

3.10 HISTORIC AND CULTURAL RESOURCES

This section evaluates the effects of the proposed Plymouth Generating Facility (PGF) on cultural resources, which are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. This section analyzes project impacts on historic and cultural resources in compliance with both the National Environmental Policy Act (NEPA) and the Washington State Environmental Policy Act (SEPA).

Numerous laws, regulations, and statutes, on the state and federal level, seek to protect and manage cultural resources. On the state level, SEPA requires that the effects of projects on historic properties be taken into consideration during planning activities. For projects involving federal lands or requiring permits from federal agencies, a number of additional laws and regulations are invoked. These include the following:

- Antiquities Act of 1906
- Historic Sites Act of 1935
- Reservoir Salvage Act of 1960
- National Historic Preservation Act of 1966
- National Environmental Policy Act of 1969
- Executive Order 11593 (Protection and Enhancement of the Cultural Environment, May 13, 1971)
- 36 Code of Federal Regulations (CFR) 800 and CFR 60 (Advisory Council on Historic Preservation and Protection of Historic and Cultural Properties, Amendments to Existing Regulations, January 30, 1979; National Register of Historic Places, Nominations by States and Federal Agencies, Rules and Regulations, January 9, 1976)
- Revisions to 36 CFR 800 (Protection of Historic Properties, January 10, 1986)
- Archaeological and Historical Preservation Act of 1974
- American Indian Religious Freedom Joint Resolution of 1978
- Archaeological Resources Protection Act of 1979
- Native American Graves Protection and Repatriation Act of 1990

Collectively, these regulations and guidelines establish a comprehensive program for the identification, evaluation, and treatment of cultural resources.

3.10.1 AFFECTED ENVIRONMENT

3.10.1.1 Regional and Site Area

3.10.1.1.1 Literature Review, Records Search, and Native American Consultation

A literature review and records search was completed for the site area at the Washington State Office of Archaeology and Historic Preservation in Olympia, Washington, on December 13, 2001. The record search included review of ethnographic and historic literature and maps; federal, state, and local inventories of historic properties; archaeological base maps and site records; and survey reports. The record search revealed that no archaeological sites have been identified within the site area. It also indicated, however, that no archaeological survey has been reported in the vicinity of the site area. Informal reports note the presence of prehistoric materials on the island in the Columbia River offshore of the community of Plymouth, well outside of the plant site, but these have not been confirmed.

To initiate Native American consultation, Bonneville Power Administration (BPA) has sent letters to local tribes describing project activities and requesting assistance in obtaining information regarding potential cultural resources located in or near the site area. Letters were submitted to the Yakama Indian Nation, Confederated Tribes of the Umatilla Indian Nation, and the Nez Perce Tribe (Appendix G). Consultation with these groups is ongoing.

3.10.1.1.2 Natural and Cultural Setting

The proposed PGF site area are located in southern Benton County, Washington. It is generally located across the Columbia River from the confluence of the Umatilla and Columbia Rivers, approximately 50 miles downstream from the mouth of the Snake River. This area lies within the Columbia River Plateau, which is a vast, volcanic expanse bounded on the north and east by the Rocky Mountains, on the west by the Cascade Range, and on the south by the Great Basin. The plateau is underlain by the Columbia River Basalt Formation, a thick sequence of basaltic lava flows. See Section 3.1, Earth, for more information about area geology.

Overlying these basalt flows are glaciofluvial deposits of sand and gravel created during episodic Pleistocene-era fluvial events. Lacustrine sediments of clay and silt deposited when ice dammed lower sections of the Columbia River also overlie the basalt flows and have created shallow lakes. Among the most significant of the Pleistocene fluvial events was the flood or series of floods that occurred 10,000 to 13,000 years ago when the natural dam of glacial ice retaining Glacial Lake Missoula gave way. Flood waters swept down the Columbia River and adjoining lands, scouring large ravines or coulees in the basalt bedrock and creating the Columbia Gorge as we know it today. In addition, the flooding deposited large gravel bars in and along its path that are still visible today as giant ripples on aerial photographs. The devastating nature of this flooding makes it unlikely that sedimentary deposits predating the event exist within the vicinity of the current site area. The deposits currently found within the region have been subjected to less dramatic riverine sedimentation and erosion since the close of the Pleistocene (Bretz et al. 1964; Pettigrew 1983). For more information on geology in this area, see Section 3.1, Earth.

