acres into trust status. *Id.* The Region’s effluent discharge alternatives for disposal of wastewater were: Alternative A

(proposed action) – issue an NPDES permit for effluent discharges associated with the refinery; Alternative B – partial discharge through an NPDES permit and partial discharge of effluent through irrigation; Alternative C – effluent discharge to an Underground Injection Control (“UIC”) Class I well; and Alternative D – No action, under which the Region would not issue any permits for the discharge of refinery effluent. *Id.*

The BIA and the Region held seven public hearings on the DEIS and draft NPDES permit in Twin Buttes, White Shield, Parshall, Mandaree, New Town (two hearings), and Makoti, North Dakota between July 31 and August 5, 2006. EPA MHA-06412. Written comments on the DEIS and the public hearing transcript were included in Appendix F of the Final Environmental Impact Statement (“FEIS”). EPA MHA-06996 to 08008. A summary of the comments on the DEIS, and the Region and the BIA's responses to comments are in Appendix E of the FEIS. EPA MHA-06917 to 06994. The public comment period for the DEIS and draft NPDES permit closed on September 14, 2006. EPA MHA-02353. Topics raised during the public comment period included: NEPA process (DEIS information and public participation); government responsibilities (EPA, BIA, Tribal government and joint responsibilities); project definition (project description and technologies and alternatives); environmental impacts (geology, ground water, surface water, solid and hazardous wastes, vegetation, wildlife, cultural resources, air quality, socioeconomics, environmental justice, human health); emergencies, spills and safety; and closure of the refinery at the end of the operation life. EPA MHA-06917 to 06994. The FEIS was prepared by the Region and DOI/BIA in response to comments received on the DEIS. Major changes to the document included revised air quality, environmental justice and human health impact sections.

On August 20, 2009, the DOI/BIA and the Region issued the FEIS for the project and the revised draft NPDES permit.³ EPA MHA-06321. In the FEIS, the Region identified issuance of an NPDES Permit for effluent discharges associated with the refinery as its preferred alternative.⁴ EPA MHA-06480. If the refinery was to be constructed, the Region recommended selection of the design developed to reduce impacts to wetlands and to utilize tanks instead of surface impoundments for wastewater collection and treatment, described as Alternative 4 in the FEIS. EPA MHA-06464 to 06474. The Region also recommended mitigation measures including groundwater monitoring and financial assurance be implemented by the Tribes. Section 4.17 of the FEIS discusses the proposed mitigation measures for the refinery. EPA MHA-06741 to 06748. Table 4-28 in the FEIS lists proposed permits, plans and mitigation measures to impacts from the proposed refinery. EPA MHA-06749 to 06752. The section also includes Table 4-29 which lists monitoring, inspecting, reporting and follow-up activities that would also reduce and mitigate impacts from the proposed refinery. EPA MHA-06753 to 06755.

The Region and the DOI/BIA received comments on the FEIS indicating concerns including air quality, environmental justice, changing the refinery feedstock to the Bakken crude and changes in the availability of synthetic crude for the refinery. EPA MHA-06995. In considering the comments on the FEIS, the Region contacted the MHA Nation regarding the availability of pipeline capacity to convey synthetic crude to the refinery site, and seeking clarification on emissions calculations prepared by the MHA Nation's consultants. EPA MHA-010675 to 010676, EPA MHA-010682 to 010684.

³ The FEIS, draft permit, appendices and technical reports for the FEIS are located in the administrative record between pages EPA MHA-06337 and EPA MHA-0833.

⁴ The DOI/BIA identified Alternative 3 - construction of the proposed refinery without taking the land into trust – as its preferred alternative. DOI recommended that the design of the refinery, if constructed be modified consistent with Alternative 4. The construction and operation of the refinery does not depend on the land being held in trust by the United States. EPA MHA-06480.

On February 4, 2010, the MHA Nation notified the Region via phone that they intended to change the refinery feedstock from the synthetic crude oil to the local Bakken formation crude oil. EPA MHA-010759. Upon notification of the feedstock change, the Region asked the MHA Nation to provide information regarding how the feedstock change would affect the preliminary refinery design and crude transportation as described in the FEIS. EPA MHA-010691 to 10748. The main submission of this information was in an April 20, 2010 meeting and report. EPA MHA-010758 to 010790. Based on that report and additional information prepared by the MHA Nation's contractors, as well as other information reviewed by the Region, the Region evaluated whether a supplemental EIS would be needed before making the Region's decision on the NPDES permit.

The Region's evaluation is summarized in a Supplemental Information Report ("SIR"), which includes the main technical reports of the evaluation as appendices. The SIR was completed on July 29, 2011, and compared the environmental impacts associated with refining the Bakken crude with the impacts associated with refining synthetic crude identified in the FEIS environmental analysis to determine whether the Region needed to prepare a supplemental EIS pursuant to 40 C.F.R. § 1502.9(c).⁵ EPA MHA-011409 to 011510. The Region concluded a supplement to the FEIS was not warranted, because changing the refinery feedstock from synthetic crude to Bakken crude would not significantly change the proposed action or its impacts as described in the FEIS. EPA MHA-011423.

On August 3, 2011, the Region issued the Record of Decision ("ROD") documenting the Region's decision to issue the NPDES permit to the MHA Nation for wastewater discharges

⁵ As discussed in further detail below, the Council on Environmental Quality regulations implementing NEPA require federal agencies to supplement their NEPA analyses if "the agency makes substantial changes in the proposed action that are relevant to environmental concerns or [t]here are significant new circumstances or information relevant to the environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c).

associated with the operation of the refinery pursuant to NEPA, 42 U.S.C. § 4321 *et seq.*, the Council of Environmental Quality (“CEQ”) regulations, 40 C.F.R. Parts 1500-1508, and the Region’s regulations implementing NEPA at 40 C.F.R. Part 6. EPA MHA-011387 to 011408. The Region issued the ROD after considering the analysis and information set forth in the NEPA documents prepared by the Region and DOI/BIA, as well as the analysis in the SIR prepared by the Region. EPA MHA-011387.

On August 4, 2011, the Region issued the final NPDES permit decision. EPA MHA-01 to 085. Pursuant to 40 C.F.R. § 124.15(a), the Region mailed written notice of the final permit decision to the MHA Nation and the approximately 200 people who had submitted written comments or requested notification of the final permit decision. EPA MHA-011385 to 011386. The mailed written notice indicated that the NPDES permit appeal period for petitions for review to the Board would begin upon publication of the notice in the Federal Register, which the Region anticipated would occur on August 12, 2011. *Id.* Notice in the Federal Register of the Region’s action occurred on August 12, 2011, thus triggering the 30-day permit appeal period provided for by 40 C.F.R. § 124.19(a). EPA MHA-010894. As stated in the Federal Register notice and the EPA regulations, any person that had commented on the draft permit or participated in the public hearings had 30 days (*i.e.*, until September 11, 2011) to appeal the permit decision. *Id.* However, because September 11, 2011, fell on a Sunday, the EPA regulations extended the permit appeal period to the next working day, September 12, 2011. 40 C.F.R. § 124.20(c).

As noted above, on September 7, 2011, James Stafslie filed a Petition for Review of the Permit with the Board. On September 12, 2011, the Environmental Awareness Committee, Jodie White, Theodora Bird Bear, and Joletta Bird Bear filed a Petition for Review of the Permit with

the Board. On September 19, 2011, Pastor Elise Packineau filed a Petition for Review of the Permit with the Board. On September 22, 2011, the Region filed an unopposed Motion for Extension of Time to Respond to the petitions. On September 30, 2011, the Board issued an order granting the Region's Motion for Extension of Time to Respond to the petitions until December 16, 2011, as well as consolidating the three petitions into one action. On November 23, 2011, the Board granted the MHA Nation's Motion to Intervene.

Among other issues raised in its petition, the EAC challenged certain effluent limitations in the final NPDES permit. Upon receipt of the EAC petition, the Region reviewed its calculations for the permit effluent limitations to determine whether the permit contained the appropriate requirements. On November 22, 2011, in accordance with 40 C.F.R. § 124.19(d), the Region provided notice to the Board and interested parties (including all petitioners and the permittee) that the Region was withdrawing the effluent limitations for the following parameters for Outfall 002: BOD (biochemical oxygen demand), COD (chemical oxygen demand), TSS (total suspended solids), total chromium, phenolic compounds⁶, and oil and grease. Ex. A.⁷ The Region's withdrawal of the effluent limitations was published in a public notice in the New Town News and Dickinson Press on November 25, 2011; and in the Williston Herald, Bismarck Tribune, and Minot Daily News on November 28, 2011. Ex. B. The Region prepared new draft effluent limitations for the listed parameters and, as noted in the public notice, made them available at various locations around the project area and on the Region's website for a 45-day public comment period. *Id.* The public comment period on the revised effluent limitations will end on January 13, 2012. *Id.* The Region also completed a supplemental information report

⁶ The Region notes that the phenolic compounds effluent limitation was not challenged in any of the petitions.

⁷ Exhibits A, B, and C are attached to this Response to the Consolidated Petitions for Review.

("SIR II") which evaluated the significance of the environmental impacts associated with the change in effluent limitations and assessed whether additional compliance with NEPA was required. The Region determined that additional NEPA documentation was not required in light of the change in effluent limitations. Ex. C.

III. SCOPE AND STANDARD OF REVIEW

Pursuant to 40 C.F.R. § 124.19(a), the Board must receive a petition for review within thirty days after a permit decision or at a later date specified in the notice of the permit decision. 40 C.F.R. § 124.19(a); *In re Envotech, L.P.*, 6 E.A.D. 260, 265 (EAB 1996). The petitioner has the responsibility to ensure the filing deadlines are met and the Board must receive the petition within the filing deadline to be timely. *In re. AES Puerto Rico L.P.*, 8 E.A.D. 324, 328-329 (EAB 1999); *In re. Kawaihae Cogeneration Project*, 7 E.A.D. 107, 124 (EAB 1997). Generally, the Board strictly construes threshold procedural requirements and relaxes a filing deadline only when special circumstances exist. *In re. Circle T Feedlot, Inc., Morgan Feedlot, Inc., Sebade Feedyard & Stanck Brothers*, 14 E.A.D. ___, slip op. at 6 (EAB 2010).

A. Standard of Review for NPDES Permit Appeals

A petitioner seeking review of an NPDES permit has the burden of demonstrating that the Board should review the permit. 40 C.F.R. § 124.19(a); *In re. Peabody Western Coal Co.*, 15 E.A.D. ___, slip op. at 7 (EAB 2011). First, a petitioner seeking review must demonstrate that any issue it raises on appeal has been preserved for Board review through raising the issue during the public comment period. 40 C.F.R. § 124.19(a); *In re. Carlota Copper Co.*, 11 E.A.D. 692, 708 (EAB 2004). A petitioner who failed to raise issues during the public comment period on the draft permit may petition for administrative review only to the extent of the changes from the

draft to final permit decision. 40 C.F.R. § 124.19(a). Next, a petitioner must “state its objections to the permit and explain why the permit issuer’s previous response to those objections is clearly erroneous, an abuse of discretion, or otherwise warrants review.” *Carlota Copper*, 11 E.A.D. at 708; *see also* 40 C.F.R. § 124.19(a). A petitioner cannot simply repeat objections made during the comment period or allege error without specific supporting information. *Peabody Western Coal*, slip op. at 7-8; *In re Phelps Dodge Corp.*, 10 E.A.D. 460, 520 (EAB 2002).

With respect to issues technical in nature, the Board generally defers to the Region. *In re. Teck Cominco Alaska Inc., Red Dog Mine*, 11 E.A.D. 457, 473 (EAB 2004); *Carlota Copper*, 11 E.A.D. at 708. However, the Region must adequately explain and support in the record its decision. *Teck Cominco Alaska Inc., Red Dog Mine*, 11 E.A.D. at 473. The Region “must articulate with reasonable clarity the reasons for its conclusions and the significance of the crucial facts it relied upon in reaching those conclusions.” *In re. San Jacinto River Authority*, 14 E.A.D. ___, slip op. at 5 (EAB 2010).

B. Standard of Review for NEPA Challenges

NEPA § 102(2)(C) requires that all federal agencies, before taking “major Federal actions significantly affecting the quality of the human environment,” prepare a statement discussing the impacts of and alternatives to the proposed agency action.⁸ 42 U.S.C. § 4332(2)(C). CWA §

⁸ NEPA § 102(2)(C) requires all federal agencies to “include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on –

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity,

511(c)(1) specifically requires EPA to comply with NEPA when issuing a “new source” NPDES permit. 33 U.S.C. § 1371(c)(1); *Carlota Copper Co.*, 11 E.A.D. at 701; *In re. Dos Republicas Res. Co., Inc.*, 6 E.A.D. 643, 648 (EAB 1996).⁹

NEPA itself does not address when an agency is required to prepare a supplemental EIS; however, the Council on Environmental Quality (“CEQ”) regulations implementing NEPA require an agency to supplement its environmental analyses if “the agency makes substantial changes in the proposed action that are relevant to environmental concerns or [t]here are significant new circumstances or information relevant to the environmental concerns and bearing on the proposed action or its impacts.” 40 C.F.R. § 1502.9(c); *see also* 40 C.F.R. § 6.200(h).

