



# Kangley-Echo Lake Transmission Line Project

May 15, 2002

Bonneville Power Administration (BPA) is committed to providing reliable power to the Northwest region. BPA is proposing to build new infrastructure projects to improve the reliability of the transmission system and to meet future power needs. The Kangley-Echo Lake Transmission Line Project is the first of these infrastructure projects.

## Proposal

The proposed 500-kilovolt (kV) transmission line would connect with BPA's existing Echo Lake Substation in the Maple Valley area of Washington. There are several route alternatives currently under consideration. The proposed line is needed to improve system reliability in the King County area and to enhance the return of power to Canada as required by the Columbia River Treaty. Without system improvements, an outage on the existing BPA line could cause voltage instability and a loss of power in the Puget Sound area by winter 2002-03. BPA is considering a broad range of alternatives (see enclosed maps).

Adding new alternatives to be considered extends the time needed to make a decision on the alternatives and could increase the risk of not meeting the transmission needs of BPA's customers in the Puget Sound area. Planners predict that for the winter of 2003-04, the transmission system is about five percent over its capability to reliably meet the increased demand. This means there is an increased risk of forced curtailments of power that could occur during a severe weather event. By the winter of 2005-06, the region is at risk even during a "normal" cold winter. The alternatives include:

<b>Alternatives that would not cross the Cedar River Watershed</b>	
Alternative A	Construct a new single-circuit 500-kV line from a tap along the Schultz-Raver No. 2 line near Kangley to BPA's substation near Covington. From Covington, rebuild a portion of BPA's existing Covington - Maple Valley single circuit 230-kV transmission line with a double circuit 500-kV line, operating one side at 500-kV and the other at 230-kV. The 500-kV circuit would terminate at Echo Lake Substation via a vacant circuit of the Maple Valley - Echo Lake double-circuit 500-kV transmission line. New double-circuit towers, about 175 ft. tall, would support both circuits. The new transmission lines would be built entirely on existing rights-of-way.
Alternative B	Rebuild about 38 miles of BPA's existing Rocky Reach-Maple Valley 345-kV transmission line to a double-circuit 500-kV line. The new towers would be about 175-ft. tall. The new 500-kV line would be connected to the existing Schultz-Raver No. 2 500-kV transmission line just east of Stampede Pass and to Echo Lake Substation at the west end. The line would cross I-90 twice. Almost all of this route would be on existing right-of-way.
Alternative C	Construct a new single-circuit 500-kV line from near the community of Kangley or from BPA's Raver Substation on mostly new 150-foot wide right-of-way. New towers would be about 135 ft. tall. The new line could pass through the Ravensdale and Hobart areas and would be connected to an existing vacant (unused) Echo Lake-Maple Valley 500-kV circuit. The vacant circuit would then need to be connected to a new bay in the Echo Lake Substation. This option would require the purchase of new right-of-way.
Alternative D	Construct a new single-circuit 500-kV transmission line from east of Stampede Pass to Echo Lake Substation. The new line would be adjacent to the existing Rocky Reach-Maple Valley 345-kV line. New towers would be about 135 ft. tall. The line would cross I-90 twice. A new 150-foot wide right-of-way would need to be acquired.
<b>Alternatives that would cross the Cedar River Watershed</b>	
Alternative 1	Construct a new single-circuit 500-kV transmission line from a tap point on BPA's Schultz-Raver No. 2 500-kV line near Kangley, Washington, to its Echo Lake Substation. This line would run parallel to an existing BPA line and be about 9 miles long. BPA would acquire a new 150-ft. wide right-of-way for the line. (See map.) New towers would be about 135 ft. tall.
Alternative 2	Construct a new single-circuit 500-kV line starting about 1.5 miles east of Alternative 1. The line would traverse northwest about 3 miles before continuing north paralleling the existing Raver-Echo Lake transmission line into Echo Lake Substation. This alternative would be about 9 miles long. BPA would acquire a new 150-ft. wide right-of-way for the line. (See map.) New towers would be about 135 ft. tall.

