3.11 Public Services and Utilities

This Programmatic Environmental Impact Statement (EIS) considers the adverse environmental impacts on public services and utilities that would result from the types of facilities described in Chapter 2, Overview of Transmission Facilities, Development Considerations, and Regulations. This section addresses the following topics related to the new construction, operation and maintenance, upgrade, and modification of high-voltage electric transmission facilities (transmission facilities) in Washington.

- Section 3.11.1 identifies regulatory, siting, and design considerations.
- Section 3.11.2 describes the affected environment.
- Section 3.11.3 describes the adverse environmental impacts.
- Section 3.11.4 describes Mitigation Measures.
- Section 3.11.5 identifies probable significant adverse environmental impacts on public services and utilities.

3.11.1 Regulatory, Siting, and Design Considerations

This Programmatic EIS establishes a broad framework for compliance, outlining general laws, regulations, best management practices (BMPs), and design considerations. It is assumed that project-specific applications would be developed within this pre-established regulatory context and comply with existing laws and regulations. Any projects not complying with applicable laws and regulations or failing to adhere to design considerations or BMPs may require additional project-specific environmental analyses and mitigation. The federal and state laws and regulations that apply to public services and utilities are summarized in **Table 3.11-1**.

Table 3.11-1: Laws and Regulations for Public Services and Utilities

Applicable Legislation	Agency	Summary Information
42 USC Chapter 82 § 6901 et seq. – Solid Waste Disposal	U.S. Environmental Protection Agency	The Resource Conservation and Recovery Act establishes requirements for the management of solid waste and provides for "cradle to grave"[1] regulation of hazardous waste.
23 CFR 645 – Utilities, Subparts A and B	U.S. Department of Transportation, Federal Highway Administration	This regulation governs utility relocations, adjustments, and reimbursement and accommodation of utilities on the ROWs of federal-aid or direct federal highway projects.[2] The Washington State Department of Transportation accommodates utilities through the approval of joint use agreements,[3] traffic control plans, corrective measures, and use and occupancy agreements.
NFPA 99, Health Care Facilities Code	National Fire Protection Association	This code sets minimum requirements for healthcare facilities to protect life and property. Requirements include standards for backup power sources, such as generators, battery systems, or a health care microgrid[4] system.
RCW 19.280, Electric Utility Resource Plans	Washington State Department of Commerce[(a)]	This portion of the code encourages electric utilities to develop comprehensive resource plans that describe the combination of generation and demand-side resources necessary to meet their customers' electricity needs in the short and long term.
RCW 19.405, Washington Clean Energy Transformation Act	Washington State Department of Commerce[(a)]	The Washington Clean Energy Transformation Act requires the state's electric utilities to eliminate coal-fired electricity and transition the state's electricity supply to 100% carbon-neutral by 2030 and 100% carbon-free by 2045. Electric utilities must meet all standards established under RCW 19.405.030(1) and 19.405.040(1), which require utilities to eliminate coal-fired resources from their allocation of electricity and all retail sales of electricity to consumers to be greenhouse gas neutral by January 1, 2030.

[1] The entire lifecycle of a product or system, from its creation (cradle) to its disposal (grave).
[2] Highway construction, reconstruction, rehabilitation, repair, or improvement projects that are directly managed and funded by the federal government.
[3] A legally binding contract that allows multiple utility companies to share the same infrastructure or right-of-way.
[4] A small, controllable electrical system that can generate its own power and operate independently from the main power grid.

Applicable Legislation	Agency	Summary Information
RCW 36.70A.070, Comprehensive Plans – Mandatory Elements	Washington State Department of Commerce[(a)]	The Washington State Growth Management Act requires cities and counties to include a utilities element in their comprehensive plans. Projects must comply and be consistent with all relevant goals and policies outlined in the utilities element of the city and county comprehensive plans in the area in which the project resides.
RCW 54.04, General Provisions	Washington State Utilities and Transportation Commission[(a)]	This regulation requires that electrical facility construction or improvement bid proposals for any construction or improvement of any electrical facility shall be made using the contract proposal form supplied by the district commission[5] and in no other manner (RCW 54.04.085).
RCW 70A.45, Limiting Greenhouse Gas Emissions	Washington State Department of Ecology[(a)]	This regulation requires the state to reduce overall greenhouse gas emissions to 70% below 1990 levels by 2040. The state, state agencies, and political subdivisions of the state may only consider the siting and placement of new or expanded best-in-class facilities with lower carbon-emitting processes. It also requires the state to track progress toward meeting the emission reductions established in this subsection. Progress reporting will include emissions from key sectors of the economy, including, but not limited to, electricity, transportation, buildings, manufacturing, and agriculture.
RCW 70A.205, Solid Waste Management – Reduction and Recycling	Washington State Department of Ecology[(a)]	This section of the code establishes regulations for the management, reduction, and disposal of solid waste in Washington. RCW 70A.205.120 requires permits for solid waste handling facilities and disposal sites.
RCW 80, Public Utilities	Washington State Utilities and Transportation Commission[(a)]	RCW 80.01.040 grants EFSEC with its existing jurisdiction to exercise its powers prescribed in titles 80, 81, and any other law.

[5] A governing body or board responsible for overseeing various functions within a district.

Applicable Legislation	Agency	Summary Information
RCW 80.50.010, Energy Facilities – Site Locations et seq.	Washington Energy Facility Site Evaluation Council	The legislature finds that the present and predicted growth in energy demands in Washington requires a procedure for the selection and use of sites for energy facilities and the identification of a state position with respect to each proposed site. The intent of this policy is to streamline application review for energy facilities to meet the state's energy goals.
RCW 90.03.260, Appropriation procedure – Application – Contents	Washington State Department of Ecology[(a)]	A water right is required for the use of any amount of surface water or groundwater from a well. A water right is not needed if water is received from a utility with the necessary rights.
WAC 51-54A-0510, Emergency responder communication coverage	Washington State Building Code Council[(a)]	This regulation requires emergency responder communication coverage to have standby power for a minimum of 12 hours.
WAC 388-107-1030, Backup power	Washington State Department of Social and Health Services[(a)]	This regulation requires enhanced service facilities[6] to have an alternate source of power and automatic transfer equipment[7] to connect the alternate source within ten seconds of the failure of the normal source.
WAC 480-100, Electric Companies	Washington State Utilities and Transportation Commission[(a)]	Electric utilities must comply with all regulations outlined in RCW 80.28 and will be regulated by the UTC regarding requirements for consumer protection, financial records and reporting, electric metering, and electric safety and standards.
Washington State Environmental Policy Act	▪ Washington State Agencies ▪ Local Governments	This act is a process that identifies and analyzes environmental impacts that can be related to issuing permits. SEPA helps permit applicants and decision-makers understand how a proposed project will impact the environment. Certain projects, as defined in the SEPA Rules (WAC 197-11-704) and that are not exempt, are required to go through the SEPA process.

[6] Specialized residential settings designed to provide care for individuals with complex personal care and behavioral challenges that do not require institutionalization.

[7] Systems and devices that automatically switch a power supply from its primary source to a backup source when a failure or outage occurs.

Tables 3.11-1Notes:

(a) The agency responsible for administering most permits or authorizations for the identified regulation. However, if EFSEC is determined to be the agency responsible for approving a proposal, EFSEC can administer several types of permits at the state and local levels. EFSEC provides a streamlined process for siting and licensing major energy facilities, including transmission facilities in Washington State. EFSEC coordinates all evaluation and licensing steps, specifies the conditions for new construction and operation, and issues a Site Certification Agreement, which assumes the responsibility for issuing individual state or local permits. By consolidating these permits into a single Site Certification Agreement, EFSEC can simplify the regulatory process for energy facility developers. While EFSEC itself does not directly administer federal permits, it works closely with federal agencies to ensure that all necessary federal requirements are met during the evaluation and licensing of energy facilities.

CFR = Code of Federal Regulations; **EFSEC** = Washington Energy Facility Site Evaluation Council; **NFPA** = National Fire Protection Agency; **RCW** = Revised Code of Washington; **ROW** = right-of-way; **SEPA** = State Environmental Policy Act; **USC** = United States Code; **UTC** = Washington State Utilities and Transportation Commission; **WAC** = Washington Administrative Code

The siting of transmission facilities is determined by engineering, technical, environmental, and socioeconomic factors. **Table 3.11-2** summarizes guidance documents and management plans that outline the design considerations and BMPs generally used to avoid or minimize adverse environmental impacts on public services and utilities.

