

Chapter 1 Purpose of and Need for Action

Bonneville Power Administration (BPA) is proposing to build a 500-kilovolt (kV) lattice-steel tower transmission line that would run about 70 miles from a new 500-kV substation near Castle Rock, Washington to a new 500-kV substation near Troutdale, Oregon. The proposed transmission line and substations would increase the electrical capacity and transfer capability of BPA's transmission system in this area. BPA is considering four action alternatives (each with several options) that include transmission line routes, three sites for the proposed substation near Castle Rock, and one site for the proposed substation near Troutdale (see Map 1-1). This proposed action is referred to as the I-5 Corridor Reinforcement Project (I-5 project or project).

Words in **bold** and acronyms are defined in Chapter 32, Glossary and Acronyms.

This chapter provides background information about BPA, its transmission system, and causes of congestion on this system, including local **load** growth, existing contractual obligations, and new requests for use of BPA's system. This chapter describes the need for BPA to increase the electrical capacity and **transfer capability** of its transmission system to respond to the increasing congestion on this system and growing system reliability concerns. This chapter also identifies the purposes that BPA is attempting to achieve in meeting this need, potential transmission system benefits from BPA's proposal, and the agencies involved in development of this environmental impact statement (EIS). Finally, the chapter provides a summary of the public scoping process conducted for the EIS, and information about the scope and organization of this EIS.

For proposed actions with the potential to affect the environment, BPA is required by the National Environmental Policy Act (NEPA) to identify, evaluate, and consider potential environmental consequences of the proposed action and reasonable alternatives before taking action, and to inform decision-makers and the public of these alternatives and their consequences. BPA prepared this draft environmental impact statement in accordance with NEPA, to address the proposed action to build the I-5 project.

1.1 Background

1.1.1 About BPA

BPA is a not-for-profit federal agency based in the Pacific Northwest. Although BPA is part of the United States (U.S.) Department of Energy (DOE), it is self-funded and covers its costs by selling its products and services. BPA markets wholesale electrical power from 31 federal hydroelectric projects in the Columbia River Basin, one nonfederal nuclear plant and several other small nonfederal power plants. The dams are owned and operated by the U.S. Army Corps of Engineers (Corps) and the Bureau of Reclamation (BOR). About one-third of the electric power used in the Northwest comes from BPA. BPA also owns, operates, and maintains about three fourths of the high-voltage (500-, 345-, 230- and 115-kV) transmission lines in its service territory. BPA's service territory includes Idaho, Oregon, Washington, western Montana, and small parts of California, eastern Montana, Nevada, Utah, and Wyoming.

BPA has an obligation to ensure that it has sufficient capability to serve its customers through a safe and reliable transmission system. The Federal Columbia River Transmission Act directs BPA to construct improvements, additions, and replacements to its transmission system that the BPA Administrator determines are necessary to provide service to BPA's customers, maintain electrical stability and reliability, and integrate and transmit power (16 U.S.C. § 838b).

1.1.2 BPA's Transmission System

BPA owns and operates more than 15,000 circuit miles of high-voltage transmission lines in the Pacific Northwest. BPA's transmission system moves most of the Northwest's high-voltage power from facilities that generate the power to customers in the Northwest. Besides the transmission system within the Northwest, BPA has large interregional transmission lines that connect to Canada, California, the Southwest and eastern Montana. BPA's lines carry electricity from federal and nonfederal generating resources to be used within and outside the Northwest.

1.1.2.1 Load Growth, Limited System Capacity, and Congestion

In southwest Washington and northwest Oregon, BPA's system primarily includes high-voltage transmission lines connected through substations to local utilities and generating facilities (see Map 1-2). Local utility customers served by BPA's transmission system include Clark Public Utilities, Cowlitz Public Utility District (PUD), PacifiCorp, and Portland General Electric (PGE).

The Portland, Oregon-Vancouver, Washington metropolitan area (metro area) is the major electric load center in northwest Oregon and southwest Washington. High concentrations of residential, commercial, and industrial loads are served by hydroelectric dams on the Columbia River, **thermal plants** along the Interstate-5 (I-5) corridor west of the Cascade Mountains and a few others in Canada, and wind turbines operating east of the Cascades in Washington and Oregon. Electricity flows from these generating resources to the metro area and beyond over BPA's and other utilities' high- and low-voltage (less than 115-kV) transmission lines throughout the West.

Utilities monitor these lines (or paths) to make sure that the transmission system is functioning safely and reliably. In and around the metro area, the high voltage lines together are known as the South of Allston (SOA) path. Allston is a BPA substation in northern Oregon, across the Columbia River from Longview, Washington (see Map 1-2). When all lines within this path are in service, that is, functioning and available with no outages for maintenance or emergencies, the SOA path can be operated within a range (in **megawatts [MW]**) called the path's system operating limit.

For the last 10 years, BPA studies have shown that this path has become more congested because of higher loads. BPA built the last major high-voltage line in the I-5 corridor area over 40 years ago. Over that same period, the population has grown from about 1 million to more than 2.2 million (Sprague and Picha 2010).

Higher loads create congestion because of the way electrons flow on a transmission line or path. The higher the loads in different areas, the more the power flows to these areas, and depending on the available line or path capacity, the line can become congested and physically unable to reliably accommodate the need for power to flow. The path is like an interstate highway, the higher the loads (or traffic) the more the path becomes crowded or congested.

