

Chapter 1 — Purpose and Need

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The **Bonneville Power Administration (BPA)***, a federal agency within the Department of Energy, owns and operates over 15,000 circuit miles of transmission lines throughout the Northwest. BPA sells power to large direct service industries (**DSIs**) and to utilities that provide electricity for homes, businesses, and farms in the Pacific Northwest. BPA also uses the transmission system to provide power to regions outside the Northwest, such as Canada and California.

This chapter explains a problem or need that exists in central Washington on BPA's **transmission system**. It describes conditions that have come together to create this need, and identifies the agencies that are working together to find a solution.

1.1 Need For Action

BPA owns and operates a system of transmission lines that move electricity through central Washington. Since the mid-1990's, the transmission lines that move electricity in a north-to-south direction on the east side of the Cascades, north of the U.S. Department of Energy Hanford Reservation (Hanford Site), have grown increasingly constrained. During spring and early summer months, the amount of power that needs to move through this area exceeds the carrying capacity of the existing transmission lines. Not having enough **transmission capacity** can compromise safety and decrease transmission **system reliability**.

In the event of an **outage**, additional power cannot be moved through the existing transmission system because the lines would overheat and sag below acceptable levels potentially causing fires and further equipment failure. This can lead to **brownouts** or, under certain conditions, a **blackout**. Therefore, BPA needs to increase transmission capacity **north of Hanford** to move additional power through this area.

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*Words and acronyms in bold are defined in Chapter 10, **Glossary and Acronyms**. Some are also defined in sidebars.

The **transmission system** includes 115-, 230-, and 500-kilovolt transmission lines. A kilovolt is one thousand volts.

Transmission capacity refers to the maximum load that a transmission line or network of transmission lines can carry.

System reliability is the ability of a power system to provide uninterrupted service.

A transmission line that is not in service, either planned or unplanned, is called an **outage**.

A **brownout** is a partial reduction of electrical voltages that causes lights to dim and motor-driven devices to lose efficiency.

A **blackout** is the disconnection of the source of electricity from all electrical loads in a certain geographical area.

For a general location of "**north of Hanford**," see Map 1, BPA Transmission System.

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By optimizing transmission system usage, congestion is relieved on constrained transmission paths, thereby delaying transmission reinforcement.

The **energization date** is when the project has been built and is operational.

In order to meet the requirements of the 2000 Biological Opinion, BPA needs to plan and construct a project in the Hanford area by 2004 or 2005.

Investments included cost-effective measures such as remedial action schemes; automatic measures like generation and/or load dropping that ensure acceptable transmission system performance.

Regional power transfers are the exchange of electricity between the Pacific Northwest and California or Canada when one region has a surplus of energy and demand is high in another.

Spring run-off refers to water from the snow melting in the spring that adds to the amount of water flowing in the Columbia River.

In the process of **spilling** water, dam gates are opened and water flows out. The water does not go through the turbines, which could injure fish.

1.2 Purpose

Purposes are goals to be achieved while meeting the need for the project. They are used to evaluate project alternatives. BPA will use the following purposes to choose among the alternatives:

- Maintain transmission system reliability;
- Optimize transmission system usage;
- Minimize environmental impacts;
- Minimize costs; and
- Meet **energization date** of late 2004.

1.3 Background

BPA has limited transmission capacity north of Hanford primarily because of two reasons:

- Wholesale power deregulation; and
- Obligations to threatened and endangered species (fish).

Wholesale power deregulation started in 1992, causing BPA to cut costs in many ways in order to stay competitive in an open market. BPA had not built any major transmission lines since the mid-1980's, and this continued after deregulation. Investments in the transmission system (including maintenance) were small, inexpensive, and quickly energized compared to building expensive transmission lines. This allowed BPA to squeeze more performance out of the existing transmission system and continue to meet growing load. Over the past five years, there has been an increase in the usage of the transmission system due to an increase in **regional power transfers**. The increased transmission usage in the Northwest has outrun the capacity of the existing transmission system.

Since the early 1990's, 12 distinct populations of salmon species have been listed as threatened or endangered under the Endangered Species Act (**ESA**) within the northwestern United States. Federal agencies that operate the dams in the Northwest are required to take specific actions to help salmon survive. During the **spring run-off**, water in the Lower Snake and Columbia Rivers that had previously been used to generate electricity at dams (Lower Granite to Bonneville – see Map 1, BPA Transmission System) is now used to help transport juvenile salmon down river to the ocean. **Spilling** water over these dams causes less water to go through the turbines which results in less power being generated. To make up for the loss of generation, dams along the mid- and upper-Columbia River in

northern Washington (e.g., Grand Coulee and Chief Joe – see Map 1, *BPA Transmission System*), need to generate additional power to meet market demands during the spring and summer months. This is in addition to power coming from Canada.

