

## **4.19 Summary of Mitigation Measures**

This section provides a summary of all mitigation measures recommended by OSMRE to reduce identified impacts of the Proposed Action and alternatives. Mitigation measures are organized by resource area and summarize recommendations provided in Sections 4.1 to 4.18. Applicant-proposed measures to avoid, minimize, or mitigate environmental impacts of the Proposed Action are listed in Section 3.2.6. This section lists mitigation conditions recommended in addition to the applicant-proposed measures. Taken together, the applicant proposed measures and the additional mitigation measures would be applied to reduce or eliminate the major impacts of the Project.

### **4.19.1 Air**

No mitigation measures are recommended.

### **4.19.2 Climate Change**

No mitigation measures are recommended.

### **4.19.3 Earth Resources**

#### **4.19.3.1 *Navajo Mine***

No mitigation measures are recommended.

#### **4.19.3.2 *Four Corners Power Plant***

No mitigation measures are recommended.

#### **4.19.3.3 *Transmission Lines***

No mitigation measures are recommended.

### **4.19.4 Cultural Resources**

#### **4.19.4.1 *Navajo Mine***

As part of the Proposed Action, a PA is being developed for the Navajo Mine that defines mitigation for adverse effects on historic properties. OSMRE recommends avoiding all TCPs through appropriate routing of access roads and design. The PA for the Navajo Mine will propose specific mitigation measures for instances where it is not possible to avoid the resource.

#### **4.19.4.2 *Four Corners Power Plant***

As part of the Proposed Action, a PA is being developed for the FCPP. OSMRE recommends avoiding all TCPs through design of proposed earth-moving activities (e.g., borrow pits and DFADA). The PA for the FCPP will propose specific mitigation measures for instances where it is not possible to avoid the historic property.

#### **4.19.4.3 *Transmission Lines***

As part of the Proposed Action, a PA is being developed for the transmission line APE. OSMRE recommends avoiding all TCPs through design of proposed earth-moving activities (e.g., borrow pits and DFADA). The PA for the FCPP will propose specific mitigation measures for instances where it is not possible to avoid the historic property.

#### **4.19.5 Water Resources/Hydrology**

##### **4.19.5.1 *Navajo Mine***

Compensatory mitigation for unavoidable impacts to waters of the U.S. would be required under the 404 Individual Permit. USACE will include compensatory mitigation requirements as part of the 404 Permit for the Navajo Mine that are designed to compensate for the loss of jurisdictional areas in the Project Area, so as to ensure no net loss of functions and services of waters of the U.S. as a result of the permitted activity. The primary mechanisms for mitigating the loss of jurisdictional areas are re-establishment and creation. MMCo has proposed the re-establishment of native riparian habitat and the creation of wetland habitat.

##### **4.19.5.2 *Four Corners Power Plant***

Under the No Action Alternative, OSMRE recommends APS conduct heavy metal sampling and analysis and conduct remediation activities as needed at Morgan Lake.

##### **4.19.5.3 *Transmission Lines***

No mitigation measures are recommended.

#### **4.19.6 Vegetation**

No mitigation measures are recommended.

#### **4.19.7 Wildlife and Habitats**

No mitigation measures are recommended.

#### **4.19.8 Special Status Species**

No mitigation measures are recommended.

#### **4.19.9 Land Use and Transportation**

No mitigation measures are recommended.

#### **4.19.10 Socioeconomics**

No mitigation measures are recommended.

#### **4.19.11 Environmental Justice**

No mitigation measures are recommended.

#### **4.19.12 Indian Trust Assets**

No mitigation measures are recommended.

#### **4.19.13 Visual Resources**

No mitigation measures are recommended.

#### **4.19.14     Noise and Vibration**

##### **4.19.14.1   *Navajo Mine***

OSMRE recommends the following measures to reduce noise and annoyance when operations are within approximately 1/2 mile (2,500 feet) of a receptor during Project activities:

- All equipment should be operated and maintained to minimize noise generation. Equipment and vehicles should be kept in good repair and fitted with “manufacturer-recommended” mufflers.
- Natural barriers such as vegetation curtains or soil berms should be installed where practicable at the boundaries of active mining operations within 1 mile of any occupied residence.
- Portable noise screens or enclosures to provide shielding for high-noise activities or equipment should be used as where practicable. The effectiveness of a barrier depends upon factors such as relative height of the barrier relative to the line-of-sight from the source of the receiver, the distance from the barrier to the source and to the receiver, and the reflections of sound. To be effective, a barrier must block the line-of-sight from the source to the receiver. A properly designed noise barrier can reduce noise as much as 20 dBA.
- Alternate methods of noise shielding are acceptable, if noise monitoring is conducted to verify that the 55 dBA level at the receptor site is achieved.
- Combine noisy operations to occur in the same period. The total noise produced would not be significantly greater than the level produced if the operations were performed separately.

##### **4.19.14.2   *Four Corners Power Plant***

No mitigation measures are recommended.

##### **4.19.14.3   *Transmission Lines***

No mitigation measures are recommended.

#### **4.19.15     Hazardous and Solid Wastes**

No mitigation measures are recommended. CCR will be managed in compliance with EPA’s Final Rule in accordance with established timelines.

#### **4.19.16     Recreation**

No mitigation measures are recommended.

#### **4.19.17     Health and Safety**

No mitigation measures are recommended.

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