EFSEC
WASHINGTON

Programmatic Environmental Impact Statement

High-Voltage Transmission Facilities in Washington

Chapter 3 - Affected Environment, Significant Impacts, and Mitigation

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3.0 Chapter 3 – Affected Environment, Significant Impacts, and Mitigation

3.1 Introduction

The scope of this Programmatic Environmental Impact Statement (EIS) analysis is limited to electrical transmission facilities with a nominal voltage of 230 kilovolts (kV) or greater (referred to herein as "transmission facilities") and considers adverse environmental impacts over a broad geographic scope or Study Area, as identified in Chapter 1, Introduction. Therefore, this Programmatic EIS focuses on probable significant adverse environmental impacts in a qualitative manner.

Washington Administrative Code (WAC) 197-11-444 lists elements of the environment to be evaluated by an EIS. This list of elements was combined with additional elements that were required to be evaluated by WAC 463-60-535 and Revised Code of Washington (RCW) 43.21C.405(3). Through the scoping process, the Washington Energy Facility Site Evaluation Council (EFSEC) determined that the construction, operation and maintenance, upgrade, and modification of transmission facilities could result in impacts on all elements of the environment. The Scoping Summary Memo is provided in Appendix 5-1.

Chapter 3 is divided into separate sections for each element of the environment evaluated:

- Earth Resources (including seismic hazards)
- Air Quality (including greenhouse gases)
- Water Resources
- Vegetation
- Transportation
- Public Services and Utilities
- Visual Quality
- Noise and Vibration
- Recreation

- Habitat, Wildlife, and Fish
- Energy and Natural Resources
- Public Health and Safety
- Land and Shoreline Use (including military, agricultural, and ranching uses)
- Historic and Cultural Resources (including Tribal rights, interests, and resources)
- Socioeconomics (including environmental justice and overburdened communities)

The information presented in this Programmatic EIS is based primarily on public information available at the time of analysis. Pertinent sources used in this assessment are listed in Chapter 6, References.

3.1.1 Regulatory, Siting, and Design Considerations

For each element of the environment evaluated in this Programmatic EIS, relevant regulatory, siting, and design considerations have been identified, including the types of permits and plans that may be required, and best management practices[1] (BMPs). Siting and design considerations are factors that are taken into account in developing a facility design or considering a site. BMPs are activities, maintenance procedures, managerial practices, or structural features that prevent or reduce pollutants or other adverse environmental impacts. These may be required in permits or plans by a regulatory agency.

In the early stages of siting and design, it is recommended that coordination with appropriate federal, state, and local agencies and potentially affected Tribes occur to identify potential adverse environmental impacts and take action to address impacts to the greatest extent possible. The coordination efforts and siting and design considerations that have been incorporated should be documented in the project-specific application.

[1] Activities, maintenance procedures, managerial practices, or structural features that prevent or reduce pollutants or other adverse environmental impacts.

3.1.2 Affected Environment

In the State Environmental Policy Act (SEPA) process, the "Affected Environment" section provides a detailed description of the existing environmental conditions that could be impacted by a project. To aid in understanding potential adverse environmental impacts at a programmatic level, this Programmatic EIS takes the following approach in analyzing elements of the environment:

- **Broad Geographic Scope:** It encompasses a larger geographic area and examines broader environmental trends compared to an individual project.
- **Generalized Information:** It provides more generalized information about the existing environment, focusing on regional conditions rather than site-specific details.
- **Framework for Future Projects:** It provides a foundation upon which future project-specific applications and environmental analyses can build. This approach helps provide a comprehensive understanding of potential adverse environmental impacts at a larger scale, while specific details are addressed in more focused project-specific applications and subsequent environmental analyses.

Chapter 3 provides a description of the existing environmental conditions that could be adversely impacted by a project. The affected environment for a project-specific application typically includes information on the following:

- **Physical Environment:** Details about land use, geology, soils, water resources, air quality, and climate
- **Biological Environment:** Information on vegetation, wildlife, fish, and habitats
- **Human Environment:** Data on population, noise and vibration, housing, transportation, recreation, public services, utilities, aesthetics, and cultural and historic resources
- **Socioeconomic Environment:** Economic conditions, employment, and community services
- **Tribal Environment:** Considerations related to Tribal lands, treaty rights, cultural and spiritual values, traditional ecological knowledge, Tribal engagement or consultation processes, and potential adverse environmental impacts on Tribes and resources

The affected environment analysis in this Programmatic EIS supports understanding the baseline conditions and assessment of the potential adverse environmental impacts of projects.

3.1.3 Baseline for Analysis

This Programmatic EIS identifies General Measures and Avoidance Criteria as part of a broader Mitigation Strategy, which was created to provide a consistent framework for evaluating and managing probable significant adverse environmental impacts from transmission facility projects at a broader scale. This Programmatic EIS is intended to support more efficient and effective siting and permitting of transmission facility projects, consistent with the legislative direction in RCW 43.21C.408, by streamlining project-level environmental reviews where project-specific applications incorporate the recommended Mitigation Strategies.

Total avoidance of all adverse environmental impacts is not required for a project-specific application to complete a phased review using this Programmatic EIS as the first phase of the review. Applicants should provide information in their project-specific application documenting the project's consistency with, or incorporation of, the Mitigation Strategies below. If a project does not incorporate a Mitigation Strategy, additional information would be provided in the project-specific application for the SEPA Lead Agency's consideration. The SEPA Lead Agency may determine that additional project-specific environmental analyses and mitigation are required to address adverse environmental impacts. All Mitigation Strategies are provided in **Appendix 3.1-1** as well as described in more detail below.

- **General Measure:** A General Measure is a planning and implementation procedure that should apply to all project-specific applications using this Programmatic EIS. The analysis in this Programmatic EIS assumes that project-specific applications incorporate and conform to all General Measures identified in this Programmatic EIS. The SEPA Lead Agency may determine that additional project-specific environmental analyses and mitigation are required if a project-specific application is inconsistent with or does not conform to all the General Measures outlined in this Programmatic EIS.
- **Avoidance Criteria:** Avoidance Criteria are thresholds used as a baseline assumption to evaluate probable significant adverse environmental impacts on a programmatic level. During the preparation of the Programmatic EIS, it was determined that the development of transmission facilities could result in a

probable significant adverse impact on certain environmental resources. However, it was not possible to identify Mitigation Measures within this Programmatic EIS that would reduce the impact to a nonsignificant level in all project-specific circumstances. Therefore, Avoidance Criteria were developed as a method for addressing probable significant adverse environmental impacts for a variety of project types and locations.

