

8. GLOSSARY

Access road — Roads constructed to each structure site first to build the tower and line, and later to maintain and repair it. Access roads are built where no roads exist. Where county roads or other access is already established, access roads are built as track roads to the structure site (see **Track roads**). Access roads are maintained even after construction, except where they pass through cultivated land. There, the road is restored for crop production after construction is completed.

Alluvium — Deposits left by flowing water, usually clay, silt, sand, or gravel.

Ampere (A) — A unit of measurement of electric current, which is the rate that electrons flow in a wire; one ampere is 6.023×10^{23} electrons per second. The measurement is similar to gallons per minute of water in a pipe.

Anadromous fish — Chinook, coho, and sockeye salmon and steelhead trout, which hatch in fresh water, spend part of their life at sea, and then migrate up rivers to their home waters to spawn.

Bedrock — Solid rock beneath the soil and superficial rock.

Best Management Practices (BMPs) — A practice or combination of practices that are the most effective and practical means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals.

Blading — Use of a bulldozer, grader, or other construction equipment to level a travel surface.

Blackout — The disconnection of the source of electricity from all electrical loads (users) in a certain geographical area.

Bogs — Wet, spongy ground; a small marsh or swamp.

Bull trout — Members of the char subgroup of the salmon family (salmonids), which also include the Dolly Varden, lake trout, and Arctic char.

Capacity — The maximum load that a generator, piece of equipment, substation, transmission line, or system can carry under existing service conditions.

Carbon monoxide (CO) — An odorless and colorless gas formed from one atom of carbon and one atom of oxygen.

Census block group – smallest area for which a census compiles sample data; comprised of census blocks.

Census County Division (CCD) – A subdivision of a county that is a relatively permanent statistical area established cooperatively by the Census Bureau and state and local government authorities.

Census tract – A subdivision of a county smaller than a CCD that often follows visible features, but may also follow governmental boundaries and other non-visible features; homogenous with respect to population characteristics, economic status, and living conditions.

Clean Water Act 303(d) list – List of waterbodies that do not meet water quality standards.

“Cold” rebuild – Rebuilding an existing transmission line without electricity flowing in the conductors during construction.

Colluvium — Rock fragments, sand, etc., that accumulate on steep slopes or at the foot of cliffs.

Conductor — The wire cable strung between transmission towers through which electric current flows.

Corona — Corona occurs in regions of high electric field strength on conductors, insulators, and hardware when sufficient energy is imparted to charged particles to cause ionization (molecular breakdown) of the air.

Culvert — A corrugated metal or concrete pipe used to carry or divert runoff water from a drainage; usually installed under roads to prevent washouts and erosion.

Cumulative effect — Cumulative effects are created by the incremental effect of an action when added to other past, present, and reasonably foreseeable future actions.

Current — The amount of electrical charge flowing through a conductor (as compared to voltage, which is the force that drives the electrical charge).

dB — The first two letters (dB) are an abbreviation for decibel, the unit in which sound is most commonly measured (see decibel). The last letter (A) is an abbreviation for the scale (A-scale) on which the sound measurements were made.

Dead-end structures — Heavy towers designed for use where the transmission line loads the tower primarily in tension rather than compression, such as in turning large angles along a line or bringing a line into a substation.

Debris flow — Rapid movement of water-charged mixtures of soil, rock, and organic debris down steep stream channels.

Decibel — A decibel is a unit for expressing relative difference in power, usually between acoustic signals, equal to 10 times the common logarithm of the ratio of two levels.

Depressional areas — Wetland areas that receive water from overland runoff and precipitation.

Diameter at breast height (dbh) — The diameter of a tree at breast height off the ground.

Distinct population segment — A population that is disjunct and geographically isolated from others with no genetic interchange between them due to natural and man-made barriers.

Distribution line – The structures, insulators, conductors, and other equipment used to deliver electricity directly to the customer.

Distribution underbuild – Using transmission poles to also carry distribution conductors from existing system taps by situating the distribution lines on cross-arms below the transmission lines.

