Categorical Exclusion Determination

Bonneville Power Administration
Department of Energy

Proposed Action: Pearl-Sherwood 230-kV No. 1 and No. 2 Transmission Line and Substation Project

Project No.: P04974 / 20240178

Project Manager: Matt Joerin, TEPP-TPP-1

Location: Clackamas County and Washington County, Oregon

Categorical Exclusion Applied (from Subpart D, 10 C.F.R. Part 1021): B1.7 - Electrical Equipment; B4.6 - Additions and modifications to transmission facilities; B4.11 - Electric power substations and interconnection facilities; B4.9 - Multiple use of powerline rights-of-way

Description of the Proposed Action

BPA proposes to reconfigure bays and install new equipment inside the existing BPA Pearl Substation in Sherwood, Oregon. The proposed work would accommodate a request from Portland General Electric (PGE) to interconnect a new PGE-owned and operated 230-kilovolt (kV) transmission line at Pearl Substation. BPA would need to modify the existing BPA owned and operated Pearl-Sherwood No. 1 and No. 2 230-kV transmission lines, removing overhead jumpers and adding new structures on BPA property to re-terminate the separate lines in different bays inside Pearl Substation. BPA would also grant PGE an easement on BPA fee-owned property for the PGE transmission line. Also at Pearl Substation, BPA would replace an existing 500-kV transformer, upgrade the oil containment system, and adjust the exterior fence on the north side of the yard, a minor expansion of the gravel electrical yard. All proposed work occurs on BPA fee-owned property or within BPA transmission line right-of-way (ROW).

Work areas for the project would include areas for new transmission line structures, structure replacements, pulling and tensioning sites, access roads, substation yard expansion, and temporary staging areas for construction.

Transmission Line Work

To accommodate the new PGE line point of interconnection, BPA would reconfigure the existing Pearl-Sherwood No. 1 and No. 2 lines outside of Pearl Substation to re-terminate in new bays inside the substation yard. Re-configuring the lines outside the substation would require four new wood-pole, H-frame transmission line structures and short re-routed sections of transmission line, approximately 370 feet and 420 feet, respectively, on BPA property.

The work on Pearl-Sherwood No. 1 line would remove and replace an existing 3-pole H-frame wood structure (1/1) at a new location 135 feet west of existing. A new wood pole H-frame structure (1/1A) would be installed between structure 1/1 and the substation. On the Pearl-Sherwood No. 2 line, the existing H-frame structure 1/1 would be removed and relocated north of the substation boundary. Access to perform the transmission line work at Pearl Substation would require BPA to improve about 800 feet of gravel access road from SW Ridder Road to the north side of the substation on BPA property.

As a part of the overall project, BPA would remove existing jumpers that connect the Pearl-Sherwood No. 1 and No. 2 conductors at 2/6 and 4/3 and construct a new steel monopole structure outside of PGE's Sherwood Substation (6/1A). Removal of the jumpers and the new structure would allow BPA to operate the 230-kV lines separately, i.e., have an outage on one circuit while the other line stays energized, which is not possible in the current configuration. Currently, the BPA Pearl-Sherwood No. 1 and No. 2 lines are supported on a double-circuit tower (6/1) that would be modified to support the No.1 line only. The new steel monopole at 6/1A would support the Pearl-Sherwood No.2 line before the final span into the PGE owned and operated Sherwood substation. The new steel structure 6/1A would be on a concrete drilled pier foundation in the ground and require excavating a 11-12-foot diameter hole down to about 40-feet deep. Four anchors would also be removed from the existing 2-pole steel structure 6/1 and three new anchors would be installed. The total estimated disturbance acreage for transmission line work areas, pulling and tensioning sites, access roads, and staging areas would be up to 4 acres.

PGE would construct, own, and operate their new 230-kV transmission line, called the PGE McLoughlin-Sherwood line, up to the final overhead span into the new point of interconnection in bay 22 inside Pearl Substation. PGE has an existing transmission line and easement on the BPA Pearl Substation parcel; however, BPA would need to review and issue a Land Use Agreement to PGE to construct, operate, and maintain the new PGE line on BPA property. The portion of the new overhead 230-kV PGE line on BPA property would be about 300 feet long, requiring PGE to construct two new transmission line structures. The new PGE line and easement on BPA property would require vegetation management to clear space for operating the new line. BPA would perform the vegetation management prior to PGE constructing their new line, permanently clearing tall growing vegetation including the removal of 18 Douglas fir trees greater than 14 inches diameter at breast height (DBH).

