

**Mitigation Action Plan
for the
Grand Coulee Third Powerplant 500-kV Transmission Line Replacement Project
DOE/EA-1679**

SUMMARY

This Mitigation Action Plan (MAP) is part of the Finding of No Significant Impact (FONSI) for the Grand Coulee Third Powerplant 500-kV Transmission Line Replacement Project. The Bonneville Power Administration (BPA) was asked to assist the Bureau of Reclamation (Reclamation) in designing and replacing the six 500-kV transmission lines of the Third Powerplant (TPP) at Grand Coulee Dam. The transmission lines are presently installed within the dam and a two-chambered tunnel that leads to a Spreader Yard about a mile west of the TPP. The Project area occurs within Grant, Douglas, and Okanogan counties, Washington.

This MAP is for Overhead Alternative 2 (the Preferred Alternative) that is the subject of the FONSI that has been prepared. The MAP includes all of the integral elements and commitments made in the Environmental Assessment (EA) to mitigate potential adverse environmental impacts. The purpose of this MAP is to explain how the mitigation measures will be implemented, who is responsible for implementation, and at what time during the project they will be implemented.

BPA and its Contractor are responsible for implementation of mitigation measures during various phases of the project. A BPA contractor will remove old existing tower structures and transmission lines and replace them with new tower structures, new transmission lines and other associated structural components. To ensure that the contractor will implement mitigation measures, the relevant portions of this MAP will be included in the construction contract specifications developed for the project. This will obligate the contractor to implement the mitigation measures identified in the MAP that relate to their responsibilities during pre-construction, construction and post-construction.

If you have general questions about the project, contact the Project Manager, Mark Korsness, at 360-619-6326. If you have any questions about the MAP, contact the Project Environmental Lead, Andrew M. Montañó, at 503-230-4145 or the Regional Environmental Specialist, Philip Smith at 503-230-3294. This MAP may be amended if revisions are needed due to new information or if there are any significant project changes.

CONSULTATION RELATED TO MITIGATION MEASURES

BPA has consulted with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act. No impacts are expected to occur to any federally-listed threatened or endangered species or their habitat. Implementation of the mitigation measures listed below will further reduce the possibility of impacts to habitat.

As a part of the Section 106 consultation, Reclamation consulted with both the Washington State Department of Archeology and Historic Preservation (DAHP) and the Colville Tribal Historic Preservation Office (THPO), as the project had the potential to result in adverse effects in the jurisdictions of both agencies. On April 28, 2011, Reclamation sent both the DAHP and THPO the documentation required under 36 CFR 800.11 to support a Finding of Adverse Effects, as well as a letter requesting that both of the agencies concur with Reclamation's finding. The THPO concurred with the Finding of Adverse Effects on May 9, 2011, and the DAHP concurred on June 1, 2011. With these concurrences in hand, Reclamation then notified the Advisory Council on Historic Preservation (ACHP) on June 3, 2011, of Reclamation's Finding of Adverse Effects and the concurrence of the DAHP and THPO. The ACHP responded on June 21, 2011, saying that they did not wish to participate in the resolution of the adverse effects that Reclamation had identified. The Memorandum of Agreement designed to resolve the adverse effects of the project was signed by Reclamation, the DAHP, the THPO, and the Chairperson of the Colville Business Council on September 13, 2011, and was filed with the ACHP September 16, 2011, completing the Section 106 process for this project.

Given that the project generally would avoid wetlands and waters of the United States, it is expected that Section 404 Clean Water Act permits will not be required for the proposed project.

MITIGATION MEASURES

The mitigation measures in the following Mitigation Action Plan table have been identified to reduce potential impacts to environmental resources from the project.

Mitigation Action Plan Table

| Environmental Resource | Mitigation |
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| Vegetation | <ul style="list-style-type: none"> ▪ Construction fencing will be used to exclude construction equipment as well as to protect fragile soils and native plant communities during all construction activities. Sediment fencing will be used to prevent on-site water runoff in disturbed areas and below disturbed areas where stormwater tends to concentrate. ▪ Reseeding of areas disturbed due to construction activities will be performed using locally-obtained native seed mixes. |
| Fish and Wildlife | <ul style="list-style-type: none"> ▪ Avoid construction during long periods of cold weather or whenever deer, elk and bald eagles are concentrated in the area. ▪ Remove an existing osprey nest on an existing tower when no activity at the nest is evident. Relocate the nest to a nearby perch pole in order for the existing tower to be dismantled. ▪ Implement all measures in the Avian Protection Plan prepared in coordination with guidance provided by the US Fish and Wildlife Service to ensure the safety of avian species that may |