Early successional (or early seral) — An immature forest often characterized by a single-age class and open canopies; stands are between 1 and 30 years old.

Easement — A grant of certain rights to the use of a piece of land (which then becomes a “right-of-way”). This includes the right to enter the right-of-way to build, maintain, and repair the facilities. Permission for these activities is included in the negotiation process for acquiring easements over private land.

Electric and magnetic fields (EMF) — The two kinds of fields produced around the electric wire or conductor when an electric transmission line or any electric wiring is in operation.

Emergent — Plants that have their bases submerged in water.

Endangered species — Those species officially designated by the U.S. Fish and Wildlife Service that are in danger of extinction throughout all or a significant portion of their range.

Endangered Species Act (ESA) — A 1973 Federal law, amended in 1978 and 1982, to protect troubled species from extinction. NOAA Fisheries and the U.S. Fish and Wildlife Service decide whether to list species as Threatened or Endangered. Under the Act, Federal agencies must avoid jeopardy to and aid the recovery of listed species.

Environmental impact statement (EIS) — A detailed statement of environmental impacts caused by an action, written as required by the National Environmental Policy Act.

Essential Fish Habitat (EFH) — Those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (Magnuson Fishery Conservation and Management Act).

Exceedence levels (L levels) — The A-weighted sound level that is exceeded for a specified percentage of the time.

Experiential impact – Impact that could negatively affect the experience of using or viewing an area.

Federally listed — Species listed as **Threatened** or **Endangered** by the U.S. Fish and Wildlife Service.

Fiber optic lines — Special wire installed on the transmission line that is used for communication between one location and another.

Floodplain — That portion of a river valley adjacent to the stream channel which is covered with water when the stream overflows its banks during flood stage.

Forb — Any herbaceous plant that is not a grass or not grasslike.

Functional impact – Impact that could preclude the use of or access to an area or an activity.

Gauss — A unit of magnetic induction.

Geographic Information System (GIS) — A computer system that analyzes graphical map data.

Glacial moraine – Material transported by a glacier and then deposited; can be sand, gravel, boulders, etc.

Glacial outwash — Stratified sediment, consisting chiefly of sand and gravel, removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the terminal moraine or the margin of an active glacier.

Glacial till — Unstratified, unsorted, glacial drift of clay, silt, sand, boulders and gravel.

Habitat types — Lands capable of producing similar plant communities at climax.

Hertz (Hz) — The unit of frequency in cycles per second; power systems in the U.S. operate with a frequency of 60 Hz.

High-voltage — Lines with 230 kV or above electrical capacity.

Histols — Organic soils typically associated with wetland areas.

“Hot” rebuild — Replacing an existing transmission line and its poles while maintaining power in the existing lines.

Hydrology — The science dealing with the properties, distribution, and circulation of water.

Insulators — A ceramic or other nonconducting material used to keep electrical circuits from jumping over to ground.

Intermittent — Referring to periodic water flow in creeks or streams.

Invertebrates — Any animal without a backbone or spinal cord; any animal other than a fish, amphibian, reptile, bird, or mammal.

Kilovolt — One thousand volts. (See **Volt**.)

Lacustrine System — Northwest Wetland Inventory system that includes wetlands with less than 30 percent coverage of trees, shrubs, or persistent emergents that are contained within a river channel.

Landslide — Any mass-movement process characterized by downslope transport of soil and rock, under gravitational stress, by sliding over a discrete failure surface; or the resultant landform. Can also include other forms of mass wasting not involving sliding (rockfall, etc.).

Large woody debris (LWD) — Any piece of downed wood larger than 4 inches in diameter and 6 feet long.

Late successional (or late seral) — A forest in which the trees are even older and larger than a mature forest, the canopy is more open, some larger trees have died and become snags, and there is a well-developed understory of large trees; stands are typically between 120 and 190 years old.