It is important to note that Avoidance Criteria are methods specific to this Programmatic EIS that would, when adhered to, consistently ensure that a project's adverse environmental impacts do not rise to the level of significance, as defined by SEPA. Avoidance measures may be incorporated into Avoidance Criteria, included as Mitigation Measures, or independently proposed by the applicant or SEPA Lead Agency. While both avoidance measures and Avoidance Criteria are used to minimize adverse impacts on sensitive environmental resources, the latter are a structural element of the programmatic review performed in this document. Examples of avoidance measures can include establishing buffer zones or setbacks to avoid impacts on sensitive resources or scheduling construction activities outside of nesting bird seasons.

Incorporating all the Avoidance Criteria outlined in this Programmatic EIS provides the most environmentally effective method for implementing a proposal. Avoidance Criteria should be reviewed and used by applicants early in the planning process to prioritize or help guide the siting and design of a project.

The analysis in this Programmatic EIS assumes that project-specific applications incorporate and conform to all Avoidance Criteria. The analysis in the Programmatic EIS does not specifically analyze the environmental impact from project proposals where Avoidance Criteria would not be implemented. Therefore, the environmental analysis would be incomplete for that specific project, and the impact from not avoiding an environmental resource would be analyzed by the SEPA Lead Agency as part of the project-specific environmental review. This project-specific environmental review may result in the SEPA Lead Agency developing additional mitigation measures to address impacts that do not fit within the programmatic analysis framework of this Programmatic EIS.

- **Mitigation Measures:** Mitigation Measures are designed to address the adverse environmental impacts associated with the new construction, operation and maintenance, upgrade, and modification of transmission facilities. Applicants are expected to identify in the project-specific application which resource-

specific Mitigation Measures from this Programmatic EIS would be implemented for their project. The SEPA Lead Agency would be responsible for performing the following actions:

- Review project-specific applications to verify that all applicable Mitigation Measures have been implemented for adverse environmental impacts.
- Review project-specific applications to ensure that there are no additional probable impacts not analyzed in this Programmatic EIS.
- Review project-specific applications to ensure that the project would not result in a higher significance rating for any adverse environmental impacts already considered in this Programmatic EIS.[2]
- Conduct environmental analyses for impacts not analyzed in this Programmatic EIS and identify mitigation measures, as appropriate, for those identified adverse environmental impacts. Determine if any of these impacts with the identified mitigation would result in a significant adverse environmental impact.

Existing transmission facilities may already be causing an adverse environmental impact on an environmental resource, which may preclude the project-specific application pertaining to upgrades and modifications from fully incorporating the Mitigation Strategies identified in this Programmatic EIS. In such a case, applicants should identify, in the application, the existing condition associated with the impact in question, the Mitigation Strategy(ies) the project is inconsistent with, and any additional information that might be helpful to the SEPA Lead Agency, such as other measures the applicant is proposing for mitigating the impact to the extent feasible. The SEPA Lead Agency may determine that additional project-specific environmental analyses and mitigation are required to address this scenario.

3.1.3.1 General Measures

The following General Measures provide a consistent baseline for evaluating probable significant adverse environmental impacts of project-specific applications. The

[2] Pursuant to RCW 43.21C.408(3), when a project-specific application incorporates all recommendations identified in this Programmatic EIS, the proposal is presumed to have addressed and mitigated probable significant adverse environmental impacts. This presumption applies unless the project-specific environmental review identifies significant adverse impacts that were not considered or addressed in the Programmatic EIS.

analysis provided in this Programmatic EIS assumes that applicants incorporate and conform to the following General Measures:

Gen-1 – Review of this Programmatic EIS: Applicants planning and siting transmission facilities with a nominal voltage of 230 kilovolts or greater would consider this Programmatic Environmental Impact Statement (EIS), especially focusing on meeting the environmental Mitigation Strategies identified herein to the extent practicable. When applicants do not meet the General Measures and Avoidance Criteria defined in this Programmatic EIS, additional environmental analyses would be expected, and mitigation may be required. The final significance rating for adverse environmental impacts in this Programmatic EIS assumes that applicants would incorporate the applicable Mitigation Strategies identified within this Programmatic EIS.

Rationale: The analysis and information in this Programmatic EIS, along with any future amendments, supplements, or replacement documents, are intended to support subsequent project-specific applications in meeting the requirements for adopting this Programmatic EIS.[3]

Gen-2 – Adhere to Laws and Regulations: This Programmatic Environmental Impact Statement (EIS) assumes that projects will adhere to relevant federal, state, and local laws and regulations. Applicants would provide information in their project-specific applications to assist the State Environmental Policy Act (SEPA) Lead Agency in determining if the project adheres to all relevant laws and regulations.

Rationale: The SEPA environmental review process conducts the environmental analysis assuming adherence to all laws and regulations. Because SEPA exists to identify and mitigate adverse environmental impacts of gaps in regulations, SEPA analysis is not limited to the review of a proposal's regulatory compliance.

Gen-3 – Consistency with Policies, Development Regulations, and Ordinances: This Programmatic Environmental Impact Statement assumes that projects will be consistent with all applicable policies, development regulations, and ordinances. Applicants would provide information in their project-specific applications that the State Environmental Policy Act (SEPA) Lead Agency and local jurisdictions

[3] As detailed in Chapter 1 of the Programmatic EIS, there are several methods a project-specific application can use this Programmatic EIS for a phased review. These methods include adopting the Programmatic EIS in its entirety unchanged, adopting the Programmatic EIS and preparing an addendum, adopting the Programmatic EIS and preparing a supplemental EIS, or incorporating the Programmatic EIS by reference.

can use to determine consistency. If a project is not consistent with a relevant policy, development regulation, or ordinance, the applicant would provide an explanation. If the SEPA Lead Agency or local jurisdiction identifies one or more policies, development regulations, or ordinances with which the project is inconsistent, additional environmental analyses may be required, and mitigation may be identified per WAC 197-11-660.

Rationale: Additional policies, development regulations, and ordinances may be outlined by state, regional, county, or city agencies and jurisdictions. These may include, but are not limited to, the following:

- Comprehensive Plans
- Shoreline Master Programs
- Habitat Conservation Plans[4]
- Active Transportation Plans
- Local Ordinances (e.g., noise)

Policies, development regulations, and ordinances with an environmental basis would be considered during the SEPA environmental review, and as a result, mitigation may also be identified.