Substation Layout and Equipment Modifications

Proposed actions at Pearl Substation are needed to prevent thermal overloads in the event of a Pearl-Sherwood No. 1 or No. 2 230-kV line outage, to accommodate transmission line reconfiguration, update the oil containment system, and to build out a new bay 22 for the new PGE line point of interconnection. Equipment upgrades in multiple bays would include removal and replacement of 230-kV electrical equipment including circuit breakers, disconnect switches, current transformers, surge arresters, and voltage transformers. In the 500kV yard, the project would replace an existing transformer bank along with new oil containment, new station service panels, and other associated equipment upgrades. Bus, line risers, and footings affected by equipment replacement would be installed, removed, and replaced, in accordance with current BPA standards.

A new oil containment system and modifications to the existing oil containment system would be designed to accommodate new oil-filled transformer and equipment upgrades in the Pearl Substation yard. Modifications include four new oil containment liners, up to five new vaults, and new and reconfigured piping to the existing stormwater drainage system. The oil containment

vaults are each 12-feet tall, requiring excavating up to 18-feet deep, which require significant excavation inside the yard to install and backfill.

The modifications to the substation layout would require an expansion of the Pearl Substation yard by approximately 2,800 square feet (less than 0.1 acre). BPA would expand the yard by removing and replacing a 400-foot segment of the exterior fence, moving it about 40 feet to the north. The expanded portion of the yard would be in-kind to the existing substation facility and would be rocked and graded to match the existing facility.

Metering, relays and other electronic communication equipment would be upgraded or replaced inside the existing substation control house. In addition, a new in-ground conduit with fiber optic cable would be installed inside the yard from the control house to the relay house adding an additional 72-count fiber path. The new fiber optic conduit would be trenched approximately 2 to 4 feet below ground surface.

The ground disturbance for new and replaced equipment and footings would occur in the previously disturbed gravel yard at Pearl Substation, along with expanding the yard on the north side. Footing depths range from 1- to 10-feet deep, with oil containment vaults requiring excavation up to 18-feet deep. Disturbance areas and equipment additions inside Pearl Substation would require select backfill, new yard rock, and final grading. The proposed project actions would occur on BPA fee-owned property and within existing transmission line ROW easements; no new land rights acquisition is required for the project.

The Federal Columbia River Transmission System Act directs BPA to construct improvements, additions, and replacements to its transmission system that are necessary to maintain electrical stability and reliability, as well as to provide service to BPA's customers (16 United States Code [U.S.C] § 838b(b-d)).

Findings: In accordance with Section 1021.410(b) of the Department of Energy's (DOE) National Environmental Policy Act (NEPA) Regulations (57 FR 15144, Apr. 24, 1992, as amended at 61 FR 36221-36243, Jul. 9, 1996; 61 FR 64608, Dec. 6, 1996, 76 FR 63764, Nov. 14, 2011), BPA has determined that the proposed action:

1) fits within a class of actions listed in Appendix B of 10 CFR 1021, Subpart D (see attached Environmental Checklist);
2) does not present any extraordinary circumstances that may affect the significance of the environmental effects of the proposal; and
3) has not been segmented to meet the definition of a categorical exclusion.

Based on these determinations, BPA finds that the proposed action is categorically excluded from further NEPA review.[1]

[1] BPA is aware of the November 12, 2024, decision in Marin Audubon Society v. Federal Aviation Administration, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality regulations implementing NEPA are not judicially enforceable or binding on this agency action, BPA has nonetheless elected to follow those regulations at 40 Code Federal Regulations (C.F.R.) §§ 1500– 1508, in addition to the US Department of Energy's NEPA implementing procedures at 10 C.F.R. Part § 1021, to meet the agency's obligations under NEPA, 42 U.S.C. §§ 4321 et seq.