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Alternatives that would cross the Cedar River Watershed (continued)	
Alternative 3	Construct a new single-circuit 500-kV line beginning at the same point as Alternative 2. From this point, it would traverse northeast, then turn north-northwesterly to Echo Lake Substation. This line would be about 10 miles long, or about 1-1/4 miles longer than Alternative 1. BPA would acquire a new 150-ft. wide right-of-way for the line. (See map.) New towers would be about 135 ft. tall.
Alternatives 4 A and B	<p>4A Construct a new single-circuit 500-kV line beginning at the same point as Alternative 2. About one-third of the way along Alternative 2, this alternative turns northwest and follows the same alignment as Alternative 1. This line would be about 9 miles long. BPA would acquire a new 150-ft. wide right-of-way for the line. (See map.) New towers would be about 135 ft. tall.</p> <p>4B Construct a new line beginning at the same point as Alternative 2. About half way along Alternative 2, this alternative would traverse southwest to connect with Alternative 1. This line would be about 9 miles. BPA would acquire a new 150-ft. wide right-of-way for the line. (See map.) New towers would be about 135 ft. tall.</p>
No Action Alternative	No new line would be built.

### Preferred Alternative

BPA's preferred transmission route is Alternative 1. This alternative is a 500-kilovolt (kV), 9-mile long single-circuit transmission line that would begin near the community of Kangley, Washington and would connect with BPA's existing Echo Lake Substation in the Maple Valley area of Washington (see map). The proposed line would be built next to an existing BPA 500-kV line and would require 47 new towers (average tower height is about 135 feet). Echo Lake Substation would be expanded and new equipment would be installed. This alternative would cross about 5 miles of the City of Seattle's Cedar River Municipal Watershed.

### Working with the Community

BPA will fully mitigate construction impacts, avoiding harm to water quality, fish and wildlife. The full mitigation strategy is not developed, but it will include helicopter construction and a special tower footing design to minimize impacts on the Watershed. BPA is committed to preserving water quality in the Watershed, protecting species outlined in the Habitat Conservation Plan and working with public agencies, interest groups, tribes and property owners to minimize impacts.

### Environmental Planning

As BPA begins to design a project, special attention is paid to minimize disruption to people, fish and wildlife and sensitive areas. An environmental impact statement (EIS) is being developed for this project to identify impacts of route alternatives and identify ways to minimize or avoid potential impacts. The EIS focuses on protecting, restoring and enhancing the natural environment and requesting public comment on project alternatives. Some of the key project milestones to date include:

- **Scoping.** BPA held public meetings in 2000 to identify possible issues and concerns on the project. BPA continues to meet with local, state, and federal agencies and Tribes to resolve project issues.
- **Draft Environmental Impact Statement (DEIS).** BPA completed a DEIS and released it for public review in June 2001. The DEIS also recommended ways to reduce adverse effects. BPA held a public meeting in August 2001 to receive comments (see the project Web site to review the DEIS: [www.efw.bpa.gov/cgi-bin/PSA/NEPA/SUMMARIES/KangleyEchoLake](http://www.efw.bpa.gov/cgi-bin/PSA/NEPA/SUMMARIES/KangleyEchoLake)).
- **Supplemental DEIS.** BPA heard concerns from citizens and environmental groups about the proposed line being constructed in the Cedar River Municipal Watershed. Based on those concerns, BPA will produce a Supplemental DEIS that will review in more depth all of the alternatives. The Supplemental DEIS will be released in December 2002.
- **Final Environmental Impact Statement (FEIS).** The FEIS will respond to comments received on the Draft EIS and the Supplemental Draft EIS. The FEIS should be available in May 2003.

### Schedule

Based on the environmental studies, additional technical analysis and public input, BPA's Administrator will decide how to proceed on the project. If BPA decides to construct a new 500-kV transmission line, it could be energized in winter 2003-04.

### Questions or Comments

If you have questions or comments you can call us at (360) 418-8445 or 1-800-282-3713. You can also access the DEIS and additional project information at the project Web site at [www.efw.bpa.gov/cgi-bin/PSA/NEPA/SUMMARIES/KangleyEchoLake](http://www.efw.bpa.gov/cgi-bin/PSA/NEPA/SUMMARIES/KangleyEchoLake).