As electricity is generated at the mid- and upper-Columbia River dams, it moves south through central Washington to load centers like Portland and Seattle, and to the ***Southern Intertie***. It also flows west over the Cascade Mountains and then south through the Seattle area. (See Map 1, *BPA Transmission System*). The transmission capacity across the north of Hanford area cannot accommodate the amount of electricity needing to flow through the area to the south.

1.4 Finding Solutions

After identifying existing and future electrical needs in the area, BPA began to develop transmission alternatives to meet the need. BPA did 6-year studies to determine what actions could meet the need, what each would cost, and how each could affect the transmission system.

This ***Environmental Impact Statement (EIS)*** refines these actions or alternatives based on comments from agencies and the public. It identifies the environmental resources that could be affected, and discloses the potential impacts to the resources associated with these alternatives. Chapter 2, *Alternatives*, describes the alternatives.

1.5 Scoping and Major Issues

Scoping refers to a time early in a project when the public has an opportunity to express which issues and concerns should be considered in an EIS. On November 9, 2000, BPA published a ***Notice of Intent (NOI)*** to prepare an EIS and conduct public scoping meetings for the proposed project. A letter was sent to the public on December 12, 2000, explaining the proposal, the environmental process, and how to participate. A comment sheet was included to enable individuals to mail comments back to BPA. An e-mail address was also given to enable people to comment by e-mail. Project scoping meetings were held in Desert Aire, Yakima, and Ellensburg, Washington. Written and verbal comments were collected during scoping.

A second project mailing went to the public on March 26, 2001. This letter updated interested parties on the progress of the project and the information gathered during the scoping process. Many issues were raised during the scoping process, and most of the comments received focused on the following issues:

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The ***Southern Intertie*** is a collective group of transmission lines that move power north and south between Oregon and California.

An ***EIS*** is a document that discloses the environmental impacts of a proposed action and alternatives.

The ***Notice of Intent (NOI)*** for this project was included in the *Federal Register* (65 FR 77352), which publishes regulations and legal notices issued by federal agencies.

- Potential environmental impacts, including impacts to residential land and property values;
- Proposed alternatives and how the line would be designed;
- Agricultural land impacts; and
- The need for the project, and the agencies that BPA should coordinate with during the process.

Environmental specialists took the comments received during the scoping period into consideration, while developing the environmental impact analyses. Issues raised during scoping and additional concerns are addressed in Chapter 4, *Environmental Consequences*.

On June 6, 2001, a third letter was mailed to landowners along a new route located in the Saddle Mountain area east of Vantage. Members of the public who attended the scoping meetings proposed a route in this general area. BPA personnel took a closer look and developed a route, which is discussed in the next chapter.

A fourth letter was mailed on July 30, 2001. This letter identified BPA's Preferred Alternative and the reasoning behind the choice.

Copies of the public mailings are included in Appendix A, *Public Involvement*.

1.6 Draft EIS Public Comment Period

The Draft EIS (DEIS) was made available to the public on February 8, 2002. 251 copies of the DEIS were mailed to interested members of the public. 99 copies of the summary were also mailed. Comments on the DEIS were collected at public meetings held in Desert Aire, Ellensburg, and Richland, Washington. Comments were also received via phone, mail, and e-mail. The comment period ended on March 25, 2002.

A follow-up letter was sent to people interested in the project on April 15, 2002, which is included in Appendix A, *Public Involvement*. The letter identified the focus of comments received during the comment period and notified people of environmental and project design activities that would be occurring in the project area.

Chapter 6 in this document consists of comments received on the DEIS as well as BPA responses. This Final EIS (FEIS) provides updated information based on comments received as well as additional information that has become available. Additions to the document are displayed with underlined text.

1.7 Cooperating Agencies

When a project could involve more than one federal agency, those agencies often work together during the planning and decision-making process. BPA is the lead federal agency on this project and supervises the preparation of the EIS. BPA has invited the following agencies to cooperate in the EIS process, because the proposed project potentially crosses land managed by these agencies:

- U.S. Department of Defense
Department of Army (USDOA)
- U.S. Department of Interior
Bureau of Land Management (BLM)
Bureau of Reclamation (BOR)
Fish and Wildlife Service (USFWS)

The project also potentially crosses the Hanford Site, which is owned and partially managed by the U.S. Department of Energy (USDOE). Since BPA is also part of the USDOE, the Richland Operations Office (RL) has been asked to make joint decisions with BPA rather than being a cooperating agency.