The Board’s standard of review when a Regional NEPA decision is challenged in the context of a NPDES permit appeal requires the petitioner to meet the same burden for both NPDES and NEPA claims. The petitioner must demonstrate that the NEPA decision was “clearly erroneous, an abuse of discretion, or otherwise warrants review.” *Carlota Copper*, 11 E.A.D. at 708; *see also* 40 C.F.R. § 124.19(a). In reviewing NEPA challenges and determining whether petitioner has met the burden of showing clear error, the Board has adopted a “rule of reason,” which the Board equates to a “reasonableness” standard. *Carlota Copper*, 11 E.A.D. at 790 (citing *In Re Dos Republicas Res. Co.*, 6 E.A.D. at 663; *In Re Louisville Gas & Elec. Co.*, 1 E.A.D. 687, 694 (JO 1980) (stating that an agency’s actions under NEPA are to be measured against standards of reasonableness and due regard must be given to all the surrounding

-
- (v) and any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.”

⁹ CWA § 511(c)(1) states “[e]xcept for the provision of Federal financed assistance for the purpose of assisting the construction of publicly owned treatment works as authorized by section 1281 of [the CWA], and the issuance of a permit under section 1342 of [the CWA] for the discharge of a pollutant by a new source as defined in section 1316 of this title, no action of the Administrator taken pursuant to this chapter shall be deemed a major Federal action significantly affecting the quality of the human environment within the meaning of the [NEPA] (emphasis added).”

circumstances). The Board has explained that its “role in reviewing compliance with NEPA consists of ensuring that the agency has adequately considered and disclosed the environmental impacts of the proposed actions in light of the totality of the circumstances.” *Carlota Copper*, 11 E.A.D. at 790. Thus, when challenging the EPA’s decision not to supplement an EIS, a petitioner has the burden to show that the agency committed clear error by failing to reasonably consider new information. In addition, the petitioner has the burden to show that the Agency committed clear error in its determination that a supplemental EIS is not warranted under NEPA. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 378 (1989); *Arkansas Wildlife Federation v. U.S. Army Corps of Engineers*, 431 F.3d 1096, 1104 (8th Cir. 2005). Where petitioners fail to meet their burden to show clear error, the Board will deny review.¹⁰ *Carlota Copper*, 11 E.A.D. at 709.

IV. ARGUMENT

The Board should deny review of each of the consolidated petitions for the reasons described below.

A. The Board should deny the Stafslie Petition (NPDES 11-02) for review.

Petitioner Stafslie¹¹ raises a concern regarding potential flooding of a slough (field) due to the wastewater discharge from the refinery operation and requests installation of a gate to

¹⁰ Subsequent judicial review of an agency decision not to supplement an EIS is undertaken using the deferential “arbitrary and capricious” standard of the Administrative Procedure Act § 706(2)(A). *Marsh*, 490 U.S. at 375-376. This means the EPA’s decision not to supplement an EIS should not be set aside if the Agency and its conclusions were rational, the Agency considered the relevant factors, and the Agency did not make a clear error in judgment. *Marsh*, 490 U.S. at 377-378. Federal circuit courts applying the arbitrary and capricious standard to supplementation claims have indicated that to require a supplemental EIS, the new circumstances or information must present a “seriously different picture of the environmental impacts.” *Arkansas Wildlife Federation*, 431 F.3d at 1102; *Hickory Neighborhood Def. League v. Skinner*, 893 F.2d 58, 63 (4th Cir. 1990).

¹¹ Mr. Stafslie is a pro se petitioner. When “petitions are filed by persons who are unrepresented by legal counsel..., the Board endeavors to liberally construe the petitions so as to fairly identify the substance of the

prevent such flooding. Petitioner Stafslie neither demonstrates in his petition this issue was raised during the public comment period, nor alleges or demonstrates in his petition clear error or abuse of discretion on the part of the Region or another basis for review as required by 40 C.F.R. § 124.19(a).

Petitioner Stafslie has the burden to demonstrate the Board should review the permit. 40 C.F.R. 124.19(a); *Peabody Western Coal*, 15 E.A.D. ___, slip op. at 7. Petitioner Stafslie must state his objection to the Permit and explain why the Region's previous response to the objection is clearly erroneous, an abuse of discretion, or otherwise warrants review." *Carlota Copper* 11 E.A.D. at 708; 40 C.F.R. § 124.19(a). "Those seeking review of a permit bear the burden of demonstrating that review is warranted." 40 C.F.R. §§ 124.19(a)(1)-(2). Petitioners must not only demonstrate that the issues on which they seek review were raised during the public notice and comment period...but also explain in their petitions why the permit issuer's responses were clearly erroneous, an abuse of discretion or otherwise warrant review." *San Jacinto River Authority*, 14 E.A.D. ___, slip op at 6. Petitioner Stafslie simply raises a concern regarding water quantity but does not demonstrate in his petition why the Region's response to comments on water quantity¹² and the issuance of the NPDES permit was clearly erroneous, an abuse of discretion or otherwise warrants Board review.

The Board should deny review of the Stafslie Petition because Petitioner Stafslie fails to meet his burden to demonstrate that the issue was raised during the public comment period and has not demonstrated clear error or abuse of discretion on the part of the Region or another basis for review pursuant to 40 C.F.R. § 124.19(a).

arguments being made...Nevertheless, the burden of demonstrating that review is warranted still rests with the petitioner challenging the permit decision." *Circle T Feedlot*, 14 E.A.D. ___, slip op. at 6.

¹² EPA MHA-06954 to 06955.

B. The Board should deny the EAC Petition (NPDES 11-03) for review.

Petitioner EAC raises multiple issues regarding both the effluent limitations in the Permit, and the adequacy of the Region's NEPA analysis supporting its decision to issue the Permit. The EAC's NPDES and NEPA allegations are addressed separately below.

1. Petitioner EAC has not met its burden of demonstrating the Board should review the MHA Nation NPDES permit limits.

The EAC challenges the validity of the six effluent limits in the Permit. The Board should deny review of this challenge for the following reasons.

a. Petitioner EAC has not demonstrated that its challenge to the permit limits was preserved for review.

Petitioner EAC requested the Board remand the permit conditions for the following parameters to the Region for correction: biochemical oxygen demand ("BOD"), total suspended solids ("TSS"), chemical oxygen demand ("COD"), oil and grease, sulfide, and total chromium. Petitioner states that the Region misapplied the technology-based effluent limitations found at 40 C.F.R. Part 419 (Petroleum Refining Point Source Category).

Petitioner EAC fails to demonstrate that it raised the technology-based effluent limitations for these parameters as an issue in the public comment period, as required by 40 C.F.R. § 124.19(a). *In re. Upper Blackstone Water Pollution Abatement District*, 15 E.A.D. ___, slip op. at 7 (EAB 2011); *Carlota Copper*, 11 E.A.D. at 708, 726. EPA's regulation at 40 C.F.R. §124.19 requires interested parties raise any issues they may have with the effluent limitations during the public comment period in order to allow the Region to respond to concerns regarding the effluent limits prior to issuance of the final permit. 40 C.F.R. § 124.19(a); *In re. Mille Lacs Wastewater Treatment Facility*, 11 E.A.D. 356, 363 (EAB 2004) (citing *In re. Spokane Reg'l Waste-to-Energy*, 2 E.A.D. 809, 816 (Adm'r 1989) (the Agency's opportunity to respond to

significant comments is meaningless unless interested parties clearly state their positions during the public comment period)). While the Board has “consistently recognized that issues pertaining to changes from the draft to final permit decision may be raised for the first time on appeal,” *Teck Cominco Alaska Inc., Red Dog Mine*, 11 E.A.D. at 480, in the instant case, nothing in the effluent limitations changed between the draft and final permit. Therefore, the EAC failed to meet the threshold requirements for obtaining review of the effluent limitations, and the Board should deny review of this issue.

b. Petitioner EAC’s challenge of the permit limits for BOD, TSS, COD, oil and grease, and total chromium is moot.

The EAC’s challenge to the technology-based effluent limitations in this permit – other than the sulfide limit – are moot, as the Region has withdrawn the challenged limits and is in the process of finalizing new limits, for the reasons discussed below.

Although the EAC did not raise its challenges to the technology-based limits in the public comment period, upon receipt of the EAC petition the Region nonetheless reviewed the calculations it made to develop the effluent limitations in order to determine whether the permit contained the appropriate requirements. The CWA provides for a two-step process for establishing effluent limitations in NPDES permits. First, the permit must include technology-based effluent limitations, which are limitations based on a specified level of technology for the reduction of water pollution. CWA § 301(b), 33 U.S.C. § 1311(b); 40 C.F.R. § 122.44(a)(1). Next, the permit must include any more stringent water quality based effluent limitations necessary to meet applicable state water quality standards. CWA § 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1).

Based on its review of the technology-based effluent limitations, on November 22, 2011, in accordance with 40 C.F.R. § 124.19(d), the Region provided notice to the Board and interested

parties (including all petitioners and the permittee) that the Region was withdrawing the effluent limitations for the following parameters for Outfall 002: BOD, COD, TSS, total chromium, phenolic compounds¹³, and oil and grease. Ex. A. The Region prepared new draft effluent limitations for those parameters and published a public notice seeking comment on them on November 25, 2011. Ex. B.

Because the Region has withdrawn the effluent limitations challenged in the EAC petition and is in the process of proposing new effluent limitations, the EAC's challenge is moot and the Board should deny review of this issue.

c. Petitioner EAC's challenge to the sulfide permit limit is substantively flawed.

The EAC requested the Board remand the effluent limitation for sulfide because it believes the Region did not accurately calculate the technology-based effluent limitation. This aspect of EAC's petition does not warrant review, as the calculation error alleged, even if true, does not demonstrate that the sulfide limitation in the permit is in error. The Petitioners are challenging the Region's calculation of the technology-based limitation for sulfide, but the sulfide effluent limitation of 2 µg/L incorporated into the Permit is not the technology-based limitation, but the more stringent water quality-based effluent limitation. EPA MHA-010. Petitioners have not challenged the Region's calculation of the water quality based effluent limitation for sulfide, and did not (and cannot) make a showing that the technology-based limit they advocate is more stringent than the water-quality based effluent limitation.¹⁴ In fact, were

¹³ As noted above, the phenolic compounds effluent limitation was not challenged in any of the petitions.

¹⁴ As demonstrated in tables 4 and 5 of the NPDES permit amendment (Exhibit B), the water quality based effluent limitation is approximately 100 times more stringent than the technology-based effluent limitation. Using conservative calculations the average technology-based effluent limitation is calculated to be 210µg/L while the water quality-based effluent limitation is 2 µg/L. Note both of the effluent limitations are in micrograms per liter rather than milligrams per liter.

the Region to adopt the technology-based limit advocated by the EAC, the resulting concentrations of hydrogen sulfide would be higher than that currently permitted. Thus, the EAC has not met its burden of demonstrating that the permit condition in question is based on “a finding of fact or conclusion of law which is clearly erroneous” or otherwise warrants review

Because the EAC did not raise its concerns with the challenged permit limits during the public comment period and preserve them for Board review, because the Region withdrew six of the challenged permit limits and thus rendered the EAC’s allegations moot, and because the calculation error alleged by EAC would have had no effect on the conditions in the NPDES permit, the Board should deny review of the EAC’s challenge to the NPDES permit limits.

2. Petitioner EAC has not met its burden of demonstrating the Board should review the Region’s NEPA analysis.

The EAC alleges that the Region violated NEPA because the Agency did not take a hard look at new information related to the change in refinery feedstock from synthetic crude to the Bakken crude. The EAC also alleges that the Region’s decision not to prepare a supplemental EIS was arbitrary and capricious. However, the EAC has not demonstrated that the Region failed to reasonably consider relevant technical information concerning the change in feedstock, and has not met its burden of showing that the Region made a clear error of judgment in deciding not to prepare a supplemental EIS. Therefore, the Board should deny the EAC petition with respect to its NEPA allegations.

a. Petitioner EAC has not demonstrated clear error in the Region’s review of relevant technical information or in its decision not to supplement its EIS.

In the instant case, the EAC fails to demonstrate the Region committed clear error in determining supplemental NEPA analysis was not warranted after the MHA Nation informed the Region of the change in feedstock. The Region conducted an extensive review and worked with

the MHA Nation and its contractors to examine the potential for refinery design changes and new environmental impacts associated with the Bakken crude feedstock. The Region's SIR and administrative record document this consideration, and support the Region's determination that the anticipated new impacts did not warrant preparation of a supplemental EIS.

i. Petitioner EAC has not demonstrated that the Region's review of the design changes associated with the change in feedstock was unreasonable.

For more than a year and a half, the Region reviewed, evaluated, and requested clarifications about the information submitted by the MHA Nation and its contractors regarding changes in refinery design due to the switch in feedstock. EPA MHA-010691 to 010748, EPA MHA-010441 to 010482, EPA MHA-010483 to 10487, EPA MHA-010491 to 010496, EPA MHA-010524, EPA MHA-010862 to 010874. Throughout the NEPA process, the refinery has been at the preliminary design stage. The DEIS and FEIS identify the types and capacities of major refinery units to determine potential environmental impacts. The design features, equipment units and operational considerations needed to protect the environment are also at the preliminary design stage and are documented in the DEIS and FEIS. EPA MHA-02495 to 02550, EPA MHA-06417 to 06476.

