

United States Entity

**US Department Of Energy, Bonneville Power Administration
US Army Corps of Engineers, North Pacific Division**

Delivery of the Canadian Entitlement Final Environmental Impact Statement

Record of Decision

Summary

The United States Entity (the Administrator of the Bonneville Power Administration [BPA] and the Division Engineer, North Pacific Division of the US Army Corps of Engineers [Corps]) has decided to fulfill its obligation under the Columbia River Treaty (Treaty) between the United States of America (United States) and Canada by delivering Canada's Entitlement under the Treaty to points on the border between Canada and the United States near Blaine, Washington and Nelway, British Columbia (BC). Delivering the full Entitlement at existing interconnections at those locations will require no new transmission facilities in the United States or in Canada. However, construction of cross-Cascades transmission in the United States would be accelerated, to as early as 2005. Delivery of the Canadian Entitlement will begin April 1, 1998.

The Treaty, signed in 1961, led to the construction of three storage dams on the Columbia River system in Canada and one in the United States. Under the Treaty, Canada and the United States equally share the benefits of the additional power that can be generated at dams downstream in the United States because of the storage at the upstream Treaty reservoirs. Canada's half of the downstream power benefits, the Canadian Entitlement (Entitlement), is calculated to be approximately 1,200 to 1,500 megawatts (MW) of capacity and 550 to 600 average megawatts (aMW) of energy. Canada sold its share of the power benefits for 30-year periods to a consortium of United States utilities. The 30-year sale will begin to expire in 1998, when the first installment of the Entitlement must be delivered to Canada. The Treaty specifies that the Entitlement must be delivered to Canada at a point on the border near Oliver, BC, unless the parties agree to other arrangements. An interim agreement, signed in 1992, allowed the Entitlement to be delivered over existing facilities between 1998 and 2003.

In the Delivery of the Canadian Entitlement Final Environmental Impact Statement (DOE/EIS-0197, issued in January 1996), the United States Entity evaluated the potential environmental impacts of a range of alternatives for delivering the Entitlement to Canada, including various combinations of delivery points, power purchases, and resource development. Over a period of several years, the United States and Canadian Entities made a concerted effort to find a mutually agreeable alternative to delivery at Oliver on commercially reasonable terms. To comply with the Treaty, the United States Entity needed to be able to deliver the full Entitlement to Canada by March 31, 2003, when the interim agreement expired. In a Record of Decision (ROD) issued March 12, 1996, the United States Entity documented its decision to deliver the full Entitlement to Oliver. That decision reflected the

inability of the United States and Canadian Entities to agree to an alternative arrangement to the Treaty-specified Oliver delivery point.

Delivery at Oliver would have required the construction and operation of a new single circuit, 500-kilovolt (kv) line from Grand Coulee or Chief Joseph Substation to the border. The United States Entity issued a Notice of Intent (NOI) to prepare the Oliver Delivery Project EIS on March 25, 1996, and began scoping activities to support that EIS.

Subsequent discussions have led to a mutually agreed upon alternative for Entitlement delivery. The United States and Canadian Entities are prepared to execute an Entity Agreement that would replace delivery of the Entitlement to Oliver with delivery of the Entitlement at existing transmission interconnections between the United States and Canada in the vicinity of Blaine, Washington and Nelway, BC.

The proposed Entity Agreement will supersede and terminate the interim agreement. The proposed Agreement does not address delivery of the Entitlement in the United States. If the United States and Canadian Entities propose delivery in the United States, the United States Entity will review the Delivery of the Canadian Entitlement EIS to ensure that the impacts are adequately analyzed. A decision to dispose of the Entitlement in the United States would be the subject of an additional United States Entity ROD.

This ROD replaces the March 12, 1996, ROD and withdraws the NOI for the Oliver Delivery Project EIS.

For Further Information Contact: Ms. Katherine Semple Pierce, Bonneville Power Administration, at (503) 230-3962. Copies of the Final EIS; the March 12, 1996, ROD; and this ROD are available from BPA's Public Involvement Office, P.O. Box 12999, Portland, Oregon 97212. Copies of the documents may also be obtained by using BPA's nationwide toll-free document request line, 1-800-622-4520.

Supplementary Information

1. Background

The Columbia River Treaty between Canada and the United States, signed in 1961, required three storage dams to be constructed on the Columbia River system in Canada (Duncan, Keenleyside, and Mica Dams), and allowed for one additional dam in the United States (Libby Dam). The dams help control floods in both countries, and the regulated stream flow provided by the three Treaty reservoirs in Canada enables dams downstream in the United States to produce additional power. Under the Treaty, Canada and the United States share these downstream benefits equally.

