Bonneville Power Administration

Northern Mid-Columbia Joint Project

Finding of No Significant Impact

March 2016

Northern Mid-Columbia Joint Project

DEPARTMENT OF ENERGY
Bonneville Power Administration

Finding of No Significant Impact (FONSI) and Floodplain Statement of Findings DOE/EA-1945

Summary: Bonneville Power Administration (BPA) announces its environmental findings on one of the routing alternatives – West Route D-E – identified for the Northern Mid-Columbia Joint Project (Joint Project or Proposed Action). The Joint Project involves the construction of a new 230-kilovolt (kV) transmission line and associated facilities in the northern mid-Columbia area of Washington State, in Douglas and Chelan counties, Washington. Douglas County Public Utility District ***(***Douglas PUD) would permit, design, build, own, and operate the approximately 8.4-mile long transmission line, which is referred to as the Rapids – Columbia 230-kV transmission line. BPA participation in the Joint Project would involve (1) providing partial funding for construction of the new line, and (2) adding equipment to BPA's existing Columbia Substation to interconnect the proposed line to the Federal Columbia River Transmission System (FCRTS).

BPA prepared an environmental assessment (EA) evaluating three Proposed Action alternatives and a No Action Alternative. Based on the analysis in the EA, BPA has determined that one of the Proposed Action alternatives, West Route D-E, is not a major federal action significantly affecting the quality of the human environment, within the meaning of the National Environmental Policy Act (NEPA) of 1969. Therefore, preparation of an environmental impact statement (EIS) is not required for West Route D-E and BPA is issuing this FONSI for this alternative.

BPA solicited and received comments on the draft EA and responses to those comments are presented in Chapter 8 of the final EA. Responses to comments and refinements or changes in the Proposed Action resulted in minor changes to the draft EA. In the final EA, text that was added since the draft EA is in blue font and text that was deleted is in blue font and struck through.

BPA has prepared a Mitigation Action Plan (MAP) that lists the mitigation measures that BPA and Douglas PUD are committed to implementing (attached). A Floodplain Statement of Findings is also included in this FONSI. The implementation of West Route D-E would avoid direct impacts on floodplains but could result in indirect impacts on floodplains.

Public Availability: This FONSI will be mailed directly to interested parties who requested a copy. A notification of availability will be mailed to other potentially affected parties. For copies of this FONSI and final EA, please call BPA's toll-free document request line: 1-800-622-4520.

The documents are also available at the following website:
www.bpa.gov/goto/NorthernMidColumbia

Proposed Action Alternative West Route D-E: Under this Proposed Action alternative, BPA would provide partial funding for construction of the Rapids – Columbia 230-kV transmission line using West Route D-E, and would install related equipment in BPA's existing Columbia Substation. The new line would extend from Douglas PUD's Rapids Switchyard near the City of Rock Island in Douglas County, Washington to BPA's Columbia Substation in Douglas County, Washington. The new line would be 8.4 miles long and would involve two crossings of the Columbia River, with the majority of the route located in Chelan County.

The Joint Project would address deficiencies in the northern mid-Columbia transmission system that could cause power outages and affect the reliability of transmission systems of utilities in this area. The new transmission line would add needed operating flexibility and would reduce the need to reduce electric power generation at the Rocky Reach and Wells hydroelectric facilities under certain conditions. Finally, the new transmission line would help meet load growth by adding a new 230-kV circuit to the northern mid-Columbia transmission area.

The right-of-way for the Rapids – Columbia 230-kV transmission line using West Route D-E would be about 75- to 100-feet-wide. West Route D-E would require about 6.15 miles of easement acquisition across privately owned lands and about 0.75 mile across publicly owned lands. About 7.8 miles of West Route D-E would be within existing utility corridors adjacent to multiple existing transmission lines and a gas pipeline. The transmission line would consist of about 67 tubular steel-pole structures ranging in height from 40 to 140 feet, as well as conductors, overhead ground wire, and fiber optic cables. About 0.4 mile of new access roads would be constructed and about 10.4 miles of existing access roads would be improved. Easements for access roads would be about 20 feet wide, and access roads would be constructed with minimum 12-foot-wide travel surfaces.

At the existing BPA Columbia Substation and the Douglas PUD Rapids Switchyard, equipment that would be installed would include power circuit breakers (switching devices to automatically interrupt power flow), switches (devices to mechanically disconnect equipment), bus tubing and pedestals (ridged aluminum pipes that the power flows on within the substation), and transmission line dead-end structures to bring the line into the switchyard. All equipment would be accommodated within the existing switchyards; no expansion would be needed.

The currently proposed schedule is to begin access road work and constructing the transmission lines in 2017 or 2018. Work on the Douglas PUD Rapids and BPA Columbia Substation could occur in 2017 and 2018. Ongoing stabilization of construction work areas, revegetation, monitoring, clean up, and other project-related actions would continue after construction, as needed.

Additional details on Proposed Action alternative West Route D-E are presented in Chapter 2 of the final EA.

No Action Alternative: The No Action Alternative assumes that BPA would not provide partial funding for the Joint Project. It assumes that Douglas PUD would not build the proposed Rapids

– Columbia 230-kV transmission line and that neither Douglas PUD nor BPA would install interconnection equipment in their respective substations. Construction activities associated with the Joint Project would not occur, and the reliability concerns that prompted the proposal for action would persist. Douglas PUD, Chelan PUD, Grant PUD, and BPA would not be able to offer reliable transmission line capacity for a single contingency transmission line outage and would each need to seek an alternative solution in the future.

Significance of Potential Impacts: Chapter 3 of the final EA identifies and evaluates potential impacts from construction, operation, and maintenance of Proposed Action alternative West Route D-E. For this analysis, four impact levels were used—high, moderate, low, and no impact. In addition, some impacts have been identified as beneficial. High impacts are considered to be significant impacts, whereas moderate and low impacts are not. Direct, indirect, and cumulative impacts were evaluated.

The following discussion provides a summary of the Proposed Action alternative West Route D-E's potential impacts and the reasons these impacts would not be significant.

Land Use and Recreation: Impacts on agricultural, industrial, and recreational land uses from West Route D-E would be low to moderate.

- Agricultural lands would be temporarily impacted during construction, but disruption would be localized and generally less than a few days at a time in each area; Douglas PUD also would work with landowners to site transmission line structures in agricultural areas such that they minimize impacts to farm operations, where possible.
- West Route D-E would require the removal of a very small amount of orchard trees (up to 0.5 acre) and limited tall-growing vegetation, including some poplar trees that serve as agricultural wind breaks.
- Most of the designated farmland along Segment E is steeply sloped and not used for agriculture, and only a small amount of prime farmland (up to 0.29 percent of the County total) and farmland of statewide importance (up to 0.11 percent of the County total) would be permanently removed from agricultural production.
- Some land uses would be restricted within the transmission line right-of-way, including building restrictions and tree height limitations, but landowners would be compensated for granting easements for use as transmission line right-of-way.
- Residential uses would be impacted by construction activities, but disturbance would be limited to short periods and localized to construction work areas, and no houses or other buildings or structures would be removed.
- Construction activities and equipment would be visible from the Rock Island Golf Course and some construction noise could be heard by golfers, but impacts would be temporary and would not interfere with operation of the golf course.
- In the areas where the proposed transmission line would cross the Columbia River, there would be no impacts to recreational boating and fishing, except during conductor

installation when the portion of the river under the conductor would need to be temporarily closed to boat traffic.

- If construction and hunting season coincide, construction activity could displace game while construction is occurring, but this impact would be temporary and other areas in the general vicinity would be available for hunting if this occurs.
- There would be no direct conflicts with existing land use plans and policies.
- Maintenance activities would occur infrequently and be localized to specific work areas, resulting in the same type and level of temporary impacts as during construction.

Transportation: Impacts on transportation from West Route D-E would be low.