Based on the preliminary design information available to the Region and identified in the FEIS, the refinery would likely include the following units or components: crude processing unit; naphtha hydrotreater; reformer; hydroprocessor; sulfur recovery unit; alkylation plant; hydrogen unit; utilities, including the fuel gas, flare, instrument and utility air, fire water, boiler feed water, and nitrogen systems; water treatment unit; storage and blending tanks; and loading facilities as well as other units and components as described in the FEIS. EPA MHA-06417 to 06641. For either feedstock, these units and components would remain the same. As the refinery design is finalized, the significance of the environmental impacts associated with the design would remain

similar to those disclosed in the NEPA process regardless of the feedstock as described in the SIR. EPA MHA-011409 to 011510.

Based on the information the MHA Nation and its contractors provided in response to the Region's inquiries regarding the design changes necessary as a result of the change in feedstock, the switch in feedstock from synthetic crude to Bakken crude would, in EPA's technical judgment, require certain additional refinery process units or components: a vacuum distillation unit including heater and two decant oil tank heaters, a desalter, desalter brine disposal facilities, and a second sulfur recovery unit. EPA MHA-010396 to 010424, EPA MHA-011412, EPA MHA-011235. The desalter would also add an additional waste stream that would need disposal through an underground injection well. EPA MHA-01398. The desalter wastestream is a salty wastewater with some petrochemical compounds dissolved from the crude oil. EPA MHA-011417. Other than the changes described above, the design of the refinery is unchanged from the FEIS, because both the Bakken and synthetic crudes are light sweet crudes that are low in sulfur resulting in nearly the same refining process for both feedstocks. EPA MHA-0282, EPA MHA-010525, EPA MHA-010397, EPA MHA-10822 to 010826. Although the Bakken is a natural crude which contains more salts and some bottoms or heavier hydrocarbon fractions, such as fuel oils, and is a less chemically consistent feedstock than the synthetic crude, based on the information received from the MHA Nation and its contractors, the only changes to the refinery design are those described above. *Id.* Contrary to EAC's petition allegation regarding the refinery design changes, the Region identified these likely design changes, including a second sulfur recovery unit, analyzed potential impacts in the SIR and determined the impacts were not significant enough to warrant supplemental NEPA documentation. EPA MHA-011412.

The Region appropriately determined in its discretion that these design changes did not rise to the level of significance for purposes of conducting supplemental NEPA documentation given that the refining processes are nearly the same. The information considered by the Region in making this determination and the analysis underlying the determination, is documented in the administrative record. The EAC has failed to demonstrate that the Region did not reasonably consider relevant technical information concerning the design changes necessary to adapt to a change in feedstock, and has not met its burden of showing that the Region made a clear error of judgment in deciding not to prepare a supplemental EIS. Consequently, the Board should deny the EAC petition regarding its allegation on the significance of the design changes.

ii. Petitioner EAC has not demonstrated that the Region's review of the air impacts associated with the change in feedstock was unreasonable.

As outlined below, the Region fully considered the relevant technical information regarding the air impacts associated with the change in feedstock, and based its decision not to supplement the NEPA analysis on the results of that deliberation. The EAC fails to demonstrate that the Region did not undertake a reasonable analysis of the technical information, and has not met its burden of showing that the Region committed clear error in determining that air impacts associated with the change in feedstock did not warrant a supplemental EIS. Therefore, the Board should deny the EAC petition with respect to the allegations regarding the Region's NEPA air quality impacts analysis.

aa. The obligation to review air impacts under NEPA is different than under the CAA, and the Region has properly reviewed the refinery's air impacts for purposes of NEPA.

The EAC inappropriately approaches the issue of the NEPA air impacts analysis as if the Region were evaluating a Clean Air Act (CAA) permit application. The issue before the Board is

not whether a CAA permit is required. The issue before the Board is whether – in the NEPA context – the Region reasonably considered relevant technical information in assessing likely air impacts of a change in feedstock, and whether the Region committed clear error in determining a supplemental EIS was not required. The Region has a separate and distinct obligation from NEPA to review the air impacts under the CAA Prevention of Significant Deterioration (PSD) regulatory scheme and other CAA requirements. CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3); 40 C.F.R. § 52.21. Thus, whether the refinery is subject to PSD permit regulations is a distinct and separate inquiry, and does not specifically change the air impact analysis for purposes of the NEPA process.

The Region maintains that although the increase in PM, SO₂, NO_x, and Volatile Organic Compound (“VOC”) emissions due to the feedstock change that were estimated and disclosed in the SIR are not “significant”¹⁵ enough to warrant a supplemental EIS prior to issuing a CWA NPDES permit for the refinery, the increase does raise the Region’s concern regarding the need for a PSD permit for the refinery.¹⁶ Although the Region initially made a determination in 2005 that the refinery was a minor source and would not need a CAA PSD permit, the Region withdrew that determination in 2010. EPA MHA-010692. The Region withdrew the 2010 determination because it did not find sufficient basis to conclude air emissions would be under the PSD permitting thresholds. However, the withdrawal does not constitute a finding by the Agency that a PSD permit was required for CAA purposes nor that air impacts were significant for NEPA purposes. The fact the Region withdrew its CAA PSD permitting minor source

¹⁵ Here, “significant” is used in the NEPA context and not in the PSD regulatory context, which defines “significant” thresholds for each criteria pollutant and certain non-criteria pollutants (e.g., the significance threshold is 40 tons per year for NO_x and 15 tons per year for PM₁₀). 40 C.F.R. §§ 51.166(b)(23)(i), 52.21(b)(23)(i).

¹⁶ The Region requested the MHA Nation submit a PSD permit application. EPA MHA-01877 to 010878. The MHA Nation has not submitted a PSD permit application to the Region.

determination for the refinery does not render as clear error the Region's determination that further NEPA analysis and public review in a supplemental EIS was not required..

As demonstrated below, the Region was reasonable in its analysis of the air impacts. The Region's NEPA documentation estimated emission rates, included modeled air quality impacts and discussed potential mitigation and control measures for air emissions such as regulatory and permit requirements.¹⁷ In addition, once learning of the feedstock change, the Region reviewed the historical air impact analysis and evaluated the potential additional air quality air impacts in the SIR process before determining in its discretion the anticipated emissions from the change did not present a seriously different picture of the impacts from those disclosed in the FEIS. EPA MHA-011409 to 011510. The Region has met its NEPA obligation, therefore the Board should deny the EAC Petition.

bb. The Region's extensive data collection, modeling and analysis of the refinery's overall air impacts was reasonable.

For purposes of determining whether a supplemental EIS was warranted in light of air quality issues raised in the public comments on the FEIS, and potentially associated with the change in feedstock, the Region immediately began consulting with the MHA Nation and its contractors and requesting information through correspondence and meetings. The Region subsequently further reviewed and analyzed that information before issuing the ROD, SIR and NPDES permit.

The administrative record contains numerous correspondence records and additional technical information documenting the Region's analysis of FEIS comments and the feedstock

¹⁷ Scoping: EPA MHA-01926 to 01941, EPA MHA-01715 to 01914; DEIS: EPA MHA-02630 to 02639, EPA MHA-02754 to 02760; DEIS air technical reports: EPA MHA-05210 to 05382; FEIS: EPA MHA-06557 to 06572, EPA MHA-06692 to 06706, EPA MHA-06729 to 06737; responses to air comments on DEIS: EPA MHA-06938 to 06939, EPA MHA-06964 to 06979; FEIS Air technical report: EPA MHA-08160 to 08255; FEIS human health risk assessment: EPA MHA-08306 to 08333; and other air technical information: EPA MHA-08714 to 08857.

change beginning in late 2009 and continuing through mid-2011. *See e.g.*, EPA MHA-010363 to 010367, EPA MHA-010396 to 010436, EPA MHA-010439 to 011208. This analysis included the EPA's request on March 24, 2010, that the MHA Nation update the air emissions information in light of the feedstock change. EPA MHA-010691 to 010748.

In March 2011, after working with the MHA Nation and its contractors for more than a year to address revised air quality issues, the Region received revised emission inventory estimates from the MHA Nation and its contractors in the report "Addendum: Air Quality Technical Report for the Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara Nation's Proposed Clean Fuels Refinery Project." EPA MHA-011233 to 011276. At that time, the Region also conducted formal meetings with the MHA Nation and its contractors to review and discuss the report, provide feedback and request additional information. EPA MHA-011226 to 011232. On May 16, 2011, the MHA Nation and its contractors then submitted revised air quality modeling results in the report "Air Quality Modeling Update for the Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara Nation's Proposed Clean Fuels Refinery Project." EPA MHA-011310 to 011322. This modeling report addressed changes in the proposed refinery emissions and updated ambient air quality data since the 2007 air quality modeling performed for the FEIS.¹⁸ The 2011 modeling used an updated air quality model,¹⁹ and also included a modeling analysis of the 1-hour average Clean Air Act National Ambient Air Quality Standards (NAAQS)²⁰ for SO₂ and NO₂. EPA MHA-011310 to 011322.

¹⁸ "Air Quality Technical Report for the Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara Nation's Proposed Clean Fuels Refinery Project" dated December 2007.

¹⁹ The FEIS used the ISCST3 model; the 2011 air modeling reports used the EPA's updated dispersion model, AERMOD.

²⁰ The NAAQS apply to six criteria pollutant established under the current federal law (40 C.F.R. Part 50), that may pose a risk to human health and the environment. The six criteria pollutants are: particulate matter (PM₁₀ and PM_{2.5}), carbon monoxide, SO₂, NO₂, ozone and lead.

The Region provided comments to the MHA Nation and its contractors on the modeling report on May 27, 2011. EPA MHA-010885 to 010892. The Region expressed concerns with the modeling report including use of incorrect background concentration information for modeling 24-hour average PM_{2.5}, additional information needed for calculation of PM_{2.5} emissions inventory, inappropriate combination of background data with high modeled impact, additional information needed to document the frequency of intermittent SO₂ emissions from the refinery, and additional information needed to determine whether the EPA's guidance on 1-hour NO₂ modeling on intermittent emissions applied to the refinery. EPA MHA-010887.

On June 6, 2011, the MHA Nation submitted an updated modeling report to address the Region's May 27, 2011 comments. EPA MHA-011368 to 011382. The revised modeling included corrections to the background PM_{2.5} concentrations, revisions to the PM_{2.5} emissions inventory, correction in the calculation of the SO₂ modeled impacts, and a more detailed description and justification for the treatment of the flare emissions as an intermittent source to be excluded in the modeling of the NAAQS 1-hour average SO₂ impacts.²¹ *Id.* After reviewing

²¹ On March 1, 2011, EPA issued updated guidance for modeling the 1-hour average SO₂ and NO₂ NAAQS. See "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard." EPA MHA-010497 to 010523. In that guidance EPA recommended that:

"[C]ompliance demonstrations for the 1-hour NO₂ NAAQS address emission scenarios that can logically be assumed to be relatively continuous or which occur frequently enough to contribute significantly to the annual distribution of daily maximum 1-hour concentrations based on existing modeling guidelines, which provide sufficient discretion for reviewing authorities to not include intermittent emissions from emergency generators or startup/shutdown operations from compliance demonstrations for the 1-hour NO₂ standard under appropriate circumstances."

The Region requested in its comments on the May update air quality report that the MHA Nation discuss flaring. The MHA Nation's updated modeling report dated June 6, 2011, states:

"Elevated flaring emissions would be similar to startup/shutdown events since these are based on the low probability of a shutdown of both SRUs. One SRU will normally be shutdown and will be used as a backup should a shutdown be required for the other SRU. This design has been developed to create an extremely low probability for the elevated flaring events. Therefore the elevated flare emissions would not likely coincide with worst-case meteorological conditions and maximum background concentrations. Although

the June 6, 2011 modeling report, the Region asked the MHA Nation to model a worst-case scenario for the NAAQS 1-hour average and 24-hour average SO₂ impacts.²² The June 6, 2011 model used the standard EPA modeling guidance for modeling intermittent emissions such as flares.²³ The modeling was conducted to assess the sensitivity of the model for scenarios with increased flaring. The MHA Nation and its contractors provided to the Region the results of the modeling of increased flaring on July 12, 2011. EPA MHA-011480 to 011490.

In addition to the specific work described above, the Region updated the summary of air impacts tables in the DEIS and FEIS for the SIR. EPA MHA-02756, EPA MHA-06700, EPA MHA-011416. The changes incorporated updated information on existing air quality,²⁴ accounted for the revised air modeling, included more refined design and operational information, and included emissions from additional refinery units that would be needed to refine the Bakken crude. EPA MHA-011409. Even after including the additional air emissions resulting from the new Bakken crude units, the air modeling results predicted that the refinery remains a moderate contributor to air quality impacts.

