

US EPA ARCHIVE DOCUMENT

FACT SHEET
BHP Billiton Navajo Coal Company - Navajo Mine
NPDES Permit No. NN0028193

Applicant address: BHP Billiton Navajo Coal Company
P.O. Box 1717
Fruitland, NM 87416-1717

Applicant contact: Vivie Melendez, Environmental Specialist
(505) 598-3284

Facility Address: BHP Navajo Mine
6 miles southwest of Farmington, New Mexico
New Mexico, San Juan County

Facility Contact: Vivie Melendez

I. Status of Permit

The BHP Navajo Mine was initially issued the NPDES permit for the Navajo Mine by EPA on March 28, 1977. The BHP Billiton Navajo Coal Company was issued a National Pollutant Discharge Elimination System Program ("NPDES") Permit (No. NM0028193) on November 30, 2000 for the Navajo Mine. The permit became effective on December 16, 2000, and expired on December 16, 2005. On June 13, 2005, BHP filed a timely renewal of its NPDES permit for discharge of wastewater into waters of the United States. BHP also has coverage under the federal Multi-Sector General Permit for the Navajo Mine (NMR05A19F). On November 10, 2006 BHP filed a revised renewal application with updated outfall information and map showing outfall locations.

II. Background

The BHP Navajo Mine is located in Fruitland, New Mexico, San Juan County; within the northeastern portion of the Navajo Nation. The Navajo Mine lease area is divided into five areas (I-V). BHP is currently conducting surface coal mining operations, including reclamation, in areas I, II and III. Subbituminous coal beds are found within the Fruitland formation formed in Upper Cretaceous sediments. The coal produced at the Navajo Mine is supplied to the nearby APS Four Corners Power Plant. BHP is required to control all surface runoff water with the potential of being contaminated from contact with mining activities.

III. Receiving Water

All of the discharge outfalls are to receiving waters located on the Navajo Nation. The

Navajo Nation Surface Water Quality Standards (“NNSWQS”) were originally approved by the Resources Committee of the Navajo Nation Council on November 9, 1999. Amendments to the NNSWQS were approved by the Resources Committee on July 30, 2004. The Navajo Nation received “Treatment as a State” for the purposes of §106 and § 303 of the CWA. EPA has approved the Navajo Nation’s water quality standards. Therefore, this permit incorporates NNSWQS as appropriate.

Outfalls 1 and 2 discharge to Morgan Lake, a manmade cooling pond which provides cooling water to the Four Corners Power Plant, and which discharges to the Chaco River which is a tributary to the San Juan River. Outfalls 003 - 019 discharge to the Chaco River, which is tributary to the San Juan River. Outfall 020 discharges to the San Juan River.

The designated uses of the receiving waters (Morgan Lake, Chaco River, San Juan River), as defined by the NNSWQS, are domestic water supply, primary human contact, secondary human contact, agriculture water supply, fish consumption, ephemeral warm water habitat, and livestock and wildlife watering.

IV. Description of Discharge

The discharge includes runoff from active mine areas, coal preparation plant areas, and reclamation areas. There have been only five discharge events since the previous permit was issued in December 2000. All discharges occurred at Outfall 008. The discharges were within effluent limits except for a one time TSS exceedance of 80 mg/L on September 14, 2002.

V. Regulatory Basis of Proposed Effluent Limits

Section 301(a) of the Clean Water Act provides that the discharge of any pollutant to waters of the United States is unlawful except in accordance with an NPDES permit. Section 402 of the Act establishes the NPDES program. The program is designed to limit the discharge of pollutants into waters of the U.S. from point sources (40 CFR 122.1 (b)(1)) through a combination of various requirements including technology-based and water quality-based effluent limitations.

1. Technology-based effluent limitations
Under 40 CFR Part 125.3(c)(2), Technology based treatment requirements may be imposed on a case-by-case basis under Section 402(a)(1) of the Act, to the extent that EPA promulgated effluent limitations are inapplicable, i.e., the regulation allows the permit writer to consider the appropriate technology for the category or class of point sources and any unique factors relating to the applicant.