In 1964, Canada sold its half of the downstream benefits to a consortium of United States utilities for 30-year periods. The 30-year sale begins to expire in 1998 and will completely expire in 2003, at which time the Entitlement--Canada's share of the downstream power benefits--must be delivered to Canada. An interim agreement, signed in 1992, allowed the Entitlement to be delivered over existing transmission facilities between 1998 and 2003. The Entitlement is currently estimated to be approximately 1,200 to 1,500 MW capacity and 550 to 600 aMW energy (the amounts decline over time). The Entitlement is owned by the province of British Columbia. At the expiration of the 30-year sale, the United States Entity needs to fulfill the United States' obligation under the Treaty to deliver the Entitlement to Canada. The Treaty specifies that the Entitlement must be delivered to Canada at a point on the border near Oliver, BC, unless the parties agree to other arrangements.

Pursuant to the Treaty, the Administrator of BPA and the Division Engineer, North Pacific Division of the Corps are designated as the United States Entity, which is responsible for representing United States interests pursuant to the Treaty. British Columbia Hydro and Power Authority (BC Hydro, a Crown corporation) is the Canadian Entity. In Canada, the BC government led the consultation team; BC Hydro may need to implement some portions of the Canadian Entity's decision.

2. The Delivery of the Canadian Entitlement EIS

BPA, which transmits power from United States Federal hydroelectric projects in the Pacific Northwest (PNW) and markets that power in the PNW and California, may need to implement some portions of the United States Entity's decision. Therefore, BPA used its expertise in preparing the Delivery of the Canadian Entitlement EIS. The United States Department of State was a cooperating agency in the preparation of the EIS. Depending on the alternative selected, the Department of State would conduct negotiations to authorize the disposition of benefits within the United States, since a disposition in the United States must be evidenced by an exchange of notes between the respective governments.

A NOI to prepare an EIS on the Delivery of the Canadian Entitlement was signed on May 24, 1993. Scoping meetings were held in June 1993 in Portland, Oregon; and in Pasco, Seattle, and Spokane, Washington. The comments received during scoping were considered in the preparation of the Draft EIS, which was circulated for review in April 1994. Comments on the draft were incorporated, where applicable, into the Final EIS, which was issued in January, 1996 (DOE/EIS-0197).

The Notice of Availability of the Final EIS was published in the Federal Register on January 26, 1996. During the ensuing 30-day No Action period, the United States Entity received comments on the Final EIS from the Canadian Entity. On March 12, 1996 the United States Entity issued a ROD documenting its decision to deliver the full Entitlement to Oliver, BC. The Canadian Entity's comments and the United States Entity's responses were summarized in that previous ROD. The decision reflected the inability of the Entities, despite a concerted effort over a period of several years, to find a mutually agreeable alternative to the Treaty-specified delivery at Oliver, on commercially reasonable terms.

Delivery at Oliver would have required the construction and operation of a new single-circuit 500-kv transmission line from Grand Coulee or Chief Joseph Substation to the border, a distance of 135 to 155 kilometers (km) (85 to 95 miles). To comply with the Treaty, the United States Entity must be able to deliver the full Entitlement to Canada by March 31, 2003. Therefore, to meet that schedule and to provide time for environmental analysis, public involvement, planning, and construction of a transmission line, the United States Entity issued a NOI to prepare the Oliver Delivery Project EIS on March 25, 1996, and began scoping activities.

Subsequent technical discussions led to a mutually agreed on alternative to delivery at Oliver. Specifically, the United States Entity and Canadian Entities are prepared to execute an Entity Agreement for full delivery of the Entitlement at existing interconnections between the United States and Canada in the vicinity of Blaine, Washington and Nelway, BC. This new ROD documents the United States Entity's decision, replaces the previous ROD and withdraws the NOI for the Oliver Delivery Project.

3. Alternatives Evaluated in the Delivery of the Canadian Entitlement EIS

The United States Entity evaluated the potential environmental impacts of a range of alternatives for delivering the Entitlement to Canada, including various combinations of delivery points, power purchases, and resource development. Alternatives for the delivery of the Entitlement were analyzed in terms of components and actions. As shown in Figure 1, components are the building blocks of the alternatives, and include different delivery points for the Entitlement, as well as different purchase and resource development choices. Actions are the activities that must occur in the United States to implement each component. For most alternatives, a connected action in Canada would also be required. The actions lead to environmental impacts.

Focusing the analysis in terms of components, actions, and connected actions in Canada allows decisionmakers to understand the environmental impacts of the full range of alternatives for the delivery of the Entitlement.

Figure 1: How this EIS Evaluates Alternatives and Their Environmental Impacts

The National Environmental Policy Act requires an agency to consider the consequences of not taking a proposed action (that is, the No Action Alternative). In this case, No Action would mean that the United States Entity would not deliver the Entitlement to Canada, as required by the Columbia River Treaty. Not delivering the Entitlement would violate the Treaty, and would have unacceptable social, political, and legal consequences on both sides of the border. The No Action Alternative is not acceptable to either the United States or Canadian Entity, and was dismissed from further consideration in the EIS.