Line losses — Energy consumed by the conductor generating heat during transport of power through each line; a function of load, circuit length, conductor size, and electrical “resistance.”

Load — The amount of electric power or energy delivered or required at any specified point or points on a system. Load originates primarily at the energy-consuming equipment of customers.

Load growth — Increase in demand for electricity. (See **Load**.)

Low-gradient — With gentle slopes.

Management Areas — Units of Federal land having different management emphasis or direction.

Management Indicator Species (MIS) — Species that indicate when an environmental problem is present in a particular habitat.

Mass wasting — The slow downward slope of rock debris.

Megawatts (MW) — A megawatt is one million watts, or one thousand kilowatts; an electrical unit of power.

Mid-successional (or mid-seral) — A forest often characterized by a single-age class and closed canopies and most commonly harvested in commercial timber operations; stands are typically between 30 and 80 years old.

Milligauss (mG) — A unit used to measure magnetic field strength; one-thousandth of a gauss.

Mitigation — Steps taken to lessen the effects predicted for each resource, as potentially caused by the transmission project. They may include reducing the impact, avoiding it completely, or compensating for the impact. Some mitigation, such as adjusting the location of a tower to avoid a special resource, is taken during the design and location process. Other mitigation, such as reseeding access roads to desirable grasses and avoiding weed proliferation, is taken after construction.

Monitor species — Those species for which Washington State monitors status and distribution either because they have been listed as state Threatened, Endangered, or Sensitive within the previous 5 years; they require a habitat that has limited availability during at least some portion of their life cycle; they are environmental indicators; or their taxonomy is in question and it is unclear whether they should be included as listed species.

National Environmental Policy Act (NEPA) — This act requires an environmental impact statement on all major Federal actions significantly affecting the quality of the human environment. [42 U.S.C. 4332 2(2)(C).]

Nitrogen oxides — A group of compounds consisting of various combinations of nitrogen and oxygen atoms.

NOAA Fisheries — The Federal agency that oversees threatened and endangered anadromous fish species.

Non-attainment area — An area that does not meet air quality standards set by the Clean Air Act for specified localities and periods.

Notice of Intent (NOI) — A public notice that an environmental impact statement will be prepared and considered in the decision making for a proposed action.

Noxious weeds — Plants that are injurious to public health, crops, livestock, land or other property.

Old growth — A forest typically at least 200 years of age with moderate to low canopy closure; a multi-layered, multi-species canopy dominated by large overstory trees; numerous large snags; heavy accumulations of fallen wood; smaller trees in various age classes, as well as shrubs and herbaceous vegetation in the understory and on the forest floor.

100-year floodplain — Areas that have a 1 percent chance of being flooded in a given year. (See **Floodplain**.)

Outage — Events caused by a disturbance on the electrical system that requires the provider to remove a piece of equipment or a portion or all of a line from service. The disturbances can be either natural or human-caused.

Overload — Moving too much current flow over transmission facilities. Equipment has safeguards: in the event of system overload, switches will disconnect sensitive equipment from the flow of electricity.

Ozone — Associated with the corona discharge of high-voltage transmission lines. Rapidly recombines back to O₂.

Palustrine — Of or relating to a marshy habitat.

Palustrine System — Northwest Wetland Inventory system that includes wetlands dominated by trees, shrubs, and persistent emergent plants associated with water bodies that cover less than 20 acres or with water less than 6.6 feet deep.

Perennial streams or creeks — Those with year-round water flow.

Physiographic — Pertaining to the features and phenomena of nature.

Proposed action and action alternatives — The proposed action is the alternative the proponent would prefer at this preliminary stage. The action alternatives are those actions that would likely meet the purpose and need of the project, but are not the proponent's preference.

PUD Board — The Board of Commissioners that directs the Okanogan PUD's operations. The Board consists of three publicly elected members.

Rain-on-snow event — When rain saturates and melts the existing snowpack, causing large quantities of overland flow over a short period.