Table 3.11-2: Siting and Design Considerations for Public Services and Utilities

Siting and Design Consideration	Description
National Electrical Safety Code	The NESC covers basic provisions for safeguarding persons from hazards arising from the installation, operation, or maintenance of conductors and equipment and provides work rules for electric supply and communication lines and equipment. Relevant sections include the following: ▪ Part 2 – Sections 20-23: Rules for overhead line clearances ▪ Part 3 – Sections 30-39: Rules for underground lines ▪ Part 4 – Sections 40-43: Work rules
North American Electric Reliability Corporation Reliability Guidelines: Gas and Electrical Operational Coordination Considerations	The purpose of this guideline is to assist grid operators and owners in the effective coordination of electric operations with natural gas providers. It provides key practices and information to responsible entities that depend on natural gas for a portion of the electric grid.
Federal Energy Regulatory Commission Guidance	FERC regulates the interstate transmission of natural gas, oil, and electricity by overseeing transmission rates, market practices, and infrastructure development.
American Society of Civil Engineers Standards and Guidelines: ▪ ASCE/UESI/CI 75-22: Standard Guideline for Recording and	The ASCE develops standards and guidelines relevant to the design, construction, and maintenance of infrastructure, including electrical transmission systems and public utilities. These standards provide guidance about the collection and exchange of utility infrastructure data to support a wide range of

Siting and Design Consideration	Description
Exchanging Utility Infrastructure Data ▪ ASCE/SEI 7-22: Minimum Design Loads and Associated Criteria for Buildings and Other Structures	uses, including safeguarding utility infrastructure while expediting construction delivery with reduced risk. The standards also provide guidelines for the design and maintenance of transmission facilities, including considerations for corrosion. These guidelines emphasize the importance of robust insulation and proper materials to withstand environmental conditions.
U.S. Department of Energy, Transmission Siting and Permitting Efforts (DOE n.d.)	This guide ensures that the siting process considers the impact on public services and utilities, including the need for reliable power supply, environmental protection, and community engagement.
Recommended Siting Practices for Electric Transmission Developers (Americans for a Clean Energy Grid 2023)	This document outlines best practices for siting electric transmission facilities. Recommended practices include: ▪ Early and transparent engagement ▪ Respect and fair dealing ▪ Environmental considerations ▪ Interagency coordination ▪ Use of existing infrastructure
IEEE 2445-2018 Draft Standard Practice - Inspection and Assessment of Below Grade and Groundline Corrosion on Weathering Steel on Electrical Transmission and Distribution Structures	This standard provides recommendations to help utilities identify structures that may be at a high risk for below-grade corrosion.

ASCE = American Society of Civil Engineers; **CI** = Construction Institute; **FERC** = Federal Energy Regulatory Commission; **IEEE** = Institute of Electrical and Electronics Engineers; **NESC** = National Electric Safety Code; **UESI** = Utility Engineering and Surveying Institute

3.11.2 Affected Environment

This section describes public services and utilities within the Study Area (see Chapter 1, Introduction). The analysis of the affected environment incorporates the following:

- Electricity and Transmission Facilities
- Water
- Wastewater
- Solid Waste
- Natural Gas

- Communications
- Public Services, including law enforcement, fire protection, emergency medical services, and schools

3.11.2.1 Utilities

Electricity and Transmission Facilities

Washington is the nation's largest hydroelectric power producer, and this form of power generation accounted for approximately 60 percent of Washington's total electricity generation in 2023 (EIA 2024). The Columbia River runs through the eastern half of the state and borders the southern edge of the state until reaching the Pacific Ocean. It has an average annual runoff of 198 million acre-feet of water at its mouth, which makes it the second largest river system in the United States by runoff (BPA 2001). The Columbia River provides water for 19 hydroelectric projects between the United States and Canada, including Washington's Grand Coulee Dam (American Rivers n.d.). The Grand Coulee Dam is one of the largest hydroelectric power plants in the world and typically produces more than 21 million megawatt-hours of electricity each year. This electricity supplies power to eight western states and parts of Canada (EIA 2024).

Natural gas, other renewable resources, nuclear energy, and coal provide almost all the rest of Washington's in-state electricity generation. Natural gas is the second-largest in-state source of net generation, fueling about 18 percent of the state's total electricity generation in 2023. Renewable resources other than hydroelectric power, such as wind and solar energy, accounted for about 10 percent of the state's energy generation. Nuclear energy provided about 8 percent of Washington's total in-state generation, originating from the Columbia Generating Station, the state's only operating nuclear power plant. In 2023, coal fueled about 4 percent of the total electricity generated in Washington, almost all of it from one coal-fired power plant, the TransAlta Centralia plant. One of TransAlta Centralia's two coal-fired units permanently shut down at the end of 2020, and the other is scheduled for retirement in 2025.

Currently, Washington's net electricity generation generally exceeds demand in the state. Therefore, excess electricity is sent to the Western Interconnection, a regional grid that stretches from Canada to the northern part of Baja California, Mexico (EIA 2024). Though the state currently exports more electricity than it imports, electricity demand in Washington is projected to increase based on several factors, including

electrification of transportation, artificial intelligence and data centers, and population growth (see Section 3.7, Energy and Natural Resources). The Washington State Department of Commerce projects that as much as 40 percent of Washington's electricity will be imported by 2050 due to population growth and the transition from fossil fuels to cleaner sources of energy (Ecology 2024a). Furthermore, changes in climate have influenced energy demand patterns. Historically, the state experiences a peak in electricity demand during the winter; however, warmer summers have increased the use of air conditioners, while more and increasingly severe winter events have created higher demand in the winter (NWPCC 2024).

Washington has approximately 60 electric utilities, with three being investor-owned companies and the remainder being public entities. Investor-owned utilities are for-profit companies that are regulated by the Washington Utilities and Transportation Commission. Investor-owned electric utilities include Puget Sound Energy, Avista, and Pacific Power. Each public entity electric utility is operated by one or more of the following: local municipalities, public utility districts,[8] rural electric cooperatives, Tribes, and the federal government. Public electric utilities include, but are not limited to, the following (Washington State Department of Labor & Industries n.d.):

- Asotin County PUD
- Benton County PUD
- Chelan County PUD
- Clallam County PUD
- Clark County PUD
- Cowlitz County PUD
- Douglas County PUD
- Ferry County PUD
- Franklin County PUD
- Grant County PUD
- Grays Harbor County PUD
- Jefferson County PUD
- Kitsap County PUD
- Kittitas County PUD
- Klickitat County PUD
- Mason County PUD #1
- Mason County PUD #3
- Okanogan PUD
- Pacific County PUD
- Pend Oreille PUD
- Skamania PUD

[8] A community-owned, not-for-profit utility that provides essential services such as electricity, water, and, sometimes sewer, to residents within a specific geographic area.

- Snohomish County PUD
- Wahkiakum County PUD
- Whatcom County PUD
- Other Electric Utility Providers
- Blaine City Light
- Centralia City Light
- Cheney Power
- City of Cashmere
- City of Chewelah, Electric Department
- City of Cheney
- City of Coulee Dam Light Department
- City of Ellensburg
- City of McCleary
- City of Milton
- City of Richland
- City of Sumas
- Clearwater Power
- Columbia Rural Electric Association
- Elmhurst Power & Light Co.
- Inland Power & Light
- Kootenai Electric Cooperative Inc.
- Lakeview Light & Power
- Modern Electric Water Company (Spokane Valley)
- Nespelem Valley Electric Cooperative
- Ohop Mutual Light Co
- Okanogan County Electric Co-op
- Orcas Power and Light
- Parkland Light & Power
- Peninsula Light Company
- Port Angeles City Light
- Seattle City Light
- Tacoma Power
- Tanner Electric Cooperative
- Town of Eatonville
- Town of Ruston
- Town of Steilacoom
- Vera Water & Power

Municipal utilities are each governed by their own elected commissioners and/or city council (Solar Washington n.d.). Most public electric utilities purchase electricity wholesale from the Bonneville Power Administration. The Bonneville Power Administration is a federal agency that generates power from 31 hydroelectric dams in the Columbia River Basin, one nonfederal nuclear plant, and several small nonfederal power plants (BPA 2025). Several public utility districts own and operate their own hydroelectric facilities, such as Chelan, Grant, Pend Oreille, and Cowlitz County Public Utility Districts (WPUDA n.d. [a]).