- The use of vehicles and equipment during construction and maintenance would result in a temporary increase in local traffic that would represent a low increase in daily traffic volumes on project area roads that would not be expected to substantially affect roadway capacity and traffic operation.
- The removal and replacement of conductors over state and county roads could result in temporary single-lane road closures that would not be expected to substantially impact traffic operation because of their short duration, expected to be less than 10 minutes.
- To minimize impacts to transportation, traffic control flaggers would be employed, signs would be posted along roads warning of construction activity and merging traffic, where needed, a traffic control plan would be submitted to the regional Washington State Department of Transportation (WSDOT) office prior to commencing construction, and public announcements about potential road closures would be communicated to schools, emergency services, and the general public prior to construction.
- West Route D-E would cross the BNSF railroad tracks but no transmission line structures would be built within the BNSF right-of-way, required approvals would be obtained from BNSF by Douglas PUD, and long-term impacts to BNSF operations are not expected.

Geology and Soils: The impacts on soils from West Route D-E would be low.

- Construction of the Joint Project would permanently impact only about 2.1 acres of soils.
- Construction of the Joint Project would temporarily impact only about 72.8 acres of soils and these areas would be reseeded after construction.
- New access roads would be designed and constructed to minimize drainage from the road surface directly into surface waters and direct sediment-laden waters into vegetated areas, and Douglas PUD would inspect and maintain access roads, culverts, and other facilities after construction to ensure proper function and nominal erosion levels.
- Staging areas would be located in previously disturbed or graveled areas, where possible, to minimize disturbance to soil and vegetation.
- The use of heavy equipment and subsurface excavation or blasting could affect slope stability in areas of talus and in areas with historic landslide deposits, but no transmission line structures would be constructed in talus and any geotechnical issues that arise would be addressed during construction.

- Compaction of soils by heavy equipment would degrade soil structure by reducing the pore space within soils but soil compaction would be localized and would not be substantial enough to significantly increase or permanently alter stormwater runoff.
- There would be no impacts to lithosols.
- Construction impacts on soils, including in the area along Segment E burned by wildfires in 2013, would be minimized by managing sediments as specified in the Stormwater Pollution Prevention Plan, using erosion and stormwater control best management practices to eliminate sediment discharge into waterways and wetlands, minimizing the size of construction disturbance areas, minimizing removal of vegetation, to the greatest extent possible, and revegetating areas disturbed by construction.
- Maintenance activities would result in soil disturbance in work areas but maintenance would be infrequent and localized to small work areas.

Vegetation: Impacts on vegetation from West Route D-E would be low to moderate.

- Construction of the Joint Project would permanently remove only about 2.1 acres of vegetation.
- Construction of the Joint Project would temporarily disturb only about 72.8 acres of vegetation and these areas would be reseeded after construction.
- Although clearing and grading for transmission line construction and road work would impact vegetation and could remove biologically active soil, the size of construction disturbance areas and removal of vegetation would be minimized to the greatest extent possible and in areas that would remain vegetated, vegetation would be cut or crushed, rather than bladed to increase the ability of native plants to recover.
- Staging areas would be located in previously disturbed or graveled areas, where possible, to minimize disturbance to vegetation.
- Because West Route D-E mostly crosses areas of low-growing vegetation, little vegetation removal outside of the footprint of project facilities would be needed; this removal would mainly involve a few orchard trees and some trees that serve as wind agricultural breaks.
- There would be no impacts to lithosol plant communities and riparian areas would be spanned by the conductor and would not be affected by construction.
- There would be no impacts to special status plant species because they are located over 200 feet from project work areas and would be avoided.
- The potential for introduction and spread of noxious weeds from construction would be avoided or mitigated through pre-construction weed treatment, using certified weed-free mulch, obtaining road fill materials from weed-free quarries, washing of equipment and vehicles before entering and after leaving weed-infested work areas, revegetation, and post-construction weed treatment.
- The periodic maintenance of transmission line structures and access roads would result in some vegetation removal and disturbance, but maintenance would be infrequent and localized to areas previously disturbed by construction.

Fish: Impacts on fish and fish habitat from West Route D-E would be low.

- There would be no direct impacts on special status or other fish species in fish-bearing waterways crossed by the route (Columbia River and Colockum Creek) because construction equipment would not enter these waterways.
- Potential impacts to special status and other fish in the Columbia River due to possible construction created sedimentation would be minimized through implementation of erosion control best management practices; the abundance, distribution, and likelihood of survival and recovery of listed species would not be reduced.
- Construction would not be conducted within 200 feet of Colockum Creek except for the installation of conductor that would overhang the creek, so it is not expected that there would be any degradation of fish habitat from construction in this area.
- Construction noise and activity near or over fish-bearing waterways could result in the short-term disturbance of fish but any stress or flight behavior exhibited by fish in response to shadowing would be of short duration, without permanent effects.
- There would be no impacts on freshwater Essential Fish Habitat because implementation of West Route D-E would not reduce the abundance or distribution of coho or Chinook salmon and there would be no measurable effects on spawning, feeding, or growth to maturity.
- Designated critical habitat for spring-run Chinook salmon, steelhead, and bull trout in the Columbia River could be temporarily impacted by sedimentation but these minimal impacts to juvenile rearing areas and migration corridors are not likely to degrade or adversely modify habitat.
- Maintenance work on transmission line structures and access roads within 200 feet of fish-bearing streams could cause infrequent and temporary impacts to fish habitat from sedimentation and noise disturbance, and some noxious weed control could occur in riparian areas but only herbicides approved for work near aquatic areas would be used, and where feasible, appropriate mechanical and biological control methods would be used in and near riparian habitats.
- Operation of the proposed transmission line would reduce transmission congestion in the Northern Mid-Columbia transmission area, which would decrease the need to manage generation at the Wells and Rocky Reach dams, resulting in positive effects on water quality which would improve fish habitat.

Wildlife: Impacts on wildlife from West Route D-E would be low to moderate.

- Construction of the Joint Project would permanently remove only about 2.1 acres of wildlife habitat.
- Construction of the Joint Project would temporarily disturb about 72.8 acres of wildlife habitat, but the wildlife habitats that would be impacted are relatively homogeneous and consist primarily of low to moderate quality, weedy and fragmented shrub-steppe that would be reseeded after construction.

- Staging areas would be located in previously disturbed or graveled areas, where possible, with little or no function as wildlife habitat.
- Vegetation removal during construction would result in a temporary loss or degradation of wildlife habitat in and near construction areas, but impacts to wildlife habitat would be minimized by restricting construction activities to the area needed to work effectively.
- The use of heavy equipment and vehicles during construction could result in some incidental mortality of wildlife but the speed of vehicles would be restricted to 15 miles per hour on unpaved access roads to minimize collisions with wildlife.
- Construction generated noise and activity could temporarily displace or stress wildlife and disrupt foraging, breeding, and other normal activities, but construction would be restricted to areas where there is already considerable human activity, adequate habitat is available in the project area for wildlife to disperse, and wildlife would be expected to return after construction.
- The potential introduction and spread of noxious weeds in areas disturbed during construction would degrade wildlife habitat but the introduction and spread of weeds would be minimized through pre-construction weed treatment, using weed-free mulch and road fill materials, washing equipment and vehicles, revegetation, and post-construction weed treatment.
- Because West Route D-E mostly crosses areas of low-growing vegetation and only a small amount of trees would be removed (see "Vegetation" above), only minimal potential displacement of wildlife from tree removal would be expected.
- To avoid disturbance to nesting birds and raptors such as wintering bald eagles, construction timing restrictions would be in place and construction would be restricted at the Columbia River crossings.
- Birds and bats would not be electrocuted by contact with the conductors of the proposed transmission line because the spacing between conductors would be too wide for birds and bat species, including eagles and other large raptors, to contact two conductors at the same time.
- Douglas PUD would develop a project-specific bird and bat conservation plan including information on Birds of Conservation Concern and eagles, to address potential impacts to these species from construction and operation of the proposed transmission line.
- The small size of areas affected by construction activities, the even smaller permanent removal of wildlife habitat, and construction timing restrictions would result in only minimal impacts to habitat for special-status wildlife species, including gray wolf, mule deer, bighorn sheep, elk, and various raptor species.
- The route is within the historic distribution of greater sage-grouse, a state listed threatened species, but sage-grouse are not known to currently utilize the area and there is little habitat potential for greater sage-grouse because the habitat is fragmented by existing development and the shrub-steppe habitat recently burned.