Transmission lines can also be affected by surrounding air temperatures. Transmission lines are designed to operate up to a maximum temperature that includes a safety buffer so that the lines will not sag into objects on or near the right-of-way. In summer, higher air temperatures can cause conductors to expand and stretch, which increases the sag of the conductors. During these times, lines can reach their maximum operating limit quicker. This decreases the amount of power that could have been carried over the lines (reduced capacity) had the surrounding temperatures been cooler.

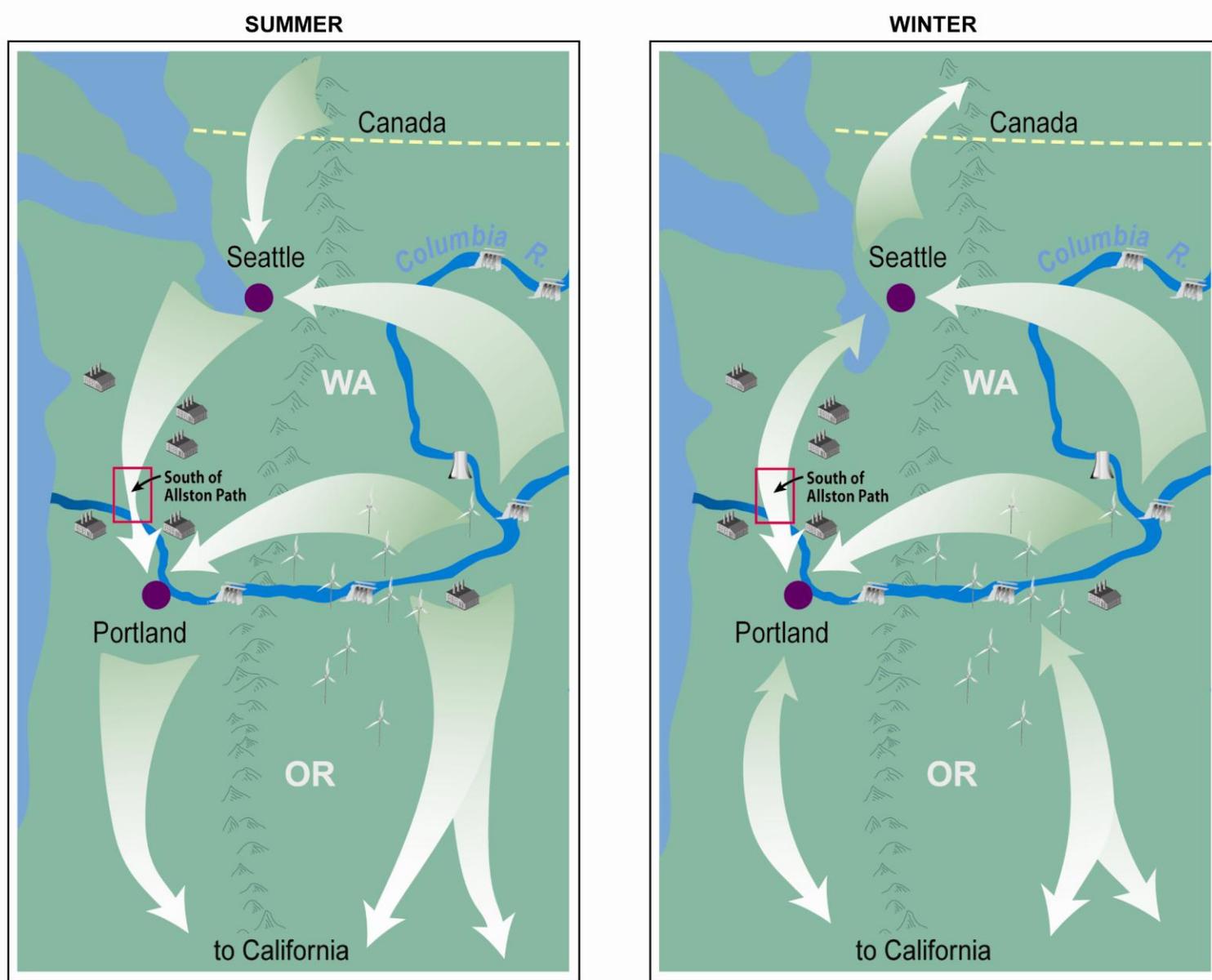
In the past, electrical use in the metro area peaked in the winter, often when a winter storm boosted the need for electric heat. Now, as new homes and commercial buildings are constructed, most have installed air conditioning, and that has increased the demand for energy in the summer. In general, peak electricity use in summer is about equal to winter peak levels.

Power flows in a different pattern in winter than it does in summer, using different transmission paths with different capacities (see Figure 1-1). In winter, power use is greater in the Northwest and Canada. This demand causes power to flow primarily from generation sources east of the Cascades to load centers in the west. Transmission system capacity is adequate to accommodate this flow. In summer, however, power use is concentrated in the Northwest and California, which causes power to primarily flow from north to south (see Figure 1-1). The north-to-south transmission capacity available in summer on the SOA path is about half of the system capacity in winter from east-to-west. This creates a system bottleneck for the summer pattern.

In summary, because of a variety of factors—including growing summer peak loads, new power plants that have interconnected to BPA's transmission system north of the SOA path, and, to a lesser extent, power transfers from Canada through the Northwest to load centers south of the metro area—the SOA path has become congested during the summer months.

With the current forecasts for load growth (up to 2 percent per year), BPA's analysis indicates that by spring 2016 the existing transmission system's capacity will likely be reached, which, in the absence of other measures, could require BPA to reduce power deliveries and this compromises the reliability of the transmission system to serve loads (see Section 1.1.2.2, Reliability and **Non-Wires Measures**).