Washington has approximately 4,527 miles of high-voltage (greater than 230 kilovolts [kV]) transmission lines and 3,321 miles of low-voltage (less than 230 kV) transmission lines (DOE 2015). Transmission lines can be considered an "interstate highway" for transporting and delivering electricity from power sources to places where it is either used or stored closer to the end user.

Water

Washington's drinking water comes from three sources: groundwater (wells and springs), surface water (lakes and rivers), and snowpack/snowmelt (supply for rivers, lakes, and aquifers). While more than 85 percent of the state's population gets their drinking water from public water systems, 15 percent obtain their water from domestic supplies. The use and development of a surface water or spring for a domestic water supply typically requires water rights permitting from the Washington State Department of Ecology (Ecology) (DOH n.d.[b]).

As with investor-owned electricity providers, the Washington State Utilities and Transportation Commission (UTC) regulates privately owned water companies. The UTC currently regulates 48 water companies (UTC 2022a). Additionally, public utility districts provide water and water-sewer service across the state, often specializing in rural and satellite systems. There are a total of 18 public utility districts that provide water service in Washington (WPUDA n.d.[b]).

Wastewater

Wastewater includes water from sources like sinks, showers, toilets, and industrial facilities. Wastewater contains a variety of contaminants and pollutants, depending on how and where the water was originally used. Wastewater must be treated at regulated facilities called wastewater treatment plants to remove pollutants before it can be released back into the environment to protect human health and aquatic life. There are more than 300 wastewater treatment plants in Washington, and all facilities are required to meet Ecology's water quality standards (Ecology n.d.) (see Section 3.4, Water Resources).

Solid Waste

Ecology provides technical assistance and guidance to local municipalities for managing solid waste, particularly through the State Solid and Hazardous Waste Plan (Ecology 2021). This plan is updated approximately every five years and promotes sustainable materials management with an overall vision to reduce waste. The State Solid and Hazardous Waste Plan also provides detailed information about recycling

programs, waste reduction and reuse strategies, and schedules for program implementation. Local governments are also required to develop solid waste regulations and management plans. These plans serve as a guiding document for their local solid waste programs, including providing information on existing solid waste facilities and 20-year estimates for needed future solid waste facilities.

Washington has 524 permitted and 504 exempt solid waste handling facilities, including landfills and composters. Recovering and recycling waste can help reduce the amount of waste disposed of in landfills, thereby reducing greenhouse gas emissions and other adverse environmental impacts. In 2021, Washington's recycling and recovery efforts resulted in a reduction of approximately 11.2 million tons, or 2,918 pounds, of greenhouse gas emissions per person. This is similar to conserving 1.1 billion gallons of gasoline, which would be enough to power 1.5 million homes, or nearly half the households in Washington, per year (Ecology 2024b).

Natural Gas

Washington has no natural gas wells or processing plants; however, there are three storage fields and 9,600 miles of interstate pipelines in the state (DOE 2015). A total of 40 companies operate natural gas pipelines across 32 counties in Washington (UTC 2022b).

Communications

Washington's commercial telecommunications industry and infrastructure are robust, with multiple service providers offering products and services via the full spectrum of telecommunications technologies. Washington's state trust lands provide ideal locations for communication towers, particularly the hilltops and mountaintops located throughout many parts of the state.

The Washington State Department of Natural Resources (DNR) manages state trust lands to produce revenue for public schools, universities, counties, and other trust beneficiaries through a variety of product sales and leasing mechanisms. The DNR's Communication Site Program leases state trust lands as sites for new communication facilities and for co-locating within DNR-managed facilities. The program includes 100 wireless telecommunication sites and represents a diversity of prime locations serving the large population centers of the Puget Sound lowlands, Spokane, and the Tri-Cities. In addition, sites that provide ideal coverage for rural and urban populations are located across the state (DNR 2025a, 2025b).

Generally, state trust lands leased for communication uses are located on mountaintops or in areas with topographic relief that allows for unobstructed sight lines. The DNR categorizes communication sites into five site classes based on population density, road access, topographic advantage, traffic density of serviced areas, and supply of comparable sites:

- Class 1: A site that serves a high population density, brings communications to a broad geographic area, and/or has road access with commercial and standby power available.
- Class 2: A site that has the same physical attributes as a Class 1 site, except it does not serve a high population density or has some limitations serving a broad geographic area.
- Class 3: A site with road access, but it serves a smaller population density or geographic area than Class 2 sites.
- Class 4: A remote site with limited road access, and power may or may not be available.
- Class 5: A site used only by county emergency management services (EMS), for counties with fewer than 5,000 people. (Deloitte 2020)

3.11.2.2 Public Services

Public services in Washington generally consist of services and systems necessary to maintain a safe community. Below is an overview of emergency response services in Washington. **Table 3.11-3** summarizes the total public service facilities in Washington. School and library counts are included in this table because these facilities can serve as possible evacuation centers. **Table 3.11-4** identifies the total number of first responder personnel, including dispatch, fire and rescue, law enforcement, and emergency medical personnel in the state.

Emergency response services in Washington comprise the following:

- **Law enforcement services:** Local, county, and state agencies, including sheriff offices, the Washington State Patrol, and the Washington Department of Fish and Wildlife, provide law enforcement services throughout the state.
- **Fire prevention and response** – Local county fire departments are primarily responsible for responding to structure fires and implementing fire-preventive measures.

- **Wildfire response services** – Local fire departments respond to wildfires with the support of the Washington State Department of Natural Resources assets, such as hand crews, engines, water tenders, helicopters, and planes.
- **Search and rescue services** – Search and rescue resources in the state come primarily from citizen volunteers and local law enforcement. The Washington Military Department, Emergency Management Division, may deploy specialized resources to conduct further search and rescue operations, including urban structural collapse, maritime/coastal/waterborne search and rescue, and land search and rescue.
- **Emergency medical response and services** – Emergency medical services can be provided by city fire departments, regional fire service authorities, and fire districts.[9] Public hospital districts and private ambulance services can also respond to and provide emergency medical services.
- **Emergency response and healthcare facilities** – Emergency response facilities, healthcare facilities, and enhanced services facilities[10] have stringent requirements for secondary power to ensure patient safety and continuous communication coverage during power outages.

Table 3.11-3: Public Service Facilities in Washington

Public Resource Type	Total
Law enforcement agencies	209
Fire departments	405
Hospitals	111
Schools (public, private, charter, and State-Tribal Education Compact schools)	3,208
Libraries	60

Sources: AESD n.d.; U.S. Department of Justice 2022; U.S. Fire Administration 2025; DOH n.d.(a); Washington Secretary of State 2023

[9] Special-purpose governmental entities created to provide fire protection and emergency medical services to a specific geographic area.

[10] A specialized residential setting designed to provide care for individuals with complex personal care and behavioral challenges who do not require institutionalization.

Table 3.11-4: First Responder Personnel in Washington

First Responder Personnel	Total
Police, fire, and ambulance dispatchers	2,330
Fire and rescue personnel	10,220
Law enforcement personnel	12,870
Emergency medical technicians and paramedics	4,640

Source: BLS 2023

3.11.3 Impacts

For this Programmatic EIS, adverse environmental impacts were assessed for the new construction, operation and maintenance, upgrade, and modification of transmission facilities within the Study Area.

3.11.3.1 Method of Analysis

The study area for a project-specific application would typically encompass several key regions and features, such as the following:

- **Project Site and Immediate Vicinity:** This includes the specific location of the project and the surrounding area that might be directly affected by new construction, operation and maintenance, upgrade, or modification activities.
- **Existing Utilities:** The study area would be large enough to determine if there could be any adverse environmental impacts on existing utilities or infrastructure systems, such as local landfills, electric utilities, sewer districts, etc.

This Programmatic EIS analyzes the affected environment and adverse environmental impacts on public services and utilities within the Study Area defined in Chapter 1, Introduction. Four project stages for each transmission facility type (overhead or underground) were considered: new construction, operation and maintenance, upgrade, and modification.

This evaluation considers both overhead and underground transmission facilities for each stage. Overhead transmission facilities consist of transmission lines, substations, and ancillary infrastructure. Overhead and underground transmission facilities may involve similar above-ground infrastructure. Underground transmission facilities consist of underground transmission lines, underground access vaults, and other

infrastructure located below the ground surface. The new construction of underground transmission facilities could include both open trench and trenchless construction methods.

Impact Determination

The discussion of adverse environmental impacts is qualitative given the high-level nature of a Programmatic EIS; quantification would require project-specific details to analyze. **Table 3.11-5** describes the criteria used to evaluate adverse environmental impacts from the Action Alternative and No Action Alternative. Information reviewed to identify adverse environmental impacts on public services and utilities in the Study Area was obtained from federal agencies, state agencies, local planning documents, and public scoping.