The principal large mammal species of the Columbia River Plateau is the mule deer; however, white-tailed deer and wapiti also occur within the general region. Prior to Euro-American settlement, other large mammals likely frequented the plateau as well, including pronghorn antelope and bison. Among the dominant small mammals are black-tailed jackrabbit and cottontail.

Prior to 20th century hydroelectric and water diversion projects, the Columbia River and its major tributaries were home to some of North America's largest runs of anadromous fish, such as chinook salmon, coho salmon, steelhead, white sturgeon, green sturgeon, eulachon, and Pacific lamprey. See Section 3.4, Biological Resources, for more information on fish.

The region's avian species are relatively diverse and include numerous songbirds such as sage sparrow, American robin, and white-crowned sparrow; several species of raptors including red-tailed hawk, Swainson's hawk, and American kestrel; and various other species including great blue heron, California quail, California gull, and pied-billed grebe. During the seasonal migrations of waterfowl, numerous species of ducks, geese, and swans are also present. Refer to Section 3.4, Biological Resources, for more information on plants, animals, and their habitats.

Many of these natural resources were of great economic importance to the Native American inhabitants of the Columbia River Plateau region. The diverse and abundant plant and animal resources provided food, materials for shelter and clothing, and minerals for making tools and weapons.

Prehistory

A number of cultural sequences (stages of prehistory) have been developed for the Columbia River Plateau region, including those by Browman and Munsel (1960); Daugherty (1962); Dumond and Minor (1983); Leonhardy and Rice (1970); Nelson (1969, 1971); Rice (1972); Swanson (1962); Toepel, Willingham, and Minor (1980); and Warren (1968). Comprehensive overviews of the cultural history of the Columbia River Plateau region have more recently been presented by Beckham et al. (1988) and Ames et al. (1998).

In general, these sequences can be divided into a number of periods. While a few Paleo-Indian occupations older than 10,000 years have been identified (Beckham et al. 1988), the earliest well-documented sites date from 8,000 B.C. to 6,000 B.C. and are represented by large, lanceolate Windust-type projectile points. Other associated artifacts of this period include edge-ground cobbles, isolated fluted points and crescents, and occasional millingstones and handstones. Major artifact types suggest the presence of a nomadic hunting economy oriented toward the taking of large mammals supplemented by fish, small game, plants, and shellfish. Settlements would have been seasonal and located within resource locations. Resource locations included upland hunting and gathering sites and riverine fishing and shellfish gathering sites.

During the next period (6,000 B.C. to 4,000 B.C.), the same general economic focus was employed by the Native American inhabitants of the region. Game hunting, however, appears to have decreased in importance with a subsequent increase in the use of riverine resources. Artifacts occurring during this period included edge-ground cobbles, oval knives, large scrapers, millingstones and handstones, and various antler and bone tools.

Between 4,000 B.C. and 1,500 B.C., the economic focus became more diversified than in previous periods. The gathering of both plant and shellfish resources dominated the subsistence activities, with hunting and fishing becoming secondary, yet still significant, sources of sustenance. Large, side-notched projectile points of the Northern, Bitterroot, and Cold Springs¹ series were the period markers. Other artifacts of this period include both millingstones and mortars with their associated counterparts (handstones and pestles respectively).

The fourth period (1,500 B.C. to AD 250) was a time of transformation for the inhabitants of the Columbia River Plateau. Cultural influences from Canadian Plateau groups were making inroads into the region. A riverine economy based on the use of anadromous fish was developing. Hunting and gathering continued but at a much decreased level. Artifacts associated with this period included contracting or tanged-stemmed Frenchman Springs or Rabbit Island projectile points, microblades, notched net sinkers, hopper mortars, pestles, antler and bone wedges, stone celts and mauls, and bone hunting and fishing implements.