Gen-4 – Design Considerations: Applicants would document compliance with all applicable design considerations identified throughout Chapter 3. Applicants would also identify the following in the project-specific application:

- Any instances where the project does not comply with applicable design considerations
- The rationale for not following the design considerations
- The planned approach

Rationale: This Programmatic Environmental Impact Statement outlines design considerations at the beginning of each section in Chapter 3. Design considerations may include guidance documents, manuals, and/or best management practices. Design considerations are typically standardized

[4] A plan developed by applicants to conserve the habitat of a species at risk if their project is expected to cause incidental take of the species.

practices designed to prevent adverse environmental impacts and are often included in regulatory compliance programs or implemented as routine practices.

Gen-5 – Compliance with Avoidance Criteria: This Programmatic EIS assumes that all project-specific applications would incorporate and comply with the Avoidance Criteria[5] identified in it. If a project-specific application does not comply with the identified Avoidance Criteria, the State Environmental Policy Act (SEPA) Lead Agency would conduct additional environmental analyses and identify mitigation, if appropriate.

Rationale: Avoidance Criteria are identified to prevent probable significant adverse environmental impacts on sensitive environmental resources identified in this Programmatic EIS and provide project-specific applications and their reviews an opportunity to adequately evaluate and address site-specific adverse environmental impacts.

Gen-6 – Project Implementation Details: Applicants would incorporate the following into their project-specific applications and design plan details, or document compliance with them, where applicable:

- No temporary staging, stockpiles of materials, temporary buildings, or equipment can remain on the project site unless written approval is obtained from the parcel owner.
- Effort would be made to coordinate construction activities with other construction in the area.
- Appropriate property rights or access would be acquired before new construction, operation, and/or maintenance activities can occur.
- All temporary construction areas disturbed during construction or other work associated with the project would be restored to preconstruction conditions once the work is complete.

[5] Avoidance Criteria are a form of mitigation that were developed for this Programmatic EIS to allow for its application to a variety of project types and locations. Projects may not be able to fully implement all Avoidance Criteria. The project-specific impacts and mitigation associated with the affected resource(s) and Avoidance Criteria, would be more appropriately addressed through project-specific environmental review.

- Excavations and drilling would meet federal, state, and local criteria; engineering standards; and Occupational Safety and Health Administration standards.
- The applicant is responsible for protecting the environment from damage by construction vehicles, equipment, construction activities, and storage of materials.

Rationale: These conditions collectively ensure that the project is conducted safely, legally, and responsibly, benefiting both the community and the environment.

Gen-7 – Cumulative Impact Assessment: Provide information to support a project-specific cumulative impact assessment as directed by the SEPA Lead Agency. The project-specific cumulative impact assessment can add to the baseline cumulative impact analysis provided in this Programmatic EIS.

Rationale: The Washington Energy Facility Site Evaluation Council has determined that the appropriate scope and level of detail for this Programmatic EIS cumulative effects analysis (the Study Area) may not be sufficient for a project-specific cumulative effects analysis (Washington Administrative Code 197-11-060(5) Phased Review). This Programmatic EIS analyzes cumulative effects and recognizes that significant cumulative effects are possible for many environmental resources. However, the actual context for a specific project would vary with the physical setting and timing, and would therefore affect the analysis of cumulative effects for that specific project and make it more feasible to identify appropriate mitigation for any identified project-specific cumulative impacts.

Gen-8 – Decommissioning Analyses: The analysis of adverse environmental impacts during the decommissioning stage is outside the scope of this Programmatic Environmental Impact Statement. State Environmental Policy Act (SEPA) environmental review under Revised Code of Washington 43.21C would be required for the decommissioning stage. Project-specific applicants would consult with the SEPA Lead Agency to determine what decommissioning information they want, if any, at the time of project application.

Rationale: An environmental analysis of decommissioning a transmission facility is required. However, a transmission facility would be decommissioned following the end of its useful life, which generally ranges from 40 to 80 years.

As part of a phased review, the SEPA Lead Agency may decide to postpone SEPA analysis of decommissioning to a time closer to actual decommissioning, when information about the existing condition would be current. At that time, the SEPA Lead Agency would identify necessary environmental and socioeconomic studies pertinent to the decommissioning of transmission facilities.

Gen-9 – Preconstruction Surveys and Assessments: Applicants would complete preconstruction surveys and assessments, as listed in Appendix 3.1-1.

Rationale: Surveys and assessments provide project-specific information that helps identify project-level probable significant adverse environmental impacts and inform the development of project-specific mitigation measures. This includes the affected environment, potential constraints, and existing infrastructure, which are essential for siting, design, and environmental analysis.

Gen-10 – Mitigation and Management Plans: Applicants would prepare and implement project-specific mitigation and management plans, as outlined in Appendix 3.1-1.

Rationale: Detailed mitigation and management plans demonstrate regulatory compliance and risk management, which would facilitate efficient environmental analysis.

Gen-11 - Pre-Application: Project-specific applicants should engage with the SEPA Lead Agency as early as possible and follow the SEPA Lead Agency's pre-application process when one is available.

Rationale: A pre-application meeting enables an honest exchange of information and data early in the project planning process. Additionally, completing the SEPA Lead Agency's pre-application process can better prepare the applicant and improve the efficiency of the application review by outlining the required methodology, format, and timing of baseline surveys, assessments, and evaluations.

3.1.3.2 Avoidance Criteria

As previously described, incorporating all Avoidance Criteria provides the most environmentally effective and economically feasible method for implementing a proposal. They are used in this Programmatic EIS as a baseline assumption to evaluate potential adverse environmental impacts on a broad level. They can be used by

applicants and the SEPA Lead Agency as a best practice or guide in the early planning and design stages of a project to avoid significant adverse environmental impacts. However, it is not the intent of this Programmatic EIS to require the incorporation of all Avoidance Criteria into project-specific applications. When a project-specific application is inconsistent with or does not comply with any of the following Avoidance Criteria, additional information should be provided in the project-specific application for the SEPA Lead Agency's consideration. The SEPA Lead Agency would be expected to conduct additional environmental analyses and identify mitigation measures, as required by SEPA, to address related project-specific impacts.

AVOID-1 – Hazardous Areas:[6] Avoid having equipment or infrastructure within known hazardous areas, including, but not limited to, contaminated soils, geologically hazardous areas, landfills, and cutbanks.

Rationale: Avoiding hazardous areas provides safety for workers, the public, and infrastructure, as well as environmental protection. Disturbing sites of known contamination or other hazards may require the development of remediation plans.

AVOID-2 – Wetland Disturbance: Avoid having equipment or infrastructure within 300 feet of all wetlands.

Rationale: Protecting wetlands would decrease the chances of wetland degradation during new construction activities, as these areas are important for sustained wetland function. Wetlands within the project footprint would be delineated following the U.S. Army Corps of Engineers wetland delineation methodology and rated using the ECY's Western Washington, Version 2, and Eastern Washington, Version 1.