- Maintenance of the proposed transmission line and access roads would result in the degradation of wildlife habitat in localized work areas and noise generated by equipment could temporarily displace or stress wildlife near work areas, but maintenance would be infrequent and localized to areas previously disturbed by construction.
- The potential for birds to collide with the transmission line would be minimized since much of the line would parallel existing transmission lines where birds may be accustomed to avoiding structures and wires and, in high potential collision areas, the conductor and ground wire would be marked to make more visible.

Water Resources and Water Quality: Impacts on water resources and water quality from West Route D-E would be low.

- Ground disturbing activities would not be expected to affect groundwater quality, because these activities would not result in deep excavations that would directly reach groundwater resources and groundwater quantity would be unaffected due to the extremely small acreage disturbed by the project compared to the surrounding landscape where groundwater is recharged.
- Construction would not require work within waterways, except for replacement of a culvert in an access road that crosses an intermittent waterway (Dry Gulch); the replacement culvert would be designed and installed to accommodate expected flows and the implementation of best management practices would minimize sedimentation into streams and impacts on water quality would be short term and minimal.
- Sediment-laden runoff from construction work areas would be managed as specified in the Stormwater Pollution Prevention Plan, minimizing the size of construction disturbance areas and vegetation removal, and revegetating disturbed areas after construction.
- Construction would occur within 200 feet of the Columbia River in one area, but because the structures and access roads would be on the bluffs high above the river and because sediments would be managed, there would be minimal or no impacts to Columbia River water quality.
- Access roads would be designed and constructed to minimize drainage from the road surface directly into surface waters, replacement culverts would be large enough to accommodate predicted flows, drainage features would be installed to direct sediment-laden waters into vegetated areas, and access roads would be regularly inspected and maintained after construction to ensure proper function and nominal erosion levels.
- Staging areas would be located at least 200 feet from surface water features to avoid water quality impacts.
- The potential for chemical contamination of surface waters would be minimized by storing, refueling, and servicing vehicles and equipment at least 150 feet from water features and through implementation of a Spill Prevention Control and Countermeasure Plan that would restrict storage of fuel and other chemicals, and specify spill containment protocols, in accordance with federal, state, and local regulations.

- Construction would not result in permanent or temporary alteration of a water body that supports fish, wildlife habitat, or human uses such that its use or integrity would be adversely affected and construction is not expected to result in a permanent or temporary exceedance of state or federal ambient water quality criteria.
- Maintenance activities within and near waterways could remove vegetation and disturb soils, resulting in the short-term release of minimal amounts of sediments into waterways, and impacts would be similar to construction impacts.
- The operation of the proposed transmission line would reduce transmission congestion, decreasing the need to redispatch at the Wells and Rocky Reach dams, which would improve Columbia River water quality by decreasing total dissolved gas levels.

Wetlands: Impacts on wetlands from West Route D-E would be low.

- Transmission line structures would be constructed at least 200 feet from wetlands.
- Access roads would cross or be adjacent to two low-quality wetlands dominated by non-native herbaceous vegetation; but these roads either need no improvement or only minimal improvements, and the runoff of construction sediments into wetlands would be minimized through erosion and sedimentation control measures.
- The introduction of noxious weeds into wetland areas would be minimized by the implementation of weed control measures.
- Periodic maintenance of access roads and vegetation removal near or in wetlands could result in only minor soil compaction and erosion, the incidental deposition of sediments into wetlands, and potential degradation of only a small amount of wetland buffer habitat.

Floodplains: Impacts on floodplains from West Route D-E would be low.

- The Columbia River 100-year floodplain would be spanned twice but proposed transmission line structures and access roads would be constructed on high bluffs, outside the 100-year floodplain, and would not be affected by a 100-year flood event.
- Transmission line structures and access roads would not be constructed within 100-year floodplains and vegetation would not be removed within floodplains.
- Construction and periodic maintenance outside, but within 200 feet of floodplains could result in incidental deposition of sediments into floodplains and degradation of a small amount of habitat near floodplains but other floodplain functions, such as floodplain capacity or the course of floodwaters, would not be affected.

Visual Quality: Visual impacts from West Route D-E would be low to moderate.

- Residents, recreational users, and motorists would temporarily be exposed to views of construction and maintenance activities, but all construction work would be conducted during daylight hours to avoid nighttime illumination of work areas and disturbed areas would be regraded and revegetated after construction.
- Construction activities would create dust that could impact views, but dust would be controlled during construction using water trucks or other appropriate methods, as needed.

- Although almost the entire length of the new transmission line would be located within existing utility corridors adjacent to multiple existing transmission lines, the new line would be a permanent visual change to residents, recreational users, boaters, and other viewers because it would add transmission line structures that would be taller and different in appearance from adjacent transmission line structures. However, the new transmission line structures would be steel poles constructed of weathered steel, which is dull in finish and not reflective and the new conductors would initially be shiny, but would dull over time, so the line and new structures would be expected to generally blend in with existing lines.
- Throughout much of the City of Rock Island near the Douglas PUD Rapids Switchyard and along SR 28, views of the transmission line would be blocked by trees, houses, non-residential structures, or other infrastructure.
- Only about 0.4 mile of new unpaved access roads would be constructed.
- The addition of electrical equipment within the Rapids Switchyard and Columbia Substation would result in permanent visual changes to these facilities but the equipment that would be added is visually similar to existing equipment and all work would be done within the existing fences around the substation.

Cultural Resources: Impacts on cultural resources from West Route D-E would be low to moderate.

- All areas where construction is proposed were field surveyed to identify cultural resources and during transmission line design, transmission line structures and access roads were sited to avoid known cultural resource sites, except for one site which could not be avoided.
- One prehistoric site would be directly impacted by the installation of a transmission line structure but impacts to the site would be mitigated through implementing actions agreed upon by BPA and Douglas PUD, in consultation with the Washington State Historic Preservation Office and consulting tribes.
- It is not anticipated that the Proposed Action would affect the characteristics that make the BPA Columbia Substation eligible for listing in the National Register of Historic Places because although an additional bay would be added, the substation would retain its original function, appearance, and ownership.
- Mitigation measures would be implemented during construction to minimize the potential to impact cultural sites, including fencing or flagging cultural sites as areas to be avoided, maintaining construction limits greater than 100 feet away from cultural site boundaries where possible, minimizing the size of construction disturbance areas and removal of vegetation near cultural sites, and the use of cultural resource monitors in agreed upon locations.
- If previously undocumented cultural resources are inadvertently discovered and damaged or destroyed during project construction and maintenance, an Inadvertent Discovery Plan would be followed and mitigation would be implemented to address impacts.

Air Quality: Impacts on air quality from West Route D-E would be low to moderate.

- The operation of heavy equipment during construction would result in temporary increases of air pollutants (e.g. carbon monoxide, sulfur dioxides, nitrogen oxides, carbon dioxide, and volatile organic compounds) in localized work areas, but the minor increases in emissions are not anticipated to cause a violation of the National Ambient Air Quality Standards established under the Clean Air Act.
- Increases in dust and particulate levels from construction activities would be temporary, occur in localized areas, and not exceed air quality standards, and measures would be implemented to minimize dust and particulate generation including controlling dust during construction and locating staging areas in previously disturbed or graveled areas if feasible.
- Douglas PUD would work with the Washington state Department of Ecology to determine any special procedures to be followed when vehicles and construction equipment work in and traverse the silica fume waste area at the American Silicon Technologies plant site.
- During operation, the transmission line would emit limited amounts of ozone and oxides of nitrogen as a result of the corona effect but these substances would be released in quantities that generally are too small to be measured or to have an impact on animals or plants.

Climate Change: Impacts on climate change from West Route D-E would be low.