The discharge of wastewater from coal mines is subject to 40 CFR Part 434: Coal Mining Point Source Category BPT, BAT, BCT Limitations and New Source Performance

Standards. The Navajo mine has the potential to discharge wastewater from separate sources that are subject to separate subcategories of Part 434.

A. Outfalls 004, 006, 007, 008, 011, 013, 016, 019 - Mine Drainage

These outfalls meet the definition of "alkaline, mine drainage" in 40 CFR Part 434.11(c). Therefore, the proposed permit sets limits for these outfalls in accordance with the requirements of "Subpart D - Alkaline Mine Drainage" for BPT, BCT, and BAT regulations that apply to such discharges. The proposed permit sets discharge limits for these outfalls for Iron (3.5 mg/l daily average and 7.0 mg/l daily maximum), Boron (0.750 mg/l daily average and 1.50 mg/l daily maximum), Total Suspended Solids (TSS)(35 mg/l daily average and 70 mg/l daily maximum), and pH (no less than 6.0 or greater than 9.0 standard pH units). These requirements are consistent with the previous permit.

B. Outfalls 001, 009, 010, 017 and 018.

- 001 - Vinnel Pond
- 009 - Block C Pond 2
- 010 - Block C Pond 1
- 017 South Dixon Ponds 1,2, and 3
- 018 - Southwest Dixon Pond

These outfalls meet the definition of "Subpart H- Western Alkaline Coal Mining", which applies to "alkaline mine drainage at western coal mining operations from reclamation areas, brushing and grubbing areas, topsoil stockpiling areas, and regraded areas." (40 CFR Part 434.81). In accordance with the requirements established in Subpart H; the operator has:

- 1) submitted a site-specific Sediment Control Plan to EPA incorporating the minimum requirements of 40 CFR Part 434.82,
- 2) demonstrated that implementation of the Sediment Control Plan will result in average annual sediment yields that will not be greater than the sediment yield levels from pre-mined, undisturbed conditions.

The operator submitted these materials to EPA in a letter and attachments on June 18, 2004 (letter to John Tinger,US EPA from Philip C. Dinsmoor, Environmental Coordinator, BHP). These materials are part of the Administrative Record for the proposed permit and are available for public review.

Therefore, EPA approves the Sediment Control Plan consistent with the requirements of Subpart H. Additionally, in accordance with Subpart H, the permit

requires that the approved Sediment Control Plan be incorporated into the permit as an effluent limit, and requires that the permittee design, implement, and maintain the BMPs in the manner specified in the Sediment Control Plan.

EPA Region IX and the Office of Surface Mining Reclamation and Enforcement Office (OSM) entered a Memorandum of Understanding on December 19, 2003: "Process for Obtaining A NPDES Permit Under Subpart H - Western Alkaline Mine Drainage Category". Working through the process outlined in the MOU, OSM has conducted a technical review of the Sediment Control Plan submitted by the Permittee. OSM and EPA have concluded that the Sediment Control Plan has been submitted in accordance with the requirements of 40 CR Part 434, and that the Sediment Control Plan meets all minimum requirements to demonstrate that the average annual sediment yields that will not be greater than the sediment yield levels from pre-mined, undisturbed conditions. If comments are received on the proposed permit, EPA will continue to work with OSM and the Tribes on the response prior to approving the Sediment Control Plan and prior to issuing this permit.

As existing outfalls defined in this permit as "alkaline mine drainage" are reclaimed, the Sediment Control Plan may be updated to incorporate additional outfalls. A revised Plan must be submitted to EPA and approved by EPA before it becomes effective. The revised plan will also be reviewed by OSMRE prior to EPA approving the revisions. Revisions to the Sediment Control Plan must meet all requirements contained at 40 CFR Part 434.82, and 100% of the drainage areas to an outfall must meet the definition of Subpart H to be considered for coverage under Subpart H. EPA's approval of an updated Sediment Control Plan and reclassification of an existing outfall from "alkaline mine drainage" to Subpart H requirements will be considered a minor modification to the permit.