AVOID-3 – Sensitive Water Features: Avoid impacting areas sensitive to degradation, including adjusting the layout of new transmission facilities to steer clear of sensitive water features.[7]

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[6] Areas susceptible to erosion, sliding, earthquakes, or other geological events or areas that could pose a threat to health and safety when incompatible commercial, residential, or industrial development is sited in areas of significant hazard (e.g., landfills, underground mines, cutbanks, etc.).

[7] Washington does not have a single, unified legal definition for "sensitive water features," but the concept is addressed through several statutes and regulatory frameworks that define and protect critical areas and water resources. Washington's Growth Management Act (RCW 36.70A.030) defines five types of critical areas, which include water-related features considered sensitive: wetlands, areas with a critical recharging effect on aquifers used for potable water, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas. These areas must be

Rationale: Avoiding sensitive water features that are susceptible to degradation from new construction activities, including changes to the water features' physical characteristics (e.g., banks, bathymetry, and substrate[8]), as well as chemical properties. Avoiding these areas helps preserve their structure and function.

AVOID-4 – Floodplains: Avoid having equipment or infrastructure within floodplains.

Rationale: This Avoidance Criterion would eliminate the potential for damage to infrastructure and electrical safety hazards because of inundation and would avoid some riparian ecosystems.

AVOID-5 –Channel Migration Zones (CMZs): Avoid having equipment or infrastructure in Channel Migration Zones (CMZs), defined in WAC 222-16-010 as areas where the active channel of a stream is prone to move, resulting in a potential near-term loss of riparian function and associated habitat adjacent to the stream, except as modified by a permanent levee or dike. Avoidance of CMZs is recommended where feasible, but compliance with applicable shoreline, floodplain, and critical areas regulations will guide project-level decisions.

Rationale: This Avoidance Criterion would eliminate potential damage to infrastructure caused by erosion of soil or foundations for infrastructure, if a channel were to migrate. Additionally, placing equipment or personnel within CMZs poses safety risks due to unstable ground conditions, sudden changes in stream flow, and increased likelihood of flooding or debris movement. Avoidance reduces the risk of injury, equipment loss, and costly emergency responses, while supporting compliance with shoreline, floodplain, and critical area regulations.

AVOID-6 – Old-Growth and Mature Forests: Avoid old-growth forests, which include forests older than 200 years in western Washington and greater than 150 years in eastern Washington, and mature forests, which include forests greater than 80 years.

designated and protected using best available science, and local governments are required to adopt development regulations to preserve their functions and values. While the Washington State Department of Ecology does not offer a definition for "sensitive water features," areas such as fish-critical basins, instream flows, and water quality and quantity compliance zones may be identified to protect water features (RCW 90.54).

[8] A layer of material or surface where an organism could live.

Rationale: This Avoidance Criterion would reduce direct loss of old-growth and mature forests, which have already lost the majority of their historical extent. Old-growth and mature forests are particularly susceptible to long-term adverse environmental impacts due to the time lag to reestablish current ecological functions if clearing occurs. In addition, linear features through old and mature forest stands increase the adverse environmental impacts from edge effects[9] such as the spread of invasive plants.

AVOID-7 – Rare, Endangered, or Threatened Plant Species and Sensitive Ecosystems: Avoid having equipment or infrastructure in areas occupied by rare, endangered, or threatened plant species and sensitive ecosystems.

Rationale: Avoiding rare, endangered, or threatened plant species and sensitive ecosystems would reduce both direct and indirect impacts on, and fragmentation of, these communities whose populations are at-risk of disappearing.

AVOID-8 – Important Habitat: Avoid having equipment or infrastructure in areas occupied by important and sensitive wildlife habitat, such as those listed in Appendix 3.1-1.

Rationale: This Avoidance Criterion aims to reduce habitat loss and fragmentation that can be caused by linear features, such as transmission facilities.

AVOID-9 – Movement Corridors: Avoid having equipment or infrastructure in modeled landscape connectivity areas that are characterized as having high connectivity value in the Washington Habitat Connectivity Action Plan, unless the project is sited within or adjacent to an existing right-of-way or linear feature (e.g., a roadway).

Rationale: This Avoidance Criterion aims to reduce wildlife barriers to movement.

AVOID-10 – Buffer Setbacks for Wildlife and Wildlife Features: Avoid having equipment or infrastructure within the setbacks identified for wildlife and wildlife features, as outlined in Appendix 3.6-1. Applicants would verify and

[9] A phenomenon in which species composition changes near the boundary of a habitat. This term is typically used in the context of habitat degradation, where intact habitat contains less diversity near the point of contact with disturbed areas, such as clearcuts or agricultural land.

update the setbacks as new buffers are recommended by Washington State (e.g., Washington Department of Fish and Wildlife [WDFW] and Washington State Department of Ecology). Buffers and setbacks would be reviewed with WDFW prior to the submittal of a project-specific application.

Rationale: This Avoidance Criterion reduces direct and indirect habitat loss and mortality of special status species.[10]

AVOID-11 – Oil-Containing Conductor Cables: When installing underground transmission lines, avoid the use of oil-containing equipment for cooling.

Rationale: This Avoidance Criterion aims to eliminate the risk of insulation fluid leaks associated with oil-containing equipment underground.

AVOID-12 – Heat Sources: Avoid collocation with other heat sources like steam mains.

Rationale: This Avoidance Criterion aims to eliminate the risks associated with excess heat generation, such as thermal stress of nearby structures and soil stability.

AVOID-13 – Land Use and Zoning Incompatibilities: Avoid incompatible land uses and adhere to all applicable zoning and development regulations. Demonstrate that there are no direct or indirect adverse land use incompatibilities with private property owners or public land administrators.

Rationale: This Avoidance Criterion aims to avoid conflicts associated with land use and zoning designations. Avoiding land use and zoning conflicts would also help reduce adverse environmental impacts on property owners, agricultural landowners, noise, neighboring viewers, and socioeconomics.

AVOID-14 – Civilian Airports and Military Installations: Avoid having equipment or infrastructure near civilian airports, surrounding runway protection zones, special-use airspaces that have a surface-level floor elevation, and the Boardman Geographic Area of Concern.

Rationale: This Avoidance Criterion aims to avoid adverse environmental impacts on designated areas within which some forms of transmission facility

[10] For this Programmatic EIS, special status fish and freshwater invertebrate species are defined as either listed under the federal Endangered Species Act or Bald and Golden Eagle Protection Act or listed by Washington State as endangered, threatened, sensitive, or candidate.

development could have an adverse environmental impact on airport and military operations and/or readiness.