By the fifth period (AD 250 to AD 1730), the riverine-based economy predominated. Large, semi-permanent villages occurred along the Columbia River floodplains and at the mouths of its major tributaries. Small, seasonal resource procurement camps were located within resource locations. A variety of small projectile points occurred at this time. In addition, the representative tool kit contained tailed end scrapers, notched net sinkers, mauls, block and slab millingstones, shell beads, and bone harpoon heads.

The period from AD 1730 to AD 1810 was marked by the presence of items of Euro-American manufacture, including glass and copper beads, guns, and various iron implements. The general pattern of reliance upon riverine resources continued; however, cultural influences from Plains groups appear. With the introduction of the horse, excursions to the Plains were made by mounted hunters in search of buffalo, and larger villages became trade centers. Artifacts of Native American origin include a variety of small projectile points, and notched and perforated net sinkers.

During the ethnohistoric period (AD 1770 - AD 1860), a general breakdown of precontact Native American lifeways occurred due to repeated interaction with Euro-Americans. While fishing remained the primary subsistence activity, hunting and gathering grew in importance, resulting in a return to a more generalized subsistence base. The artifact inventory resembled that of the previous period, but the presence of Euro-American trade goods continued to increase.

The reservation period (AD 1860 - present) represents the era in which Native American groups were coerced into adopting Euro-American lifeways (e.g., farming or ranching), resulting in the reduction or replacement of Native American subsistence practices. This period was marked by the nearly complete abandonment of Native American tools and subsequent adoption of Euro-American trade and consumer goods.

¹ Northern, Bitterroot, and Cold Springs are artifact time markers used by archaeologists to distinguish periods of prehistory.

Ethnography

The Columbia Plateau culture area (Plateau) is generally considered to lie between the Rocky Mountains to the east and the Cascade Range to the west, extending north into central British Columbia and south as far as the Klamath and Modoc areas of northern California. The Plateau was characterized by Kroeber (1939) as a region of “absences and low intensity culture,” particularly when compared to the more highly developed cultures represented on the Northwest Coast and Plains. Kroeber (1939) noted a series of sub-areas varying in terms of the degree of influence received from each of these two more complex culture areas.

With the exception of some Athapsacan and Kutenai speakers in the far north, the Plateau is divided between two large linguistic blocks: Interior Salish and Sahaptin. The Sahaptin area roughly corresponds to the dry, unforested southern portion of the Plateau, while the Salishan relates to the more timbered regions north of the Columbia and Spokane Rivers (Ray 1936).

The site area is located within an area traditionally used by the Walla Walla and Umatilla groups. Information on these groups has recently been summarized by Stern (1998). The Walla Walla and Umatilla were speakers of dialects of the Sahaptin language, which in turn is part of the larger Penutian language family. Other Sahaptin divisions of the Plateau were the Yakama, Cayuse, Klickitat, Nez Perce, Palous, Tenino, Tyigh, and a number of lesser known tribes (Berreman 1937; Curtis 1911; Hodge 1907; Irwin 1975; Jacobs 1931; Ray 1936). Intermarriage was pervasive among many of these groups, giving rise to villages with composite populations that might include Walla Wallas, Yakamas, and Umatillas or Yakamas, Umatillas, and Western Columbia River Sahaptins (Stern 1998).

Three Sahaptin groups comprise the Walla Walla: the Walula, named after their settlement at the mouth of the Walla Walla River, and extending along both banks of the Columbia River; the Wauyukma, on the lower Snake River; and the Chamnapam, from the lower Yakima valley near present-day Richland. The Umatilla occupied lands on both sides of the Columbia River, as well as islands within it. The name itself is derived from a winter settlement at the mouth of the Umatilla (Stern 1998).