Figure 1-1 Typical Power Flows (Winter and summer flows vary depending on generation and load patterns)



1.1.2.2 Reliability and Non-Wires Measures

Mandatory reliability standards and principles of good utility practice prohibit BPA from operating the transmission system beyond its capacity. Operating in this manner could **overload** the system and create **voltage** instability, potentially leading to **brownouts** or **blackouts**. When BPA determines that capacity on a particular path is insufficient to meet demand under certain conditions, BPA relies on non-wires measures to the extent possible to help maintain system reliability and maximize use of the existing system facilities before building a new transmission line. For the SOA path, BPA and other utilities have developed a non-wires measure called a remedial action scheme (RAS) that is carried out when needed. RAS uses a high-speed automatic control system designed to protect the transmission system in the event of an unexpected outage of a critical transmission facility. If such an outage occurs, the RAS is activated and rapidly disconnects (or “drops”) selected generation in the Northwest and Canada to reduce the flow of power and avoid overloading the lines that remain in service.

RAS has been used for many years to preserve the reliability of the SOA path. During the summer, as loading increases on the SOA path, successively higher levels of RAS are engaged, and greater amounts of generation are dropped as needed. Using RAS in this manner, however, has some undesirable consequences. BPA has had to prepare to drop up to 2700 MW of generation in the event of a critical outage on this path. To continue to serve the demand if generation is dropped, replacement power, if available, must be found and delivered over alternate paths. Even if replacement power is available, it may be difficult to deliver the replacement power due to constraints on the alternate paths. If replacement power cannot be found or delivered to serve the demand, this could lead to **load curtailments**, particularly in the metro area. As the projected gap between SOA capacity and demand grows, the likelihood of curtailments will increase as well. Furthermore, as the economy and population in the metro area continue to grow, using RAS will become more difficult and less effective.

Providing a high level of system reliability, and avoiding load curtailments, has become even more important in the Pacific Northwest in recent years as new industries that rely on steady, uninterrupted power have come to the area. In the past, Northwest industries, such as lumber mills and aluminum plants, could adjust to short power interruptions and sometimes received a special power rate for their flexibility. Today, high-quality (non-interruptible) power is critical to high-tech manufacturing of products, such as microchips. Power disruptions can ruin products in these plants, and plant operators can only tolerate fluctuations within a narrow range.

In addition to RAS, for the past 2 years BPA has been investigating the feasibility of using other possible non-wires measures to help maintain reliability of the SOA path. To determine how non-wires could help alleviate power flows on the SOA path, BPA contracted with Energy and Environmental Economics, Inc. (E3) to conduct non-wires studies (see inset box). The studies determined that non-wires measures could not eliminate the need for a new line. (See Section 4.7.1, Non-Wires Alternative, for a discussion of the consideration of non-wires measures in meeting the need for the project.) However, the studies did find that upgrades at BPA’s Pearl Substation could potentially defer the need for a new line for reliability purposes by about 2 years beyond spring 2016 (when the existing transmission system’s capacity is likely to be reached). In addition, the studies found that **generation redispatch** may be able to provide an additional deferral of up to about 4 years. Generation redispatch would turn off large generators located north of the metro area, while turning on generators located south of the metro area to reduce power flow on the SOA path. The E3 study did not consider the new

commercial demand for transmission service over the SOA path discussed in Section 1.1.2.3, Existing Obligations and New Requests for Transmission Service.

Because of the potential for generation redispatch to help address reliability of the SOA path, BPA is continuing to separately evaluate the operational feasibility of generation redispatch, and whether contracts with regional generators would be cost effective.

If BPA finds that generation redispatch measures are cost effective and commercially and operationally feasible, those measures, along with upgrades at BPA's Pearl Substation, could be separately and independently implemented to maintain system reliability in the I-5 project area. This could delay the date a new line would need to be operational to satisfy reliability needs by 2 to 6 years.

Non-Wires Studies

BPA contracted with Energy and Environmental Economics, Inc. (E3) to conduct a screening study of possible non-wires measures for the I-5 project. The study focused on measures to address the reliability need for the project. E3 completed the Phase I study in January 2011 (see I-5 project website). The study identified four possible non-wires measures, estimated impacts to the SOA path, and determined that non-wires could potentially provide a short-term deferral of the energization date for the I-5 transmission line, but *could not* provide a long-term solution for future overloads on the SOA path. In April 2011, BPA convened the Non-Wires Round Table, a technical forum of non-BPA experts capable of providing external review of non-wires measures being considered as alternatives to transmission projects. The Round Table evaluated the E3 report and recommended a Phase II study be prepared to examine the implementation feasibility of the non-wires measures for a short-term I-5 project deferral. The Phase II study was completed in December 2011 (see I-5 project website) and concluded that upgrades at BPA's Pearl Substation and generation redispatch were the measures that showed the most potential for a short-term deferral of the I-5 project. The study also acknowledged the need for BPA to evaluate operational challenges that generation redispatch would create and the uncertainty as to whether commercial agreements with regional generators would be achievable and cost effective.

1.1.2.3 Existing Obligations and New Requests for Transmission Service

BPA has adopted an Open Access Transmission Tariff (OATT) for its transmission system. BPA follows the open access tariff as a matter of national policy. The tariff defines the terms and conditions of transmission services offered by BPA. This tariff, which is generally consistent with the Federal Energy Regulatory Commission's (FERC) **pro forma open access tariff**, has procedures that provide access to BPA's transmission system for all eligible customers, consistent with all BPA requirements (including the availability or development of sufficient transmission capacity) and subject to an environmental review under NEPA. More information about the tariff is available on BPA's Transmission Services website:

http://www.transmission.bpa.gov/business/ts_tariff/.