AVOID-15 – Non-Compliance with Utilities Accommodation Policy: Avoid planning, siting, and constructing transmission facilities that are not properly accommodated within highway rights-of-way (ROWs).

Rationale: Comprehensive analysis of adverse environmental impacts and mitigation strategies would be required by the Washington State Department of Transportation when transmission facilities are planned or designed within ROWs. In cases where utility providers are noncompliant with the Utilities Accommodation Policy, the utility company would submit a detailed variance application to the applicable department for review. The variance application requires an environmental analysis, and if approved, additional mitigation measures may be required.

AVOID-16 – Decrease in LOS below Acceptable Levels: Avoid a decrease in the level of service (LOS) below level C on roads used during all stages of transmission facilities.

Rationale: This avoidance criterion is intended to apply to long-term operational impacts on transportation systems. Temporary reductions in LOS during construction are recognized as common and may be acceptable when managed through appropriate mitigation measures and coordination with local transportation authorities.

AVOID-17 – Night Sky: Avoid the installation of overhead transmission facilities that require lighting in areas where night sky preservation is a documented resource concern and managed for the protection of the night sky.

Rationale: This Avoidance Criterion aims to protect designated night sky areas.

AVOID-18 – Exceptional Recreation Assets: Avoid having equipment or infrastructure near or within the viewshed[11] of exceptional recreation assets, as defined by the Washington State Recreation and Conservation Office (RCO) and listed in Appendix 3.1-1.

Rationale: This Avoidance Criterion aims to guide early transmission facility planning efforts to protect exceptional recreational assets. These places provide

[11] The geographical area that is visible from a specific location.

a unique experience or activity that may not be available in all areas of the state, such as rock climbing, whitewater rafting, and backcountry horseback riding.

AVOID-19 – Wilderness Areas: Avoid having equipment or infrastructure near or within the viewshed of designated wilderness areas.

Rationale: This Avoidance Criterion aims to protect the scenic integrity of wilderness areas. Wilderness areas are valued for their untouched natural beauty. The Wilderness Act of 1964 mandates the preservation of the natural conditions of designated wilderness areas.

AVOID-20 – Limit Closure of Recreation Resources: Consider closure and restrictions only after other mitigation strategies and alternatives have been explored. Avoid long-term closure and restriction of recreation resources lasting more than 24 months.

Rationale: This Avoidance Criterion establishes the definition of "long-term closure" in relation to adverse environmental impacts on recreation resources from the new construction, operation and maintenance, upgrade, and modification of transmission facilities.

AVOID-21 – Physical Impacts on Historic and Cultural Resources: Avoid having equipment or infrastructure in areas occupied by historic and cultural resources.

Rationale: Physical impacts within the boundaries of historic and cultural properties may be considered an adverse effect if the feature impacted contributes to the significance of the property. Avoiding physical impacts would preserve the integrity of the resource.

AVOID-22 – Visual Impacts on Historic and Cultural Resources: Avoid having equipment or infrastructure near or within the viewshed of historic and cultural resources.

Rationale: Visual impacts may be considered an adverse effect if the integrity of the historic or cultural property's setting and feeling are important to its significance. Avoiding visual intrusions or alterations to the viewshed of the property would maintain the integrity of its significant historic features.

AVOID-23 – Physical Impacts on Tribal Resources and TCPs: Avoid having equipment or infrastructure in areas occupied by Tribal resources, including first foods, and Traditional Cultural Places (TCPs).

Rationale: The significant setting, feeling, and association of Tribal resources make them susceptible to adverse physical environmental impacts. Avoiding physical impacts would preserve the integrity of these resources.

AVOID-24 – Visual Impacts on Tribal Resources and TCPs: Avoid visual adverse environmental impacts on Tribal resources and Traditional Cultural Places (TCPs).

Rationale: The significant setting, feeling, and association of Tribal resources make them susceptible to adverse visual impacts. Avoiding visual intrusions or alterations to the viewshed of these resources would maintain their integrity and physical features within the property's setting that contribute to its historic significance.

AVOID-25 – Disproportionate Impacts on Environmental Justice Communities: Avoid disproportionate impacts on vulnerable populations and overburdened communities.

Rationale: This Avoidance Criterion aims to reflect and build upon existing legal and planning frameworks to avoid a disproportionate impact on vulnerable populations and overburdened communities.

AVOID-26 – Displacing Residents or Housing Units: Avoid land acquisitions that result in the loss of housing units and the displacement of residents.

Rationale: Long-term housing availability could be impacted if the new construction of transmission facilities requires land acquisition that results in the displacement of residents or housing units. Changes in housing availability could lead to adverse environmental impacts on the economic environment, social conditions, and general welfare of communities, including vulnerable populations and overburdened communities. This Avoidance Criterion aims to avoid impacts on long-term housing availability.

3.1.3.3 Mitigation Measures

Mitigation Measures to address adverse environmental impacts on the environment are discussed in each subsequent section of Chapter 3. Measures can be implemented to avoid, minimize, and/or mitigate probable significant adverse environmental impacts associated with the construction, operation and maintenance, and upgrade or modification of transmission facilities.

After incorporating General Measures and Avoidance Criteria, applicants would select applicable resource-specific Mitigation Measures identified in this Programmatic EIS to minimize the adverse environmental impacts of their project. This Programmatic EIS has concluded that there would be no probable significant adverse environmental impacts if all applicable Avoidance Criteria and Mitigation Measures for impacts identified as medium or high impacts are implemented, consistent with SEPA requirements and RCW 43.21C.408(3).

The SEPA Lead Agency would be responsible for verifying that applicants have committed to all applicable Mitigation Measures for medium and high adverse environmental impacts identified in this Programmatic EIS. If the applicant has not committed to all appropriate Mitigation Measures, the SEPA Lead Agency would conduct additional environmental analyses to determine impacts, project-specific mitigation, and impact significance. The SEPA Lead Agency will identify any omitted measures that should be required as a condition of the project. The SEPA Lead Agency is also responsible for identifying and analyzing any "project-level probable significant adverse environmental impacts not addressed in this Programmatic EIS" (RCW 43.21C.408(3)) and for making the SEPA Threshold Determination for the project-specific application.

When a SEPA Lead Agency reviews a project-specific application and identifies other adverse environmental impacts that were not accounted for in this Programmatic EIS, additional environmental analyses would be conducted, and project-specific mitigation may be required. As discussed in Chapter 1, Introduction, these additional project-specific mitigation measures may be identified by the SEPA Lead Agency and imposed by any state or local agency with jurisdiction as part of their approval through the use of their SEPA "substantive authority" (WAC 197-11-660). Additionally, should EFSEC be the SEPA Lead Agency, EFSEC has the specific authority to "develop and apply environmental and ecological guidelines" for projects that it regulates under RCW 80.50.