Overall, anticipated air impacts from the refinery have changed in the course of the NEPA process, but not significantly. Estimated air emission rates have increased for several parameters between the DEIS and FEIS, and between the FEIS and SIR; however, the overall air

the potential elevated SO₂ emissions from the flare have been estimated to occur 100 hours per year, this is an extremely conservative assumption. The SRU units will be monitored and maintained with a goal of having far fewer - if any - events over the period of a year.” EPA MHA-011377.

²² The worst-case scenario is based on four worst-case conditions happening simultaneously: 1) uncontrolled flaring for five years (MHA Nation estimates flaring of 100 hours/year), EPA MHA-011377; 2) worst-case meteorological conditions; 3) both the primary and secondary backup sulfur recovery unit are not operating for five years; and 4) the maximum observed background SO₂ concentration occurring at the same time as the maximum modeled SO₂ from the flare. EPA MHA-011484 to 011489. This scenario is highly unlikely to occur. Furthermore, NEPA does not require a worst-case scenario. EPA went above and beyond NEPA requirements in asking for this analysis.

²³ See below for further discussion regarding the SO₂ modeling results.

²⁴ The updated air impact analysis also addressed several typographical errors identified by an FEIS commenter.

quality impacts as analyzed, estimated and disclosed under NEPA have remained consistently under the NAAQS, with the exception of one predictive model run of the worst-case scenario modeling discussed below. This worst-case scenario was modeled for uncontrolled flaring conditions that were highly unlikely to occur (e.g., continuous flaring for five years during worst-case meteorological conditions and with both sulfur recovery units inoperable). The Region's additional air impact analysis for the SIR, including the worst-case scenario, is more than reasonable for the purpose of determining that a supplemental EIS was not required. The EAC has not demonstrated that the Region committed clear error in determining a supplemental EIS was not required after the Agency's extensive expert review and evaluation of additional air quality impacts associated with the feedstock change.

cc. The Region fully evaluated the air impacts of each of the individual air pollutants and properly concluded that no additional NEPA documentation was warranted for any of them.

After the Region's thorough DEIS and FEIS process, as well as an extensive review and analysis of the additional information on air and other impacts related to the feedstock change, the Region in its discretion made the determination that the impacts were not significant enough to warrant a supplemental EIS. The EAC argues the Region did not adequately evaluate air impacts for certain pollutants; however, the EAC has failed to demonstrate that the Region's review of relevant technical information relating to the change in feedstock was unreasonable, and the EAC has not met its burden to show that the Region committed clear error when determining that additional NEPA documentation was not required. Therefore, the Board should deny review of the EAC petition regarding its allegations on the air quality impacts analysis for each of the following pollutants.

Sulfur Dioxide (SO₂)

The EAC argues the Region did not adequately evaluate SO₂ emissions because the information received from the MHA Nation assumed a much lower sulfur content in the Bakken crude than is actually the case, and the modeling did not include flaring emissions for shutdown or startup. In fact, the Region carefully evaluated the potential SO₂ emissions throughout the NEPA process and in light of the feedstock change. The Region spent several months evaluating the data regarding SO₂ emissions and the sulfur content of the Bakken crude submitted by the MHA Nation as well as other information.

Although Bakken crude is a low sulfur crude, there is more variability in the Bakken crude sulfur than in the synthetic crude sulfur. For example, the data used by the Region indicated an average sulfur content of 0.156% (by weight). EPA MHA-010822. The low was 0.034% (by weight) and the high was 0.29% (by weight). EPA MHA-010822 to 010826. The standard deviation of the sample was 0.046%. EPA MHA-010822. This average sulfur content of Bakken crudes was less than sulfur content originally analyzed in the FEIS for the refinery design processing synthetic crude. EPA MHA-0282, EPA MHA-010525, EPA MHA-010397. Due to the variability in sulfur content of Bakken feedstock, the revised air analysis conducted as part of the SIR, focused extensively on SO₂ emissions. EPA MHA-011415 to 011417. The Region raised concerns to the MHA Nation about the variability of the sulfur content found in Bakken crude and the ability of the refinery process to handle that variability. *See e.g.* MHA-010693. To address these concerns, the MHA Nation proposed the installation of an additional, redundant sulfur recovery unit to process increased sulfur loads and to act as backup should the primary sulfur recovery unit malfunction EPA MHA-011233 to 011276.

The air re-modeling conducted as part of the SIR predicted that the 24-hour and annual SO₂ levels were less than were modeled for the FEIS. EPA MHA-011416. For both the FEIS

and the SIR the modeled SO₂ concentrations were below the NAAQS. *Id.* Between the FEIS and the SIR, EPA changed the short-term SO₂ NAAQS from a 3-hour standard to a 1-hour standard. 75 Fed. Reg. 35,520 (June 22, 2010); EPA MHA-011416. As a result, as part of the air quality impacts analysis for purposes of determining whether further NEPA documentation was warranted, the Region requested that the MHA Nation model the impacts for the new 1-hour standard. The modeling conducted as part of the SIR, using standard EPA modeling guidance, predicted the refinery would not exceed the new 1-hour SO₂ NAAQS, except when an extreme worst-case scenario was modeled, as discussed above. EPA MHA-011416.

With respect to flaring, the Region agrees with the EAC that refinery flaring duration and frequency are important factors for modeling air quality impacts. All refineries flare occasionally and flaring can increase source emissions. The Region reviewed the MHA Nation's air modeling and evaluated the estimated flaring rates, methods, and assumptions used to model flare emissions throughout the NEPA process and in preparing the SIR. EPA MHA-012751, EPA MHA-011226, EPA MHA-011233 to 011276, EPA MHA-011321, EPA MHA-011368 to 011382. Several comments on the DEIS and FEIS raised concerns regarding how flaring was incorporated into the refinery air quality analysis. *See e.g.* EPA MHA-07907 to 07176, EPA MHA-7305 to 07312, EPA MHA-09736 to 09778; EPA MHA-09825 to 09830. In considering comments from the FEIS, the Region looked at various flaring rates from existing refineries. EPA MHA-010483 to 010487. The rates are highly variable and can change through more rigorous operational procedures to reduce flaring. EPA MHA-09831 to 09878, EPA MHA-010039 to 010116.

As discussed above, in response to concerns raised in comments on the FEIS and after reviewing the range data for the duration and frequency of flaring, the Region asked the MHA

Nation's consultants to model a worst-case scenario for SO₂ emissions using data on the refinery design for the Bakken crude feedstock. The model run was based on the four assumptions outlined above, however, it is important to note that no refinery operates in this mode except during short-term situations. The modeling did predict that during this worst-case scenario that the 1-hour SO₂ NAAQS might be exceeded if the maximum modeled SO₂ concentration were combined with the maximum observed background SO₂ concentration. However, the same worst-case scenario modeling concluded the 24-hour SO₂ NAAQS was not exceeded. EPA MHA-11409 to 011510.

After the Region's technical consideration and evaluation of SO₂ emissions related to the change in feedstock, including the highly unlikely worst-case scenario modeled violation of the 1-hour NAAQS, the Region determined a supplemental EIS was not warranted. The EAC criticizes EPA's technical judgment regarding SO₂ but demonstrates no clear error; therefore the Board should deny the EAC petition with respect to the allegation regarding SO₂.

NO_x

The EAC argues that the Region did not adequately analyze NO_x impacts because the Region relied on information submitted by the MHA Nation in the Air Quality Impacts Addendum that underestimated the NO_x emissions for the refinery's process heaters and boilers. The EAC argues that the Region should not have relied on the Addendum because it assumes every heater at the refinery will emit 40 parts per million (ppm) NO_x, which is the limit set forth in the CAA New Source Performance Standard ("NSPS") at 40 C.F.R. Part 60 Subpart Ja, despite the fact that the Subpart is stayed and as written, would have only applied to one of 14 heaters. The EAC further argues that the Region should not have relied on the Addendum

because it assumes every boiler at the refinery will emit 30 ppm NO_x, which is an emissions estimate provided by a boiler vendor.

As the EAC correctly notes, the process heater emissions estimates in the Addendum are based on calculations using the NO_x limit for large process heaters from Subpart Ja. EPA MHA-011237, EPA MHA-011258, EPA MHA-011262. Under this Subpart, process heaters “with a rated capacity of greater than 40 million British thermal units per hour (MMBtu/hr)” may emit no more than 40 ppm NO_x. 40 C.F.R. § 60.102a(g)(2). Of the twenty units analyzed in the Addendum using the 40 ppm NO_x limit from Subpart Ja, however, only one had a large enough capacity to meet the 40 MMBtu/hr threshold that would trigger application of Subpart Ja during the permitting process. EPA MHA-011254. Likewise, the MHA Nation and its contractors used the 40 ppm NO_x limit from Subpart Ja, even though those limits were stayed following issuance of the FEIS. 73 Fed. Reg. 78,545, 78,552 (Dec. 22, 2008). While the EAC gives these two facts great weight, they are not germane to this proceeding because the Region and the MHA Nation were not involved in the air permitting process and the Region was not developing permit limits. Rather, the MHA Nation and its contractors were using the 40 ppm NO_x limit as a simple way to develop a conservative estimate of the likely NO_x emissions from the proposed refinery in order for the Region to determine whether the change in NO_x emissions due to the change in feedstock was significant for purposes of NEPA.

After being notified of the planned change in feedstock for the proposed refinery, the Region requested that the MHA Nation and its contractors provide revised estimates of NO_x emissions for the refinery. EPA MHA-011243. The MHA Nation and its contractors produced these calculations based on vendor information regarding the size, the BTUs/hour, and other specifications for these units. *Id.* In addition to the calculations, the MHA Nation provided

information indicating that the emissions from the additional low NO_x units that would be added to the refinery in order to refine Bakken feedstock would be consistent in type and scope with the emissions from the 13 heaters and boilers originally identified in the FEIS that would not be large enough to warrant coverage under Subpart Ja. EPA MHA-010398. The MHA Nation also provided vendor data indicating the availability of a variety of process heaters that emit between 17 and 100 ppm NO_x. EPA MHA-011243. The vendor information showed that low NO_x heaters, which fell in the middle of this range of emissions, emit between 25 and 35 ppm NO_x. *Id.* Given the similarity between the original suite of units proposed for the refinery and the units proposed to account for the switch to Bakken feedstock, given the availability of low NO_x technology making 35 ppm control of NO_x achievable, and given that the MHA Nation and its contractors used a NO_x emissions rate of 40 ppm to conservatively estimate overall NO_x emissions, the Region concluded that the NO_x emissions estimates for heaters in the Addendum were reasonable.

The EAC also argues that the Region underestimated NO_x emissions because the Addendum assumes the boilers will emit less than 30 ppm NO_x, which EAC argues is not the industry standard. The Region requested that the MHA Nation consult with vendors and suppliers of refinery combustion device burners and supply the Region with data demonstrating what values might be expected from the refinery combustion devices. EPA MHA-010691 to 010707. In the Addendum, the MHA Nation provided vendor information indicating that boilers were available that emitted 9 ppm NO_x and higher. EPA MHA-011248. While this data demonstrates a range of potential emission rates, as the EAC recognizes in its brief, the Region is not required to use a worst-case assumption. In evaluating the supplied information, the Region determined that the supplied data was within the realm of emission rates from similar types of

units. The Region thus concluded that the NO_x emissions estimates for boilers in the Addendum were reasonable.

Further, in evaluating the change in feedstock from synthetic crude to Bakken crude, the Region asked the MHA Nation to conduct additional ambient air impact modeling. EPA MHA-010862 to 010863. This included modeling the impact of NO_x emissions on the NO₂ NAAQS using updated modeling protocols and updated emission background data. EPA MHA-010885 to 010892. NO_x emissions, which are comprised of approximately 90% NO and 10% NO₂, quickly convert to NO₂ in ambient air. The model includes the total NO_x emissions and estimates the rate of conversion of NO to NO₂, thereby translating NO_x emissions into predicted ambient air NO₂ impacts. The updated modeling protocols included modeling of the 1-hour average NAAQS for NO₂ and SO₂ that were adopted in 2010, and the use of more current meteorology and ambient monitoring data. The additional modeling was used to compare the proposed refinery using synthetic crude with the proposed refinery using Bakken crude. EPA MHA-011416. The Region recognized that while the emission rates for the core individual units (i.e., heaters) may not change with the change of feedstock, the overall air emissions may change in light of the additional units added to address the feedstock change. The modeling results predicted that the change in feedstock would not result in any violation of the NO₂ NAAQS.

The Region analyzed the significance of the impacts resulting from the change in feedstock in light of its decision that the MHA Nation had provided a reasonable explanation of the likely difference in NO_x emissions from the additional heaters and boilers used to refine the new Bakken crude feedstock, and in light of its modeling predicting that the change in feedstock would not cause any violations of the NO₂ NAAQS. EPA's technical judgment was that the additional modeled NO_x emissions did not constitute a significant change in the impacts already

considered. The EAC fails to demonstrate clear error in EPA's judgment related to NO_x emissions resulted in clear error; therefore, the Board should deny EAC's petition with respect to the NO_x allegation.

VOCs

The EAC argues the Region did not adequately analyze VOCs because the Air Quality Modeling Update submitted by the MHA Nation assumed there would be zero VOC emissions from flares. The EAC also alleges that EPA did not analyze the VOC emissions from flares. These allegations are premised on EAC's misconception that EPA was processing an air permit for the refinery, and a misunderstanding of how EPA actually analyzed the VOC emissions from the refinery. EPA did, in fact, analyze VOC emissions, both from the refinery flare and from fugitive emissions due to volatilization.