Table 3.11-5: Criteria for Assessing the Impact Determination on Public Services and Utilities

Impact Determination	Description
Nil	No foreseeable adverse environmental impacts are expected. A project would not adversely affect public services or utilities.
Negligible	A project would result in minimal adverse environmental impacts on public utilities or services. Changes would either be non-detectable or, if detected, would have only slight effects. A project would have a one-time increase in demand for public utilities or services. A project may result in a minor, temporary increase in emergency response times. A project would not result in an increased risk of power outages at public service facilities or affect existing utility infrastructure. Negligible impacts would be short-term in duration. BMPs and design considerations are expected to be effective.
Low	A project would result in noticeable adverse environmental impacts on public services and utilities, even with the implementation of BMPs and design considerations. These adverse environmental impacts may include periodic increases in demand for public services and utilities, temporary delays in emergency response times, and occasional risks of power outages at public service facilities. Additionally, a project may have a minor conflict with existing utility infrastructure. However, these adverse environmental impacts would be limited and controlled. Adverse impacts on public services and utilities would be localized. Adverse environmental impacts may be short or long-term in duration.
Medium	A project would result in adverse environmental impacts on public services and utilities, even with the implementation of BMPs and design considerations. A project would result in frequent increases in demand for public services or utilities, frequent delays in emergency response times, and a heightened risk of power outages at public service facilities. Additionally, a project may have substantial conflicts with existing utility infrastructure, requiring some design adjustments. Medium impacts may be short or long-term in duration.

Impact Determination	Description
High	A project would result in adverse and potentially severe environmental impacts on public services and utilities, even after the implementation of BMPs and design considerations. A project would cause continuous increases in demand for public services or utilities, substantial emergency response time delays for a long period of time, or power outages at public service facilities. Additionally, a project would have the potential for extensive and long-term conflicts with existing utility infrastructure, requiring substantial design adjustments. Adverse environmental impacts on public services and utilities may affect a larger area, not just localized to the construction site. High impacts may be short or long-term.

BMP = best management practice

To clearly understand the potential severity of adverse environmental impacts without any interventions, the following impact determinations exclude the use of Avoidance Criteria and Mitigation Measures. The ratings assume compliance with all federal, state, and local laws and regulations, as well as standardized BMPs and design considerations. Assessing adverse environmental impacts without Avoidance Criteria or Mitigation Measures offers a baseline understanding of potential environmental effects, helping to identify the true extent of these impacts. Environmental laws often require that initial impact assessments be conducted without considering mitigation to maintain the integrity of the environmental review process.

When impact determinations are identified as medium or high, then either the applicant would adopt applicable Mitigation Measures from this Programmatic EIS, or the State Environmental Policy Act (SEPA) Lead Agency may require applicable mitigation measures to be implemented to reduce project-specific adverse environmental impacts. When impact determinations are low, applicable Mitigation Measures should still be considered by the applicant and the SEPA Lead Agency, as these measures would help to further reduce adverse environmental impacts, including the project's contribution to cumulative impacts. These Mitigation Measures would be implemented in addition to compliance with laws, regulations, environmental permits, plans, and design considerations required for transmission facilities.

3.11.3.2 Action Alternative

New Construction

Overhead Transmission Facilities

Activities for the new construction of overhead transmission facilities would vary and depend on the scale of the facility and site characteristics. New construction could include a relatively short site preparation period (i.e., a few months), followed by a longer construction and start-up period. It is assumed that the construction stage of overhead transmission, per mile, would have a shorter duration than underground construction. Overhead transmission facilities could have the following adverse environmental impacts related to public services and utilities during new construction:

- Conflict with Existing Utility Infrastructure
- Increased Solid Waste Production
- Increased Water Demand
- Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders
- Increased Emergency Response Times
- Increased Risk of Power Outages at Public Service Facilities

Conflict with Existing Utility Infrastructure

New construction activities associated with the installation of overhead transmission facilities could conflict with existing utility infrastructure, such as other overhead transmission facilities, above-ground pipelines and ancillary facilities, telecommunication lines, water towers, and radio towers. There is also the risk of impacting existing underground utilities when excavating for structure footings or foundations. Conflicts with existing utility infrastructure could result in property damage, service or power outages, and/or the need for unanticipated, timely, and costly repairs. If existing utilities need to be de-energized or relocated to accommodate the new construction of underground transmission facilities, disruption to services may occur. In addition, direct conflicts with existing utility infrastructure could result in hazardous conditions, such as electrocution, flooding, fire, and exposure to hazardous materials and pollutants (see Section 3.8, Public Health and Safety).

Impact Determination: Adverse environmental impacts on public services and utilities resulting from conflicts with existing utility infrastructure during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Increased Solid Waste Production

New construction of transmission facilities could generate excess solid waste from excavated vegetation and soils, packing materials, and consumables.[11] Other waste materials generated during new construction activities may include wood, concrete debris, metal or cable scraps, batteries, and used oil from machinery. Improper disposal of these materials could lead to adverse environmental impacts on public health and safety and water quality (see Section 3.8, Public Health and Safety, and Section 3.4, Water Resources). Without proper planning, the disposal of construction-related waste could present challenges such as exceeding the capacity of local infrastructure, which could result in unanticipated construction delays or costs.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased solid waste production during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Water Demand

New construction could result in an increase in water demand for activities such as dust control, concrete mixing, fire control, and revegetation. Increased water demand could strain local water resources, including groundwater. A discussion of water rights and quantity is provided in Section 3.4, Water Resources.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased water demand during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

[11] Items that are intended to be used up relatively quickly and need to be replaced regularly.

Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders

As previously discussed, a project could conflict with existing utilities, resulting in fires and/or worker injuries, such as electrocution. New construction activities could introduce other fire risks through the use of mechanical equipment, flammable materials, and gas-powered equipment, thereby increasing the demand for fire protection services. These adverse environmental impacts could increase the demand for fire protection services, emergency responders, and emergency medical facilities (Section 3.8, Public Health and Safety).

Increased traffic volumes from construction workers commuting to and from a project site would lead to a higher risk of collision. The transport of construction materials or equipment could also pose hazards. The increased risks or hazards associated with vehicular transportation could increase the demand for law enforcement and emergency responders. Increased demand for law enforcement agents may also result from increased hazards relating to road closures and detours. Increased law enforcement demand could also result from incidents of theft, vandalism, or trespassing on a project site.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased demand for fire protection services, law enforcement, and emergency responders during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Emergency Response Times

New construction of new overhead transmission facilities could impact emergency response times due to temporary road closures, detours, increased traffic, and adverse environmental impacts from new access road construction. Impacts on vehicular transportation are discussed in Section 3.10, Transportation.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased emergency response times during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Risk of Power Outages at Public Service Facilities

As previously discussed, the new construction of overhead transmission facilities could conflict with existing utilities and, in some cases, cause a power outage. Power outages could impact public service facilities, such as local police departments, fire stations, and emergency medical facilities, thereby disrupting the operation of these facilities and risking public safety.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased risk of power outages at public service facilities during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Underground Transmission Facilities

Similar to overhead transmission facilities, activities for the operation and maintenance of underground transmission facilities would vary based on the type of facility, scale, and site characteristics. Facilities are not expected to have staff on site daily, but maintenance crews are anticipated to be regularly deployed. Transmission facilities require ongoing maintenance for equipment and ROWs, similar to any other linear industrial facility. Underground transmission facilities could have the following adverse environmental impacts related to public services and utilities, during new construction:

- Conflict with Existing Utility Infrastructure
- Increased Solid Waste Production
- Increased Water Demand
- Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders
- Increased Emergency Response Times
- Increased Risk of Power Outages at Public Service Facilities

Conflict with Existing Utility Infrastructure

New construction of underground transmission facilities could conflict with existing overhead utilities when clearing trees or constructing new access roads. However, conflict with existing overhead utilities is less likely to occur with new underground transmission facility construction activities than with overhead transmission facilities. Excavation and trenching operations associated with underground

transmission facilities could conflict with existing underground utility infrastructure, such as gas, water, and wastewater pipelines or fiber optic cables. It is anticipated that a conflict with existing underground utilities would be more likely with underground transmission facilities than with overhead.