For many years even before BPA adopted its OATT, BPA provided access to its transmission system to both federal and nonfederal power generators. As a result, BPA and other utilities currently have existing contracts with several power generators (including wind generators and power marketers) in Canada, the Pacific Northwest east and west of the Cascades, and surrounding states to move power across BPA's transmission system. Much of the available

capacity for firm transmission service that remains on BPA's transmission system is already under contract.

At the present time, BPA, PacifiCorp, and PGE are the entities that have allocated capacity on the SOA path. PGE and PacifiCorp likely use their allocations to meet their customers' needs for power. BPA's share of that capacity is provided to BPA's **firm transmission service** customers (see inset box). Because of BPA's obligations to serve loads and provide firm capacity on this path, BPA cannot provide firm transmission service to other customers at certain times of the year, because the path has reached the limit of its capacity. Accordingly, BPA can only offer **conditional firm** or **non-firm** service to these other customers at this time (see inset box).

Firm transmission service is more expensive to users of the system, but it is more desirable because the capacity is available to the power generator or marketer at any time when it is needed, but subject to outages. Non-firm customers, on the other hand, pay less for power, knowing that their power could be first to be interrupted in an emergency or outage.

BPA has received new requests from other utilities and power generators for long-term firm transmission service on the SOA path. Under its OATT, BPA maintains a request queue for long-term, firm transmission service. By the mid 2000s, this queue had become overloaded with requests, and BPA became aware that many requests were speculative. In March 2008, to help manage the queue and identify the new transmission infrastructure that would be needed to provide service that customers had requested, BPA began its first Network Open Season (NOS) process. During this NOS process, utilities and power generators were given the opportunity to submit requests for use of BPA's transmission system to transmit their power. More information about the NOS process is available at BPA's Transmission Services website: http://www.transmission.bpa.gov/customer_forums/open_season/default.cfm.

During the 2008 NOS process, and the subsequent 2009 and 2010 NOS processes, BPA identified firm transmission service requests that would use the SOA path. BPA has no more firm capacity available on the SOA path to accommodate these new requests to transfer power (see Section 1.1.2.1, Load Growth, Limited System Capacity, and Congestion).

In spring 2011, BPA announced its plans to delay the next NOS to conduct a regional discussion on more effective ways to meet the transmission needs of the Northwest and to ensure BPA's policies support those needs. This delay will not affect BPA's work to serve requests received in the 2008, 2009 and 2010 open seasons.

Firm, Conditional, and Non-Firm Transmission Service

Firm transmission service is reserved and/or scheduled for a specific term (usually a year or longer) that is of the same priority as BPA's use of the transmission system.

Conditional firm transmission service is long-term transmission service that BPA may be able to provide when there is not enough firm transmission service, but conditional firm service has constraints that give BPA additional curtailment rights. Conditional firm service has a lower priority than firm service, but is a higher priority than non-firm service.

Non-firm transmission service is not guaranteed to be available and is only available after commitments for firm and conditional firm service have been met.

1.1.3 Planning for Transmission Additions in the I-5 Corridor

Load growth and transmission service requests have combined to increase flows on the SOA transmission path to levels that the path cannot accommodate without adding transmission capacity. BPA has taken several steps to reduce congestion on the transmission system without building new lines. BPA has upgraded many facilities to maximize the use of existing transmission lines. To allow new generation facilities to move power on the transmission system, BPA initiated operational procedures such as RAS to maximize usage of the transmission system rather than building new substations and transmission lines (see Section 1.1.2.2, Reliability and Non-Wires Measures). However, increasing RAS and other operational procedures does not create additional capacity on the system and cannot effectively mitigate the stresses on the system without causing other problems.

Under its OATT, BPA must investigate actions it could take, including adding infrastructure, to provide access to the transmission system in response to requests for service.

Accordingly, BPA studied the transmission system in the area and identified where the system needed reinforcements to meet forecasted load growth. BPA's studies found that if an additional transmission line is not built in this area, continued congestion will jeopardize transmission system reliability and, eventually, lead to power interruptions or blackouts in the area. Based on these results, combined with planning studies that began in late 2006 and continued through 2007, BPA developed a plan that included a major infrastructure addition in this area.

In conducting its studies and undertaking transmission planning, BPA follows the reliability standards established by the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) (see inset boxes). NERC, the national electric reliability organization, and WECC, the regional reliability organization, help coordinate the operation and planning of the bulk transmission system throughout the region. Electric utilities are required to meet the standards of both organizations when planning new facilities.

BPA also sought review of the I-5 project through WECC's Project Coordination process (formerly known as the Regional Planning Project Review, or "Regional Review," process). The Project Coordination process is part of the initial development phase of a project. BPA coordinated the review through ColumbiaGrid (see inset box) and worked with other utilities and interested parties throughout the Northwest in developing the project.

During the Project Coordination process, BPA shared study results and alternate plans of service with other Northwest utilities. This provided other utilities with an opportunity to review and comment on BPA's plans with the goal of developing the best plan of service with respect to regional benefits and impacts. The Project Coordination process concluded in March 2008 with regional approval for the project.

About the North American Electric Reliability Corporation

NERC is an organization that has been delegated the responsibility to regulate bulk power system users, owners, and operators through the adoption and enforcement of standards for fair, ethical, and efficient practices.

NERC develops and enforces reliability standards; assesses adequacy annually via a 10-year forecast and winter and summer forecasts; monitors the bulk power system; and educates, trains, and certifies industry personnel. NERC is subject to oversight by FERC and governmental authorities in Canada.