Ethnographically, the Umatilla and Walla Walla were semi-nomadic, with their primary subsistence activity being fishing, supplemented by hunting and gathering. The Columbia River and its tributaries provided an abundant supply of salmon and steelhead for many months of the year. The harvest was particularly prodigious in late spring and early summer (Meinig 1968).

The seasonal subsistence and settlement system was directly related to the topography and availability of resources within the area. The Walla Walla and Umatilla wintered in their semi-permanent villages along the Columbia River and its tributaries at favorable fishing sites. Families spent much of the spring, summer, and fall in seasonal camps procuring available resources. This ecological adaptation provided these groups with an abundant resource base. The patterns were elaborated, but not changed substantially, as were those of their neighbors, with the introduction of the horse (Meinig 1968).

Besides the dwellings, consisting of semi-subterranean mat lodges, various structures for sweating and storage were present within the confines of the Walla Walla and Umatilla villages.

Seasonal camps were made up of flat-roofed sheds that doubled as living quarters and fish drying shelters. With increasing Plains influences, tipis constructed of bulrush mats layered over cottonwood frames were utilized (Maxwell 1978).

History

With the coming of the Euro-Americans, changes within Plateau cultures occurred. As early as 1775, European and American vessels were unloading trade goods on the northwest coast of North America. By the end of the 18th century, the Columbia River was a port-of-call in a global trade network (Maxwell 1978; Meinig 1968). Many of these trade items reached Plateau Native American groups long before the arrival in 1805 of Lewis and Clark (the first Euro-Americans into the region, who were sent by President Thomas Jefferson to discover an overland route to the Pacific). Along with these goods came diseases of Euro-American origin to which the local Native American groups had no resistance. These maladies decimated many of the native populations (Berreman 1937).

In 1811-1812, Wilson Price Hunt led the Astor party to the newly founded American Fur Company trading post at the mouth of the Columbia River. Hunt's route was the Snake River, Blue Mountains, Umatilla River, and onto the Columbia River (Johansen 1967). The activities of the American Fur Company in the Oregon Country (i.e., the Pacific Northwest) were relatively short-lived. The War of 1812 suppressed the fur trade, forcing Astor to sell the trading post (Astoria) and its supplies to the North West Company in 1813. Astoria was renamed Fort George by the Nor'Westers, who dominated the Oregon Country fur trade for the next several years. In 1818, the North West Company established Fort Nez Perces at the mouth of the Walla Walla River (Meinig 1968), a short distance east of the current site area.

In 1821, the North West Company was taken over by the Hudson Bay Company. Fort Nez Perces, renamed Fort Walla Walla, became a district headquarters and outfitting post for Snake River expeditions. The main transportation route between the Hudson Bay's headquarters at Fort Vancouver and Fort Nez Perces was the Columbia River. The most important trail along this route (later to become part of the Oregon Trail) led from the Snake River in the vicinity of Ontario, up the Burnt River, then through the sites of Baker and La Grande, over the ridge to the vicinity of Pendleton, to the Columbia River near Umatilla (Dicken and Dicken 1979). The fur trapping era drew to a close by the late 1830s in the Oregon Country, and the stage was set for the great migration (Dicken and Dicken 1979).

The wave of migration was preceded by a handful of American Protestant missionaries, who had come to the Oregon Country to establish missions among the Native American peoples of the region in the mid-1830s. In 1839, the first of the American colonists arrived in the Pacific Northwest, most settling in the Willamette Valley of Oregon.

In 1843, John Fremont explored the region from the Blue Mountains to the Umatilla River (Nevins 1956). The accounts of Fremont became the trail guides of the emigrants. By the mid-1840s, the "floodgates of emigration" had opened. The principal route of migration was the Oregon Trail, which traces its origins to the trails forged by the earlier explorers and fur trappers.

A treaty in 1846 settled a dispute between the United States and Britain by establishing the 49th parallel as the international boundary. Two years later, Congress created the Oregon Territory, which was reduced to the State of Oregon's present size in 1853 with the creation of the Washington Territory.