C. Outfall 002 - Coal Storage, Coal Preparation and Ancillary Area Runoff

This outfall meets the definition in 40 CFR 434.11(e), (f) and (g) for "coal preparation plant", "coal preparation plant and associated areas", and "coal preparation plant water circuit", respectively. Therefore, the proposed permit sets limits for the outfall in accordance with "Subpart B - Coal Preparation Plants and Coal Preparation Plant Associated Areas" for BPT, BCT, and BAT regulations that apply to such discharges. The requirements for Outfall 002 are the same as those for "alkaline, mine drainage", with the addition of limitations and monitoring requirements for manganese (2.0 mg/l daily average and 4.0 mg/l daily maximum). These requirements are consistent with those of the previous permit.

2. Water Quality-Based Effluent Limitations

Sections 402 and 301(b)(1)(C) of the Clean Water Act require that the permit contain effluent limitations that, among other things, are necessary to meet water quality standards. 40 CFR 122.44(d) provides that an NPDES permit must contain:

“Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”

40 CFR 122.44 (d)(1)(i) states:

“Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

40 CFR 122.44 (d) (1) (ii) states:

“When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water.”

40 CFR 122.44 (d)(1) (iii) states:

“When the permitting authority determines using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.”

Guidance for the determination of reasonable potential to discharge toxic pollutants is included in both the Technical Support Document for Water Quality-Based Toxics Control (TSD) - Office of Water Enforcement and Permits, U.S. EPA, dated March 1991 and the U.S. EPA NPDES Permit Writers Manual - Office of Water, U.S. EPA, dated December 1996. EPA's technical support document contains guidance for determining the need for permit limits. In doing so, the regulatory authority must satisfy all the requirements of 40 CFR 122.44(d)(1)(ii). In determining whether the discharge causes, has the reasonable potential to cause or contributes to an excursion of a numeric or narrative water quality criterion for individual

toxicants, the regulatory authority must consider a variety of factors. These factors include the following:

- Dilution in the receiving water,
- Existing data on toxic pollutants,
- Type of industry,
- History of compliance problems and toxic impacts,
- Type of receiving water and designated use.

Based on an analysis of factors at the Navajo Mine operations and projected wastewater quality data provided in the application, EPA concluded there continues to be no "reasonable potential" to cause or contribute to an exceedance of water quality standards. This is consistent with the previous permit.

The proposed permit sets general conditions based on narrative water quality standards contained in Section 203 of the NNSWQS. These standards are set forth in Section B ("General Discharge Specifications") of the permit.

VI. Special Conditions

1. Monitoring requirements

EPA has established monitoring for several parameters due to concerns raised during the comment period. Specifically, comments were raised about potential impacts that the disposal of coal combustion by-products may be having on surface water quality in the vicinity of the mine. Coal combustion byproducts (CCBs) generated at Arizona Public Service Company Four Corners electric power plant are transported back to the mine and backfilled into the coal pit. As EPA indicated in the response to comments document, EPA does not believe that coal combustion by-products are having a negative affect on surface water quality. EPA has provided a full response to these concerns in the Response to Comments document accompanying this final permit.

While EPA does not believe that the mine site is contributing to an increase of pollutant concentrations in the Chaco River downstream of the mine, EPA notes that no effluent discharge data is available for the pollutants of concern. Therefore, EPA has decided to require effluent monitoring at each of the discharge outfalls for the following pollutants: arsenic, boron, cadmium, lead, selenium, sulfate, and total dissolved solids.

EPA has included a reopener provision in the permit. If monitoring indicates that the discharge has the reasonable potential to cause or contribute to an excursion of water quality criteria, EPA may reopen the permit to establish effluent limits for those parameters.

2. Amendments to Storm Water Pollution Prevention Plan Best Management Practices: Residue Hauling Vehicles and Areas Adjacent to Disposal Pits or Minefills

EPA is requiring that additional Best Management Practices be incorporated at the mine site to ensure that coal combustion byproducts are properly handled. Best Management Practices (BMPs) are permit conditions used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. Under 40 CFR 122.44(k) and Clean Water Act Section 402(p), EPA is authorized to administer best management practices (BMPs) to mitigate potential toxic substances from reaching receiving waters and to achieve environmentally protective results.