As of June 18, 2007, FERC granted NERC the legal authority to enforce reliability standards with all U.S. users, owners, and operators of the bulk power system, and made compliance with those standards mandatory and enforceable. More information is available on NERC's website: <http://www.nerc.com> (NERC 2010). BPA is required by law to comply with these reliability standards.

About the Western Electricity Coordinating Council

WECC is the regional entity responsible for coordinating and promoting bulk electric system reliability in the West. WECC's service territory extends from Canada to Mexico. It includes the provinces of Alberta and British Columbia, the northern portion of Baja California, Mexico, and all or portions of the 14 western states.

In addition to coordinating system reliability, WECC ensures open and non-discriminatory transmission access among members, provides a forum for resolving transmission access disputes, and provides an environment for coordinating the operating and planning activities of its members as set forth in its bylaws.

Membership in WECC is open to all entities with an interest in the operation of the bulk electric system in the West. All meetings are open and anyone may participate in WECC's standards development process. More information is available on WECC's website: <http://www.wecc.biz/> (WECC 2009).

About ColumbiaGrid

ColumbiaGrid is a non-profit membership corporation formed in 2006 to improve the operational efficiency, reliability, and planned expansion of the Pacific Northwest transmission grid. The corporation itself does not own transmission, but its members and the parties to its agreements own and operate an extensive network of transmission facilities. Northwest members include BPA, Avista Corporation, Puget Sound Energy, Snohomish PUD, Tacoma Power, Chelan PUD, Grant PUD, and Seattle City Light.

ColumbiaGrid has substantive responsibilities for transmission planning, reliability, the Open-Access Same-Time Information System (OASIS), and other development services. These tasks are defined and funded through agreements with members and other participants. Development of these agreements is carried out in a public process with broad participation. More information about ColumbiaGrid is available on its website: <http://www.columbiagrid.org/> (ColumbiaGrid 2009).

1.2 Need for Action

BPA needs to increase the electrical capacity and transfer capability of its 500-kV transmission system between the Castle Rock area in Washington and the Troutdale, Oregon area, in response to growing local demand for electricity and firm transmission requests that BPA has received to move power across this portion of its system.

A new 500-kV transmission line would increase the 500-kV transmission capacity in the southwest Washington/northwest Oregon area and allow BPA to provide for local load growth, maintain reliable power, and accommodate requests for long-term, firm transmission service. These new facilities would eliminate a transmission capacity constraint for this area, provide an additional electrical pathway, and increase system capacity (see Section 1.4, Transmission System Benefits, for other transmission system benefits related to a new line). Continuing to use BPA's existing transmission system in this area without a new transmission line would eventually cause BPA's transmission system to become overloaded at certain times of the year.

1.3 Purposes

In meeting the need for action, BPA will attempt to achieve the following purposes:

- Use ratepayer funds responsibly and efficiently.
- Minimize impacts to the natural and human environment.
- Maintain BPA transmission system reliability and performance.
- Meet BPA's statutory and contractual obligations.

1.4 Transmission System Benefits

In addition to meeting the need for the project (see Section 1.2, Need for Action), the project would have several benefits for operation of BPA's transmission system. The proposed new line and substations would help redistribute the flow of power, which would generally increase the capacity of the region's transmission system. Reinforcing the transmission system would also provide the transmission flexibility required to bring more renewable wind power from the east to population centers along the I-5 corridor.

In addition, the project would allow BPA to schedule outages on existing lines, which is necessary to perform critical maintenance. Because the existing system is so heavily used, it is difficult for BPA to schedule these outages to work on equipment. If critical maintenance is deferred, the reliability of the equipment is jeopardized. Reinforcing the transmission system with another line in this area would considerably improve BPA's ability to perform needed maintenance safely and keep the system functioning reliably.

This project would also reduce overall transmission system **line losses** and reduce BPA's reliance on RAS. Although RAS has provided a means to maximize the use of existing transmission facilities, as demands on the system grow, RAS is becoming more complex yet less effective at mitigating system problems. Reducing reliance on RAS by reinforcing the transmission system would help promote greater reliability for this area. All of these additional benefits would make the transmission system more efficient and reliable.

1.5 Agency Roles

1.5.1 Lead and Cooperating Agencies

BPA is the lead agency responsible for preparing this EIS under NEPA. BPA will use the EIS, along with comments from the public, other stakeholders and interested and affected agencies, to inform the following BPA decisions:

- Whether to build a new 500-kV transmission line to meet the need.
- If the decision is to build a transmission line, which route would be constructed to a new substation near Troutdale, Oregon, and which substation site near Castle Rock, Washington would be constructed at the north end of the line.

The Council on Environmental Quality (CEQ) regulations implementing NEPA allow for the designation of other federal, state, and local agencies and Indian Tribes as cooperating agencies for an EIS where appropriate.

The Corps is a cooperating agency in this process. The Corps' role is primarily to implement the requirements of the federal Clean Water Act (33 CFR) and Section 10 of the Rivers and Harbor Act of 1899 (33 U.S. C. 403). This role includes reviewing and making permit decisions on proposals, such as this project, that may require discharge of dredged or fill material into waters of the U.S., and work within navigable waters of the U.S. The Corps assists with identification of appropriate mitigation under these statutes. The Corps will use the EIS to help meet the requirements for the ongoing Clean Water Act Section 404(b)(1) alternatives analysis process. Under the Section 404(b)(1) Guidelines developed by the Environmental Protection Agency, the Corps may only permit discharges of dredged or fill material into waters of the U.S. that represent the least environmentally damaging practicable alternative, so long as the alternative does not have other significant adverse environmental consequences (see Section 27.10, Clean Water Act).