The EAC argues that the Air Quality Modeling Update developed by the MHA Nation and its contractors, and relied up on by the EPA, assumes that there would be zero VOC emissions from flares. This is incorrect; the Air Quality Modeling Update did not include any modeling of VOCs impacts. Generally speaking, VOCs are an issue of concern for EPA because they are a precursor for ground-level ozone, which can negatively affect human health, plant life, and ecosystems. High VOC levels are an indicator of potential ozone problems, and EPA has promulgated a NAAQS for ozone. During the course of the NEPA review for the refinery, the Region's technical air experts saw nothing to indicate that violations of the NAAQS for ozone would result from VOC emissions from the refinery. As a result, the Region did not ask the MHA Nation or its contractors to undertake VOC or ozone modeling (as it did, for example, for SO₂ and NO_x) for either the FEIS or the SIR. Nonetheless, the Region technical air experts were concerned about overall VOC emissions, and thus requested and obtained data and analysis

about those emissions for both the FEIS and the SIR. EPA MHA-010682 to 010684; EPA MHA-010691 to 010707.

In developing the FEIS for this project, the Region's technical air experts calculated the likely emissions of VOCs attributable to combustion, EPA MHA-08186 to 08187, and volatilization, EPA MHA-08188 to 08193. After receiving notification of the planned change in feedstock for the proposed refinery, the Region requested that the MHA Nation and its contractors provide information concerning flaring and volatilization emissions information associated with the change in feedstock. EPA MHA-010695 to 010697. The MHA Nation and its contractors submitted new information, including information relating to VOCs, in its Addendum. EPA MHA-011233 to 011276. The Addendum showed that there would be an increase in VOC emissions from the refinery due to the change from synthetic crude to Bakken crude, but because the feedstock change did not come with an associated production increase, VOC emissions estimates were very similar for the refinery in the FEIS, EPA MHA-08187, as compared with the SIR. EPA MHA-011250. It is worth noting here that if, as the EAC alleges, the MHA Nation and its contractors had assumed 100% combustion efficiency in their calculations of VOC emissions from the flare unit, the VOC emissions estimates for that unit in both the FEIS and the SIR would have been zero. As the record indicates, however, the VOC estimates for the flare unit provided by the MHA Nation were not zero, so the MHA Nation could not have been assuming 100% combustion efficiency in their analysis. *Id.*

Because the MHA Nation and its contractors did not assume 100% combustion efficiency either for the flare unit or for any other process unit, the Region had data available to analyze the difference in VOC emissions due to the change in feedstock. The Region concluded in its discretion, after reviewing all the data and analysis provided in the FEIS and SIR, that the

increase in VOC emissions was not significant for purposes of determining whether further NEPA analysis was required. The EAC has not demonstrated that the Region's review of the VOC data was unreasonable and has not met its burden of showing clear error in the Region's judgment. Therefore, the Board should deny the EAC petition with respect to the VOC allegation.

Hydrogen Sulfide

The EAC argues the Region did not consider that the change in feedstock would result in higher emissions of and potential exposure to hydrogen sulfide.²⁵ However, the EAC general assertions regarding hydrogen sulfide fail to demonstrate clear error with the Region's determination not to prepare a supplemental EIS. As the Region noted in its response to comments on the DEIS, hydrogen sulfide was not anticipated to be present at the refinery in significant quantities. EPA MHA-06939 to 06991. The refinery would have several systems to control release of hydrogen sulfide, including: closed processing that would reduce the risk of hydrogen sulfide releases to the atmosphere; and removal of sulfur from the crude so that less hydrogen sulfide gas would be created and therefore, less hydrogen sulfide gas would be allowed to accumulate within the closed system. EPA MHA-06991.

The refinery will not be refining any sour crude which has higher levels of sulfur than either the synthetic crude analyzed in the EIS or the Bakken crude evaluated in the SIR. The minor sulfur releases that would be associated with the refinery are addressed through CAA technology and permitting requirements. As noted above, both the synthetic crude and Bakken

²⁵ Hydrogen sulfide is primarily an issue of worker safety. Hydrogen sulfide can be a worker safety risk at industrial facilities such as the refinery which have confined spaces (rooms) that could collect hydrogen sulfide. For example, there will be procedures and equipment to protect workers maintaining the sulfur recovery unit at the proposed refinery. These types of health and safety requirements generally are addressed by the U.S. Department of Labor Occupational Safety and Health Administration ("OSHA") rather than the EPA.

feedstocks are sweet crudes which are low in sulfur. A comparison of the sulfur content of in the Bakken crude with synthetic crude indicates that hydrogen sulfide content and emissions from both refinery designs would remain similar.

As discussed above, the Region raised concerns to the MHA Nation in a March 2011 meeting about the potential variability of the sulfur content found in Bakken crude and the ability of the refinery process to handle that variability. EPA MHA-013023 to 013027. As a way to address these concerns, the MHA Nation proposed the installation of an additional, redundant sulfur recovery unit to process increased sulfur loads and to act as backup should the primary sulfur recovery unit malfunction. EPA MHA-011409 to 011483.

In addition, the overall refinery production level did not increase with the switch from synthetic crude feedstock to Bakken crude feedstock. Because the refinery is not processing more crude oil as a result of the feedstock change, there will not be an associated increase in hydrogen sulfide. Thus, there was no reason for the Region to assess hydrogen sulfide emissions as part of the analysis of the feedstock change. In light of the Region's consideration of hydrogen sulfide issues in the FEIS – including relevant regulatory and monitoring strictures – as well as EPA's subsequent consideration of SO₂ issues for the SIR, the EAC has failed to demonstrate EPA's determination not to prepare a supplemental EIS was clearly erroneous. Accordingly, the Board should also deny the EAC petition with respect to the hydrogen sulfide allegation.

C. The Board should deny the Packineau Petition (NPDES 11-04) for review.

The Board should deny the Packineau petition because it was filed untimely, does not demonstrate the issues for which the petition expresses concern were raised during the public

comment period, and does not allege clear error, abuse of discretion or another basis for review by the Board of the Region's action.²⁶

Pursuant to 40 C.F.R. § 124.19(a), the Board must receive a petition for review within thirty days after a permit decision or at a later date specified in the notice of the permit decision. 40 C.F.R. § 124.19(a); *In re. Envotech, L.P.*, 6 E.A.D. 260, 265 (EAB 1996). The petitioner has the responsibility to ensure the filing deadlines are met and the Board must receive the petition within the filing deadline to be timely. *In re. AES Puerto Rico L.P.*, 8 E.A.D. 324, 328-329 (EAB 1999); *In re. Kawaihae Cogeneration Project*, 7 E.A.D. 107, 124 (EAB 1997). Generally, the Board strictly construes threshold procedural requirements and relaxes a filing deadline only when special circumstances exist. *In re. Circle T Feedlot, Inc., Morgan Feedlot, Inc., Sebade Feedyard & Stanck Brothers*, 14 E.A.D. ___, slip op. at 11 (EAB 2010).

The Board received the Packineau petition on September 19, 2011, one week after the filing deadline of September 12, 2011. There is no evidence of "special circumstances" in this case and Petitioner Packineau does not allege special circumstances. Because the Board strictly construes such deadlines, the Packineau petition should be denied as untimely.

Even if the Board were to consider the petition, Petitioner Packineau has the burden to demonstrate the Board should review the Permit. 40 C.F.R. 124.19(a); *Peabody Western Coal*, 15 E.A.D. ___, slip op. at 7. Petitioner Packineau must state her objections to the Permit and explain why the Region's previous response to the objections is clearly erroneous, an abuse of discretion, or otherwise warrants review. *Carlota Copper* 11 E.A.D. at 708; 40 C.F.R. § 124.19(a).

²⁶ Pastor Elise Packineau is a pro se petitioner. When "petitions are filed by persons who are unrepresented by legal counsel..., the Board endeavors to liberally construe the petitions so as to fairly identify the substance of the arguments being made...Nevertheless, the burden of demonstrating that review is warranted still rests with the petitioner challenging the permit decision." *Circle T Feedlot*, 14 E.A.D. ___, slip op. at 6.

Petitioner Packineau raises in summary form general concerns regarding the environmental impacts of the refinery. However, the petition does not demonstrate clear error, an abuse of discretion, or another basis for review of the Board of the Region's action and does not contain elaboration regarding the basis for granting review of the Region's action with respect to the issues she identified.

Because Petitioner Packineau filed her petition untimely, failed to meet her burden to demonstrate she raised issues during the public comment period, and failed to demonstrate a basis for review, the Board should deny the Packineau Petition.

V. CONCLUSION

For the reasons explained above, the petitions for review from Petitioner Stafslie, Petitioner EAC, and Petitioner Packineau should be denied.

Respectfully submitted,

12/16/11
Date

Erin E. Perkins

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EXHIBIT A

**In re. MHA Nation Clean Fuels Refinery
NPDES Permit Appeal Nos. 11-02, 11-03, 11-04**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
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NOV 21 2011

Ref: 8P-W-WW

Via the Central Data Exchange and Overnight mail to:

Eurika Durr
Clerk of the Board
United States Environmental Protection Agency
Environmental Appeals Board
Colorado Building
1341 G Street, N.W.
Suite 600
Washington, DC 20005

Via U.S. Mail

Mr. Tom Fredericks
Fredericks, Peebles & Morgan, LLP
1900 Plaza Drive
Louisville, CO 80027

Pastor Elise Packineau
P.O. Box 496
New Town, ND 58763

Mr. Sparsh Khandeshi
Environmental Integrity Project
1 Thomas Circle
Suite 900
Washington, DC 20005

Mr. James Stafslie
P.O. Box 0094
Makoti, ND 58756

Re: In re: MHA Nation Clean Fuels Refinery
NPDES Permit Number: ND-0030988
Consolidated Appeal Numbers: NPDES 11-02
NPDES 11-03
NPDES 11-04

Dear Ms. Durr, Mr. Fredericks, Mr. Khandeshi, Pastor Packineau, and Mr. Stafslie:

In accordance with 40 C.F.R. § 124.19(d), the United States Environmental Protection Agency (EPA) Region 8 (Region) is providing this notification to the Environmental Appeals Board (Board) and interested parties that it is withdrawing portions of National Pollutant Discharge Elimination System Permit (NPDES) number ND-0030988 (Final Permit) that the Region issued to the Three Affiliated Tribes (MHA Nation) on August 4, 2011. The Region will address these withdrawn portions and submit any revised provisions as draft permit conditions for public comment.

40 C.F.R. § 124.19(d) authorizes the Regional Administrator upon notification to the Board and any interested parties to withdraw portions of an NPDES permit any time prior to a decision by the Board to grant or deny review of a permit decision. 40 C.F.R. § 124.19(d). As the Board has not yet rendered a decision to grant or deny review of this permit decision, EPA Region 8 is hereby withdrawing the permit portions with respect to the effluent limitations listed in Final Permit Section 1.3.3 Effluent Limitations – Outfall 002 for: BOD (biochemical oxygen demand), COD (chemical oxygen demand), TSS (total suspended solids), total chromium, phenolic compounds, and oil and grease. The Region will prepare new draft effluent limitations under 40 C.F.R. § 124.6. The new effluent limitations be will subject to public notice and comment and may be appealed pursuant to 40 C.F.R. § 124.19.

After the Region issued the Final Permit on August 4, 2011, three separate petitioners appealed the permit to the Board. On September 30, 2011, the Board issued an order consolidating the cases and extending the time for the Region to respond to all petitions until December 16, 2011. In the appeal of the Environmental Awareness Committee (EAC) (NPDES 11-02), the EAC asserts that the Region established effluent limitations in the Final Permit that do not comply with the requirements of 40 C.F.R. § 419 (Petroleum Refining Point Source Category). Although this issue was not raised during the public comment period on the draft permit as required by 40 C.F.R. 124.19(a), upon receipt of the EAC petition, the Region reviewed its calculations regarding the effluent limitations to determine whether the permit contained the appropriate requirements. For the specific effluent limitations identified above, the Region determined the limitations were incorrect.

The Region is only withdrawing and planning to re-propose the provisions of the Final Permit set forth above and is not seeking comment on other permit provisions. After the public comment period closes, the Region will consider the comments received, provide written responses to significant comments, and develop final permit conditions. Once the Region issues the final permit conditions, any person with standing can appeal those permit conditions to the Board. With respect to the remaining allegations in the consolidated cases NPDES 11-02, NPDES 11-03, and NPDES 11-04, that are not addressed by this notice, the Region intends to respond by December 16, 2011, in accordance with the September 30, 2011 order of the Board.

If you have any questions regarding this notice, please contact Colleen Gillespie, in our NPDES program at (303) 312-6133, or Erin Perkins, in our Office of Regional Counsel, at (303) 312-6922.