- During construction, greenhouse gas emissions, primarily in the form of carbon dioxide, nitrous oxides, and methane, would be below the Environmental Protection Agency's mandatory reporting threshold for large sources of greenhouse gases.
- Emissions of greenhouse gases from new equipment at Columbia Substation would be controlled by installing equipment with a SF6 gas leak rate that is no greater than 0.5 percent per year for the life of the breaker and by continuing BPA's SF6 monitoring process to calculate annual leak rates in compliance with EPA requirements.
- Total CO_2e emissions for the project including during construction and during the estimated 100-year-long operational life of the proposed transmission line would be approximately 3,707 metric tons, which is equivalent to the emissions generated by about 7 passenger vehicles per year, a low impact to climate change.
- Other measures would be implemented where feasible to minimize the generation of greenhouse gas emissions including encouraging carpooling among construction workers, locating staging areas as close to construction sites as practicable to minimize driving distances, and ensuring that all vehicles used on the project are maintained in good operating condition to minimize exhaust emissions.

Socioeconomics, Environmental Justice, and Public Services: Impacts on socioeconomics, environmental justice, and public services from West Route D-E would be low to moderate and some socioeconomic effects would be beneficial.

- Construction would not induce any permanent changes to the population in the project area because construction would only bring about 25 temporary jobs to the project area during the estimated 8- to 11-month construction period and existing temporary housing near the project would be sufficient to accommodate non-local workers.

- During construction, the local economy would experience temporary, beneficial impacts from local purchases of goods and services by workers and contractors and as a result of the possible hiring of a small number of local construction workers.
- The proposed transmission line would contribute to regional stability and economic growth by reliably meeting power demands and the long-term increase in service capacity on the Douglas PUD transmission grid would result in long-term economic benefits.
- The potential property value impacts on residential property crossed by or near the transmission line right-of-way would be low to moderate because of the temporary nature of any construction-related impacts and the small footprint of transmission line structures, and because landowners would be compensated for easements.
- Any disturbance of and possible interference with agricultural and ranching operations, including access, from construction and maintenance of the proposed transmission line would be minimal and temporary.
- The removal of about 0.5 acre of orchards for structure installation would constitute a minimal reduction in both the quantity of productive agricultural land as well as the annual crop production in the project area.
- Because farmers would be compensated for crop damage and easement acquisition, it is assumed that disturbance and removal of crops and trees would not have appreciably measurable impacts on agricultural incomes and property values.
- No disproportionately high and adverse effects on minority or low-income populations were identified.
- Construction activities would have a temporary and minimal, localized impact on public services including possible temporary delays of school buses, but construction would not disrupt the ability of emergency service personnel to operate, project water use would not be substantial enough to affect local supplies, and local waste disposal sites have adequate capacity for any waste materials generated by the project.

Noise: Noise impacts from West Route D-E would be low to moderate.

- Construction noise would result in a temporary increase in ambient noise for some sensitive noise receptors such as residences, but the duration of construction activities in any given location is expected to be relatively short (approximately 1 to 2 days) and construction would be limited to daylight hours.
- Noise from the use of helicopters to install conductors at transmission line structures would temporarily exceed noise thresholds at some residences near the transmission line right-of-way, but helicopters would not be in any given mile of the transmission line for more than one day, a moderate impact.
- To minimize noise generated by construction equipment, contractors would be required to have sound control devices installed on equipment powered by gasoline or diesel engines that are at least as effective as those originally provided by the manufacturer, to maintain all construction equipment in good condition, and to locate construction equipment as far away as is practicable from noise-sensitive land uses.

- A schedule of construction activities would be distributed to affected landowners to notify them when they could be affected by construction noise.
- Because the proposed transmission line would operate at 230-kV, corona-generated noise in areas with existing transmission lines is expected to be so low as to be unnoticeable, and in areas where there is no existing corona-generated noise, the new audible noise levels are expected to be below Washington State night-time noise limits for a new source.
- Transmission line maintenance activities would create infrequent and temporary noise that would not be expected to exceed state standards.

Public Health and Safety: Impacts on public health and safety from West Route D-E would be low to moderate.

- The transmission lines would be designed, constructed, and operated to meet the National Electrical Safety Code standards which provide safety requirements to prevent or reduce safety risks such as electrical shocks, including the proper clearances between transmission lines and the ground, roadways, and vegetation.
- Health and safety risks associated with the use of heavy equipment, vehicles and high-voltage equipment during transmission line construction, operation, and maintenance would be avoided or minimized by the implementation of site safety and traffic control plans and standard safety protocols and procedures.
- A site-specific Safety Plan, in compliance with state requirements, would be implemented and updated regularly and would include details on how to respond to emergency situations, specify how to manage hazardous materials, such as fuel and any toxic materials found in work sites, and include a fire prevention and suppression plan.
- Construction work areas would be secured at the end of each workday, as much as possible, to protect the general public and to safeguard equipment.
- Douglas PUD would ground fences and other metal structures on and near the right-of-way during construction to limit the potential for nuisance shocks.
- Construction traffic on the highways and roads in the project area could increase the risk of accidents, but vehicle speeds on unpaved roads and surfaces would be limited to 15 miles per hour, traffic control flaggers would be employed where needed, and signs would be posted warning of construction activity and merging traffic.
- Douglas PUD would work with the Washington Department of Ecology to determine any special procedures to be followed when vehicles and construction equipment work in and traverse the silica fume waste at the American Silicon Technologies plant site.
- Operation of the proposed transmission line would result in electric field levels that would be below the BPA guidelines of 9 kilovolt per meter (kV/m) within the right-of-way and 2.5 kV/m at the edge of the right-of-way, and only minimal increases in magnetic field levels on and at the edge of the right-of-way.
- During transmission line operation, interference with television or radio reception along the transmission right-of-way is not anticipated because it only occurs infrequently and digital

television technology is not affected, but in the event interference does occur, Douglas PUD would work with affected landowners to restore reception.

Floodplain Review: Consistent with 10 CFR Part 1022, BPA has reviewed West Route D-E for applicability of the floodplain review requirements under this regulation. Potential impacts on floodplains from West Route D-E are assessed in Section 3.9 of the final EA.

West Route D-E includes two crossings of the 100-year floodplain along the Columbia River. Water levels within the Columbia River floodplain in the project area are controlled by the elevation and operations of the Rock Island Dam. Transmission line structures and access roads for West Route D-E would not be located in the floodplain, and conductor pulling and tensioning also would not occur within the floodplain. The project also includes work in two existing substations that are not located within 100-year floodplains. There would be no vegetation removal in the floodplain. Accordingly, BPA has determined that the Proposed Action would not be located within the Columbia River 100-year floodplain and thus does not constitute a floodplain action within the meaning of 10 CFR Part 1022.

Determination: Based on the information in the final EA, as summarized here, BPA determines that the implementation of the West Route D-E of the Northern Mid-Columbia Joint Project is not a major federal action significantly affecting the quality of the human environment within the meaning of NEPA, 42 USC 4321 et seq. Therefore, an EIS will not be prepared and BPA is issuing this FONSI for West Route D-E.

Issued in Portland, Oregon.

/s/ F. Lorraine Bodi *March 4, 2016*
F. Lorraine Bodi Date
Vice President
Environment, Fish and Wildlife

MITIGATION ACTION PLAN
For the
Bonneville Power Administration
Northern Mid-Columbia Joint Project

This Mitigation Action Plan (MAP) is referenced in the Finding of No Significant Impact (FONSI) for the Bonneville Power Administration (BPA) Northern Mid-Columbia Joint Project (Joint Project or Proposed Action) (U.S. Department of Energy Environmental Assessment DOE/EA-1945, March 2016). Under the Proposed Action, BPA would provide partial funding for construction of a new 230-kV transmission line, and add equipment to BPA's existing Columbia Substation to interconnect the proposed line to the Federal Columbia River Transmission System (FCRTS). Douglas County PUD (DCPUD) would design, build, own, and operate the 230-kilovolt (kV) transmission line. Both Grant County Public Utility District (Grant PUD) and Chelan County Public Utility District (Chelan PUD) would also participate through providing some funding for the Joint Project.