In furtherance of existing cooperative agreements between BPA and the states of Washington and Oregon, the Washington Energy Facility Site Evaluation Council (EFSEC) and the Oregon Department of Energy (ODOE) are participating in preparation of this EIS as cooperating agencies under NEPA. Among other things, these state agencies are assisting BPA in the environmental evaluation of transmission line routes, developing possible mitigation measures, and identifying state interests that should be addressed in the EIS.

Clark and Cowlitz counties are also cooperating agencies in this process. They are providing knowledge, information, and expertise to BPA about their respective jurisdictions.

1.5.2 Other Agencies That May Use this EIS

Chapter 27 of this EIS identifies other federal agencies that may have permitting, review, or other approval responsibilities related to certain aspects of the project. Certain state, regional, and local agencies also may use all or part of this EIS to fulfill their applicable environmental review requirements for any actions they may need to take for the proposed project (see Chapter 27, Consultation, Review, and Permit Requirements; Chapter 28, Consistency with State Substantive Standards; and Appendix A, Washington Department of Natural Resources Lands Analysis).

Before Washington state agencies can take action to authorize use of state-managed lands or issue permits, they must comply with the requirements of the Washington State Environmental Policy Act (SEPA), Chapter 43.21C Revised Code of Washington (RCW). BPA is coordinating with the state of Washington so that environmental issues relevant to the Washington state agencies and their SEPA needs are addressed to the fullest extent practicable in BPA's NEPA process. These agencies will use relevant information from this EIS to help fulfill their SEPA requirements for their actions related to the project.

Oregon does not have a similar SEPA process, but ODOE and other agencies will review the EIS to ensure that their relevant environmental issues are addressed in the EIS.

1.6 Public Involvement and Major Issues

Early in the development of this EIS, BPA solicited comments from the public; Tribes; federal, state, regional, and local agencies; interest groups; and others to help determine what issues should be studied in this EIS. Because these issues help define the scope of the EIS, this process is called "scoping." As the I-5 project has developed, there have been many opportunities for public involvement and participation to continue.

1.6.1 EIS Scoping Outreach

During the scoping period for the EIS, BPA used several ways to request comments.

BPA published a Notice of Intent to prepare an EIS for the project in the Federal Register in October 2009 (74 Federal Register 52482, October 13, 2009). The scoping period was originally scheduled to close November 23, 2009. On November 18, 2009, in response to requests for more time to submit comments, BPA extended the comment period to December 14, 2009.

BPA notified more than 9,500 landowners within a 500-foot (either side of existing BPA rights-of-way) to 1-mile buffer or study area (greater in some areas) under consideration by BPA engineers for siting a new transmission line, substations, and access roads. BPA also notified other interested individuals, Tribes, elected officials, organizations, and agencies. The notification packet included a letter announcing the project and scoping period, a project fact sheet, project map, comment form, and return envelope. A separate letter and Permission to Enter Property (PEP) form was sent to landowners with property within the notification buffers described above. BPA also posted information, including interactive maps, on the project website: <http://www.bpa.gov/go/i5>. The website also had an electronic comment form allowing the public to submit comments online.

BPA sent a press release to local media, and placed paid ads in the following newspapers about the scoping period and public scoping meetings:

- Battle Ground Reflector – October 13 and October 18, 2009
- Camas-Washougal Post-Record – October 13 and October 21, 2009
- The Columbian – October 14, October 18 and October 26, 2009
- Gresham Outlook – October 14 and October 28, 2009

- Longview Daily News – October 13 and October 18, 2009
- The Oregonian – October 14 and October 28, 2009

BPA invited comments through a variety of methods, including online, through a dedicated voice messaging system, comment forms mailed or faxed, and written and verbal comments collected at the public scoping meetings. BPA posted all comments it received on the project website.

1.6.2 Public Scoping Meetings

BPA held a series of six open house-style public scoping meetings at six different locations (see Table 1-1).

Table 1-1 Public Scoping Meetings

Meeting Date	Meeting Location	Meeting Attendance ¹
October 27, 2009	Amboy, WA	547
October 28, 2009	Vancouver, WA – Clark College	465
October 29, 2009	Longview, WA	614
November 3, 2009	Camas, WA	480
November 5, 2009	Gresham, OR	47
November 7, 2009	Vancouver, WA – Hazel Dell	344
Note: 1. This column reflects the number of people who signed the meeting sign-in form. Some members of the public declined to sign the form.		

Each meeting featured eight stations with topic-specific project information and BPA staff available to answer questions. Maps were available to help landowners locate their property in relation to the notification buffers and multiple transmission line route segments that BPA had identified as part of the buffers. BPA staff recorded verbal public comments in their notes and also on flip charts positioned at each station. A comment station also provided members of the public an opportunity to complete a comment form.