Conflicts with existing utility infrastructure could result in adverse environmental impacts similar to those described for overhead transmission facilities. These impacts could include hazardous conditions, property damage, unanticipated, timely, and/or costly repairs, and service or power outages.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from conflicts with existing utility infrastructure during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Increased Solid Waste Production

It is expected that the new construction of underground transmission facilities would increase solid waste production in a manner similar to the new construction of overhead transmission facilities. However, construction associated with underground transmission facilities could result in greater quantities of unused soil, rock, and concrete from trenching.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased solid waste production during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Water Demand

The new construction of underground transmission facilities could result in increased water demand for activities such as dust control, mixing concrete, fire control, and revegetation. Increased water demand could strain local water resources, including groundwater. Water demand and quantity are discussed further in Section 3.4, Water Resources.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased water demand during the new construction of underground transmission facilities are expected to vary depending on the scale of the

project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders

New construction of underground facilities requires trenching or blasting that could result in trench collapse or worker injury. A conflict with an existing utility could also create hazardous conditions or result in worker injury. Because underground transmission facilities generally take longer to construct, the duration of risk exposure is greater than for overhead transmission facilities. Trench collapse and conflict with existing utilities would increase the demand for emergency responders, including fire protection services and law enforcement.

Increased demand for public service providers due to changes in vehicular transportation and increased risk of theft or trespassing would result in adverse environmental impacts similar to those described for overhead transmission facilities.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased demand for fire protection services, law enforcement, and emergency responders during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Emergency Response Times

New construction of underground transmission facilities could increase emergency response times due to temporary road closures, detours, increased traffic, and adverse environmental impacts from new access road construction. Because constructing underground transmission facilities generally takes longer than overhead, impacts are expected to occur for a longer duration. A discussion on impacts on vehicular transportation is provided in Section 3.10, Transportation.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased emergency response times during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Risk of Power Outages at Public Service Facilities

As previously discussed, the new construction of underground transmission facilities could conflict with existing utilities and, in some cases, may cause a power outage. Power outages could impact public service facilities, such as local police departments, fire stations, and emergency medical facilities. This could disrupt the operation of these facilities and risk public safety. Because constructing underground transmission facilities generally takes longer than overhead, adverse environmental impacts are expected to occur for a longer duration.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased risk of power outages at public service facilities during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Operation and Maintenance

Overhead Transmission Facilities

Activities for the operation and maintenance stage of overhead transmission facilities would vary based on the type of facility, scale, and site characteristics. Facilities are not expected to have staff on site daily, but maintenance crews are anticipated to be regularly deployed. Transmission facilities require ongoing maintenance for equipment and rights-of-way (ROW). Overhead transmission facilities could have the following adverse environmental impacts during the operation and maintenance stage:

- Conflict with Existing Utility Infrastructure
- Increased Solid Waste Production
- Increased Water Demand
- Increased Emergency Response Times
- Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders
- Increased Risk of Power Outages at Public Service Facilities

Conflict with Existing Utility Infrastructure

Once overhead transmission facilities are constructed, the potential for the operation of the facilities to conflict with existing utility infrastructure is low. However, as

discussed in Section 3.10, Transportation, electromagnetic interference (EMI) generated from transmission facilities can result in radio noise and can interfere with communication systems. During maintenance activities, adverse environmental impacts similar to those described for new construction could occur.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from conflicts with existing utility infrastructure during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Increased Solid Waste Production

The maintenance of overhead transmission facilities could periodically generate excess solid waste from packing materials, consumables, metal or cable scraps, batteries, and used oil from machinery. Improper disposal of these materials could lead to adverse environmental impacts on soil and water quality. The impacts could be similar to those of new construction but generally lower.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased solid waste production during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to low.

Increased Water Demand

The operation and maintenance of overhead transmission facilities could increase water demand for various activities, including dust control, revegetating disturbed areas, washing equipment or transmission facility components, fire protection, and substation operations. A discussion of water rights and quantity is provided in Section 3.4, Water Resources.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased water demand during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders

Overhead transmission facilities could pose an obstacle for emergency responders. While access roads can increase remote fire accessibility for ground responders, overhead structures can act as barriers for search and rescue aircraft, decrease firefighting water drop accuracy and maneuverability, and increase the risk of collisions. In extreme weather events, damaged overhead transmission structures can collapse or ignite fires, exacerbating the progression of active wildfires and posing risks to ground responders. This increased risk of collisions and exacerbation of wildfires could increase demand for fire, law, and emergency responders.

Maintenance activities could introduce other fire risks through the use of mechanical equipment, flammable materials, and gas-powered equipment. The use of mechanical and gas-powered equipment near overhead transmission facilities could inadvertently ignite vegetation, thereby increasing fire-related accidents or on-site injuries. Additionally, the use of flammable materials could increase the risk of these accidents, which could further increase the demand for emergency assistance.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased demand for fire protection services, law enforcement, and emergency responders during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Emergency Response Times

Maintenance activities associated with overhead transmission facilities could periodically necessitate temporary road or lane closures, leading to detours and/or increased vehicular traffic. Generally, overhead transmission facilities can typically be repaired more quickly than underground transmission facilities. Therefore, the duration of adverse environmental impact on emergency response times as a result of the maintenance of overhead transmission facilities is likely to be shorter compared to that of underground transmission facilities.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased emergency response times during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to low.

Increased Risk of Power Outages at Public Service Facilities

Maintenance activities, such as repairing failed equipment or replacing transmission components, could require de-energizing the conductors. In some instances, these activities could result in power outages at public service facilities.

Although the maintenance of overhead transmission facilities has a low potential to conflict with existing utilities, conflicts could arise and, in some cases, cause a power outage. Power outages could impact public service facilities, such as local police departments, fire stations, and emergency medical facilities, thereby disrupting the operation of these facilities and risking public safety.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased risk of power outages at public service facilities during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from nil to low.

Underground Transmission Facilities

Similar to overhead transmission facilities, activities for the operation and maintenance of underground transmission facilities would vary based on the type of facility, scale, and site characteristics. Facilities are not expected to have staff on site daily, but maintenance crews are anticipated to be regularly deployed. Transmission facilities require ongoing maintenance for equipment and ROW, similar to any other linear industrial facility. Underground transmission facilities could have the following adverse environmental impacts during the operation and maintenance stage:

- Conflict with Existing Utility Infrastructure
- Increased Emergency Response Times
- Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders
- Increased Risk of Power Outages at Public Service Facilities

Conflict with Existing Utility Infrastructure

Underground transmission facilities located near existing metallic pipelines could cause the pipeline infrastructure to corrode through induced currents. Over time, corrosion of infrastructure could lead to leaks or ruptures, increasing the risk of explosions, fires, or soil, groundwater, or surface water contamination. A conflict with

existing underground infrastructure is typically harder to resolve than a conflict in overhead contexts due to access constraints and maneuverability. Access and maintenance activities for underground transmission facilities would result in adverse environmental impacts similar to those described for new construction.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from conflicts with existing utility infrastructure during the operation and maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Increased Solid Waste Production

The maintenance of underground transmission facilities could periodically generate excess solid waste from soils, concrete debris, packing materials, consumables, metal or cable scraps, batteries, and used oil from machinery. Improper disposal of these materials could lead to adverse environmental impacts on soil and water quality. The impacts could be similar to those of new construction but generally lower.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased solid waste production during the operation and maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to low.

Increased Water Demand

Underground transmission facilities could increase water demand when maintenance or inspection activities are required. Hydrojetting may be required to remove sediment or debris. The operation of some underground transmission facilities may require water to cool the system. Dust control during maintenance activities, particularly when excavation is required, could increase water demand. A discussion of water rights and quantity is provided in Section 3.4, Water Resources.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased water demand during the operation and maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders

It is not expected that underground transmission facilities would be damaged or compromised once operational, since they would not create a surface-level obstruction or be exposed to weather events. However, maintenance associated with underground transmission facilities would require activities similar to those described under new construction activities, such as trenching and excavation. Trench collapse or worker injuries would increase the demand for emergency responders, including fire protection services and law enforcement. Maintenance activities could introduce other fire risks through the use of mechanical equipment, flammable materials, and gas-powered equipment. Furthermore, a conflict with an existing underground utility could result from trenching and excavating. This potential risk would result in adverse environmental impacts similar to those from new construction. Accessing and repairing underground transmission facilities would take longer than for overhead transmission facilities. Therefore, the increased demand for emergency responders would be longer in duration.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased demand for fire protection services, law enforcement, and emergency responders during the operation and maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Emergency Response Times

Once underground transmission facilities are constructed, all trenched areas and vault pits would be backfilled and restored to pre-construction conditions. Therefore, access for public service providers through typical operations would not be impacted. However, if maintenance or repair activities are required, they could necessitate temporary road or lane closures, leading to detours and/or increased vehicular traffic. These impacts could create delays that increase emergency response times. Underground transmission facilities generally take longer to repair than overhead facilities. Therefore, the duration of adverse environmental impacts on emergency response times would be longer than for overhead transmission facilities.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased emergency response times during the operation and maintenance of underground transmission facilities are expected to vary depending

on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to medium.