Sincerely,


James B. Martin
Regional Administrator



EXHIBIT B

**In re. MHA Nation Clean Fuels Refinery
NPDES Permit Appeal Nos. 11-02, 11-03, 11-04**



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

1595 Wynkoop Street
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**U.S. ENVIRONMENTAL PROTECTION AGENCY
PUBLIC NOTICE OF NPDES PERMIT**

RE-NOTICE FOR PUBLIC COMMENT: Effluent Limit Guideline derived Effluent Limits for the National Pollutant Discharge Elimination System (NPDES) Permit for Mandan, Hidatsa, and Arikara Nation's (MHA) Clean Fuels Refinery

PURPOSE OF PUBLIC NOTICE

The Environmental Protection Agency, Region 8 (EPA Region 8), is withdrawing and re-noticing as draft permit conditions, for public review and comment, certain provisions of the final NPDES permit that the Region issued to MHA Nation Clean Fuels Refinery on August 4, 2011 and which became effective on October 1, 2011 (August 2011 Permit). This action is being taken to address changes to the August 2011 permit and to provide additional opportunity to comment on those certain permit conditions.

PERMIT INFORMATION

PERMITTEE NAME: MHA Nation Clean Fuels Refinery
FACILITY CONTACT: Richard Mayer
PHONE/EMAIL: (701) 627-8252/rmayer@mhanation.com
NPDES PERMIT NUMBER: ND-0030988

The MHA Nation Clean Fuels Refinery discharges to an unnamed tributary to the East Fork of Shell Creek which is tributary to Lake Sakakawea. The refinery location is in the northeast corner of the Fort Berthold Indian Reservation in Ward County, North Dakota. Authorization for discharge is limited to only those outfalls specifically listed in the permit.

EPA REGION 8 DETERMINATION TO RE-NOTICE

EPA Region 8 is withdrawing and re-noticing as draft permit conditions certain provisions of the final NPDES permit that the Region issued to MHA Nation Clean Fuels Refinery on August 4, 2011. Specifically, the Region is withdrawing and re-noticing as draft permit conditions only those provisions involving calculations used to derive a limited set of technology based effluent limit. Therefore, this public notice involves only EPA's new calculations and the revised limitations derived from those calculations. No other changes were made to the original Fact Sheet or Permit, and EPA will accept public comments only for those effluent limitations withdrawn and issued for public comment in this notice. *See In re. Carlota Copper Company*, 11 E.A.D. 693, 736 (EAB 2004).

The Region is re-public noticing a portion of those effluent limitations located in Section 1.3.3 of the August 2011 final permit and listed below. The effluent limitations being re-noticed are more stringent than those in the August 2011 permit. In developing this amendment, the EPA reviewed the Supplemental Information Report and followed the Effluent Limit Guideline (ELG) process by identifying the applicable category and subcategory, determining the process configuration score, calculating the technology based process effluent limits, applying the existing contaminated runoff allowance, and calculating the final technology based effluent limits. EPA then calculated whether any

more stringent limits are necessary to meet applicable water quality standards, and if so, included such water quality based effluent limits in the permit.

EFFLUENT LIMITS BEING RE-NOTICED FOR COMMENT

- Biological Oxygen Demand
- Chemical Oxygen Demand
- Total Suspended Solids
- Oil and Grease
- Phenolic Compounds
- Total Chromium

The August 2011 Permit was appealed to the EPA's Environmental Appeals Board in Washington, DC. Because the MHA Nation Clean Fuels Refinery is a new source for purposes of the Clean Water Act, under 40 CFR § 124.16(a) the permit will not go into effect until the appeal is resolved. Because the draft limits in this notice will be part of the August 2011 permit once they are finalized, they also will not be effective until the resolution of the appeal. However, once the permit conditions in this notice are finalized, they also may be appealed pursuant to 40 CFR § 124.19. At that point, the EAB may choose to consolidate any such appeals with the existing appeal so that all issues related to the permit may be heard by at one time.

PUBLIC COMMENTS

In accordance with the requirements of 40 CFR 124.10, this comment period ends 45 calendar days after the last publication date of this notice on January 12, 2012. Comments may be directed to: Donna Roberts (8P-W-WW), U.S. Environmental Protection Agency, Region 8, 1595 Wynkoop Street, Denver, CO 80202. All comments received prior to the end of the comment period will be considered in the formulation of any final permit determinations.

After considering these comments, Region 8 will issue final permit conditions together with written responses to all significant comments. The EPA will hold a public hearing if the response to this re-notice indicates significant public interest.

FURTHER INFORMATION

Copies of this public notice, the amended Statement of Basis, and the Supplemental Information Report may be obtained by contacting Robert B. Brobst, P.E. at (303) 312-6129, by writing to the address listed above, or at EPA Region 8's website: <http://www.epa.gov/region8/compliance/nepa/mharefinery.html>.

Additionally, copies of these materials will be made available at locations around the Fort Berthold Indian Reservation. Information concerning locations and viewing times will be available at the website listed above or from Robert B. Brobst, P.E. at the phone number above. Copies will also be available for review and reproduction at EPA Region 8 (address listed above) during the hours of 10:00 AM to 4:00 PM, Monday through Friday, Federal holidays excluded. To make an appointment to look at the documents call Donna Roberts at (303) 312-6371 or Robert B. Brobst, P.E. as listed.

PUBLISHERS AND PUBLICATION DATES: New Town News and Dickinson Press, Published November 25, 2011. Williston Herald, Bismarck Tribune, and Minot Daily News, Published November 28, 2011.

FACT SHEET/STATEMENT OF BASIS
AMMENDMENT 1
MHA NATION CLEAN FUELS REFINERY
MAKOTI, NORTH DAKOTA

Facility Name: MHA Nation Clean Fuels Refinery

NPDES Permit No: ND-0030988

Responsible Official: Tex G. Hall, Chairman
Three Affiliated Tribes
Mandan, Hidatsa, and Arikara Nation

Facility Contact: Richard Mayer

Phone Number: (701) 627-8252

Email: rmayer@mhanation.com

Permit Type: Major Industrial Facility/Indian Country

Background Information

Technical errors were discovered in the technology based effluent limits following the October 2011 issuance of the final NPDES permit for the MHA Nations Clean Fuels Refinery. These errors necessitate the EPA to reevaluate the original calculations and amend the existing NPDES permit. The errors only involved calculations used to derive the technology based effluent limit and, therefore, this limited public notice only involves those calculations and the limitations derived from those calculations. This amendment corrects those errors and revises the effluent limitations for the following pollutants:

- BOD (biochemical oxygen demand)
- COD (chemical oxygen demand)
- TSS (total suspended solids)
- total chromium
- phenolic compounds
- oil & grease

No other changes were made to the original Fact Sheet or Permit.

In preparing this amendment, the Supplemental Information Reports I and II to the FEIS were reviewed and all relevant information in those reports, as well as the original permit application, were considered. This amendment follows the Effluent Limit Guideline (ELG) process by identifying the applicable category and subcategory, determining the process configuration score, calculating the technology based process effluent limits, applying the existing contaminated runoff allowance, and calculating the total technology based effluent limits. EPA then calculates whether any more stringent limits are necessary

to meet applicable water quality standards, and if so, includes such water quality based effluent limits in the permit.

Technology Based Effluent Limitations (TBELs)

The MHA Nation Clean Fuels refinery was determined to be a new source and must comply with New Source Performance Standards (NSPS) under the ELG and Standards for the Petroleum Refining Point Source Category pursuant to 40 CFR 419.36. The proposed refinery size is 10,000 Barrels per Stream Day (BPSD) of crude through the topping units plus 3,000 BPSD of field butane for a total refinery throughput of 13,000 BPSD. The total refinery throughput remains unchanged from the original application. Below the paragraphs are numbered to allow the reader to follow the steps required to calculate the TBELs.

1. Determining the Facility Subcategory.

The basic refinery operations meet the applicability requirements for Topping and Cracking. The determination that this facility meets the requirements for petrochemical is based on the definition in 40 CFR 419.31(b) given below:

“The term *petrochemical operations* shall mean the production of second generation petrochemicals (*i.e.*, alcohols, ketones, cumene, styrene, etc.) or first generation petrochemicals and isomerization products (*i.e.*, BTX, olefins, cyclohexane, etc.) when 15 percent or more of refinery production is as first-generation petrochemicals and isomerization products.”

The facility produces first generation petrochemicals, therefore meeting that part of the definition. The determination of the greater than 15% of the refinery production of first-generation petrochemicals was based on the information below:

Total refinery throughput of 13,000BPSD (10,000 BPSD through the topping unit and 3,000 BPSD of field butane to produce Isooctane through isomerization).

The facility met both the definitional requirement and the minimum percent requirement. Therefore, the facility remains covered under Subpart C Petrochemical Subcategory of the Petroleum Refining Point Source Category. The original determination of the subcategory remains the same as the original Statement of Basis.

2. Determining the Process Configuration Score

The following calculations are a revision to the original Statement of Basis. In recalculating the effluent limitations for the technology based effluent limits it is first necessary to calculate the Process Configuration Score. This score is based on the subcategory and the flow of feedstock through the topping unit (see 40 CFR 419.11(d)), which is 10,000 BPSD. Of the 10,000 BPSD that flows through the topping unit, 6,872 BPSD continues through the cracking unit. The calculation of the Process Configuration score follows the method in 40 CFR 419.36(b). Feed stock rates were obtained from the feedstock diagram in the NPDES Permit Application.

Process Configuration (per 1,000 BPSD) (see 40 CFR 419.42(b)(3))

<u>Feedstock Process</u>	<u>Feedstock Rate</u>	<u>Relative Rate</u>	<u>Weight Factor</u>	<u>Process Configuration</u>
Crude- Atm. Dist	10	1.00	1	1.00
Cracking (Hydrocracking)	6.872	0.6872	6	<u>4.12</u>
Total Process Configuration Score			Σ	<u>5.12</u>

3. Looking Up the Sizing and Process Factors

To obtain sizing and process factors the NSPS section under Subpart C Petrochemical Subcategory is used. A Process Configuration score of 5.12 (from above) and a 10, 000 BPSD capacity yields a Size Factor (SF) of 0.73 and a Process Factor (PF) of 0.80 pursuant to 40 CFR 419.36(b).

4. Calculation of the Process Effluent Limits (not including Contaminated Runoff)

Using New Source Performance Standards (NSPS) for petrochemical subcategory: Using the above Capacity, Size and Process factors, the following table shows applicable basic effluent limitations for this facility. (Limit (lbs/1000 BPSD) X (PF) X (SF) = Effluent Limit (lbs/day) X 10(1000 BPSD units)) (40 CFR 419.36(a)):

Table 1: Initial calculation of Effluent Limits in both lbs./1000BPSD and lbs./day for the refinery

Pollutant	Standard Effluent Limitation		Calculated Effluent Limitations	
	Daily Maximum (lbs/1000 BPSD)	Average Daily (lbs/1000 BPSD)	Daily Maximum (lbs/day)	Average Daily (lbs/day)
BOD ₅	7.7	4.1	44.97	23.94
TSS	5.2	3.3	30.37	19.27
COD	47.0	24.0	274.48	140.16
Oil and Grease	2.4	1.3	14.02	7.59
Phenolic Compounds	0.056	0.027	0.33	0.16
Ammonia as N	8.3	3.8	48.47	22.19
Sulfide	0.050	0.022	0.29	0.13
Total Chromium	0.116	0.068	0.68	0.40
Hexavalent Chromium	0.0096	0.0044	0.06	0.03
pH			6.0 to 9.0	

5. Original Contaminated Runoff Allowance

The storm water runoff portion of the effluent limits remain unchanged and will be used as originally calculated. Table 2 is provided below as a convenience. See page 30 of the Fact Sheet for the original calculations.

Table 2: Calculated contaminated runoff from original Statement of Basis

Pollutant	Effluent Limitation		Effluent Limitations	
	Daily Maximum (lbs/1000 gal)	Average Daily (lbs/1000 gal)	Daily Maximum (lbs/day)	Average Daily (lbs/day)
BOD ₅	0.40	0.22	2.53	1.39
TSS	0.28	0.18	1.77	1.14
COD	3.0	1.5	19.01	9.5
Oil and Grease	0.13	0.067	0.82	0.42
Phenolic Compounds	0.0029	0.0014	0.0184	0.0089
Ammonia as N	0	0	0	0
Sulfide	0	0	0	0
Total Chromium	0.0050	0.0018	0.032	0.011
Hexavalent Chromium	0.00052	0.00023	0.0033	0.0015
pH	6.0 to 9.0		6.0 to 9.0	

6. Calculation of Technology Based Final Effluent Limitations

To calculate the Final Effluent Limitation, the Process Effluent Limitations are added to the contaminated storm water allotment as summarized in Table 3 below.