JEREMY DOSCHKA

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Jeremy Doschka
Environmental Protection Specialist

Concur:

KATEY GRANGE

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Katey C. Grange
NEPA Compliance Officer

Attachment(s): Environmental Checklist

Categorical Exclusion Environmental Checklist

This checklist documents environmental considerations for the proposed project and explains why the project would not have the potential to cause significant impacts on environmentally sensitive resources and would meet other integral elements of the applied categorical exclusion.

Proposed Action: Pearl-Sherwood 230-kV No. 1 and No. 2 Transmission Line and Substation Project

Project Site Description:

The project site and work areas would occur at the BPA Pearl Substation, surrounding property, and along the existing BPA Pearl-Sherwood No.1 and No.2 230-kV transmission lines. Pearl Substation is located in the City of Wilsonville, Clackamas County, Oregon, west of Interstate 5 and south of SW Ridder Road. Work areas associated with the transmission line activities would occur intermittently along a 6-mile-long corridor starting at the Pearl Substation and ending near the PGE-owned Sherwood Substation. The PGE-owned Sherwood Substation is located near the intersection of highway OR-99W and SW Tualatin-Sherwood Road in the City of Sherwood, Washington County, Oregon.

The lands within and adjacent to Pearl Substation have been extensively disturbed by the development of the substation in 1968. The corridor currently occupied by the Pearl-Sherwood No. 1 and No. 2 transmission lines was originally developed in late 1930s and expanded in the 1960s. The Pearl-Sherwood lines were built within this existing, previously disturbed and maintained corridor in the late 1990s and energized in 1998. The surrounding area is moderately to highly disturbed and includes industrial, commercial, and residential developments, along with major highways and roadways associated with the cities of Wilsonville and Sherwood. Most of these landscapes, including the BPA ROW corridor, are managed landscapes that contain native, non-native, and invasive vegetation common to the Willamette Valley.

Evaluation of Potential Impacts to Environmental Resources

1. Historic and Cultural Resources

Potential for Significance: No with Conditions

Explanation:

Archaeological and historic built surveys were conducted within the area of potential effect. The surveys identified one new archeological resource that is not eligible for listing in the National Register of Historic Places (NRHP) and 17 historic built environment resources, of which 12 are eligible for listing in the NRHP. The proposed project would not impact the eligible resources identified during the survey. Therefore, BPA determined on December 16, 2024, that the proposed project would result in no adverse effect to historic properties (BPA CR Project No.: OR 2023 092; SHPO Case No. 24-1714). A concurrence letter was received from the Oregon SHPO on January 16, 2025. No other comments were received.

Notes:

- Treat potential discoveries of archaeological material with BPA's Post Review Discovery Procedure guidelines.

2. Geology and Soils

Potential for Significance: No with Conditions

Explanation:

The general project area is relatively flat. Ground disturbance in transmission line work areas would be limited excavation required to install new wood pole structures, concrete footings, and access road maintenance or installation. The substation work would require excavation and ground disturbance inside the previously disturbed substation yard, as well as site preparation, vegetation removal, grading, and permanent conversion of a 2,800-square-foot area to expand the rocked electrical yard. Stabilization of disturbed ground and exposed soils would be in accordance with BMPs outlined in the Erosion Control and Sedimentation Plan (ECSP). Clean spoils generated during project activities would be spread, contoured, and stabilized. Any excess spoils would be hauled offsite and disposed of at an approved disposal facility.

Notes:

- Implement the ECSP.
- Upon construction completion, disturbed soils would be regraded to pre-construction conditions and hydroseeded using an upland, pollinator-supporting native species seed mix.
- Chipped material from brush and tree removal should be spread in areas of ground disturbance outside the substation yard, not to exceed a depth of 6 inches.
- Spill containment and cleanup materials shall be stored in construction equipment and work sites.