Increased Risk of Power Outages at Public Service Facilities

Maintenance activities, such as repairing failed equipment or replacing transmission components, could require de-energizing the conductors. In some instances, these activities could result in power outages at public service facilities.

Although the maintenance of underground transmission facilities has a low potential to conflict with existing utilities, conflicts could arise, and in some cases, cause a power outage. Power outages could impact public service facilities, such as local police departments, fire stations, and emergency medical facilities, thereby disrupting the operation of these facilities and risking public safety. A conflict with existing underground infrastructure is typically harder to resolve than a conflict in overhead contexts due to access constraints and maneuverability.

Impact Determination: Adverse environmental impacts on public services and utilities resulting from increased risk of power outages at public service facilities during the operation and maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from nil to low.

Upgrade

Overhead Transmission Facilities

Upgrades to overhead transmission facilities would occur within existing ROWs without expanding the existing facility footprint or causing new ground disturbance. However, these upgrades may result in adverse environmental impacts on public services and utilities, including:

- Conflict with Existing Utility Infrastructure
- Increased Solid Waste Production
- Increased Water Demand
- Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders
- Increased Emergency Response Times
- Increased Risk of Power Outages at Public Service Facilities

The adverse environmental impacts from upgrading overhead transmission facilities are often comparable to those of maintaining overhead transmission facilities. These adverse environmental impacts are generally anticipated to be lower than those for modifying or constructing a new transmission facility due to several factors. Table 2.3-1 highlights how upgrading existing transmission facilities would generally result in fewer or less impactful adverse environmental impacts.

Underground Transmission Facilities

Upgrades to underground transmission facilities would occur within existing ROWs without expanding the facility footprint or causing new ground disturbance. However, these upgrades may result in adverse environmental impacts on public services and utilities, including:

- Conflict with Existing Utility Infrastructure
- Increased Solid Waste Production
- Increased Water Demand
- Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders
- Increased Emergency Response Times
- Increased Risk of Power Outages at Public Service Facilities

The adverse environmental impacts from upgrading underground transmission facilities are often comparable to those of maintaining underground transmission facilities. These adverse environmental impacts are generally anticipated to be lower than those for modifying or constructing a new transmission facility due to several factors. Table 2.3-1 highlights how upgrading existing transmission facilities would generally result in fewer or less impactful adverse environmental impacts.

Modification

Overhead Transmission Facilities

Modifying existing overhead transmission facilities typically involves several key steps, each with specific requirements, timelines, and settings, as outlined in Chapter 2, Overview of Transmission Facilities, Development Considerations, and Regulations. The adverse environmental impacts of modifying existing transmission facilities would vary depending on the scale of the project-specific application.

Overhead transmission facilities could have the following adverse environmental impacts on public services and utilities during the modification stage:

- Conflict with Existing Utility Infrastructure
- Increased Solid Waste Production
- Increased Water Demand
- Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders
- Increased Emergency Response Times
- Increased Risk of Power Outages at Public Service Facilities

Adverse environmental impacts of modifying overhead transmission facilities could be similar to those of new construction, but are anticipated to be lower. Table 2.3-2 highlights how modifying existing transmission facilities would generally result in fewer or less impactful adverse environmental impacts.

Underground Transmission Facilities

Modifying existing underground transmission facilities typically involves several key steps, each with specific requirements, timelines, and settings, as outlined in Chapter 2, Overview of Transmission Facilities, Development Considerations, and Regulations. The adverse environmental impacts of modifying existing transmission facilities would vary depending on the scale of the project-specific application. Underground transmission facilities could have the following adverse environmental impacts on public services and utilities during the modification stage:

- Conflict with Existing Utility Infrastructure
- Increased Solid Waste Production
- Increased Water Demand
- Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders
- Increased Emergency Response Times
- Increased Risk of Power Outages at Public Service Facilities

Adverse environmental impacts of modifying underground transmission facilities could be similar to those of new construction but are anticipated to be lower.

Table 2.3-2 highlights how modifying existing transmission facilities would generally result in fewer or less impactful adverse environmental impacts.

3.11.3.3 No Action Alternative

Under the No Action Alternative, the Programmatic EIS would not be adopted as a planning or analytical framework. Instead, transmission facility siting and development would continue under existing state and local regulatory processes, with each project evaluated for environmental compliance without the benefit of the environmental review provided in this document. This approach would lack the advanced notice of potential serious environmental concerns for those planning transmission facilities, as well as Mitigation Strategies developed under the Programmatic EIS. As a result, environmental outcomes could be less predictable and consistent, and adverse environmental impacts could be greater.

3.11.4 Mitigation Measures

Under SEPA, there are six recognized forms of mitigation that agencies can apply to reduce or address adverse environmental impacts. These are:

- **Avoiding the adverse environmental impact** altogether by not taking a certain action or parts of an action.
- **Minimizing adverse environmental impacts** by limiting the degree or magnitude of the action and its implementation.
- **Rectifying the adverse environmental impact** by repairing, rehabilitating, or restoring the affected environment.
- **Reducing or eliminating the adverse environmental impact** over time by preservation and maintenance operations during the life of the action.
- **Compensating for the adverse environmental impact** by replacing or providing substitute resources or environments.
- **Monitoring the adverse environmental impact** and taking appropriate corrective measures.

This section describes the Avoidance Criteria and Mitigation Measures that could apply to adverse environmental impacts from new construction, operation and maintenance, upgrade, and modification of transmission facilities.

All General Measures adopted for this Programmatic EIS, identified in Section 3.1, are relevant to this resource section. Applicants would be responsible for providing information within their application materials documenting their implementation of the General Measures.

Avoidance Criteria[12] that are relevant to this resource section are described below:

AVOID-1 – Avoid Hazardous Areas: 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.

The Programmatic EIS is intended to support more efficient and effective siting and permitting of transmission facilities, consistent with the legislative direction in Revised Code of Washington (RCW) 43.21C.408, by streamlining environmental review where projects incorporate the recommended planning and Mitigation Strategies. Applicants would be responsible for providing information within their application materials documenting the project's compliance with the above Avoidance Criteria. While total avoidance of all adverse environmental impacts is not required in order to use the Programmatic EIS, applicants are expected to demonstrate how their project aligns with the intent of the Avoidance Criteria to the extent practicable. If specific Avoidance Criteria are not met, the applicant would provide an explanation and supporting information. Additional environmental analyses would be required as part of the documentation for SEPA for the project. Additional mitigation could be required, depending on the nature of the deviation and its potential to result in probable significant adverse environmental impacts.

Mitigation Measures have been identified to minimize adverse environmental impacts from transmission facility projects. These measures are intended to be broad so that they can be applied to most projects that would be covered under this Programmatic EIS. However, project-specific plans would be needed to adapt the measures for project-specific applications. The inclusion of a Mitigation Measure in this Programmatic EIS does not imply that a given adverse environmental impact would

[12] The complete list of Avoidance Criteria and their rationales can be found in Section 3.1 and Appendix 3.1-1.

occur. Rather, the measures are provided to support early planning and avoidance of adverse environmental Impacts, streamlining project-specific environmental reviews when impacts are identified. 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 adverse environmental impacts.

When impact determinations are identified as medium or high, then either the applicant would adopt applicable Mitigation Measures from this Programmatic EIS, or the SEPA Lead Agency may require applicable mitigation to be implemented to reduce project-specific adverse environmental impacts. When impact determinations are low, applicable Mitigation Measures should still be considered by the applicant and the SEPA Lead Agency, as these Mitigation Measures would help to further reduce adverse environmental impacts, including the project's contribution to cumulative impacts. These Mitigation Measures would be implemented in addition to compliance with laws, regulations, environmental permits, plans, and design considerations required for transmission facilities.

The following Mitigation Measures could be adopted to mitigate adverse environmental impacts:

PSU-1 – Utility Coordination: Contact impacted or potentially impacted utility service providers as early as possible in the planning process to identify conflicts or issues.