The Mitigation Measures outlined in this Programmatic EIS have been developed using the best available science and in consultation with other agencies and partners. These agencies and partners have expertise in identifying potential adverse environmental impacts and ways to address those impacts. In addition, other agencies were asked to review specific sections, which provided them an opportunity to identify additional published guidance or other manuals that may contain BMPs, design considerations, or other techniques that are appropriate for the siting of transmission facilities.

The inclusion of a Mitigation Measure in this Programmatic EIS does not imply that a given adverse environmental impact is presumed to occur. Rather, the Mitigation Measures are provided to support early planning and avoidance of adverse environmental impacts, streamlining project-level environmental reviews when impacts are identified. These Mitigation Measures are intended to serve as a set of potential strategies that the SEPA Lead Agency and applicants can draw from, depending on the specific environmental context and project footprint. Applicants and the SEPA Lead Agency retain discretion to:

- Propose alternative mitigation strategies that achieve equivalent or better outcomes.
- Demonstrate that certain Mitigation Measures are not applicable due to the absence of relevant impacts.

Appendix 3.1-1 provides a comprehensive list of all Mitigation Strategies identified in this Programmatic EIS. The appendix provides additional guidance and the implementation schedule for applicants and SEPA Lead Agencies to consider when incorporating Mitigation Strategies. Additionally, the appendix can be used as a reference or tracking document throughout the life of the project by updating the last column, titled Implementation Status.

3.1.4 Impact Determination

As described in Chapter 1, Introduction, this Programmatic EIS is a nonproject review document that would be used for the future planning and development of transmission facilities. As part of this Programmatic EIS, probable adverse environmental impacts associated with different types of transmission facility developments are described qualitatively. “Impacts” are the effects or consequences of actions (WAC 197-11-752) upon the evaluated elements of the environment.

This Programmatic EIS considers three types of impacts to evaluate the resulting effects or consequences of transmission facility development, described below:

- **Direct impacts** are the effects of an action on a resource that occur at the same time and place as the action. An example of a direct impact would be increased noise levels experienced by residents living near a construction site.
- **Indirect impacts** are similar to direct impacts in that they are caused by the action; however, they occur later in time or occur farther from the activity

causing the impact. An example of an indirect impact would be a decline in the numbers of a wildlife species due to the fragmentation of that species' habitat by the installation of fencing.

- **Cumulative impacts** are the combined result of incremental direct and indirect impacts on resources from a project or plan, past and present actions, and other reasonably foreseeable actions. Cumulative impacts are described in Chapter 4, Cumulative Impacts.

Chapter 3 evaluates direct and indirect impacts associated with the Action Alternative and the No Action Alternative. The No Action Alternative could result in greater impacts than the Action Alternative for several reasons, such as the following:

- **Scope and Detail:** Environmental analysis of project-specific applications focuses on evaluating site-specific project footprints and design details. Project-specific mitigation involves collaboration between the project applicant and the regulatory agency to balance the applicant's capabilities with agency requirements and to be applicable to the project-specific application. Avoidance is the most effective form of mitigation, and the best opportunity to implement this type of mitigation is prior to or during siting and design, which may take place before a project-specific application is submitted. As a result, mitigation identified after the project-specific planning process may not be as effective at mitigating adverse environmental impacts or as robust as the Avoidance Criteria and Mitigation Measures outlined in this Programmatic EIS. Due to the nature of this Programmatic EIS as a statewide programmatic review without analysis of a specific project, it is best suited for identifying and assessing the typical environmental consequences of transmission projects and their cumulative impacts. This Programmatic EIS is designed to provide a framework for future project-specific planning and analyses that incorporate avoidance and identified mitigation during siting and design.
- **Regulatory Compliance:** In some cases, under the No Action Alternative, project-specific applicants may be unaware of certain regulatory requirements. By adhering to the detailed regulatory framework provided in this Programmatic EIS, applicants are more likely to be in compliance at the time of application, avoiding the time and cost of reviewing or redesigning project elements to bring the application into compliance.
- **Comprehensive and Relevant Environmental Review:** This Programmatic EIS establishes a baseline for analysis and provides a framework for projects that fit

within its scope, which aims to facilitate the completion of comprehensive and relevant environmental analyses. Even if a project does not fully fit within the scope of this Programmatic EIS, much of the analysis may still be useful as part of the project-specific environmental review. This Programmatic EIS was developed through an extensive literature review and in consultation with various subject matter experts (SMEs). These resources may not be readily accessible or available to SEPA Lead Agencies under the No Action Alternative.

Chapter 3 describes the method of analysis used for each element of the environment and evaluates the different types of adverse environmental impacts that could occur from the new construction, operation and maintenance, upgrade, and modification of transmission facilities. The impacts discussed and evaluated are intended to identify a full range of possibilities that could occur when implementing a transmission facility project. An initial impact determination is provided for each impact. These impact determinations take into consideration applicable laws, regulations, and siting and design criteria, without the incorporation of Avoidance Criteria or Mitigation Measures identified within this Programmatic EIS.

The analysis of adverse environmental impacts is based on best available science at the time of writing. It is limited by the availability of data from public sources. Scientific understanding may change over time, and applicants and the SEPA Lead Agency should rely on the best available science at the time of application, which may differ from the adverse environmental impacts identified in this Programmatic EIS.

Table 3.1-1 summarizes the general descriptions anticipated for each impact determination prior to the implementation of any Avoidance Criteria and Mitigation Measures. These descriptions have been tailored for each environmental resource section. Each element of the environment analyzed throughout Chapter 3 includes a similar table with customized impact determination descriptions, which are used to assess adverse environmental impacts on that particular resource.

Table 3.1-1: Impact Determination Scale

Nil	Negligible	Low	Medium	High
No foreseeable adverse environmental impacts are expected.	A project would have minimal adverse environmental impacts. Changes would either be non-detectable or,	A project would result in noticeable adverse environmental impacts, even with the	A project would result in apparent adverse environmental impacts even with the implementation	A project would result in substantial adverse and potentially severe environmental impacts even

Nil	Negligible	Low	Medium	High
	if detected, would only have slight effects and would be short-term in duration. BMPs and design considerations are expected to be effective.	implementation of BMPs and design considerations. Adverse environmental impacts would be limited and controlled. These adverse environmental impacts may be short or long-term in duration.	of BMPs and design considerations. Medium impacts may be short or long-term in duration.	after implementation of BMPs and design considerations. High impacts may be short or long-term.