3. Plants (including Federal/state special-status species and habitats)

Potential for Significance: No

Explanation:

Most of the project activities would occur in previously disturbed areas maintained for low-growing vegetation, including the transmission line ROW corridors and Pearl Substation parcel. The rocked substation yard is maintained free of vegetation. The project would expand the existing substation yard by 2,800 square feet, permanently removing any plants and vegetation and converting it to a rocked electrical yard. The project would also remove eighteen Douglas fir trees and clear understory brush on BPA property for t PGE to construct and operate their new transmission line. An official ESA species list from USFWS generated on February 3, 2025, identified Kincaid's lupine *(Lupinus sulphureus ssp. kincaidii*) and Willamette daisy (*Erigeron decumbens*) as having potential to occur in the project area. A protected species habitat reconnaissance was conducted on September 30, 2024, and no protected plant species or potential habitats were identified within the project work areas, including the substation expansion area. Existing vegetation within project work areas is comprised of a mix of native and non-native species and project construction would not cause a significant impact to the viability of these species in the landscape or the wildlife that may use them. No ESA-listed or special-status plants would be impacted by the proposed action.

4. Wildlife (including Federal/state special-status species and habitats)

Potential for Significance: No

Explanation:

A desktop review and field survey were performed to evaluate the project work areas for wildlife use and habitat. The official ESA species list from USFWS, generated on February 3, 2025, identified seven wildlife species with a federal listing status that have potential to occur in the project area. The list included California condor (*Gymnogyps californianus*; experimental

population), northern spotted owl (*Strix occidentalis*), streaked horned lark (*Eremophila alpestris strigata*), northwestern pond turtle (*Actinemys marmorata*), Fender's blue butterfly (*Icaricia icarioides fenderi*), monarch butterfly (*Danaus plexippus*) and Suckley's cuckoo bumble bee (*Bombus suckleyi*). The survey of the project work areas included habitat assessment and nest surveys of the Douglas fir trees that would be removed during vegetation management, and surrounding project work areas. No bird nests, avian sitings, or other evidence of bird species or habitats was observed. No other potential wildlife habitats were identified during the survey of the project work areas or lands immediately adjacent. No ESA-listed or special-status species were identified that may be impacted by the proposed action. Therefore, the proposed action would have no effect on ESA-listed threatened, endangered, or proposed species; designated or proposed critical habitat; candidate species; state special-status species of concern; or priority habitats. Minor increases in noise and human presence during construction could have the potential to affect wildlife in proximity of the site; however, these impacts would be temporary and construction activities would not substantially change the character of the site.

5. Water Bodies, Floodplains, and Fish (including Federal/state special-status species, ESUs, and habitats)

Potential for Significance: No with Conditions

Explanation:

The project work areas are generally in an upland area. The closest water body to a project work area is Tapman Creek, located roughly 150 feet east of the Pearl Substation and outside designated work areas. The Coffee Lake Creek Wetlands, a large wetland complex associated with Coffee Lake and Rock creeks are located roughly 1,000 to 3,000 feet west and parallel to the Pearl-Sherwood transmission line corridor. The Oregon Department of Fish and Wildlife reports the presence of resident coastal cutthroat trout (*Oncorhynchus clarkii clarkii*) within the creek, but no aquatic species were observed during wetland and habitat surveys conducted in September 2024. The oil containment liner, conveyances, catch basins, vaults, and manual shut-off valve and outfall would be designed to BPA standards and are a typical industry requirement to avoid and minimize oil releases outside of a substation yard. Mapped floodplain associated with Rock Creek, Coffee Lake Creek, and the Coffee Lake Creek Wetlands occur adjacent to the project. The wetlands and floodplain are outside BPA ROW and west of the existing Pearl-Sherwood No. 1 and No. 2 lines and would not be impacted by project activities due to the implementation of erosion control measures. Therefore, the proposed action would not impact water bodies and floodplains and would have no effect on special-status fish species or habitats.

Notes:

- Implement the ECSP.
- Standard erosion control measures and construction best management practices (BMPs) should be implemented to prevent any potential sediment migration off site.
- Any excess spoils generated during project activities shall be hauled off site for disposal.

6. Wetlands

Potential for Significance: No with Conditions

Explanation:

A wetlands survey was performed to confirm on site conditions and boundaries of wetlands and waters on September 20, 2024. One 0.07-acre riverine wetland associated with Tapman Creek was delineated in the northeast corner of the Pearl Substation parcel on BPA fee-owned land but outside proposed work areas. The proposed project does not require work in wetlands or waters and would avoid any impact to the wetland and Tapman Creek with the implementation of BMPs. Therefore, the proposed action would have no impact wetlands.