1.6.3 EIS Scoping Comment Summary

Over 2,500 people attended the public scoping meetings. Each meeting was summarized, and meeting summaries were posted to the project website the next work day after each meeting. People expressed opinions about a wide range of issues for BPA to consider, including the following:

- Project purpose and need
- Project decision-making process
- Public involvement
- Regulatory obligations, coordination, and documentation
- Draft EIS approach and content
- Transmission tower, substation, and line design and transmission rights-of-way

- Undergrounding lines
- Transmission technology
- Transmission line and access road construction
- Access road siting and rights-of-way
- Nuisance, safety, and maintenance issues
- Project monitoring and mitigation
- Route segments and alternatives
- Threatened, endangered, and sensitive plant and animal species, and wildlife and wildlife habitat
- Socioeconomics, including cost to landowners, eminent domain and compensation, and environmental justice
- Quality of life issues
- Health and safety including noise and **electric and magnetic field (EMF)** effects
- Aesthetics
- Cumulative impacts
- Existing and planned land uses
- Transportation
- Recreation
- Mining
- Surface and ground water resources, wetlands, and floodplains
- Native and non-native vegetation
- Air quality and climate
- Cultural and historic resources
- Geology and soils

This is a partial list of issues identified from the comments received. All comments received were logged in and forwarded to resource specialists to consider when preparing their environmental impact analyses for the EIS, and to engineers to consider as they continued working on the preliminary project design.

Over 3,000 communications and over 7,000 individual comments were received during the scoping period. A summary of the comments received during the scoping period is available on the project website: http://www.bpa.gov/corporate/i-5-eis/documents/I-5_ScopingSummary.pdf.

BPA continued to take comments on the project after the scoping period ended and will take comments throughout the environmental process. Additional summaries of comments received after the scoping period ended are available on the project website.

1.6.4 Post-Scoping BPA Public Meetings

In August and September, 2010, BPA hosted additional public meetings to present updated project information (see Table 1-2):

Table 1-2 Post-Scoping Public Meetings

Meeting Date	Meeting Location	Meeting Attendance ¹
August 30, 2010	Castle Rock, WA	225
August 31, 2010	Vancouver, WA – Skyview High School	110
September 8, 2010	Amboy, WA	275
September 12, 2010	Camas, WA	130
Note: 1. This column reflects the number of people who signed the meeting sign-in form. Some members of the public declined to sign the form.		

BPA sent a press release to local media, and placed paid ads in the following newspapers about the meetings:

- Battle Ground Reflector – August 25, September 1, and September 8, 2010
- Camas-Washougal Post-Record – August 24, August 31, and September 7, 2010
- The Columbian – August 22, August 29, and September 5, 2010
- Longview Daily News – August 22, August 29, and September 5, 2010
- The Oregonian – August 22 and September 5, 2010

BPA also provided project updates and additional opportunities for public input at the following listening sessions:

- On November 3, 2010, BPA hosted a meeting for property owners along a small portion of Segment F where additional field work and modifications to the proposed design caused the notification buffer to be expanded in this area. Expansion of the notification buffer involved 29 new land parcels. Twenty-three people attended this meeting.
- On December 8, 2011, BPA presented a brief project update and took public comment at the Battle Ground Community Center. About 300 people attended this meeting. Thirty-seven people provided verbal comment.

1.6.5 Post Scoping Outreach and Public Comments

In addition to BPA's public meetings, BPA staff attended meetings organized by elected officials, neighborhood groups, community organizations, and others. BPA staff also held meetings with federal, state and local agencies; representatives of Tribes with interests in the area; and other interested parties and individuals. From the scoping period until the release of the draft EIS, BPA continued to update the project website with new information and interactive maps; mailed out frequent project updates and posted them on the website; attended local service club, civic group and neighborhood meetings as requested (or as resources allowed); provided information at local farmers' markets, fairs, community events, and local libraries; and continued to collect comments (see inset box). All BPA's post-scoping public outreach materials

for the proposed project are available on the project website:

<http://www.bpa.gov/corporate/i-5eis/documents/cfm>.

Comments received from the close of the scoping period to the release of the draft EIS are contained in supplemental comment reports posted on the project website. The issues included in these comments are similar to those received during scoping (see Section 1.6.3, EIS Scoping Comment Summary). These comments were also used by BPA staff in their engineering and environmental work.

1.7 Issues Outside the Scope of the I-5 Project or this EIS

Most issues raised during the scoping process are considered to be within the scope of the project and are addressed in this EIS. However, a few issues are considered to be either beyond the scope of this EIS or are outside the scope of the project. Issues outside the scope of this EIS are not addressed further in this EIS. Issues outside the scope of the project are not considered in the evaluation of the project itself, but may be further addressed in other EIS chapters (e.g., Chapter 26, Cumulative Impacts).

1.7.1 Regional Generation Development

Some comments received during scoping asked that BPA undertake a programmatic review of all energy generation projects, including new and proposed wind development that may occur throughout the region related to any increased capacity on BPA's transmission system. Generation projects are not proposed, constructed, or operated by BPA. Instead they are proposed and undertaken by private entities and their siting and development is controlled by state or local jurisdictions and other regulating entities. BPA's role is typically limited to deciding whether to interconnect these proposed projects, in compliance with its OATT, after an evaluation of the environmental effects of the proposed interconnection is done under NEPA. As a result, BPA does not have a region-wide program or plan related to wind or other generation projects, and does not dictate or direct where these projects are proposed.

Furthermore, decisions by BPA on whether to interconnect a particular proposed generation project to its transmission system are made independently of a decision on whether to construct the project. More specifically, a decision to interconnect any generation project is not dependent on construction of this transmission line. This transmission line is being proposed to respond to increasing load growth, requests for transmission service from a variety of existing and proposed generation sources, as well as from entities seeking to move their electrical power from one point to another. These requests are already in BPA's queue for transmission service. A decision to proceed with the I-5 project would not be dependent on decisions related to interconnection of any new or proposed generation development projects in the region.

Therefore, new and proposed generation development projects are not considered to be within the scope of the project analyzed in this EIS. However, to the extent that the potential environmental impacts of any reasonably foreseeable new or proposed generation projects in the vicinity of the I-5 project are cumulatively added to the potential environmental impacts of the project, these impacts are discussed and considered in the cumulative analysis in this EIS (see Chapter 26, Cumulative Impacts).