Note: Identification of adverse environmental impacts and assignment of discipline-specific ratings are based on a structured evaluation consistent with the criteria outlined in WAC 197-11-330. Significance determinations consider the context and intensity of potential adverse environmental impacts, using both quantitative and qualitative information where appropriate. Professional expertise does not substitute for regulatory compliance. Regulatory requirements establish the baseline for environmental analysis and mitigation. Professional experience is used to supplement this baseline, providing additional insight to identify whether mitigation beyond what is required by regulation may be warranted. In cases where data are incomplete or unavailable, a precautionary approach has been applied to ensure that potential adverse environmental impacts are not underestimated.
BMP = best management practice; **SEPA** = State Environmental Policy Act; **WAC** = Washington Administrative Code

The impact determinations described above and used in this Programmatic EIS follow the SEPA impact determination categories in the following manner:

- "Nil," "Negligible," and "Low" impacts are not anticipated to exceed the SEPA threshold of significance, which is defined as a reasonable likelihood of more than a moderate adverse impact on environmental quality. These impacts would be expected to qualify for a determination of nonsignificance under SEPA.
- "Medium" impacts may involve significant adverse impacts depending on the setting and context of the project. Because they are not the highest level of impact, Mitigation Strategies are expected to be more effective in reducing the impact to a nonsignificant level. The final decision on whether an impact is effectively mitigated must be made on a case-by-case basis by the SEPA Lead Agency.
- "High" impacts would likely result in significant adverse environmental impacts. The Avoidance Criteria and Mitigation Measures in this Programmatic EIS were designed to ensure that all impacts, regardless of magnitude, would

qualify for a determination of nonsignificance under SEPA. However, as these impacts are at the highest level of magnitude, the Mitigation Strategies from this Programmatic EIS may be more difficult to fully implement or not as effective in reducing impacts to a level of nonsignificance. Most Avoidance Criteria were developed because of “high” impacts that could not otherwise be mitigated to a nonsignificant level in all situations. The final decision on whether an impact is effectively mitigated must be made on a case-by-case basis by the SEPA Lead Agency.

The impact determinations assume that the new construction, operation and maintenance, upgrade, and modification of transmission facilities could impact the identified resource. A project could use "N/A" (Not Applicable) in its project-specific application SEPA Checklist when appropriate. However, an explanation for why a particular impact does not apply to the project should be included. Simply stating "N/A" without context does not provide the requisite information for a SEPA Lead Agency to assess whether or not the impact is applicable to the project. For example, if an impact regarding water usage does not apply because the project does not involve any water resources, the application should explain this. This ensures that the project-specific application is thorough, provides a clear understanding of the potential for project impacts, and ensures that the SEPA Lead Agency does not have to seek further information from the applicant.

Chapter 4, Cumulative Impacts, identifies cumulative impacts of transmission facilities and makes a resulting determination of significance for each impact after considering the application of laws and regulations; siting and design considerations, including agency guidance and BMPs; and Mitigation Strategies identified in this Programmatic EIS.

3.1.5 Probable Significant Adverse Impact Determination

Under SEPA, environmental assessments weigh the likelihood of occurrence with the severity of an adverse environmental impact (WAC 197-11-794) and consider several factors when determining the significance of identified impacts (WAC 197-11-330). “Significant” under SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental quality. An impact may also be significant if its

chance of occurrence is not great, but the resulting environmental impact would be severe if it occurred.

Determining the significance of an impact involves context and intensity and does not lend itself to a formula or quantifiable test. The context may vary with the physical setting, and the intensity depends on the magnitude and duration of an impact (WAC 197-11-794). When evaluating the physical setting and intensity of impact, quantitative data are preferable; in some circumstances, qualitative information is sufficient and is used.

This section of the Programmatic EIS summarizes the potential adverse environmental impacts that could result from the new construction, operation and maintenance, upgrade, and modification of transmission facilities. It identifies the relevant Avoidance Criteria and Mitigation Measures identified in this Programmatic EIS that may be implemented to address the impact. Lastly, it assigns a significance rating to the impact once all relevant Mitigation Strategies that would address the identified impacts are considered.

Identification of adverse environmental impacts and assignment of discipline-specific ratings are based on a structured evaluation consistent with the criteria outlined in WAC 197-11-330. Significance determinations consider the context and intensity of potential impacts, using both quantitative and qualitative information where appropriate. Professional expertise does not substitute for regulatory compliance. Regulatory requirements establish the baseline for environmental analysis and mitigation. Professional experience is used to supplement this baseline, providing additional insight to identify whether mitigation beyond those required by regulation may be warranted. Professional expertise informs this evaluation, but does not substitute for regulatory compliance. In cases where data are incomplete or unavailable, a precautionary approach has been applied to ensure that potential impacts are not underestimated.

As described in Chapter 1, Introduction, project-specific applications would incorporate applicable Mitigation Measures from this Programmatic EIS. The SEPA Lead Agency would evaluate whether the Mitigation Measures identified are sufficient to reduce the probable significant adverse environmental impact to a less-than-significant level. The SEPA Lead Agency may determine that additional project-specific environmental analyses and mitigation are needed to further address project-specific impacts.

3.1.6 Environmental Sensitivity Map

To help inform the siting and design of transmission facilities, this Programmatic EIS provides environmental sensitivity maps for environmental resource sections, presented throughout Chapter 3. These maps were developed for this Programmatic EIS to better understand and illustrate the spatial distribution of resource sensitivities across environmental, social, economic, and technical dimensions. They are intended for a broad, comparative analysis at a regional scale, and should not be used for reviewing or approving project-specific applications. These maps can be used for preliminary screening purposes, but do not replace or substitute site-specific studies or assessments. Project-specific applications would include a comprehensive review and analysis to identify site-specific adverse environmental impacts using the project-specific location and site-specific conditions. As described in Chapter 1, Introduction, the SEPA Lead Agency should review project-specific applications for adequacy under SEPA.

The first step in the spatial analysis used in this Programmatic EIS was to define the Study Area. Once the Study Area of this Programmatic EIS was defined, the multi-criteria evaluation methodology was used to map variations in individual resource sensitivity based on criteria defined by SMEs. Each criterion was mapped using readily available geospatial data and assigned a sensitivity level[12] (1, 2, or 3), with Level 3 representing the highest sensitivity. When combined, the overlapping criteria produced a sensitivity score that illustrated the relative differences in resource sensitivity across the Study Area (**Figure 1.1-1**). For each resource type, criteria were presented as environmental sensitivity criteria cards alongside the overall, comprehensive environmental sensitivity map, depicting the data inputs and resulting sensitivity patterns.