Notes:

- The wetland boundary should be identified on project maps and associated information for construction.
- A ECSP would be developed for the project and would identify a wetland protection area.

7. Groundwater and Aquifers

Potential for Significance: No with Conditions

Explanation:

Well logs from an abandoned well on the BPA substation property indicate static water level is 90 feet below ground surface. Excavation depths related to project work would not exceed 20 feet below ground surface; therefore, excavation is not anticipated to reach groundwater or aquifer depths. Well logs from the vicinity near structure 6/1 indicate static water levels as shallow as 16 feet below ground surface. Therefore, the site-specific groundwater level may be encountered during the installation of the footing for the new steel monopole 6/1A. Construction crews would use BMPs during construction to avoid potential for spills or contamination from construction materials that could impact groundwater. The single new project structure footing installation would not have the potential for significant impact to groundwater or aquifer, if present, with the implementation of standard construction techniques, including workplace isolation, erosion control, and spill prevention Groundwater drinking water source areas occur within areas of excavation for work at Pearl Substation and at structure 6/1 in Sherwood, Oregon are not likely to be impacted. No new wells or other uses of groundwater or aquifers are proposed. Therefore, the proposed action would not impact groundwater or aquifers.

Notes:

- Develop and implement an ECSP during construction, including standard BMPs.
- Standard construction BMPs and the Spill Prevention Control and Countermeasures Plan would reduce the potential for inadvertent spills of hazardous materials that could contaminate groundwater or aquifers.

8. Land Use and Specially-Designated Areas

Potential for Significance: No

Explanation:

The proposed action is consistent with current land uses, and the project site is not located in a specially-designated area. Therefore, the proposed action would not impact land use or specially-designated areas.

9. Visual Quality

Potential for Significance: No

Explanation:

The new transmission line structure and equipment at Pearl Substation would be similar in size and appearance to existing electrical facilities. The modifications in the substation yard and within existing transmission line corridors would not have a noticeable impact on the baseline visual quality at the site. The vegetation management and tree removal on the north side of the project would alter the appearance of the site. The vegetation management, tree removal, and new wood pole structures on the north side of the BPA Pearl Substation property would alter the appearance of the site. However, the project and facilities are similar to existing electrical facilities at the site and in the area and would not have the potential to significantly impact the visual quality at the site or surrounding area.

10. Air Quality

Potential for Significance: No

Explanation:

Construction activities have the potential to result in a minor and temporary increase in dust and emissions in the local area. Standard wind erosion and sediment controls would be implemented to minimize dust, as needed. There would be no change to air quality after construction is completed.

11. Noise

Potential for Significance: No

Explanation:

During construction, use of vehicles and equipment and general construction activities could temporarily and intermittently produce noise at levels higher than current ambient conditions. The substation is buffered on all sides from neighboring properties, and there are no residential homes or businesses located within proximity to notice these temporary noise disturbances during construction. The project site is surrounded by commercial and industrial land uses with typical ambient noises generated by nearby businesses, roads, and rail lines. The project would not have a significant impact on the ambient noise level in the area that businesses, landowners, residents, or wildlife experience. There would be no long-term, significant change in ambient noise following completion of the project.

12. Human Health and Safety

Potential for Significance: No

Explanation:

All standard safety protocols would be followed throughout project construction, and standard construction BMPs would minimize risk to human health and safety. Therefore, the proposed action would not be expected to impact human health and safety.

Evaluation of Other Integral Elements

The proposed project would also meet conditions that are integral elements of the categorical exclusion. The project would not:

Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders.

Explanation: N/A

Require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators) that are not otherwise categorically excluded.

Explanation: N/A

Disturb hazardous substances, pollutants, contaminants, or CERCLA excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases.

Explanation: N/A

Involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those of the Department of Agriculture, the Environmental Protection Agency, and the National Institutes of Health.

Explanation: N/A

Landowner Notification, Involvement, or Coordination

Description: The proposed action would occur on BPA fee-owned property at Pearl Substation and within BPA ROW along the transmission line corridor. A realty specialist would contact adjacent landowners prior to starting construction activities.

Based on the foregoing, this proposed project does not have the potential to cause significant impacts to any environmentally sensitive resource.

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