This MAP is for the Proposed Action and includes all of the measures presented in the final Environmental Assessment (final EA) to mitigate adverse environmental impacts. BPA developed this MAP to reduce the potential for adverse impacts from the Joint Project regardless of their potential significance or lack thereof. Mitigation includes actions that were taken during the design phase to avoid or minimize adverse impacts. It also includes mitigation measures that will be implemented for the Joint Project prior to construction, during construction, and post-construction.

A construction contractor or a BPA construction crew will implement construction at the BPA Columbia Substation. A construction contractor will build the transmission line for Douglas PUD. To ensure that the construction contractors implement the mitigation measures that they are responsible for, the relevant portions of this MAP will be included in the Mitigation Implementation Tables (the directions to the contractors) for the Joint Project.

BPA is in the process of completing coordination and consultation with state and federal agencies and tribes. DCPUD will need to obtain required federal, state, and local permits prior to construction. Chapter 4, Environmental Consultation, Review, and Permit Requirements, of the EA describes the types of consultation and permits that are referenced in this MAP. Although some coordination and consultation is complete, some was ongoing at the time the MAP was finalized. Chapter 4, Environmental Consultation, Review, and Permit Requirements, of the EA describes the types of consultation and permits that are referenced in this MAP. Although the specific requirements of all permits and consultation are not listed in the MAP, the construction contractors, BPA, and DCPUD are required to follow the terms, conditions, and provisions of the various permits and consultations. Therefore, the requirements of permits and outcomes of consultation are incorporated into this MAP.

The MAP table below indicates which of the following person(s) are responsible for implementing each mitigation measure. The responsible persons are the:

- BPA Project Manager (BPAPM)
- BPA Contractor (BPAContractor)
- BPA Contracting Officer's Technical Representation (BPACOTR)
- BPA Environmental Protection Specialist from the Environmental Planning and Analysis Group (BPAEPS-EC)

- BPA Environmental Protection Specialist from the Pollution Prevention and Abatement Group (BPAEPS-EP)
- BPA Archeologist (BPAARCH)
- DCPUD Project Manager (DCPUDPM)
- DCPUD Contractor (DCPUDContractor)
- DCPUD Contracting Officer's Technical Representation (DCPUDCOTR)
- DCPUD Design Engineer (DCPUDDE)
- DCPUD Road Engineer (DCPUDRE)
- DCPUD Lands Specialist (DCPUDLS)
- DCPUD Public Affairs Specialist (DCPUDPAS)
- DCPUD Environmental Specialist (DCPUDES)
- DCPUD Cultural Specialist (DCPUDCS)
- DCPUD Vegetation Management (DCPUDVM)
- DCPUD Geotechnical Engineer (DCPUDGE)

If you have general questions about the Joint Project, contact the DCPUD Project Manager, Dennis Baker: direct telephone 509-881-2234, or e-mail dennisba@dcpud.org. You may also contact DCPUD's Property Supervisor, John Brown: direct telephone 509-881-2297, or e-mail JohnB@dcpud.org. You may also contact the BPA Project Manager, Alaric Hsu: toll-free telephone 800-282-3713, direct telephone 360-619-6331, or e-mail ahhsu@bpa.gov.

If you have questions about the MAP, contact the BPA Environmental Protection Specialist for the Joint Project environmental review, Kimberly St.Hilaire: toll-free telephone 800-282-3713, direct telephone 503-230-5361, or e-mail krsthilaire@bpa.gov.

If you have questions about the MAP during project implementation, contact the DCPUD Project Manager or the BPA Project Manager.

Mitigation Measures for the Northern Mid-Columbia Joint Project

Resource and Mitigation Measure	Implementation
LAND USE, RECREATION AND TRANSPORTATION	
Work with farmers during the transmission line design process to site transmission line structures in agricultural areas such that they minimize impacts to farm operations, where possible.	During project design (DCPUDDE, DCPUDRE, DCPUDGE, DCPUDES, BPAEPS-EC)
Develop and distribute a schedule of construction activities to potentially affected landowners along the transmission line corridor to inform residents when they may be affected by construction activities.	Prior to construction and during construction (DCPUDPM, BPAPM, DCPUDLS, DCPUDPAS, DCPUDPM, BPAPM, DCPUDLS, DCPUDPAS, DCPUDCOTR, BPACOTR, DCPUDContractor, BPAContractor)
Conduct a preconstruction public meeting and invite landowners to meet with contractors and Douglas PUD staff responsible for project implementation in order to receive information and discuss concerns.	Prior to construction (DCPUDPM, DCPUDLS, DCPUDPAS, DCPUDES, DCPUDCOTR, DCPUDContractor, BPAEPS-EP)
Provide appropriate contact information for contractor liaisons and Douglas PUD staff to local residents for any concerns or complaints during construction.	Prior to construction (DCPUDPM, DCPUDLS, DCPUDPAS)
Develop and distribute a schedule of construction activities to potentially affected farm operators along the transmission line corridor to allow planting, harvesting, or maintenance activities to be coordinated with construction and to owners/managers of potentially affected recreational facilities to allow the owners to advise visitors and appropriately schedule any events that could be adversely affected by construction activities.	During construction (DCPUDLS, DCPUDPAS, DCPUDCOTR, Contractor)
Develop and distribute a schedule of construction activities to potentially affected recreational facilities to allow the owners to advise visitors and appropriately schedule any events that could be adversely affected by construction activities.	During construction (DCPUDLS, DCPUDPAS, DCPUDCOTR, Contractor)
Keep construction activities and equipment clear of residential driveways, to the greatest extent possible.	During construction (DCPUDLS, DCPUDCOTR, DCPUDContractor)
Coordinate the routing and scheduling of construction traffic with WSDOT and County road staff to minimize interruptions to local traffic.	During construction (DCPUDLS, DCPUDPAS, DCPUDCOTR, DCPUDContractor)
Employ traffic control flaggers and post signs along roads warning of construction activity and merging traffic for temporary interruptions of traffic, where needed.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor)
Control dust during construction with water or other appropriate control methods, as needed.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)

Resource and Mitigation Measure	Implementation
Reseed disturbed areas after construction and regrading are complete at the appropriate time period for germination, using a native seed mix, a seed mix identified in the Stormwater Management Manual for Eastern Washington (Ecology 2004), or as recommended by Douglas PUD biologists, or as agreed upon with landowners for use on their property.	During construction (DCPUDES, BPAEPS-EC, BPAEPS-EP, DCPUDContractor)
Monitor seed germination and plant survival in reseeded areas until site stabilization is achieved; if vegetative cover is inadequate, implement contingency measures and reseed until adequate revegetation is reestablished on disturbed soils.	During and post construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
GEOLOGY AND SOILS	
Explain resource-related mitigation measures and permit conditions to the Contractors and inspectors during a preconstruction meeting covering environmental requirements	Prior to construction (BPAEPS-EP, DCPUDES)
Locate staging areas in previously disturbed or graveled areas to minimize disturbance to soil and vegetation, where possible.	During construction (DCPUDPM, DCPUDES, DCPUDCOTR, DCPUDContractor, BPAPM, BPAEPS-EP, BPACOTR, BPAContractor)
Minimize the size of construction disturbance areas and removal of vegetation within 200 feet of waterways, wetlands, and floodplains, to the greatest extent possible.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Conduct standard inspections for work occurring within inactive landslide zones (if present) during construction.	During construction (DCPUDPM, DCPUDGE, DCPUDCOTR, DCPUDContractor)
Address geotechnical issues, such as new and existing landslides, and potentially unstable slopes, if they arise during construction.	During construction (DCPUDPM, DCPUDGE, DCPUDCOTR, DCPUDContractor)
Delineate construction limits within 200 feet of streams, other waterbodies, wetlands, and floodplains; manage sediment as specified in the Stormwater Pollution Prevention Plan (SWPP Plan), with an approved method that meets the most recent version of Stormwater Management Manual for Eastern Washington (Ecology 2004) erosion and stormwater control BMPs to minimize or eliminate sediment discharge into waterways and wetlands, minimize the size of construction disturbance areas, and minimize removal of vegetation, to the greatest extent possible.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Inspect erosion and sediment controls periodically during construction, maintain them as needed to ensure their continued effectiveness, and where appropriate, remove them from the site when vegetation is reestablished and the site has been stabilized.	During construction and post construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Design, construct, and improve access roads to minimize drainage from the road surface directly into surface waters, size new and replacement culverts large enough to accommodate predicted flows, and size and space cross drains and water bars properly to accommodate flows and direct sediment-laden waters into vegetated areas.	During project design and during construction (DCPUDRE, DCPUDES, DCPUDCOTR, DCPUDContractor)