Rationale: This is a required component of project-specific applications necessary for State Environmental Policy Act Lead Agencies to evaluate baseline conditions. This Mitigation Measure aims to identify and address utility conflicts early in the planning and design process and throughout operation and maintenance.

PSU-2 – Corrosion Analysis: Identify and delineate existing metallic pipes or pumping wells near the study area for a project-specific application. Coordinate with adjacent utility providers to determine the need for a corrosion analysis, design modifications, and/or additional mitigation strategies.

Rationale: This Mitigation Measure aims to mitigate the adverse environmental impacts of electric currents or accelerated corrosion of metallic pipes and/or pumping wells from high-voltage transmission facilities.

In addition to the above Mitigation Measures, the following Mitigation Measures[13] developed for other resources may be applicable:

Geo-1 – Minimize Soil Disturbance: Minimize soil disturbance, including footprints related to access roads and permanent structures, to the greatest extent practicable. Minimize the use of construction techniques that would be harmful to topsoil composition, where feasible.

W-1 – Minimize Water Use: Minimize water use to the greatest extent practicable.

Veg-1 – Site Transmission Facilities in Existing ROW or Disturbed Areas: Site transmission facilities in existing right-of-way (ROW) or disturbed areas, to the greatest extent practicable.

ENR-1 – Recycle Components: Recycle components that have the potential to be used as raw materials in commercial or industrial applications to the extent practicable.

ENR-2 – Source Recycled Materials: Source recycled or alternative materials to the extent practicable.

H&S-2 – Risk Management Strategy: Develop and apply an electromagnetic field (EMF) and electromagnetic interference (EMI) risk management strategy that regularly considers the consequence, likelihood, and significance of EMF and EMI on public health and existing infrastructure, such as transportation systems, based on emerging research studies and guidelines.

TR-1 – Coordination with Aviation Groups: Work closely with aviation groups and authorities to ensure that transmission facilities are marked on aviation maps and that pilots, both commercial and recreational, are aware of their locations.

TR-2 – Planning Coordination: Consult local authorities regarding planned construction activity near or crossing roads, waterways, railways, and airports.

[13] The rationales for the identified Mitigation Measures are provided in their respective resource sections.

3.11.5 Probable Significant Adverse Environmental Impacts

Determining the significance of an adverse environmental impact involves consideration of context and intensity, which, in turn, depend on the magnitude and duration of the impact. "Significant" in SEPA means a reasonable likelihood of more than a moderate adverse environmental impact on environmental quality. An adverse environmental impact may also be significant if its chance of occurrence is not great, but the resulting impact would be severe if it occurred (WAC 197-11-794).

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 Measures beyond those required by regulation may be warranted. In cases where data are incomplete or unavailable, a conservative approach has been applied to ensure that potential adverse environmental impacts are not underestimated.

This Programmatic EIS weighs the adverse environmental impacts on public services and utilities that would result from transmission facilities after considering the application of laws and regulations; siting and design considerations, including agency guidance and BMPs, and Mitigation Strategies, and makes a resulting determination of significance for each impact. **Table 3.11-6** summarizes the adverse environmental impacts on public services and utilities anticipated for the new construction, operation and maintenance, upgrade, and modification of transmission facilities.

Table 3.11-6: Summary of Adverse Environmental Impacts, Mitigation Strategies, and Significance Rating for Public Services and Utilities

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
Public Services and Utilities – Conflict with Existing Utility Infrastructure	New Construction	A conflict with existing utilities could occur during the new construction of both overhead and underground transmission facilities. Adverse environmental impacts could result in property damage, service or power outages, and the need for unanticipated, timely, and costly repairs. A conflict with existing utilities could also result in hazardous conditions or worker injury, such as electrocution, fire, flooding, and exposure to hazardous materials.	**Overhead:** low to medium **Underground:** low to medium	▪ **AVOID-1:** Avoid Hazardous Areas ▪ **PSU-1:** Utility Coordination ▪ **PSU-2:** Corrosion Analysis ▪ **Geo-1:** Minimize Soil Disturbance ▪ **Veg-1:** Site Transmission Facilities in Existing ROW or Disturbed Areas ▪ **H&S-2:** Risk Management Strategy	Less than Significant	Compliance with standard design considerations, such as National Electric Safety Code Section 20-23, would ensure adequate overhead transmission line clearances. Implementation of and compliance with Mitigation Strategies, such as utility coordination, corrosion analyses, and safety plans, would ensure adverse impacts are reduced to a less-than-significant level.
	Operation and Maintenance	Conflicts with existing utilities could occur during the maintenance of both overhead and underground transmission facilities. These conflicts could result in property damage, service interruptions, or power outages, and may require unanticipated, timely, and costly repairs. Maintenance activities could also result in hazardous conditions, such as electrocution, fire, flooding, and exposure to hazardous materials. The operation of overhead transmission facilities can generate EMI, which could result in radio noise and impact communication systems. Operation of underground transmission facilities near existing metallic pipelines could accelerate corrosion through induced currents. Over time, corrosion of infrastructure could lead to leaks or ruptures, increasing the risk of explosions, fires, or soil, groundwater, or surface water contamination.	**Overhead:** low to medium **Underground:** low to medium			
	Upgrade	Conflicts with other utilities could occur during the upgrade of both overhead and underground transmission facilities. Adverse environmental impacts from upgrading existing transmission facilities can be comparable to those associated with the maintenance of transmission facilities.	**Overhead:** low to medium **Underground:** low to medium			
	Modification	Conflicts with other utilities could occur during the modification of both overhead and underground transmission facilities. Adverse environmental impacts from modifying existing transmission facilities can be comparable to those associated with the new construction of transmission facilities.	**Overhead:** low to medium **Underground:** low to medium			

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
Public Services and Utilities – Increased Solid Waste Production	New Construction	New construction of overhead and underground transmission facilities could result in excess solid waste, such as vegetation, rock, soil, packing materials, consumables, wood, concrete debris, metal, batteries, and used oil. New construction of underground transmission facilities could result in greater quantities of soil, rock, and concrete from trenching. Without proper planning, the disposal of construction-related waste could present challenges, such as exceeding the capacity of local infrastructure, and improper disposal of hazardous waste could lead to adverse environmental impacts on soil and water quality.	**Overhead:** negligible to medium **Underground:** negligible to medium	▪ **AVOID-1:** Avoid Hazardous Areas ▪ **Geo-1:** Minimize Soil Disturbance ▪ **Veg-1:** Site Transmission Facilities in Existing ROW or Disturbed Areas ▪ **ENR-1:** Recycle Components ▪ **ENR-2:** Source Recycled Materials	Less than Significant	With the implementation of Mitigation Strategies, impacts would be reduced to less than significant. Mitigation Strategies would ensure that local landfills have sufficient capacity; all recyclable materials are disposed of at an appropriate recycling facility; and any hazardous materials are handled, stored, transported, and disposed of appropriately.
	Operation and Maintenance	Maintenance activities associated with overhead and underground transmission facilities could result in excess solid waste, such as packing materials, consumables, wood, metal, batteries, and used oil.	**Overhead:** negligible to low **Underground:** negligible to low			
	Upgrade	Upgrading overhead and underground transmission facilities could result in excess solid waste, such as packing materials, consumables, wood, metal, batteries, and used oil. Adverse environmental impacts from upgrading existing transmission facilities can be comparable to those associated with the maintenance of transmission facilities.	**Overhead:** negligible to low **Underground:** negligible to low			
	Modification	Construction activities associated with modifying overhead and underground transmission facilities could result in excess excavated vegetation, soil, and concrete, as well as packing materials, consumables, wood, metal, batteries, and used oil. The adverse environmental impacts could be similar to those of construction but generally lower.	**Overhead:** negligible to medium **Underground:** negligible to medium			
Public Services and Utilities – Increased Water Demand	New Construction	New construction of overhead and underground transmission facilities could increase water demand as a result of dust and fire control, concrete mixing, and revegetation efforts.	**Overhead:** negligible to medium **Underground:** negligible to medium	▪ **Geo-1:** Minimize Soil Disturbance ▪ **W-1:** Minimize Water Use ▪ **Veg-1**: Site Transmission Facilities in Existing ROW or Disturbed Areas	Less than Significant	Minimizing water use, identifying available water sources, and, if applicable, providing an executed agreement for water use in project-specific application materials would demonstrate that a sufficient water supply is available. With the implementation of Mitigation Strategies, adverse environmental
	Operation and Maintenance	The operation and maintenance of overhead transmission facilities could increase water demand for various activities, including dust control, revegetating disturbed areas, washing equipment or transmission facility components, fire protection, and substation operations.	**Overhead:** negligible to medium **Underground:** negligible to medium			