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| | occupy the Project area. |
| Geology and Soils | <ul style="list-style-type: none"> ▪ Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to control stormwater pollution associated with construction activities. ▪ As part of the SWPPP, prepare a Spill Prevention and Response section to address petroleum and hazardous materials handling and management procedures for this Project. ▪ Develop Best Management Practices (BMPs) for erosion control for the various construction activities in accordance with the specifications in the Department of Ecology’s <i>Stormwater Management Manual for Eastern Washington</i>, (Publication 04-10-076). ▪ Limit clearing, excavation and grading to those areas of the Project area absolutely necessary for construction of the Project. Areas outside the construction limits would be marked in the field and equipment would not be allowed to enter these areas or to disturb existing vegetation and soils. ▪ Store additional erosion control supplies, including sandbags and channel-lining materials, on site for emergency use. |
| Water Resources, Wetlands, and Fisheries | <ul style="list-style-type: none"> ▪ Develop a SWPPP to address soil disturbances at construction sites (as outlined by Section 402(p) of the Federal Clean Water Act and Chapter 90.48 RCW of the State of Washington’s Water Pollution Control Act). This plan will address both erosion and sediment control measures to prevent impacts to adjacent water bodies during and after construction. Specific elements to be addresses include: marking clearing limits, establishing construction access, controlling flow rates, installation of sediment control, stabilizing soils, protection of slopes, protection of drain inlets, stabilization of channels and outlets, pollutant control, de-watering management, BMP maintenance, and project management. ▪ The BMPs specifications to be utilized are taken from The Department of Ecology’s <i>Stormwater Management Manual for Eastern Washington</i>, (Publication 04-10-076). ▪ Erosion control measures would include appropriate erosion control blankets, such as straw or jute matting or other suitable erosion control blankets, designed for various weather conditions during the construction period on any disturbed slopes and water conveyance channels to prevent erosion and control sediment migration. Surface roughening of slopes by track walking should be utilized to aid in the establishment of vegetative cover, reduce runoff velocity, increase infiltration, and provide for sediment trapping. ▪ Sediment control measures would include sediment fencing to prevent off-site water run-on and off-site migration of eroded sediment. Straw wattles may be used to reduce water flow |

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| | <p>length to slow water run-off velocity reducing down-cutting. Other sediment control measures may include the use of check dams in channels which may be sand bags, straw wattles, or other geotextile products.</p> <ul style="list-style-type: none"> ▪ All erosion and sediment control BMPs would be installed inspected and maintained as addressed in the Stormwater Management Manual for Eastern Washington. ▪ Temporary BMPs would be removed once final stabilization has been established. |
| Land Use | <ul style="list-style-type: none"> ▪ Reclamation would compensate the landowner if a revised right-of-way easement is required. |
| Recreation | <ul style="list-style-type: none"> ▪ None identified. |
| Visual Quality | <ul style="list-style-type: none"> ▪ Utilize non-reflective steel and other metals on the new towers and lines to minimize their visual encroachment to the surrounding area. |
| Laser Light Show | <ul style="list-style-type: none"> ▪ None identified. |
| Cultural Resources and Tribal Consultation | <ul style="list-style-type: none"> ▪ Implement the Memorandum of Agreement that outlines agreed-upon measures that Reclamation will take to avoid, minimize, or mitigate the adverse effects identified. ▪ Design, Construct, and remove a temporary access road ramp behind Coulee Dam Town Hall |
| Indian Trust Assets | <ul style="list-style-type: none"> ▪ None identified. |
| Indian Sacred Sites | <ul style="list-style-type: none"> ▪ None identified. |
| Socioeconomics and Environmental Justice | <ul style="list-style-type: none"> ▪ None identified |
| Public Health and Safety | <ul style="list-style-type: none"> ▪ Prior to starting construction, require the contractor to prepare and maintain a safety plan in compliance with State of Washington, Reclamation, and BPA requirements. This plan would detail how to manage hazardous materials such as fuel, and how to respond to emergency situations. It would be kept onsite at all times. ▪ During construction, require the contractors to hold crew safety meetings at the start of each workday to review potential safety issues and concerns. ▪ At the end of each workday, require the contractor and subcontractors to secure the site to protect equipment and the general public. ▪ Train employees as necessary, in structure climbing, cardio-pulmonary resuscitation, first aid, rescue techniques, and safety equipment inspection. ▪ To minimize the risk of fire, fuel all highway-authorized vehicles offsite. Fueling of construction equipment would be done in accordance with regulated construction practices and state and federal laws. ▪ Comply with all fire safety laws, rules, and regulations of the State of Washington, Reclamation, and BPA standards. The |