Table 3: Calculation of the Final Effluent Limitations

Pollutant	Process Effluent Limitation		Stormwater Effluent Limitations		Total Effluent Limitations	
	Daily Maximum (lbs/day)	Average Daily (lbs/day)	Daily Maximum (lbs/day)	Average Daily (lbs/day)	Daily Maximum (lbs/day)	Average Daily (lbs/day)
BOD ₅	44.97	23.94	2.53	1.39	47.50	25.33
TSS	30.37	19.27	1.77	1.14	32.14	20.41
COD	274.48	140.16	19.01	9.50	293.49	149.66
Oil and Grease	14.02	7.59	0.82	0.42	14.84	8.01
Phenolic Compounds	0.33	0.16	0.0184	0.0089	0.35	0.17
Ammonia as N	48.47	22.19	0	0	48.47	22.19
Sulfide	0.29	0.13	0	0	0.29	0.13
Total Chromium	0.68	0.40	0.032	0.011	0.71	0.41
Hexavalent Chromium	0.06	0.03	0.0033	0.0015	0.06	0.03
pH	6.0 to 9.0				6.0 to 9.0	

7. Conversion of Technology Based Mass Limits to Concentration Limits for Comparison to Water Quality Based Effluent Limits (WQBEL)

The mass based technology limits above were converted to concentration based limits using flow information provided in the NPDES Permit Application. Under Alternative 4 of the DEIS, maximum flow is expected to be 76,320 gpd and average 28,800 gpd. Using the maximum flow would be protective of technology requirements regardless of recycle rates or choice of discharge alternative. Conversion factors are 3.785 l/gal, and 454,500 mg/lb. This is necessary to be able to compare the water quality based limitations with the TBELs. These are the same flows and conversion factors use in the original Statement of Basis.

TABLE 4: Comparison of Final Effluent Limitation in lbs./day and mg/L

Pollutant	Effluent Limitation		Effluent Limitations	
	Daily Maximum (lbs/day)	Average Daily (lbs/day)	Daily Maximum (mg/L)	Average Daily (mg/L)
BOD ₅	47.50	25.33	74.74	39.85
TSS	32.14	20.41	50.57	32.11
COD	293.49	149.66	461.77	235.47
Oil and Grease	14.84	8.01	23.34	12.60
Phenolic Compounds	0.35	0.17	0.55	0.27
Ammonia as N	48.47	22.19	76.26	34.91
Sulfide	0.29	0.13	0.46	0.21
Total Chromium	0.71	0.41	1.12	0.65
Hexavalent Chromium	0.06	0.03	0.09	0.05

8. Comparison of Water Quality Based and Technology Based Effluent Limitations

Table 5 contains a comparison of water quality and technology based requirements. The WQBELs were obtained from the original draft permit and remain unchanged. Any more stringent limits necessary to meet applicable water quality standards will be carried forward as water quality based effluent limits in the permit. The effluent limits that are involved in this evaluation and differ from the original permit are **bolded**. The remaining limits are unchanged and are provided to give context.

Table 5: Summary and comparison of WQBELS and TBELs to determine the Most Stringent Limit

Pollutant	Technology Based Limit		Water Quality Based Limit		Most Stringent Limit	
	Daily Maximum	Average Daily	Daily Maximum	Average Daily	Daily Maximum	Average Daily
BOD₅ (lbs/day)	47.50	25.33	N/A	N/A	47.50	25.33
COD (lbs/day)	293.49	149.66	N/A	N/A	293.49	149.66
TSS (lbs/day)	32.14	20.41	N/A	N/A	32.14	20.41
Oil and Grease (lbs/day)	14.84	8.01	N/A	N/A	14.84	8.01
Phenol µg/L	N/A	N/A	--	300	N/A	N/A
Phenolic Compounds (lbs/day)	0.35	0.17	N/A	N/A	0.35	0.17

Hydrogen Sulfide µg/L	460	210	--	2.0	--	2.0
Hydrogen Sulfide (lbs/day)	0.29	0.13				
Ammonia as N (mg/L)	76.3	34.9	3.2	1.1	3.2	1.1
Ammonia as N (lbs/day)	48.4	22.2				
Chromium (III) (tr) µg/L	1120	650	4430	212	MON	MON
Chromium (Total) (lbs/day)	0.71	0.41	1.84	0.035	0.71	0.035
Chromium (VI) µg/L	90	50	16	11	16	11
Chromium (VI) (lbs/day)	0.06	0.03	0.0067	0.0018	0.0067	0.0018

For pollutants listed above where the WQBEL is more restrictive than the TBEL (Total Sulfides, Ammonia as N, and Chromium VI), the WQBELs will remain unchanged and are not part of this amendment. As can be seen from the table above, most of the WQBELs have a relatively wide margin of safety (i.e., WQBELs are generally more than 20 times lower than the TBELs). Where this is true (Total Sulfides, Ammonia as N, and Chromium (VI)), the TBEL daily mass limits will not be used and the WQBEL will apply. Total Chromium will have a TBEL limit for daily maximum in lbs./day as it is more restrictive than the calculated WQ based effluent; however, for the Average Daily limit the WQBEL is more restrictive, will remain unchanged and is not part of this amendment

9. Amended Effluent Limits

TBELs impacted by this amendment and open for review under this amendment are listed below in Table 6. There is a replacement page for the effluent limits for Outfall 002. Based on the evaluation above, the original NPDES permit will be amended to include the following TBELs. All other conditions contained in the permit will remain the same.

Table 6: Final Limits open for review and comment in this amendment

Pollutant	Effluent Limitations	
	Daily Maximum (lbs/day)	Average Daily (lbs/day)
BOD ₅	47.50	25.33
TSS	32.14	20.41
COD	293.49	146.66
Oil and Grease	14.84	8.01
Phenolic Compounds	0.35	0.17
Chromium (Total)	0.71	

The table below (following page) includes all the currently applicable and proposed revised limits that will be included in the revised permit. For purposes of illustration, the previous effluent limits are struck-out (e.g. ~~43~~) and the reevaluated limits are in bold (e.g. **43**). Those limits that are NOT

highlighted are not changed and are not part of this amendment. A clean version of this chart will appear in section 1.3.3. of the revised permit.

Amendment 1 prepared by

Robert B. Brobst, P.E.
November 17, 2011

1.3.3. Effluent Limitations - Outfall 002. Effective immediately and lasting through the life of this permit, the quality of effluent discharged from the Final Effluent Holding Ponds or Effluent Final Release Tanks by the facility shall, as a minimum, meet the limitations as set forth below:

Effluent Characteristic	Effluent Limitation		
	30-Day Average <u>g</u> /	7-Day Average <u>g</u> /	Daily Maximum <u>g</u> /
Flow, mgd	0.025	N/A	0.05
Biochemical Oxygen Demand (5-day), lbs./day	43 25.3	N/A	84 47.5
Chemical Oxygen Demand, lbs./day	255 149.7	N/A	500 293.5
Total Suspended Solids, lbs./day	35 20.4	N/A	55 32.1
Oil and Grease, lbs./day	13.7 8.0	N/A	25 14.8
Benzene, ug/L	2.2	N/A	NA
Ethyl benzene, ug/L	530	N/A	NA
Toluene, ug/L	1300	N/A	NA
Phenol, ug/L	300	N/A	NA
Phenolic Compounds, lbs./day	0.29 0.17	N/A	0.59 0.35
Hydrogen Sulfide, ug/L	2.0	N/A	NA
Ammonia as N, mg/L	1.1	N/A	3.2
Barium (tr), ug/L	1000	N/A	NA
Aluminum (tr), ug/L	87	N/A	750
Chromium (Total), lbs./day	0.035	N/A	1.22 0.71
Chromium (VI), ug/L	11	N/A	16
Chromium (VI), lbs/day	0.0018	N/A	0.0067
Iron (tr), ug/L	300	N/A	N/A
Manganese (tr), ug/L	50	N/A	N/A
Mercury (Total), ug/L	0.0012	N/A	1.4
Nickel (tr), ug/L	132	N/A	1190
Selenium (tr), ug/L	5	N/A	20
Chloride, mg/L	230	N/A	860
Fluoride, mg/L	4.0	N/A	N/A
Sulfate, mg/L	750	N/A	N/A
Nitrite as N, mg/L	1.0	N/A	N/A
Nitrate as N, mg/L	10	N/A	N/A
Whole Effluent Toxicity, acute	LC ₅₀ > 100%		
Whole Effluent Toxicity, chronic	IC ₂₅ > 100%		
The pH of the discharge shall not be less than 7.0 s.u. or greater than 9.0 s.u. at any time.			

EXHIBIT C

**In re. MHA Nation Clean Fuels Refinery
NPDES Permit Appeal Nos. 11-02, 11-03, 11-04**

Supplemental Information Report II
NPDES Permit Revisions

November 22, 2011

Mandan, Hidatsa and Arikara Nations
Refinery Project
Environmental Impact Statement

**U.S. Environmental Protection Agency
Region 8
1595 Wynkoop Street
Denver, CO 80202-1129**

I. Purpose

This second Supplemental Information Report (SIR) documents the U.S. Environmental Protection Agency's (EPA's) evaluation and consideration of the proposed changes in effluent discharge limits for six parameters in the Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) "new source" wastewater discharge permit for the proposed Mandan, Hidatsa and Arikara (MHA) Nations refinery. Section 511(c)(1) of the CWA explicitly requires EPA to comply with the National Environmental Policy Act (NEPA) for new source NPDES permits. Pursuant to NEPA, EPA and the Bureau of Indian Affairs (BIA) issued a Draft Environmental Impact Statement (DEIS) in 2006 and a Final Environmental Impact Statement (FEIS) in 2009 for the proposed refinery and NPDES permit. The Council on Environmental Quality (CEQ) NEPA regulations provide direction regarding the preparation of supplemental EISs. The CEQ regulations at 40 C.F.R. § 1502.9(c) 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 environmental concerns; or*
- 2. There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.*

This report summarizes EPA's evaluation of the changes in impacts resulting from the revised effluent discharge limits for chemical oxygen demand (COD), biological oxygen demand (BOD), total suspended solids (TSS), total chromium, phenolic compounds, and oil and grease. Specifically, the purpose of the SIR is to determine whether these revisions constitute either: (1) substantial changes to the Project since completion of the FEIS in 2009 that are relevant to environmental concerns, or (2) significant new circumstances or information relevant to environmental concerns and bearing on the proposed refinery or its impacts since the FEIS was completed.

II. Introduction

The MHA Nation or Three Affiliated Tribes (Tribes) have proposed to construct and operate a petroleum refinery with a capacity of 13,000 barrels per day on the Fort Berthold Indian Reservation in North Dakota. The proposed refinery location is in the northeast corner of the Fort Berthold Indian Reservation in Ward County as shown in Figure 1.

The refinery will need a CWA NPDES permit from EPA in accordance with CWA §402. The permit would allow the refinery to discharge treated wastewater into a tributary of the East Fork of Shell Creek. The permit would identify the required conditions and limitations of discharges from the facility.

On August 3, 2011, EPA issued a Record of Decision (ROD) documenting the Agency's decision to issue a NPDES permit for the refinery. EPA issued the NPDES permit for the refinery on August 4, 2011. The ROD was based on the FEIS prepared by the EPA and the BIA. The EPA also prepared a Supplemental Information Report (SIR) dated July 29, 2011 which documented EPA's assessment of the potential changes in impacts resulting from a change in the refinery

feedstock. In 2010, the Tribes decided to change the proposed refinery feedstock from the Alberta synthetic crude to the local Bakken crude oil.

Within the 30 day appeal period for the permit, the Environmental Appeals Board (EAB) received two petitions on the NPDES permit and EIS for the refinery. The EAB received a third petition after the close of the appeal period. One of the petitions alleged that some technology-based effluent limits in the permit are inaccurate or inappropriate. EPA has reviewed the limits and has determined that an error was made in calculating some effluent limits in the NPDES permit which was included in draft form in the FEIS. These include limits for chemical oxygen demand (COD), biochemical oxygen demand (BOD), total suspended solids (TSS), total chromium, phenolic compounds and oil and grease.



Figure 1 - Proposed Refinery Location

III. Effluent Limit Changes

The environmental impact analysis in the FEIS was based on the effluent limitations listed in the draft NPDES permit in Appendix C of the FEIS (page 9 of 36) as shown below and in the NPDES permit application. Parameters with revised effluent limitation are highlighted in Table 1.

The revised effluent limits are compared to the limits in the FEIS in Table 2.

Table 1 - Effluent Limits for Outfall 002 (Refinery Process Wastewater and Oily Stormwater) from the draft NPDES permit in Appendix C of FEIS.