Appendix 3.1-2 describes the data sources and processing methods used to develop the environmental sensitivity criteria. In addition, an online mapping tool has been developed to provide public access to the input data used to develop the environmental sensitivity maps, allowing users to view and interact with the information. EFSEC will

[12] A categorical ranking system used to evaluate the potential for adverse environmental impacts across various geographic areas and resource types. This ranking is applied through environmental sensitivity maps and criteria cards, which are central tools in the Programmatic EIS.
Each siting criterion is assigned one of three sensitivity levels:
Level 1: Low sensitivity — areas with minimal potential for adverse environmental impacts
Level 2: Moderate sensitivity — areas with some potential for impacts, requiring cautio
Level 3: Highest sensitivity — areas most vulnerable to environmental impacts and typically subject to the most stringent Avoidance Criteria or additional analysis

host this tool online following the publication of this Programmatic EIS and will continue to do so over time, as resources allow.

While this Programmatic EIS uses the multi-criteria evaluation methodology, applicants and the SEPA Lead Agency are not required to use this same process. A variety of other tools, frameworks, and methodologies—including open-source, agency-developed, or consultant-supported options—can be used to conduct project-specific analyses and to demonstrate consistency with the recommendations in this Programmatic EIS. This methodology represents one component of a broader multi-criteria decision analysis that could aid in corridor optimization. Since this Programmatic EIS broadly evaluates the potential for transmission facility development across the state, it does not identify specific points of connection or corridors. Applicants may develop or identify corridors between specific points of connection and analyze options or alternatives using a variety of methods or tools before submitting a project-specific application.

While most elements of the environment include an environmental sensitivity map, some resources may not have readily available public geospatial data or may not show enough spatial variation in sensitivity to warrant this type of evaluation. As such, the following elements of the environment do not have criteria cards or an environmental sensitivity map:

- Air Quality
- Energy and Natural Resources
- Public Health and Safety
- Public Services and Utilities

Figure 3.1-1 represents the exclusion criteria used for the environmental sensitivity criteria cards and identifies the areas determined to be outside the scope of this Programmatic EIS. These areas were also excluded from the environmental sensitivity maps.

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EXCLUSION CRITERIA

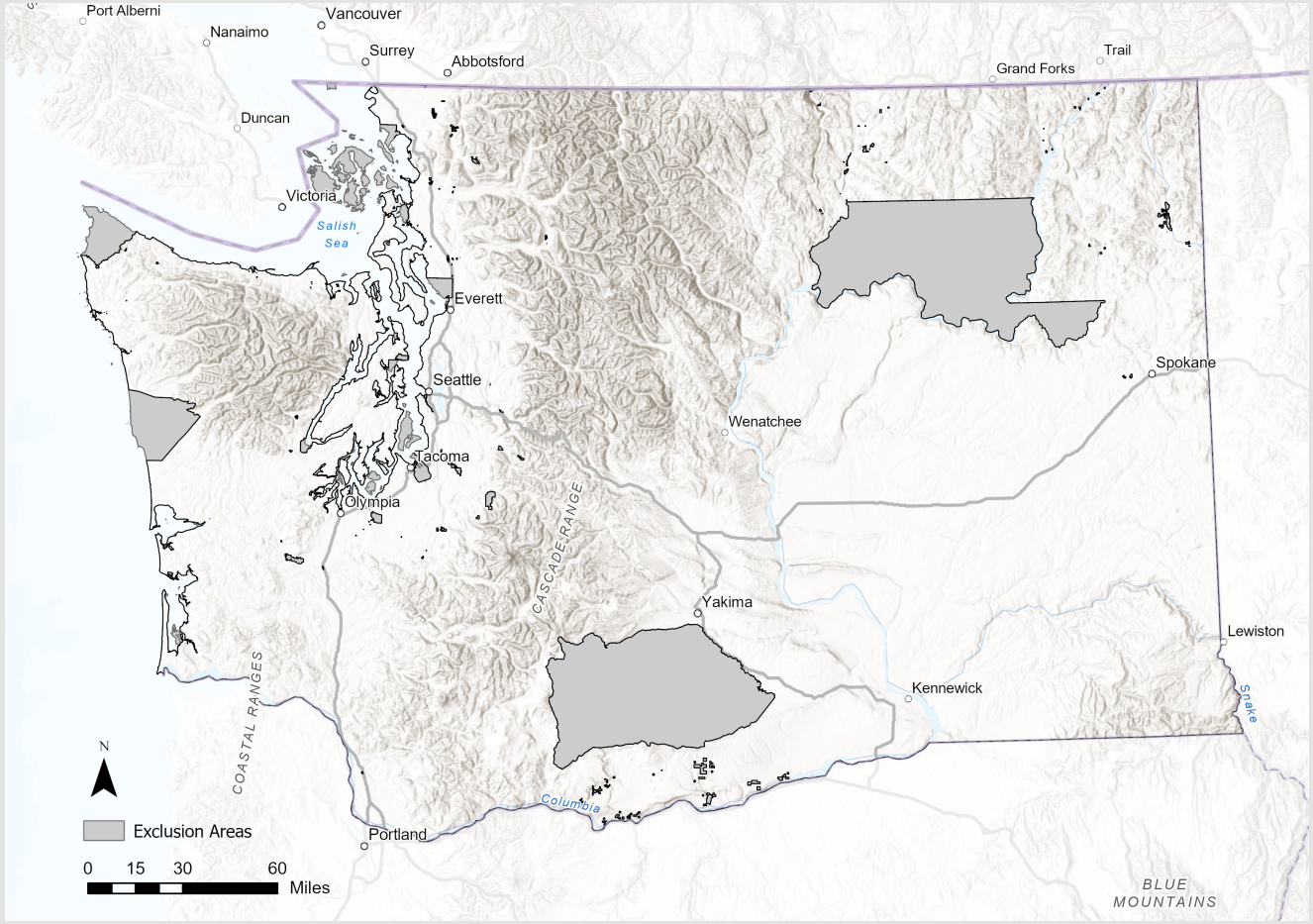
EXCLUSION CARD

Description

EFSEC has determined that the Planning Area of this Draft Programmatic EIS will include the entirety of Washington. The Study Area, or geographic scope, includes all lands across Washington except for lands covered by the exclusion criteria.

Programmatic EIS documents focus on broad policies. Sea cables are too specific for this review and may require separate reviews due to different regulatory frameworks. Their environmental impacts differ from land-based facilities, needing distinct EIS.

Tribal lands are excluded from the Study Area. Tribal lands have their own regulatory processes, and federal agencies must consult with Tribes to address their concerns.



Source

Washington State Dept. of Ecology, WA Dept. of Transportation

Indicator weight

EXCLUSION

HIGH

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