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
		The operation and maintenance of underground transmission facilities could increase water demand from hydrojetting, cooling, and maintenance activities requiring dust suppression.				impacts would be reduced to a less-than-significant level.
	Upgrade	Upgrading overhead and underground transmission facilities could require water for dust control, revegetating, washing equipment or transmission facility components, fire protection, substation operations, hydrojetting, and cooling. Adverse environmental impacts from upgrading existing transmission facilities can be comparable to those associated with the maintenance of transmission facilities.	**Overhead:** negligible to medium **Underground:** negligible to medium			
	Modification	Activities associated with modifying existing overhead and underground transmission facilities could result in increased water demands for dust control, concrete mixing, fire control, and revegetation efforts. The adverse environmental impacts could be similar to those of construction but generally lower.	**Overhead:** negligible to medium **Underground:** negligible to medium			
Public Services and Utilities – Increased Demand for Fire Protection Services, Law Enforcement, and Emergency Responders	New Construction	New construction of overhead and underground transmission facilities could conflict with existing utilities, resulting in hazardous conditions or worker injury. Trenching and blasting for the new construction of underground transmission facilities could also result in worker injury. Increased traffic volumes, transport of construction materials, and road closures could lead to a higher risk of collision or hazard. Incidents of theft, vandalism, or trespassing on a project site could also occur. These potential risks and hazards would lead to an increased demand for fire protection services, law enforcement, and emergency responders.	**Overhead:** negligible to medium **Underground:** negligible to medium	▪ **AVOID-1:** Avoid Hazardous Areas ▪ **PSU-1:** Utility Coordination ▪ **H&S-2:** Risk Management Strategy ▪ **TR-1:** Coordination with Aviation Groups ▪ **TR-2:** Planning Coordination	Less than Significant	As described in Section 3.8, Public Health and Safety, strict regulatory requirements and guidelines would help to ensure workers' well-being, and implementing an emergency response plan would ensure that the appropriate steps are taken in the event of an emergency, thereby reducing the demand for emergency responders. With the implementation of Mitigation Strategies, adverse environmental impacts on the demand for fire protection services, law enforcement, and emergency responders would be reduced to a less-than-significant level.
	Operation and Maintenance	Maintenance activities for overhead and underground transmission facilities could introduce other fire risks through the use of mechanical equipment, flammable materials, and gas-powered equipment. Maintenance of overhead and underground transmission facilities could result in conflicts with existing utilities, which could result in similar impacts on the demand for public service providers to those described for new construction. Overhead transmission facilities could pose an obstacle for emergency responders and increase the risk of collision. Extreme weather events may damage overhead structures, exacerbating wildfire conditions. These potential risks would increase the	**Overhead:** negligible to medium **Underground:** negligible to medium			

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
		demand for fire protection services, law enforcement, and emergency responders. Trenching and excavating for the maintenance of underground transmission facilities could result in worker injury.				
	Upgrade	The shorter duration and reduced scope of construction activities associated with upgrading an overhead or underground transmission facility would reduce the overall demand for fire protection services, law enforcement, and emergency responders. However, there could still be a slight increase from a conflict with existing utilities, worker injury, and incidents of theft, vandalism, or trespassing. Adverse environmental impacts from upgrading existing transmission facilities can be comparable to those associated with the maintenance of transmission facilities. Impacts from upgrading existing transmission facilities can be comparable to those associated with the maintenance of transmission facilities.	**Overhead:** negligible to medium **Underground:** negligible to medium			
	Modification	The shorter duration and reduced scope of construction activities associated with modifying an overhead or underground transmission facility would reduce the overall demand for fire protection services, law enforcement, and emergency responders. However, there could still be a slight increase from a conflict with existing utilities, worker injury, and incidents of theft, vandalism, or trespassing. The adverse environmental impacts could be similar to those of new construction but generally lower.	**Overhead:** negligible to medium **Underground:** negligible to medium			
Public Services and Utilities – Increased Emergency Response Times	New Construction	New construction of overhead and underground transmission facilities could impact emergency response times due to temporary road closures, detours, increased traffic, and adverse environmental impacts from access road construction.	**Overhead:** negligible to medium **Underground:** negligible to medium	▪ **TR-2:** Planning Coordination	Less than Significant	Mitigation Strategies would include ongoing coordination with law enforcement and emergency responders to ensure that the new construction, operation and maintenance, upgrade, or modification of transmission facilities would not have significant adverse environmental impacts on emergency response service times.
	Operation and Maintenance	Maintenance activities of overhead and underground transmission facilities could necessitate temporary road or lane closures, leading to detours and/or increased vehicular traffic. Overhead transmission facilities can typically be repaired more quickly than underground facilities. Therefore, the duration of adverse environmental impact on emergency response times is generally anticipated to be shorter for overhead transmission facilities than for underground transmission facilities.	**Overhead:** negligible to low **Underground:** negligible to medium			
	Upgrade	Upgrading an existing overhead or underground transmission facility could impact emergency response times due to temporary road closures, detours, increased traffic, and adverse environmental impacts from new access road construction.	**Overhead:** negligible to low			

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
		Impacts from upgrading existing transmission facilities can be comparable to those associated with the maintenance of transmission facilities.	**Underground:** negligible to medium			
	Modification	Activities associated with modifying existing overhead and underground transmission facilities could result in increased emergency response times due to potential temporary road or lane closures. The adverse environmental impacts could be similar to those of new construction but generally lower.	**Overhead:** negligible to medium **Underground:** negligible to medium			
Public Services and Utilities – Increased Risk of Power Outages at Public Service Facilities	New Construction	The new construction of overhead and underground transmission facilities could conflict with existing utilities and, in some cases, cause a power outage. Power outages could impact public service facilities, such as local police departments, fire stations, and emergency medical facilities, thereby disrupting the operation of these facilities and risking public safety.	**Overhead:** low to medium **Underground:** low to medium	▪ **AVOID-1:** Avoid Hazardous Areas ▪ **PSU-1:** Utility Coordination ▪ **PSU-2:** Corrosion Analysis ▪ **H&S-2:** Risk Management Strategy	Less than Significant	Public service facilities would be sufficiently prepared for power outages by complying with all applicable state and federal requirements for secondary energy sources. Furthermore, with the implementation of Mitigation Strategies, adverse environmental impacts would be reduced to a less-than-significant level.
	Operation and Maintenance	The continuous operation of public service facilities may be impacted should maintenance of transmission facilities result in a power outage. Maintenance activities for overhead transmission facilities can typically be performed more quickly than for underground transmission facilities. Therefore, the duration of increased risks of power outages at public service facilities is generally anticipated to be shorter for overhead transmission facilities than underground transmission facilities.	**Overhead:** nil to low **Underground:** nil to low			
	Upgrade	Upgrading an existing overhead and underground transmission facility could conflict with existing utilities, leading to a power outage at public service facilities. Adverse environmental impacts from upgrading existing transmission facilities can be comparable to those associated with the maintenance of transmission facilities.	**Overhead:** nil to low **Underground:** nil to low			
	Modification	Modifying an existing overhead and underground transmission facility could conflict with existing utilities, leading to a power outage at public service facilities. The adverse environmental impacts could be similar to those of new construction but generally lower.	**Overhead:** low to medium **Underground:** low to medium			

Notes:

[a] Appendix 3.1-1 provides a detailed listing of each Mitigation Strategy. This appendix serves as a reference section that can be consulted independently of the main text. This is particularly useful for detailed guidance and technical specifications that may be referred to multiple times. Additionally, including this information in an appendix allows for easier updates and revisions. If Mitigation Strategies or guidance changes, the appendix can be updated without altering the main content.

BMP = best management practice; **EMI** = electromagnetic interference; **ROW** = right-of-way

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3.11.6 Environmental Sensitivity Map

No criteria specific to public services and utilities were identified that would impact project siting decisions at a broad, programmatic level. Consequently, no environmental sensitivity map was developed for this resource. Public services and utilities can vary significantly over time and across individual projects. Therefore, a more detailed, site-specific analysis is required to determine the suitability of a project in any area. This variability can make it difficult to create a static environmental sensitivity map that accurately reflects current conditions and accounts for the adverse environmental impacts of transmission facilities on public services and utilities.

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