Resource and Mitigation Measure	Implementation
Reseed disturbed areas after construction and regrading are complete at the appropriate time period for germination, using a native seed mix, a seed mix identified in the Stormwater Management Manual for Eastern Washington (Ecology 2004), or as recommended by Douglas PUD biologists, or as agreed upon with landowners for use on their property.	During construction (DCPUDES, BPAEPS-EC, BPAEPS-EP, DCPUDContractor)
Monitor seed germination and plant survival in reseeded areas until site stabilization is achieved; if vegetative cover is inadequate, implement contingency measures and reseed until adequate revegetation is reestablished on disturbed soils.	During and post construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Inspect and maintain access roads, culverts, and other facilities after construction to ensure proper function and nominal erosion levels.	Post construction (DCPUDPM)
VEGETATION	
Avoid siting proposed transmission line structures and access roads within 200 feet of special-status plant populations during the design process, where possible.	During project design (DCPUDDE, DCPUDPM, DCPUDES, BPAEPS-EC)
Prior to construction, survey any areas for special-status plant species that were not previously surveyed due to lack of permission to enter and if federal-status plant species are found, conduct consultation with the USFWS; avoid or minimize impacts to non-federal status species, if found.	Prior to construction (DCPUDES, BPAEPS-EC, BPAEPS-EP)
Explain vegetation-related mitigation measures and permit conditions to the Contractors and inspectors during a preconstruction meeting covering environmental requirements.	Prior to construction (BPAEPS-EP, DCPUDES)
Locate staging areas in previously disturbed or graveled areas to minimize disturbance to soil and vegetation, where possible.	During construction (DCPUDPM, DCPUDES, DCPUDCOTR, DCPUDContractor, BPAPM, BPAEPS-EP, BPACOTR, BPAContractor)
Mark the boundaries of special-status plant populations in the field as “no entry” areas and keep construction disturbance more than 100 feet away, where possible.	Prior to construction and during construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Identify special-status plant populations, including a minimum 25-foot buffer, as sensitive areas to be avoided in construction documents and maps used by construction contractors.	Prior to construction (DCPUDES, BPAEPS-EC, BPAEPS-EP)
Inspect erosion and sediment controls in the immediate vicinity of known special-status plant populations, maintain them as needed to ensure their continued effectiveness, and remove them from the site when vegetation is reestablished and the site has been stabilized if not required to maintain stability.	During construction and post construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor
Minimize the size of construction disturbance areas and removal of vegetation, to the greatest extent possible.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Restrict construction activities to the area needed to work effectively in order to limit disturbance of native plant communities to the minimum amount necessary to prevent spread of weed species.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)

Resource and Mitigation Measure	Implementation
Cut or crush vegetation rather than blade in areas that would remain vegetated to increase the ability of native plants to recover.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Reduce the construction work area to the smallest area possible in identified moderate to high-quality shrub-steppe and lithosol areas.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Monitor and treat existing and new noxious weed infestations before and during construction and for at least three years after construction.	Prior to construction, during construction, and post construction (DCPUDES, DCPUDVM)
Use certified weed-free mulch, if mulch is used for erosion control.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Use local sources of rock for road construction and obtain road fill materials from weed-free quarries.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Air or water-pressure wash vehicles and other equipment that have been in weed infested areas at blow or wash stations prior to entry into work areas and as soon as possible after leaving the infested areas.	Prior to construction and during construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Equip all vehicles used in construction with basic fire-fighting equipment, including extinguishers and shovels to minimize the potential for fires and their spread.	Prior to and during construction (DCPUDCOTR, DCPUDContractor, BPA COTR, BPAContractor)
Reseed disturbed areas after construction and regrading are complete at the appropriate time period for germination, using a native seed mix, a seed mix identified in the Stormwater Management Manual for Eastern Washington (Ecology 2004), or as recommended by Douglas PUD biologists, or as agreed upon with landowners for use on their property.	During construction (DCPUDES, BPAEPS-EC, BPAEPS-EP, DCPUDContractor)
Monitor seed germination and plant survival in reseeded areas until site stabilization is achieved; if vegetative cover is inadequate, implement contingency measures and reseed until adequate revegetation is reestablished on disturbed soils.	During and post construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
FISH	
Avoid siting proposed transmission line structures and access roads within 200 feet of streams, wetlands, and floodplains during the design process, where possible.	During project design (DCPUDDE, DCPUDPM, DCPUDES, BPAEPS-EC)
Explain resource-related mitigation measures and permit conditions to the Contractors and inspectors during a preconstruction meeting covering environmental requirements.	Prior to construction (BPAEPS-EP, DCPUDES)
Delineate construction limits within 200 feet of waterways and minimize the size of construction disturbance areas within 200 feet of waterways, to the greatest extent possible.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Minimize the size of construction disturbance areas and removal of vegetation, to the greatest extent possible.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Minimize disturbance to waterways by installing signage, fences and flagging, where needed, to restrict vehicles and equipment to designated routes.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)

Resource and Mitigation Measure	Implementation
Conduct weed control in riparian areas using procedures that prevent the introduction of herbicides into aquatic areas, and use herbicides approved for use near aquatic areas when chemical control methods are used.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor, DCPUDVM)
Implement mitigation measures for all work conducted in or near fish habitat for federally listed species and in Essential Fish Habitat and conservation measures, as agreed upon in consultation with NMFS and USFWS.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
WILDLIFE	
Explain wildlife-related mitigation measures and permit conditions to the Contractors and inspectors during a preconstruction meeting covering environmental requirements.	Prior to construction (BPAEPS-EP, DCPUDES)
Delineate construction limits within 200 feet of streams, other waterbodies, wetlands, and floodplains; manage sediment as specified in the Stormwater Pollution Prevention Plan (SWPP Plan), with an approved method that meets the most recent version of Stormwater Management Manual for Eastern Washington (Ecology 2004) erosion and stormwater control BMPs to minimize or eliminate sediment discharge into waterways and wetlands, minimize the size of construction disturbance areas, and minimize removal of vegetation, to the greatest extent possible.	Prior to construction and during construction Place flagging, stacking, or fencing to identify streams, other waterbodies, wetlands, and floodplains within 200 feet of construction areas (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Restrict construction activities to the area needed to work effectively in order to limit disturbance of native plant communities to the minimum amount necessary to prevent spread of weed species.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Install spiral bird diverters or other appropriate marking device on conductor in areas with a higher potential for bird collisions.	During construction (DCPUDDE, DCPUDES, BPAEPS-EC, (DCPUDCOTR, DCPUDContractor)
Develop and implement a project-specific bird and bat conservation plan including information on Birds of Conservation Concern and eagles.	Prior to construction and during construction (DCPUDES, BPAEPS-EC, BPAEPS-EP, (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Avoid construction at the Columbia River crossings from November 1 to March 31, or restrict activity to one hour after sunrise until one hour before sunset for wintering bald eagles.	During construction (DCPUDPM, DCPUDES, DCPUDCOTR, DCPUDContractor)
Avoid construction activities within 0.6 mile of any active raptor nest during the raptor nesting season from March 1 to August 15 for most raptors and from February 15 to July 15 for golden eagles.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Obtain permits needed to disturb or move nests during the implementation of the Joint Project.	Prior to construction and during construction (DCPUDES, BPAEPS-EP)
Avoid construction activities within PHS-designated big game winter range during the winter range period from November 1 through March 31, if possible.	During construction (DCPUDES, BPAEPS-EP, DCPUDPM, DCPUDCOTR)