Additional Public Participation Opportunities

Direct mail, email and phone contacts

The I-5 project is one of the largest public involvement efforts BPA has undertaken. Since announcing the project in 2009, BPA has mailed, emailed, met, and spoken with thousands of interested stakeholders. Our mailing list includes more than 11,000 addresses and more than 2,400 email addresses. The project team has sent 11 mailings (available on the project website: www.bpa.gov/goto/i5), and hosted 12 public meetings attended by more than 4,000 people (see Sections 1.6.2, Public Scoping Meetings, and 1.6.4, Post-Scoping BPA Public Meetings).

Local media

Regular local media outlets, such as newspapers and TV stations, have helped us share news and inform the region about project developments and key issues. On several occasions, BPA contacted the media to share elements of the environmental review and other project developments. A BPA representative also was interviewed by staff of the website Couv.com and answered questions about the project and its environmental review. Couv.com is a local website that focuses on issues affecting Vancouver and Clark County, Washington.

Developing newsletters

Using the feedback we received from a survey at our August 2010 public meetings, we learned that most people wanted to receive project information through print and email updates. Project staff then developed a newsletter to provide updates and address key questions and concerns raised by community members and leaders. Between October 2010 and June 2012, BPA mailed seven newsletters that provided new project information and schedule updates; results of exploring suggested changes to the project; and contact information for questions, comments or summaries of public meetings and comments.

Public comment helped shape this Draft EIS

The agency has responded to public comments about this project. We heard many suggestions about alternatives for BPA to consider; these are discussed in Chapter 4 (see Section 4.7, Alternatives Considered but Eliminated from Detailed Study). Comments also shaped our evaluation of the project's potential affect on communities in general, and in specific geographic areas. Because people requested more detail and a web-based mapping tool, we created an interactive map, available on our website for the public to use to see how the project would affect their communities. This and other materials available on the website helped address questions from thousands of property owners and interested citizens.

Additional offers to meet

Given the level of interest in the project, BPA extended several offers, through meetings and mailings, to attend group meetings to discuss the project and answer as many questions as possible. Staff attended meetings with local community groups, rotary clubs, cities, counties, neighborhoods and citizen groups. Clark & Cowlitz County Farm Forestry Association hosted a meeting in September 2010 to discuss how BPA would address access and security issues along newly constructed roads, how BPA would value timber lands, and how future crops would be factored into the value calculation. BPA staff attended to answer questions and listen. In November 2010, Clark and Cowlitz county commissioners hosted a public meeting to hear why BPA is no longer considering options to Pearl Substation in Oregon. BPA Administrator Steve Wright attended and answered a wide range of questions.

Citizen group formation and engagement

Several citizen groups formed since BPA announced the project. BPA began attending meetings organized by groups as early as November 2009. These groups created and maintained their own websites and outreach lists, held meetings and rallies, and purchased or posted hundreds of signs throughout Clark and Cowlitz counties (including billboard space) to share their views. Members or their boards had opportunities to speak with BPA transmission executives and the BPA Administrator about their concerns and ideas. BPA attended and spoke at more than 14 meetings, rallies or community events hosted or organized by citizens. The largest was held at Prairie High School in Battle Ground (between 800 and 1,000 participants). We also attended meetings at other schools, libraries and fire stations.

We will continue our public involvement efforts throughout the life of the project.

1.7.2 Regional Transmission Development

Some comments received during scoping asked that BPA undertake a programmatic review of all of its proposed transmission infrastructure projects in the region. Transmission infrastructure projects are proposed by BPA on a project-specific basis when needed to address various transmission reliability and service issues on portions of BPA's transmission system. Increases in capacity that may occur on BPA's existing transmission system from proposed BPA improvements would be in response to existing requests for transmission service, rather than designed to provide significant additional, unsubscribed capacity. While there may be synergies among the various proposed BPA transmission infrastructure projects in the region, no project is wholly dependent on any other project for its viability or success. Other proposed BPA transmission infrastructure projects in the region are therefore outside of the scope of the I-5 project. Nonetheless, any reasonably foreseeable transmission infrastructure projects with cumulatively additive environmental impacts to the I-5 project are discussed and considered in the cumulative analysis in this EIS (see Chapter 26, Cumulative Impacts).

1.8 Organization of this EIS

The remainder of this EIS is organized as follows:

- Chapter 2 describes how BPA system planners, engineers and other specialists developed potential routes for the transmission line and sites for the new substations. It includes a summary of the route segments that make up the action alternatives.
- Chapter 3 describes the transmission components that make up the project, and construction and maintenance requirements. It also includes mitigation measures that are included as part of the project.
- Chapter 4 describes the action alternatives, the No Action Alternative, and alternatives eliminated from detailed consideration.
- Chapters 5 through 25 describe, for each resource, the existing environment that could be affected by the project, environmental consequences of the action alternatives and the No Action Alternative, and mitigation measures that could be used to minimize impacts to resources.
- Chapter 26 discusses cumulative impacts.
- Chapter 27 discusses the permits and other approvals that must be obtained to implement the project.
- Chapter 28 discusses the project's consistency with state substantive standards.
- Chapters 29 through 32 list the references used, individuals who helped prepare the EIS, the individuals, agencies, and organizations notified of the availability of this EIS, and a glossary.
- Chapter 33 contains the document index.
- Supporting technical information is provided in appendices or referenced on the project website: <http://www.bpa.gov/go/i5>.