SECTION 40

ENVIRONMENTAL PROTECTION

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40 ENVIRONMENTAL PROTECTION

40.1 Land Status and Markers

Exhibits 26-18 through 26-22 show the land status classifications of lands within the Navajo Mine leasehold. These lands are divided into Pre-Law, Interim, and Permanent Program land classifications.

Signs clearly identifying NTEC and/or Navajo Mine, the permit identification number, and blast warning signs are posted at all points of public or permittee road access into the permit area. Signs are made of durable material and will be maintained until bond release.

40.2 Stream Buffer Zones

Stream Buffer Zone designations have been evaluated and identified for the permit areas and lands adjacent to the leasehold (see Section 41 – Probable Hydrologic Consequences). A buffer zone was established in December 1995. The requirements under 30 CFR § 816.57 will be observed, and the zones marked as specified under Section 816.11. Identified Stream Buffer Zone designations and authorized stream crossings are delineated and shown on Exhibits 22-1 through 22-3.

The markers are spaced approximately 300 feet apart and are routinely checked and maintained. Any adjustments to the buffer zone boundary will be made as necessary.

Activities that necessitate travel into or through the designated crossings follow. Access to surface water samplers, access to groundwater wells, access to Area 4 North for environmental data and resource gathering for future mine planning (i.e. surveys, core drilling), access for locals (public) use, and access for routine maintenance (i.e. powerlines, roads, Lowe Diversion outlet, etc.).

40.3 Fugitive Dust Control Plan

Navajo Mine employs a number of practices to control or minimize the amount of fugitive dust from the mining operations. Deliberate mining practices that result in the reduction of fugitive dust are called direct control measures (e.g., switching from truck to railroad will decrease road dust, and certain activities within a mine pit increase pit retention of dust). A direct control of one activity, such as haul road watering, may result in an indirect control of adjacent areas, by watering of work areas adjacent to the haul roads.

The direct and indirect fugitive dust control practices are applied at the Navajo Mine are listed in Table 40-1.

In the unlikely event that a fugitive dust level in excess of NAAQS is detected at a monitoring station, Navajo Mine will make an assessment of the occurrence to determine if the source is from mining related

activities or if this level is attributable to natural causes. The assessment will incorporate air quality particulate and meteorological data collected by Navajo Mine air monitoring program along with other air quality data that may be available in the region. In addition, mine activity records will be reviewed to determine potential mine activity sources. Navajo Mine will review its currently approved fugitive dust control measures and perform specific mitigation measures if possible to minimize future fugitive dust emissions resulting from mining related activity within the permit area.

40.3.1 Quality Assurance

Air monitoring and analysis procedures follow the Navajo Mine Quality Assurance Project Plan (QAPP). The QAPP defines the general protocols that will be employed for the collection, and analysis of air monitoring data. Quality Assurance Performance Audits are conducted every six months for meteorological towers and quarterly for PM_{10} particulate samplers. Corrective action(s) that is identified during audits or inspections are documented and completed as soon as reasonably possible.

40.4 Fish and Wildlife Protection Plan

40.4.1 Wildlife Monitoring

Prior to land disturbing activities at the mine, wildlife resources will be examined to determine the need for buffer areas or wildlife features requiring mitigation in order to minimize adverse impacts on wildlife. Assessment of impacts to wildlife and a mitigation plan are detailed in Section 16 – Fish and Wildlife and Section 39 – Fish and Wildlife Enhancement, respectively.

Annual mine operation plans are reviewed to identify potential conflicts with raptor nesting so that consideration can be made for mitigation. Early identification of conflicts is desirable to allow flexibility in resolving the conflicts with the least possible impact to the birds' or the mine's activities. For example, it is much easier and less costly to move a raptor nest before or after the nesting season than when it contains young. Any moving of raptors and their nests will require special purpose permits and will be closely coordinated with the Navajo Fish and Wildlife Department (NFWD) and the United States Fish and Wildlife Service (USFWS) as necessary. The raptor nest monitoring program gathers data on the species using each nest, activity status, and number of young produced. If any golden or bald eagle nests are found on the mine permit area, its discovery and location will be reported to OSM/Denver.

Through consultation with the Bureau of Indian Affairs (BIA) and the NFWD, NTEC will establish buffer zones for active raptor nest locations and restrict mining activity in these areas. All raptor nesting habitat within the buffer zone will be periodically surveyed to document the status of active and inactive nests.