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| | <p>contractor will be required to prepare a Fire Prevention and Suppression Plan that would meet BPA, local authority, and land manager requirements.</p> <ul style="list-style-type: none"> ▪ Provide notice to the public of construction activities. ▪ Remain on established access roads during construction activities. ▪ Keep vegetation cleared to avoid contact with transmission lines. ▪ During construction, follow BPA specifications for grounding fences and other objects on and near the ROW. ▪ Ensure transmission towers minimize EMF, corona and electric field through implementation of standard BPA design and construction practices. All BPA lines are designed and constructed in accordance with the National Electrical Safety Code (NESC). NESC specifies the minimum allowable distance between the lines and the ground or other objects. These requirements determine the edge of the ROW and the height of the line, that is, the closest point that houses, other buildings, and vehicles are allowed to the line. ▪ Ground fences and other metal structures on and near the ROW during construction to limit the potential for nuisance shocks. |
| Air Quality | <ul style="list-style-type: none"> ▪ Apply 2004 Stormwater Management Manual for Eastern Washington, BMP C140: Dust Control. Prepare a site-specific Dust Control Plan to be included in construction contracts. ▪ Utilize standard emission requirements and BMPs for ozone and air quality. |
| Traffic and Transportation | <ul style="list-style-type: none"> ▪ Prepare a Construction Traffic Management Plan prior to construction to include construction activities that would occur on or near public roads. ▪ Prepare public announcements regarding construction that inform the public but also avoid discouraging potential visitors from visiting Grand Coulee Dam and the surrounding area. |

Additional Measures Under Consideration

In addition to the measures listed in the Mitigation Action Plan, Reclamation is considering additional actions. These actions are not expressly for mitigating potential environmental impacts; rather, they are being considered to enhance the visitor experience.

Land Use:

- Despite the fact that the mid-point tour bridge will no longer be removed as part of this Project and that public access to this bridge will no longer be available, Reclamation is investigating future options to allow the public to be able to access the inner portion of the tour bridge and the cantilevered observation deck.
- A revised laser show or possibly using lighting effects on the towers could be implemented by Reclamation in the future to offset expected visual impacts from the proposed new transmission lines and towers.

Visual Quality:

- Reclamation is already providing new opportunities to view and experience Grand Coulee Dam. Reclamation has developed an improvised replacement tour during the time the Incline Elevator has been out of service that includes alternate access to the floor-level access and a tour stop on top of the dam.
- Reclamation could provide a long-term, reliable fix to the incline elevator that would eliminate the cumulative loss of both the elevator and the lost access to the TPP visitor tour bridge (a cumulative loss that occurs any time the elevator is out, with or without the TPP visitor tour bridge being available).
- Existing trees between the Visitor's Center parking area and SR 155 would partially screen the towers from some viewing locations. Additional tree plantings could be considered for additional screening and buffering of the towers for views from the Visitor's Center.
- Reclamation could provide additional information about the ice age floods and how Grand Coulee Dam was formed to offset visual impacts to the Coulee Scenic Byway and Ice Age Floods National Geologic Trail.

Laser Light Show:

- Because the existing laser equipment is out of date and due for replacement, Reclamation has an opportunity to avoid or minimize reflection and or other interference from proposed lines through design of a new show with new and improved equipment. Updated features could include:
 - Laser projectors that are much smaller and less expensive and energy demanding than the existing units;
 - Wireless technology that allow multiple projectors located at multiple projection points to be operated from a single location;
 - Ability to generate a wider variety of laser images and effects;
 - Use of LED technology to produce lighting effects to augment lasers, potentially replicating the functions of the *Bank of Lights* effects on the spillway;

- Ability to create multiple shows rather than a single show that is repeated (e.g., new shows could be made to appeal to specific audiences or for special events).