The region in which the PGF site area is located did not become settled until after the hostilities between Native American peoples and emigrants had been settled. In 1847, the inhabitants of the Whitman Mission were killed, spreading fear among the emigrants up and down the Oregon Trail. The killings precipitated the Cayuse War of 1848. The U.S. government fought the war in order to keep the Blue Mountains to The Dalles segment of the Oregon Trail open to emigrant parties (Dicken and Dicken 1979).

Although a general cessation of hostilities occurred following the Cayuse War, it was several years until settlement in eastern Washington was truly initiated. In 1854, the process of placing the Native Americans onto reservations began. Plateau groups (including the Walla Walla, Umatilla, and Cayuse) agreed to cede their lands and move to the Umatilla Reservation, east of present-day Pendleton. The Yakama and Nez Perce signed similar treaties. Soon after the treaties were signed, however, gold was discovered east of the Cascades, and the subsequent transgression of the reservations by miners began. Hostilities between Indians and Euro-Americans soon erupted in conflict (Meinig 1968). In 1858, peace was restored to the region. With the cessation of hostilities, the settlement of the Columbia River Plateau began in earnest.

Emigrants began leaving the Willamette Valley for The Dalles, the Yakima, Umatilla, and Walla Walla valleys, and other Columbia River Plateau destinations. During the 1860s and 1870s, stock raising, not farming, was the principal economic pursuit, and large herds of cattle freely roamed on the open range, feeding on the various native grasses. The predominance of ranching over farming was in part due to the lack of good transportation—cattle could be walked to market whereas produce had to be shipped (Shepherd 1975).

The introduction of regular steamer service along the Columbia River resulted in a drop in the price of shipping agricultural products. It was discovered that dry wheat farming could be profitably undertaken on the bunch grass-covered hills and benchlands, which until then had been used chiefly for cattle grazing. Soon wheat farmers began crowding out the cattlemen and the open range began disappearing. By 1890, wheat production occurred throughout much of the region.

3.10.1.2 Proposed Action

3.10.1.2.1 Plant Site

The plant site is located on a terrace above and approximately 0.75 mile north of the Columbia River shoreline, adjacent to and north of the existing Williams Co. compressor station. The area is now open and currently lacking in vegetation, but has been used for fruit production in the recent past. Evidence of irrigation and tree removal are present throughout the plant site, and ground visibility is excellent. The plant site was subject to a systematic pedestrian inventory using survey transects spaced at an average of 15- to 20-meter (49- to 66-foot) intervals. No cultural materials or features were observed within this area.

3.10.1.2.2 Transmission Interconnection

The proposed transmission interconnection would be placed within a narrow (200-foot) corridor extending approximately 0.6 mile north of the plant site. The southern portion of this corridor is much like the proposed plant site in character. It is open and largely lacking in vegetation, but has also been used for fruit production in the recent past. Evidence of irrigation and tree removal are present throughout this area, and ground visibility is excellent. To the north, however, the corridor enters a higher terrace used for corn and other agricultural production. The entire transmission corridor was subject to systematic pedestrian inventory using survey transects spaced at an average of 15- to 20-meter intervals. No cultural materials or features were observed within this corridor.

3.10.1.2.3 Access Road

The proposed access road would enter the plant site from the northeast. Portions of this road follow existing paved or graded gravel access roads that pass through open agricultural lands. As the road nears the plant site, it would leave existing roadways and enter open agricultural lands currently lacking in vegetation. Previously, this area was used for fruit production. Evidence of irrigation and tree removal are present throughout this area, and ground visibility is excellent. The entire road corridor was subject to systematic pedestrian inventory using survey transects spaced at an average of 15- to 20-meter intervals. No cultural materials or features were observed within this corridor.

3.10.1.3 Alternate 230-kV Transmission Interconnection

The existing conditions for the alternate 230-kilovolt (kV) transmission interconnection would be the same as the existing conditions for the proposed transmission interconnection because the 230-kV line is located in the same physical location as the proposed 500-kV line.