Under the NPDES Storm Water Multi-Sector General Permit (MSGP) for Industrial Activities (FRL-6880-5), BNCC submitted a storm water pollution prevention plan (SWPPP) that details management approaches towards mitigating storm water discharges associated with access roads, haul roads, and railroad lines and spurs. Sector H-Coal Mines and Coal Mining Related Facilities of the MSGP (6.H) details sector-specific industrial requirements that provided structure to constructing a SWPPP. The 2002 revised SWPPP report provides information on the site, receiving waters, potential pollutant sources, sampling data, and protocol towards proper storm water management and BMPs and documented minor spillage from transporting industrial materials from and to BNCC. Upon review of BNCC's SWPPP, EPA has determined that managing coal hauling and CCB spillage from disposal practices would benefit from additional management and amendments to the SWPPP to alleviate interaction with storm water runoff.

EPA is therefore requiring BNCC to update their current SWPPP to include additional BMPs concerning residue hauling vehicles and areas adjacent to disposal pits. The BMP provisions EPA has selected to apply to BNCC originate from the BMPs established under Sector O- Steam Electric Generating Facilities of the MSGP, sections 6.O.4.2.10 and 6.O.4.2.12. These BMPs are appropriate to apply to the storage, handling, transportation, and backfilling operations of the CCBs to prevent spillage of materials which may come into contact with surface waters.

VII. Monitoring Requirements

The proposed permit requires discharge data obtained during the previous year to be summarized and reported monthly and submitted annually. If there is no discharge for the month, indicate "Zero Discharge". These reports are due January 28 of each year. Duplicated signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator and the Navajo Nation EPA.

VIII. Threatened and Endangered Species

EPA has determined that the discharge in compliance with this permit will have no effect on threatened or endangered species. EPA has determined that due to the frequency of the discharge, effluent released in accordance with this permit will have no effect on any threatened or endangered species that may be present in the area. No requirements specific to the protection of endangered species are proposed in the permit. A copy of the permit and fact sheet is being sent to the U.S. Fish and Wildlife Service for review during the public comment period.

IX. Permit Reopener

The permit contains a reopener clause to allow for modification of the permit if reasonable potential is demonstrated during the life of the permit.

X. Standard Conditions

Conditions applicable to all NPDES permits are included in accordance with 40 CFR, Part 122.

XI. Administrative Information

Public Notice (A.A.C. R18-9-A907)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

Public Comment Period (A.A.C. R18-9-A908)

Rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C R18-9-A908(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

XII. Additional Information

Additional information relating to this proposed permit may be obtained from the following locations:

U.S. Environmental Protection Agency, Region IX
CWA Standards & Permits Office Mail Code: WTR-5
75 Hawthorne Street
San Francisco, California 94105-3901
Telephone: (415) 972-3518
Attn: John Tinger or email: Tinger.John@EPA.gov

XIII. Information Sources

While developing effluent limitations, monitoring requirements and special conditions for the draft permit, the following information sources were used:

1. Water Quality Control Plan for the State of California, North Coast Region, as amended.
2. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
3. U.S. EPA NPDES Basic Permit Writers Manual (December 1996).
4. 40 CFR Parts 122, 131, 133, and 434.
5. NPDES permit application forms 2A and 2S, June 13, 2005.
6. Letter June 18, 2004 from Mr. Philip Dinsmoor to John Tinger: Navajo Mine NPDES Permit No NN- 0028193, Request to Remove NPDES Outfalls Nos. 001, 009, 010, 017, and 018: Response to EPA letter dated May 19, 2004.
7. Memorandum of Understanding: "Process for Obtaining A NPDES Permit Under Subpart H Western Alkaline Mine Drainage Category", EPA Region IX and the Office of Surface Mining Reclamation and Enforcement Office (OSM), dated December 19, 2003.
8. Final Reissuance of National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit for Industrial Activities 65 FR 64746, October 30, 2000. (*administratively extended permit*)
9. Decision Document for Significant Revision Application on Coal Combustion Byproducts (CCB) Disposal & Areas I and II Final Surface Configuration. Navajo Mine-San Juan County, New Mexico. Permit No. NM-0003-E. March 2001