1.8 Decisions to be Made

A project of this size involves different alternatives and options for decision-makers to consider. The following kinds of decisions must be made by the federal agencies involved:

- BPA must first choose an alternative. If the alternative is to build a new transmission line, BPA must decide which route, and which substation would be the end point. BPA must further define the location of the new right-of-way (ROW), where structures and access roads would be placed, and the types of structures to be used.
- The USDOA must decide if the project complies with the current management plan of the Yakima Training Center (YTC).
- The BLM must decide whether the project complies with their currently approved management plan; and whether a Right-of-Way Grant or easement would be needed for construction, operation, and maintenance of project facilities.
- The BOR must decide if the project meets the conditions of the longstanding Memorandum of Understanding with BPA to allow the crossing of BOR land and waterways.

- The USFWS must decide if the project is compatible with the current management objectives for the Columbia National Wildlife Refuge. The USFWS must also decide if the project complies with the management objectives of the Hanford Reach National Monument and the presidential proclamation establishing the National Monument.
- The USDOE has two decisions to make:
 - Whether the project complies with management plans for the Hanford Site.
 - Whether the project complies with the management objectives of the Hanford Reach National Monument, which includes the Saddle Mountain Unit. This decision must be made in conjunction with the USFWS.

More information about federal, state, and local consultations and permits for this project is included in Chapter 5, *Consultation, Permit, and Review Requirements*.

1.9 Other Projects in the Area

McNary-John Day Transmission Line Project – BPA signed a Record of Decision (ROD) in October 2002. Minor construction will occur in 2003. The transmission line would be built once financing is secured, which is estimated to occur in the next one to five years.

Starbuck Power Project – Work on this project was suspended in March 2002.

Stateline Wind Project – This project has been constructed.

Wallula Power Project – Newport Northwest, LLC is proposing to construct and operate a 1,300-MW natural gas combined-cycle combustion turbine at Wallula, Washington, in Walla Walla County. A DEIS was issued in March 2002 and an FEIS in August 2002. BPA is currently awaiting approval from the governor of Washington state before writing a Record of Decision.

Maiden Wind Project – Washington Winds, Inc. is developing a wind farm in the Rattlesnake Hills area. It would produce a maximum of 400 MW of electricity. The project would connect to existing BPA transmission lines via a new substation. A DEIS was issued in March 2002 and an FEIS in December 2002.

Nine Canyon Wind Project – This project has been constructed.

➔ For Your Information

A ***megawatt (MW)*** is one million watts, or one thousand kilowatts.

Horse Heaven Hills – Washington Winds, Inc. is proposing to construct and operate a 225-MW wind farm in Benton County, Washington. A new substation and transmission line would be built to connect to the existing transmission system. Scoping was held in 2001, the project is currently on hold.

Grand Coulee-Bell Transmission Line – BPA is proposing to replace about 84 miles of existing 115-kV wood pole transmission line with a new, higher capacity 500-kV steel lattice line in Douglas, Grant, Lincoln, and Spokane Counties, Washington. The proposed line would connect BPA's existing Bell Substation in Spokane to BOR's existing switchyard at Grand Coulee Dam. The new line would be located primarily on existing BPA right-of-way. A DEIS was issued in August 2002, an FEIS was issued December 2002, and an ROD is expected in January 2003.

Plymouth Generation Facility – Plymouth Energy, LLC is proposing to construct and operate a 307-MW combined-cycle generation facility approximately 2 miles west of the town of Plymouth, Washington. A transmission line less than 1 mile long would be built to interconnect with the BPA system. A DEIS was issued in September 2002, an FEIS is expected in winter of 2003.

1.10 Organization of the Final EIS

This EIS includes information necessary for agency officials to make decisions based on the environmental consequences of proposed actions. Federal regulations specify the kinds of information decision-makers should have in order to make good decisions. This document follows those recommendations.

This Final EIS also provides updated information developed based on comments received on the Draft EIS as well as additional information that has become available. Additions to the document are displayed as underlined text.

Chapter 1 states the purpose and need for the project. Alternatives are evaluated based on the purpose and need for the project.

Chapter 2 describes the agency Preferred Alternative and other alternatives, including taking no action, and summarizes the differences between the alternatives.

Chapter 3 describes the existing environment within the study area of the project. Resources described include both natural and human resources.

Chapter 4 analyzes the possible environmental consequences of the alternatives. Impact rankings range from no impact to high impact.

Chapter 5 lists the licenses, permits, and other approvals or conditions the alternatives must obtain or meet.

Chapter 6 contains the comments on the DEIS, and BPA's responses to these comments.

Chapter 7 includes a list of the individuals who helped prepare the EIS.

Chapter 8 lists the individuals, organizations, and agencies who will receive copies of the EIS.

Chapter 9 provides a list of the references used in preparing the EIS.

Chapter 10 includes a Glossary of Terms and List of Acronyms used in the EIS.

Chapter 11 is an Index.

Supporting technical information is provided in the appendices.