3.10.1.4 Alternate Benton PUD/BPA Transmission Interconnection

The proposed alternate Benton Public Utility District (PUD)/BPA transmission interconnection would run along the south side of Christy Road for approximately 2 miles, turn north for 0.4 mile, and continue east for approximately 2 miles. The area immediately south of the plant site lies adjacent to the eastern end of the existing compressor station and is much like the plant site in character. It is open and largely lacking in vegetation but has also been used for fruit production in the recent past. Evidence of irrigation and tree removal is present throughout the plant site, and ground visibility is excellent. The terrain along Christy Road is composed largely of cut and fill associated with road construction. Little natural ground surface or vegetation is present. At the end of this section, the corridor turns north for 0.4 mile (as stated above), then turns east again and continues to Interstate 82 (I-82) and the existing Columbia River crossing of the BPA McNary-John Day 500-kV lines. Much of this portion of the corridor crosses relatively undisturbed, flat to gently rolling terrain marked by some areas of native vegetation. The entire alternate transmission interconnection corridor, including the existing transmission line, was subject to systematic pedestrian inventory using survey transects spaced at an average of 15- to 20-meter intervals. No cultural materials or features were observed within this corridor.

3.10.1.5 Access Alternative

The alternate construction and operation access roads would lead to the western end of the plant site via Christy Road (from State Route [SR] 14) and existing farm roads. Like other areas surrounding the plant site, this area is also characterized by open agricultural lands. The alternate construction access road was subject to systematic pedestrian inventory using survey transects spaced at an average of 15- to 20-meter intervals. No cultural materials or features were observed within this corridor. The alternate operation access road would be an existing road that is presently used for access to the Williams Co. compressor station and farm buildings and equipment north of the compressor station.

3.10.2 ENVIRONMENTAL CONSEQUENCES

3.10.2.1 Methodology

Impacts would be high (significant) if they would result in harm, destruction, or loss of integrity to historic or cultural resources. Other impacts not considered significant would be classified as low or moderate. If no historic and cultural impacts would be attributable to the PGF, it is so stated in the following sections.

3.10.2.2 No Action Alternative

Implementation of the No Action Alternative would have no impacts on cultural resources.

3.10.2.3 Proposed Action

No archaeological materials were observed within the proposed plant site, transmission interconnection, or access road. As a result, their construction would have no effect on known cultural resources.

3.10.2.4 Alternate 230-kV Transmission Interconnection

The 230-kV transmission line is located in the same physical location as the proposed 500-kV line. Therefore, similar to the proposed transmission interconnection, construction of the alternate 230-kV transmission interconnection would have no effect on known cultural resources.

3.10.2.5 Alternate Benton PUD/BPA Transmission Interconnection

No archaeological materials were observed within the alternate Benton PUD/BPA transmission interconnection corridor. As a result, construction of the line would have no effect on known cultural resources.

3.10.2.6 Access Alternative

No archaeological materials were observed within the alternate access road corridors. As a result, construction or improvement of the roads would have no effect on known cultural resources.

3.10.3 SUMMARY OF IMPACTS

No archaeological materials were identified within the proposed plant site or within any of the infrastructure corridors. Therefore, the PGF would not result in impacts to known cultural resources. Although no archaeological materials were identified within the proposed plant site or within any of the infrastructure corridors, it is possible that unidentified archaeological materials or features are present within the plant site or infrastructure corridors. If any such materials were to be encountered during construction or other ground-disturbing activities, all activities in the vicinity should stop until the significance of the discovery could be evaluated by a qualified archaeologist. If the discovery were to be determined significant, mitigation would be necessary.

3.10.4 MITIGATION MEASURES

As stated above in Section 3.10.3, if previously unidentified archaeological materials or features were to be discovered during construction or ground-disturbing activities, and the discovery were to be determined as significant, mitigation will be necessary. The Washington State Office of Archaeological and Historic Preservation would determine appropriate mitigation.

3.10.5 REFERENCES

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