Resource and Mitigation Measure	Implementation
Conduct tree removal, other than emergency tree removal, between August 31 and January 31 to avoid nesting season impacts.	During construction and post construction (DCPUDES, DCPUDVM, DCPUDCOTR)
Install gates across access roads in wildlife habitat where permitted by landowners or land managing agencies to limit vehicular use of new access roads.	During construction (DCPUDRE, DCPUDPM, DCPUDCOTR, DCPUDContractor)
Restrict speed for construction vehicles on unpaved access roads to no greater than 15 miles per hour to minimize dust.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
WATER RESOURCES, WATER QUALITY, WETLANDS, FLOODPLAINS	
Avoid siting proposed transmission line structures and access roads within 200 feet of streams, wetlands, and floodplains during the design process, where possible.	During project design (DCPUDDE, DCPUDPM, DCPUDES, BPAEPS-EC)
Explain water quality, wetland, and floodplain- related permit conditions, best management practices, and mitigation measures to the Contractors and inspectors during a preconstruction meeting covering environmental requirements.	Prior to construction (BPAEPS-EP, DCPUDES)
Locate staging areas in previously disturbed or graveled areas at least 200 feet from waterways and wetlands and outside of floodplains.	During construction (DCPUDPM, DCPUDES, DCPUDCOTR, DCPUDContractor, BPAPM, BPAEPS-EP, BPACOTR, BPAContractor)
Delineate construction limits within 200 feet of streams, other waterbodies, wetlands, and floodplains; manage sediment as specified in the Stormwater Pollution Prevention Plan (SWPP Plan), with an approved method that meets the most recent version of *Stormwater Management Manual for Eastern Washington* (Ecology 2004) erosion and stormwater control BMPs to minimize or eliminate sediment discharge into waterways and wetlands, minimize the size of construction disturbance areas, and minimize removal of vegetation, to the greatest extent possible.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Inspect erosion and sediment controls periodically during construction, maintain them as needed to ensure their continued effectiveness, and where appropriate, remove them from the site when vegetation is reestablished and the site has been stabilized.	During construction and post construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Design, construct, and improve access roads to minimize drainage from the road surface directly into surface waters, size new and replacement culverts large enough to accommodate predicted flows, and size and space cross drains and water bars properly to accommodate flows and direct sediment-laden waters into vegetated areas.	During project design and during construction (DCPUDRE, DCPUDES, DCPUDCOTR, DCPUDContractor)
Minimize the size of construction disturbance areas and removal of vegetation within 200 feet of waterways, wetlands, and floodplains, to the greatest extent possible.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Minimize disturbance to waterways by installing signage, fences and flagging, where needed, to restrict vehicles and equipment to designated routes.	Prior to construction during construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)

Resource and Mitigation Measure	Implementation
Install erosion and stormwater control BMPs to eliminate sediment discharge into waterways and inspect erosion and sediment controls during construction, maintain them as needed to ensure their continued effectiveness, and if appropriate remove them from the site when vegetation is reestablished and the site has been stabilized.	During construction and post construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor
Store, fuel, and maintain vehicles and equipment in designated vehicle staging areas located a minimum of 150 feet away from streams, waterbodies, and wetlands.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Implement a spill prevention and control plan that requires storage of fuel and other potential pollutants in a secure location at least 150 feet from waterbodies, floodplains, and wetlands; that ensures that spill containment and cleanup materials are readily available on site and restocked promptly after use; and ensures that, in the event of a spill, contractors are trained to immediately contain the spill, eliminate the source, and deploy appropriate measures to clean and dispose of spilled materials in accordance with federal, state, and local regulations.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUD Contractor, BPACOTR, BPAContractor)
Restrict refueling and servicing operations to locations where any spilled material cannot enter natural or human-made drainage conveyances (e.g., ditches, catch basins, ponds, wetlands, streams, and pipes), at least 150 feet from streams, waterbodies, and wetlands; use pumps, funnels, absorbent pads, and drip pans when fueling or servicing vehicles.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUD Contractor, BPACOTR, BPAContractor)
Prohibit deposition of excavated material into waterbodies and wetlands during construction, except as authorized by federal, state, or local permits.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDRE, DCPUDContractor)
Locate tensioning sites at least 200 feet away from surface waters, including wetlands, and outside of 100-year floodplains, if possible.	During construction Contractor will obtain DCPUD approval for each tensioning site location (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Revegetate disturbed areas within 200 feet of waterbodies and wetlands and within floodplains using native species for revegetation and control noxious weeds.	During and post construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Inspect and maintain access roads, culverts, and other facilities after construction to ensure proper function and nominal erosion levels.	Post construction (DCPUDES, DCPUDPM)
Conduct weed control in riparian areas using procedures that prevent the introduction of herbicides into aquatic areas, and use herbicides approved for use near aquatic areas when chemical control methods are used.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor, DCPUDVM)
VISUAL QUALITY	
Schedule all construction work during daylight hours to avoid noise and the use of nighttime illumination of work areas.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor, BPAPM, BPACOTR, BPAContractor)
Use water trucks or other appropriate methods to control dust during construction, as needed.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)

Resource and Mitigation Measure	Implementation
Re-grade and re-seed disturbed areas after construction is completed.	During and post construction (DCPUDES, BPAEPS-EC, BPAEPS-EP, DCPUDContractor)
CULTURAL RESOURCES	
Avoid siting new structures and access roads within 200 feet of cultural resources during the design process, where possible.	During project design (BPAARCH, DCPUDCS, DCPUDDE, DCPUDRE)
Prior to construction, survey and identify cultural resources in any areas that were not previously surveyed due to lack of permission to enter and conduct consultation under the National Historic Preservation Act on any cultural resources that are identified.	Prior to construction (DCPUDCS, BPAARCH)
Maintain construction limits greater than 100 feet away from site boundaries where possible, through fencing or flagging as an area to be avoided.	During construction (DCPUDCS, BPAARCH)
Depict cultural sites in construction documents and on construction maps as sensitive resources to be avoided during construction.	Prior to construction (DCPUDCS, BPAARCH, DCPUDES)
Explain cultural resource related mitigation measures to construction contractors and inspectors, including the field marking for avoidance, during preconstruction meetings covering environmental requirements.	Prior to construction (BPAARCH, DCPUDCS)
Minimize the size of construction disturbance areas and removal of vegetation near cultural resource sites, to the greatest extent possible.	During construction (DCPUDCS, DCPUDCOTR, DCPUDContractor)
Implement an Inadvertent Discovery Plan that details crew member responsibilities for reporting in the event of a discovery during construction; require work to stop immediately and notification of local law enforcement officials (as required), appropriate Douglas PUD and BPA personnel, the Washington SHPO, and affected tribes if cultural resources, either archaeological or historical materials, or human remains are discovered during construction activities.	During construction Implement the Inadvertent Discovery Plan during construction (DCPUDCS, BPAARCH, DCPUDCOTR, DCPUDContractor)
Prepare and implement a mitigation plan for unavoidable adverse impacts on cultural resources eligible for listing in the National Register in consultation with the WA SHPO and consulting tribes, including the use of cultural resource monitors in agreed upon locations.	Prior to construction and during construction Ensure mitigation is implemented during construction as appropriate (DCPUDCS, BPAARCH, BPAEPS-EP, DCPUDES, DCPUDCOTR, DCPUDContractor)
AIR QUALITY	
Restrict speed for construction vehicles on unpaved access roads to no greater than 15 miles per hour to minimize dust.	During construction DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Control dust during construction with water or other appropriate control methods, as needed.	During construction (DCPUDES, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)
Require that all engines in vehicles used for construction and operation and maintenance are maintained in good operating condition to minimize exhaust emissions.	During construction (DCPUDCOTR, DCPUDContractor, BPACOTR, BPAContractor)
CLIMATE CHANGE	