Annual raptor survey reports are organized to outline the methods, results, and summary of the historical and new active breeding areas. Mapping of nesting site locations is maintained by the NFWD. Permits

required to conduct off lease monitoring activities under this plan will be obtained from the NFWD. Results of each year's raptor survey will be submitted to OSMRE by August 31 of each year.

Prairie dog colonies will be surveyed for the black-footed ferret, as determined necessary after consultation with the NFWD. Also, topdressing stripping activities described in Section 20 – Mining Operations are scheduled during late March through July. The area to be disturbed will be examined prior to disturbance to determine if burrowing owls are nesting in the area. If burrowing owls are nesting, activities that would disturb the site would be rescheduled to prevent destruction of an active nest, or other appropriate measures employed after consultation with the regulatory authorities. Prairie dog colonies will be surveyed as necessary in consultation with the NFWD. Additionally, areas to be disturbed during burrowing owl breeding season will be surveyed to determine if burrowing owls are nesting in the area.

General wildlife monitoring activities are conducted constantly by the Navajo Mine environmental staff as they routinely travel around the permit area during their daily activities. Particular attention is paid to documenting any use of the permit area by Threatened or Endangered (T and E) species and/or other species of high interest. When T and E species are observed on mine lease, OSM and the Navajo Nation will be notified immediately. The annual General Wildlife Monitoring report, will document any findings or sightings of general wildlife, T and E species, or other high interest species. This report will be submitted to OSMRE by August 31 of each year.

Wildlife monitoring as discussed under this Section can also be found in Section 39 – Fish and Wildlife Enhancement. The specifics regarding mitigation techniques, plans, and other requirements are found under Section 39 – Fish and Wildlife Enhancement.

Table 40-1 Direct and Indirect Fugitive Dust Control Practices

		Fugitive Dust Categories		
	Control Measure	Road	Coal	Mining
1	Unpaved haulroads and ancillary roads are watered with water trucks as needed to suppress dust.	D[1]	I[2]	I
2.	Heavily-traveled portions of unpaved primary roads may be chemically stabilized with LIGNOSITE (lignosulfonate), Magnesium Chloride, Coherex, Semi-Pave, or watered as needed to suppress dust.	D	-	-
3.	Haulroads that are in use are graded as necessary during hauling operations.	D	I	I
4.	High use routes of travel in mining areas are graded as necessary.	D	-	I
5.	Maximum vehicle speed on paved and unpaved mine roads is limited to 45 mph within the permit area for all mine vehicles.	D	I	I
6.	Travel of unauthorized vehicles on other than established roads is restricted.	D	-	I
7.	The area of disturbed land is minimized. This includes the number and size of areas to be blasted at any one time.	I	-	D
8.	Curtains are installed around the drill stems on overburden drills. Water sprays and/or vacuum dust suppression systems are used to help suppress fugitive dust emissions when drilling overburden material.	-	-	D
9.	Regular inspections for coal fires are made throughout the mine area. If a coal fire ignites by spontaneous combustion, that portion of the coal is separated or buried to extinguish the fire where possible.	-	-	D
10	The area accessible by vehicles around the coal plant is watered as needed to suppress dust.	-	D	-

Table 40-1 (Continued)

	Control Measure	Fugitive Dust Categories		
		Road	Coal	Mining
11	Dust suppression at the coal plant is accomplished by a spraying system using a mixture of water and/or chemical suppressants. The spraying system is located at key unloading points, crushing areas, and conveyor transfer points. Also contributing to dust suppression are the covers over the main conveyor systems which assist to further reduce coal dust emissions.	-	D	-
12.	Coal placed at designated coal stockpiles is smoothed and compacted as necessary. Compaction of the coal reduces spontaneous fires and fugitive dust, and allows the coal trucks to operate on the stockpile as needed.	I	-	D
13	Dust control during construction of a soil stockpile (topdressing stockpile) is done by spraying the working area with water from a water truck. Inactive stockpiles will be seeded as described in Section 22.7	-	-	D
14.	Revegetation of graded areas minimizes fugitive dust.	-	-	D
15	Maximizing the use of the train decreases the use of coal trucks and minimizes dust emissions.	D	I	-
16	The increase in multiple seam mining will increase the amount of operational time spent by mining equipment in mining pits. This will increase particulate deposition by increasing pit retention of the fugitive dust generated by mining.	I	-	D

D[1] = direct impact by control measure on appropriate fugitive dust category.
I[2] = indirect impact by control measure on appropriate fugitive dust category.