Effluent Characteristic	30-day Average	Daily Maximum
Flow (million gallons/day)	0.025	0.05
BOD (lbs/day) ^a	43	81
Chemical Oxygen Demand (lbs/day) ^a	255	500
Total Suspended Solids (lbs/day) ^a	35	55
Oil and Grease (lbs/day) ^a	13.7	25.4
Phenolic Compounds (lbs/day) ^a	0.29	0.59
Total Chromium (lbs/day)	0.035 ^b	1.22 ^a
Hexavalent Chromium (lbs/day) ^b	0.0018	0.0067
Ammonia as N (mg/L) ^{b,e}	1.1	3.2
Benzene (µg/L) ^b	2.2	N/A
Ethyl Benzene (µg/L) ^b	530	N/A
Toluene (µg/L) ^b	1,300	N/A
Phenol (µg/L) ^b	300	N/A
Sulfide (µg/L) ^b	2	N/A
Fluoride (µg/L) ^c	4,000	N/A
Nitrate (µg/L) ^b	10,000	N/A
Nitrite (µg/L) ^b	1,000	N/A
Aluminum (tr) (µg/L) ^{b,h}	87	750
Barium (tr) (µg/L) ^{b,h}	1,000	N/A
Chromium VI (d) (µg/L) ^{b,h}	11	16
Iron (tr) (µg/L) ^{b,h}	300	N/A
Manganese (tr) (µg/L) ^{b,h}	50	N/A
Mercury (T) (µg/L) ^{b,h}	0.0012 ^f	1.4
Nickel (d) (µg/L) ^{b,g,h}	132	1,190
Selenium (µg/L) ^{b,h}	5	20
The pH of the effluent shall not be less than 7.0 standard units or greater than 9.0 standard units in any single sample or analysis.		
From April 1 through September 30, the concentration of dissolved oxygen in the effluent shall be greater than 8.0 mg/L (1-day minimum), 9.5 mg/L (7-day mean), and 6.5 mg/L (30-day mean).		
From October 1 through March 31, the concentration of dissolved oxygen in the effluent shall be greater than 4.0 mg/L (1-day minimum), 5.0 mg/L (7-day mean), and 6.5 mg/L (30-day mean). ^c		
There shall be no Acute Toxicity in 100% effluent. The LC ₅₀ shall be > 100%. ^d		
There shall be no Chronic Toxicity in 100% effluent. The IC ₂₅ shall be > 100%. ^d		
Notes:		
a. The limits are based on 40 CFR §419, Effluent Guidelines for the Petroleum Refining Point Source Category.		
b. The limits are based on EPA recommended §304(a) water quality criteria, November 2002 and December 2003.		
c. The limits are based on Three Affiliated Tribes adopted Water Quality Standards.		
d. The limits are based on 1997 EPA Region VIII WET Policy.		
e. Ammonia limits are based on an estimated effluent pH of 8.5 standard units and temperature 15°C.		
f. Limit is based on Region 8 recommended criteria for protection of fish tissue.		
g. Limit is calculated using an estimated hardness value of 300 mg/L as CaCO ₃ .		
h. (d) = dissolved, (T) = total, (tr) = total recoverable, N/A = not applicable.		

Table 2 - Comparison of NPDES Permit Limits in FEIS and Revised Limits

Effluent Characteristic	Limits in FEIS		Revised Limits	
	30-day Average	Daily Maximum	30-day Average	Daily Maximum
BOD ₅ (lbs/day) ^a	43	81	25.3	47.5
Chemical Oxygen Demand (lbs/day) ^a	255	500	149.7	293.5
Total Suspended Solids (lbs/day) ^a	35	55	20.4	32.1
Oil and Grease (lbs/day) ^a	13.7	25.4	8.0	14.8
Phenolic Compounds (lbs/day) ^a	0.29	0.59	0.17	0.35
Total Chromium (lbs/day)	0.035 ^b	1.22 ^a	0.035 ^b	0.71 ^a
			unchanged	

Notes:
a. The limits are based on 40 CFR §419, Effluent Guidelines for the Petroleum Refining Point Source Category.
b. The limits are based on EPA recommended §304(a) water quality criteria, November 2002 and December 2003.

IV. Are Changes Needed in the Refinery Wastewater Treatment Facility (WWTF) to Meet Revised Limits?

A. Proposed WWTF in FEIS and Permit Application

The wastewater treatment units are described on pages 2-18 through 2-25 and pages 2-57 and 2-58 of the FEIS. Wastewater from the refinery and oily stormwater runoff would be treated in a wastewater treatment plant consisting of the following units:

- American Petroleum Institute (API) separator to remove non-emulsified oil and oil bearing sludge from the wastewater;
- Dissolved air flotation system (DAF) to remove oils, grease and suspended solids;
- Biotreatment plant to biodegrade the organic components. The wastewater is aerated to provide oxygen for the bacteria to metabolize the organic compounds in the wastewater.
- Treated wastewater will be stored in a series of release tanks, to allow testing prior to discharge. Treated wastewater could be pumped back into the wastewater treatment plant for additional treatment if needed.
- During dry years or dry seasons about half of the treated wastewater will be reused in the refinery or stored on-site for fire protection.

The design of the WWTF in the FEIS is at a preliminary stage. Final design of the wastewater treatment plant will not be completed until during or after the final design of the refinery.

B. How Do the Revised Effluent Limits Change Preliminary Design of the WWTF?

The preliminary design of the WWTF would be the same for both the permit limits in the FEIS and the revised permit limits. No specific treatment units were identified in the preliminary design of the wastewater treatment plant for the refinery. Instead, the environmental analysis and permit application included general manufacturers' descriptions of the equipment units, ranges of anticipated hydraulic capacity and removal performance, and design factors.

Tables 3 and 4 below, compare the anticipated treated wastewater quality from the NPDES permit application, the draft permit limits in the FEIS and the revised discharge limits for the technology based effluent limits that EPA has revised. Most of the limits in the permit are water quality based, as noted in Table 1 by footnotes “b” and “c”, and those limits are unchanged.

Table 3 – Comparison of Anticipated Effluent Quality and Effluent Limits

Effluent Characteristic	Anticipated Wastewater Quality from Permit Application ¹				FEIS ²		Lbs/day Limits Converted to Concentrations ⁵		Proposed Revised Limits ²		Lbs/day Limits converted to Concentrations ⁵	
	Daily Max. (lbs/day)	30-day Average (lbs/day)	Daily Max. (mg/L)	30-day Average (mg/L)	Daily Max. (lbs/day)	30-day Average (lbs/day)	Daily Max. (mg/L)	30-day Average (mg/L)	Daily Max. (lbs/day)	30-day Average (lbs/day)	Daily Max. (mg/L)	30-day Average (mg/L)
BOD ₅	8.7	3.6	30	30	81	43	128	68	47.5	25.3	74.74	39.85
COD	33.3	13.8	115	115	500	255	788	402	293.5	149.7	461.77	235.47
TSS	4.4	1.8	15	15	55	35	87	55	32.1	20.4	50.57	32.11
Oil and Grease	7.25	3.0	25	25	25.4	13.7	40	22	14.8	8.0	23.34	12.6
Phenolic Compounds	0.09	0.04	0.3	0.3	0.59	0.29	0.93	0.45	0.35	0.17	0.55	0.27
Total Chromium	0.0	0.0	0.0	0.0	1.22	0.35 no change	1.9	--	0.71	0.35 no change	1.12	--

1. NPDES permit application for the MHA Nation Refinery submitted November 9, 2004.
2. From Table 8 in draft NPDES Permit Fact Sheet in Appendix C of the FEIS
3. From Table 4 in Amendment 1 to NPDES Permit Fact Sheet
4. The official discharge limits for technology based effluent limits are in pounds per day. The pounds per day limits have been converted to concentrations using the estimated maximum and average daily flows for purposes of comparing levels of wastewater treatment and the types of treatment unit performance that would be needed to meet the permit limits.
5. Under Alternative 4 of the DEIS, maximum flow is expected to be 76,320 gpd and average 28,800 gpd. Using the maximum flow would be protective of technology requirements regardless of recycle rates or choice of discharge alternative.

Table 4 – Comparison of Anticipated WWTF Performance and Concentrations Calculated from Permits Limits¹

Effluent Characteristic	Permit Application	FEIS	Revised Limits		Permit Application	FEIS	Revised Limits
	Daily Max. (mg/L)	Daily Max. (mg/L)	Daily Max. (mg/L)		30-day Average (mg/L)	30-day Average (mg/L)	30-day Average (mg/L)
BOD ₅	30	128	74.74		30	68	39.85
COD	115	788	461.77		115	402	235.47
TSS	15	87	50.57		15	55	32.11
Oil and Grease	25	40	23.34		25	22	12.6
Phenolic Compounds	0.3	0.93	0.55		0.3	0.45	0.27
Total Chromium	0.0	1.9	1.12		0.0	no change	no change

1. The official discharge limits for technology based effluent limits are in pounds per day. The calculated concentrations in this Table are used to evaluate the anticipated performance of the wastewater treatment plant and the revised pounds per day permit limits.

The preliminary design of the WWTF is capable of achieving the discharge effluent concentrations for both discharge limits specified in the FEIS and in the revised limits. As described in the permit application, the anticipated performance of the proposed WWTF is more stringent than the revised permit limitations with the exception of the oil and grease technology-based limit. There is an additional oil and grease permit limit of “no visual sheen” which has not changed. The “no visual sheen” limit would be more stringent than the revised technology based oil and grease limit for most discharge situations. The refinery proponent may opt to increase the reliability of oil and grease removal in the final design of the WWTF by selecting a larger treatment unit or increasing air flotation.

Compliance with the chromium limits would be achieved through operational practices instead of wastewater treatment. The unchanged 30 day average total chromium limit (based on water quality standards) is more restrictive than the technology-based daily maximum limit. Although the daily maximum limit increases, little additional chromium could be discharged under the daily limit without affecting the stringent monthly average limit.

C. Environmental Consequences of Changing Effluent Limits

For all environmental resources and issues of concern, the environmental impacts from the refinery wastewater treatment plant discharging to meet the FEIS permit limits or the revised effluent limits discussed herein would be the same or very similar. As mentioned previously, the WWTF is in preliminary design. In final design, the WWTF could be slightly larger, could include units from different equipment manufacturers or the units could be configured differently than contemplated in the application or FEIS. These types of potential changes would be typical for facilities during final design with or without the revised permit limits.

Assuming a slightly larger WWTF would be specified in the final design, the facility would still fit within the general footprint of the WWTF proposed in the FEIS making the construction or land disturbance impacts the same as in the FEIS. Three resource issues have been evaluated further for potential for changes in impacts: surface water quality, air quality and hazardous waste generation.

Surface Water Quality

Surface water quality would improve slightly for discharges under the revised NPDES permit. The revised effluent limits for BOD and COD would potentially reduce the discharge of constituents which could consume instream oxygen in the tributary to the East Fork of Shell Creek. The revised permit also contains limits for dissolved oxygen which remain unchanged. It is unlikely that the change in effluents limits would be discernible in the tributary. Other factors such as the discharge rate and stream conditions would tend to have more effect on the tributary than the revised discharge limits. The reduction of the oil and grease limits would not be discernible in the tributary, as both the FEIS and revised permits prohibit the discharge of any wastewater with a visible sheen. The average total chromium limit remains unchanged, as the limit is based on water quality standards to protect aquatic life.

Air Quality

Refinery wastewater treatment plants can be sources of volatile organic compounds (VOC) air emissions. VOC dissolved in the refinery wastewater can be stripped into the air during refinery wastewater collection and treatment. For that reason, EPA promulgated regulations at 40 CFR 60, Subpart QQQ requiring all refineries to control VOC from the oily wastewater sewer system, oily wastewater holding tanks and oil and water separators. These regulations generally require covers, closed ventilation systems and a control device for VOC emissions. The application of VOC controls required by EPA's air regulations would be the same for a WWTF designed to meet the FEIS permit limits or the revised permit limits. With the required controls, any changes in VOC emissions from the WWTF would be indistinguishable from the WWTF emissions for the FEIS effluent limits.

Hazardous Waste

The refinery WWTF designed to meet the revised effluent limits may generate slightly more sludge and DAF float (oil, grease and solids skimmed from the DAF unit). As described in the FEIS on pages 2-52 and 2-53, sludges from the API separator and the bio-treatment unit, and DAF float are listed hazardous wastes under the Resource Conservation and Recovery Act (RCRA). The impacts will be the same as described in the FEIS in Section 4.5 on pages 4-42 through 4-46. The refinery would be a large quantity generator of hazardous wastes under the RCRA regulations. The MHA Nation would need to ensure that hazardous waste from the refinery was properly accumulated and managed on-site in tanks and containers, in accordance with 40 CFR Part 262, 265, Subparts I and J, and other applicable requirements including, but not limited to, the land disposal restrictions. No hazardous waste would be permitted to be discharged to or accumulate in surface impoundments or septic systems on site. The hazardous waste would then be transported to an approved facility in compliance with the RCRA regulations.

V. Conclusion

This SIR summarizes EPA's analysis of whether the impacts associated with the revised NPDES permit discharge limits for six parameters, are significant enough to warrant preparing a supplemental EIS. EPA considered the following criteria:

- Are there any new, substantial environmental impacts from the project?
- Are there any new resources or issues with significant impacts to the human environment which were not considered in the EIS?
- Do the proposed project changes substantially change the environmental impacts or the methodologies needed to analyze the environmental impacts?

After considering the above criteria and the regulation at 40 C.F.R. § 1502.9(c), EPA finds that a Supplement to the FEIS is not warranted. After a thorough interdisciplinary review, we find that the proposed change in the six effluent limits will not significantly change the proposed action or its impacts.

Certificate of Service

I, Tina Artemis, hereby certify that a true and correct copy of **EPA Region 8's Response to Consolidated Petitions for Review** In re: MHA Nation Clean Fuels Refinery NPDES Appeal Nos. 11-02, 11-03, and 11-04 was sent to the persons listed below on December 16, 2011. I also certify the electronic version submitted via the Central Data Exchange (CDX) is a true and accurate copy of the paper original.

Via the Central Data Exchange and Overnight Delivery to:

Clerk of the Board
United States Environmental Protection Agency
Environmental Appeals Board
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December 16, 2011
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