Resource and Mitigation Measure	Implementation
For BPA substation work, install equipment with a SF6 gas leak rate that is no greater than 0.5% per year for the life of the breaker.	During construction (BPA PM)
For BPA substation work, continue BPA's SF6 monitoring process to calculate an annual leak rate of substation equipment in compliance with EPA requirements.	Post construction (BPAPM, BPAEPS-EP)
Encourage carpooling and the use of shuttle vans among construction workers to minimize construction-related traffic and associated emissions.	During construction (DCPUDES, DCPUDCOTR, DCPUDContractor)
Locate staging areas as close to construction sites as practicable to minimize driving distances between staging areas and construction sites.	During construction (DCPUDPM, DCPUDES, DCPUDCOTR, DCPUDContractor, BPAPM, BPAEPS-EP, BPACOTR, BPAContractor)
Dispose of wood poles in the local area where practicable.	During construction and post construction (DCPUDPM, DCPUDCOTR, DCPUDContractor)
Use local sources of rock for road construction where practicable.	During construction (DCPUDPM, DCPUDES, DCPUDCOTR, DCPUDContractor)
Locate staging areas in previously disturbed or graveled areas to minimize soil and vegetation disturbance, where possible.	During construction (DCPUDPM, DCPUDES, DCPUDCOTR, DCPUDContractor, BPAPM, BPAEPS-EP, BPACOTR, BPAContractor)
Encourage the use of the proper size of equipment for the job to maximize energy efficiency.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor)
Recycle or salvage nonhazardous construction and demolition debris, where practicable.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor)
SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND PUBLIC SERVICES	
Douglas PUD would acquire the necessary real estate property rights for construction, installation, and maintenance of the transmission line.	Prior to construction (DCPUDLS)
Develop and distribute a schedule of construction activities to potentially affected landowners along the transmission line corridor to inform residents when they may be affected by construction activities.	Prior to construction and during construction (DCPUDPM, BPAPM, DCPUDLS, DCPUDPAS, DCPUDPM, BPAPM, DCPUDLS, DCPUDPAS, DCPUDCOTR, BPACOTR, DCPUDContractor, BPAContractor)
Conduct a preconstruction public meeting and invite landowners to meet with contractors and Douglas PUD staff responsible for project implementation in order to receive information and discuss concerns.	Prior to construction (DCPUDPM, DCPUDLS, DCPUDPAS, DCPUDES, DCPUDCOTR, DCPUDContractor, BPAEPS-EP)

Resource and Mitigation Measure	Implementation
Provide appropriate contact information for contractor liaisons and Douglas PUD staff to local residents for any concerns or complaints during construction.	Prior to construction (DCPUDPM, DCPUDLS, DCPUDPAS)
Develop and distribute a schedule of construction activities to potentially affected farm operators along the transmission line corridor to allow planting, harvesting, or maintenance activities to be coordinated with construction.	During construction (DCPUDLS, DCPUDPAS, DCPUDCOTR, Contractor)
Develop and distribute a schedule of construction activities to potentially affected recreational facilities to allow the owners to advise visitors and appropriately schedule any events that could be adversely affected by construction activities.	During construction (DCPUDLS, DCPUDPAS, DCPUDCOTR, Contractor)
Keep construction activities and equipment clear of residential driveways, to the greatest extent possible.	During construction (DCPUDLS, DCPUDCOTR, DCPUDContractor)
Coordinate the routing and scheduling of construction traffic with WSDOT and County road staff to minimize interruptions to local traffic.	During construction (DCPUDLS, DCPUDPAS, DCPUDCOTR, DCPUDContractor)
Employ traffic control flaggers and post signs along roads warning of construction activity and merging traffic for temporary interruptions of traffic, where needed.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor)
NOISE	
Employ a lands liaison who would be available to provide information, answer questions, and address concerns during project construction.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor)
Schedule all construction work during daylight hours.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor, BPAPM, BPACOTR, BPAContractor)
Locate construction equipment as far away from noise-sensitive uses as possible.	During construction (DCPUDCOTR, DCPUDContractor)
Require sound control devices on all construction equipment powered by gasoline or diesel engines that are at least as effective as those originally provided by the manufacturer.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor)
PUBLIC HEALTH AND SAFETY	
Design, construct, and operate the new transmission line to meet the National Electrical Safety Code (NESC).	During project design, during construction and post construction (DCPUDDE, DCPUDPM, BPAPM)
Site the transmission line to avoid close proximity to residences, as much as possible.	During project design (DCPUDDE, DCPUDPM)
Employ a lands liaison who would be available to provide information, answer questions, and address concerns during project construction.	During construction (DCPUDPM, DCPUDLS, DCPUDPAS, BPAEPS-EP, DCPUDCOTR, DCPUDContractor)

Resource and Mitigation Measure	Implementation
Prepare a safety plan in compliance with state requirements before starting construction; specify how to manage and report hazardous materials, such as fuel, and any toxic materials found in work sites; include a fire prevention and suppression plan and detail how to respond to emergency situations; keep the safety plan on site during construction, and maintain and update, as needed.	Prior to construction and during construction (DCPUDPM, DCPUDCOTR, DCPUDContractor, BPAPM, BPACOTR, BPAContractor)
Contact Ecology to determine if any special procedures would need to be followed when vehicles and construction equipment traverse silica fume waste in the former American Silicon Technologies plant.	Prior to and during construction (DCPUDCOTR, DCPUDContractor)
Require the construction contractor to hold safety meetings with workers at the start of each work week to review potential safety issues and concerns.	Prior to and during construction (DCPUDCOTR, DCPUDContractor, BPACOTR, BPAContractor)
Require safety meetings attended by the Douglas PUD construction contractor and Douglas PUD staff to discuss safety issues for Douglas PUD work and for the BPA construction contractor and BPA staff for work at the Columbia Substation.	During construction (DCPUDCOTR, DCPUDContractor, BPACOTR, BPAContractor)
Employ traffic control flaggers and post signs along roads warning of construction activity and merging traffic for temporary interruptions of traffic, where needed.	During construction (DCPUDPM, DCPUDCOTR, DCPUDContractor)
Secure the work area at the end of each workday, as much as possible, to protect the general public and to safeguard equipment.	During construction (DCPUDPM, DCPUDES, DCPUDCOTR, DCPUDContractor, BPAEPS-EP, BPAPM, BPACOTR, BPAContractor)
Install temporary guard structures (wood pole structures) over local utility lines and county roads, where needed, to ensure continued service and safe passage when the conductor line is installed, or if guard structures are not used along some county roadways, employ flaggers to ensure safe passage.	During construction (DCPUDES, DCPUDPM, DCPUDCOTR, DCPUDContractor)
Ground fences and other metal structures on and near the right-of-way during construction to limit the potential for nuisance shocks.	During construction (DCPUDCOTR, DCPUDContractor)
Take appropriate safety measures when blasting consistent with state and local codes and regulations, and secure or remove all explosives from the work site at the end of each workday.	(DCPUDES, DCPUDPM, DCPUDCOTR, DCPUDContractor)
Install implosive fittings used to connect the conductors in a way that minimizes potential health and safety risks.	(DCPUDES, DCPUDPM, DCPUDCOTR, DCPUDContractor)
Restore reception quality if radio or television interference occurs as a result of EMI produced during operation of the transmission line.	(DCPUDES, DCPUDPM)
Carry fire suppression equipment including (but not limited to) shovels and fire extinguishers on all operation and maintenance vehicles.	(DCPUDES, DCPUDPM, DCPUDCOTR, DCPUDContractor)
Coordinate with affected landowners concerning plans for effective control of noxious weeds regarding herbicide use during vegetation management.	(DCPUDES, DCPUDVM, DCPUDContractor)

References

Washington State Department of Ecology. 2004. *Stormwater Management Manual for Eastern Washington*. Publication #04-10-076.