Recreation Opportunity Spectrum — USDA Forest Service classification system uses a scale ranging from primitive to urban for the purpose of planning and managing recreational resources.

Revegetate — Re-establishing vegetation on a disturbed site.

Right-of-way (ROW) — An easement for a certain purpose over the land of another, such as a strip of land used for a road, electric transmission line, pipeline, etc.

Riparian habitat — The zone of vegetation that extends from the water's edge landward to the edge of the vegetative canopy. Associated with watercourses such as streams, rivers, springs, ponds, lakes, or tidewater.

Riparian habitat conservation areas (RHCA) — Portions of watersheds that are set aside under PACFISH (1995) where riparian-dependent resources receive primary emphasis to enhance management of aquatic systems.

Riprap — Broken stones put in areas to prevent erosion, especially along river and stream banks.

Riverine System — Northwest Wetland Inventory system that includes wetlands not dominated by trees, shrubs, or persistent emergents that are contained within a river channel.

Road Maintenance and Abandonment Plan (RMAP) — Plan required for road construction that addresses construction measures to mitigate potential damage to fish habitat or water quality.

Scoping — Part of the environmental impact document process where significant issues are identified for detailed analysis.

Sedimentation — The deposition or accumulation of sediment.

Sensitive species — Those plants and animals identified by the Regional Forester for which population viability is a concern as evidenced by significant current or predicted downward trend in populations or density and significant or predicted downward trend in habitat capability.

Seral — Pertaining to the stages of ecological succession occurring in communities of plants and animals until the climax is reached.

Site potential tree height (SPTH) — The height that trees in the riparian forest may reasonably be expected to achieve within an appropriate time period, often established as 50 or 100 years.

Snag — A dead or dying tree.

Species — A group of interbreeding individuals not interbreeding with another such group; similar, and related species are grouped into a genus.

Structures — Refers to a type of support used to hold up transmission or substation equipment.

Substation — The fenced site that contains the terminal switching and transformation equipment needed at the end of a transmission line.

Survey and Manage Species — Species identified in the Northwest Forest Plan (1994) that had insufficient available knowledge to determine whether their persistence would be ensured by management strategies outlined in the plan. These species have additional mitigation measures on lands managed by the USDA Forest Service and BLM.

Switches — Devices used to mechanically disconnect or isolate equipment; found on both sides of circuit breakers.

System reliability — The ability of a power system to provide uninterrupted service, even while that system is under stress.

Talus — Rock debris that has accumulated at the base of a cliff or steep slope.

Tap — The point at which a transmission line is connected to a substation or other electrical device to provide service to a local load.

Threatened species — Those species officially designated by the U.S. Fish and Wildlife Service that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

Track road — Unimproved dirt roads without surfacing or regular maintenance, generally 8 to 12 feet in width.

Transformers — Electrical equipment usually contained in a substation that is needed to change voltage on a transmission system.

Transmission line — The structures, insulators, conductors, and other equipment used to transmit electrical power at high voltage to electric distribution facilities (substation).

Turbidity — The state or condition of opaqueness or reduced clarity of a fluid, due to the presence of suspended matter.

U.S. Fish and Wildlife Service (USFWS) — The Federal agency that is charged with the protection of threatened and endangered plants and animals.

Visual Impact Assessment Point (VAP) — Specific locations where transmission facilities constructed along the alternative corridors would be visible.

Visual Quality Objective (VQO) — Management standards that identify five degrees of alteration to the natural landscape based on the landscape's diversity of natural features and the public's concern for scenic quality.

Volt — The international system unit of electric potential and electromotive force.

Voltage — The driving force that causes a current to flow in an electrical circuit.

Watershed — The area that drains to a common waterway.

Wetlands — An area where the soil experiences anaerobic conditions because of inundation of water during the growing season. Indicators of a wetland include types of plants, soil characteristics, and hydrology of the area.

Zoning — Regulations used to guide growth and development; typically involve legally adopted restrictions on uses and building sites in specific geographic areas to regulate private land use.