The Treaty specifies that the Entitlement is to be delivered at a point on the United States-Canada border near Oliver, BC, "or at such other place the entities may agree upon." The Base Case for this EIS is the delivery of the Entitlement in its entirety at Oliver. In addition to the Base Case, the EIS evaluated four other alternatives. The components of possible alternatives were known. The components were combined to represent a range of possible alternatives. The alternatives analyzed in the EIS included:

- **Alternative A (Partial Purchase and Partial Delivery at Blaine),**
- **Alternative B (PNW Purchase),**
- **Alternative C (Pacific Southwest [PSW] Purchase), and**
- **Alternative D (Partial Purchase and Partial Delivery at Blaine and Selkirk).**

These alternatives and their associated environmental impacts were evaluated in detail in the previous ROD.

As noted in the Final EIS (page 2-3), other alternatives for the delivery of the Entitlement exist. They can be derived and compared by selecting components and reviewing their associated environmental impacts, as analyzed in the EIS. This new ROD focuses on the Base Case and an additional alternative, **Alternative E, Full Delivery at Blaine and Selkirk.** (Selkirk is a BC Hydro Substation that is located 6 km [4 miles] north of the United States-Canada border near Nelway, BC.) No new transmission facilities would be required in the United States or in Canada as part of this alternative.

The components for Alternative E were described in sections 2.2.1.1, 2.2.1.2, 2.2.1.3, and 2.2.2.1 of the EIS. The environmental effects of the components were discussed in sections 4.1.1.3 (Blaine Point of Delivery), 4.1.1.4 (Selkirk Point of Delivery), 4.1.2 (Intertie Use), 4.1.3.1 (Resource Development and Operation in the PNW), and 4.2.1 (Transmission Line Construction in Canada). Information in these sections is summarized in the box below for Alternative E Components.

Delivering the full Entitlement at Oliver would require:

Base Case Components
<p>UNITED STATES</p> <p>Transmission Construction. One new single-circuit 500 -kilovolt (kV) line from Grand Coulee or Chief Joseph Substations to the United States/Canada border near Oliver by 2003:</p> <ul style="list-style-type: none">• 135 to 155 kilometers (km)--85 to 95 miles (mi.) long.• Right-of-way (new or expansion of existing): 38 meters (m)--125 feet (ft) wide for standard lattice steel structures.• New or upgraded access roads: 2 km/km of line--(2 mi./mi. of line).• Potential improvements at or expansions of existing substations. <p>East-West Standby Transmission. The United States would provide East-West Standby transmission service in accordance with Article X of the Columbia River Treaty. It appears that no new transmission facilities would be required to provide this service.</p> <p>Base Case Construction Date Assumptions for Cross-Cascades Transmission Lines. Two 200- to 240-km (125- to 150-mi.) cross-Cascades lines are needed by the end of the second and third decades of the 21st century.</p> <p>Resource Development and Operation. The PNW would develop 550 aMW of energy and 1,400 MW of capacity by 2003 and would operate the system to serve Entitlement load.</p> <p>CANADA</p> <p>Transmission Construction. Border-to-Oliver: One new single-circuit 500-kV line and substation by 2003:</p> <ul style="list-style-type: none">• 13 to 46 km (8 to 29 mi.) long.• Right-of-way (new or expansion of existing): 49 to 64 m (161 - 210 ft) wide.• New or upgraded access roads: Likely.• New 500 -kV switching station or substation (approx. 9 hectares (ha) (22 acres). <p>Base Case Construction of Interior-to-Lower-Mainland Transmission Lines. The following transmission lines may be needed to transmit the Entitlement to Canadian load centers in the Lower Mainland. These lines are not anticipated before 2008, but they may be required before the end of the study period (2024). The need is related to the location of future generation in BC.</p> <ul style="list-style-type: none">• Oliver-to-Nicola: 138-km (86-mi.) 500-kV line.• Nicola-to-Lower-Mainland: 248-km (154-mi.) 500-kV line.

In order to implement this alternative, BPA would prepare a site-specific EIS that would address route alternatives and site-specific environmental impacts.

Full delivery at Blaine and Selkirk would require:

Alternative E Components
<p>UNITED STATES</p> <p>Transmission Construction. One cross-Cascades 500-kV transmission line would be accelerated 6 or 7 years under an eastside generation scenario. A second cross-Cascades line might also be accelerated.</p> <p>Transmission Use. BPA would deliver power over the Northern Intertie at Blaine and Selkirk.</p> <p>Resource Development and Operation. The PNW would develop up to 550 aMW of energy and 1400 MW of capacity resources and operate the system to serve 550 aMW/1400 MW of Entitlement load.</p> <p>CANADA</p> <p>Transmission Construction. The need for Interior-to-Lower Mainland transmission lines would be deferred by several years, compared to the Base case.</p>

Prior to making a future decision regarding a cross-Cascades transmission line, BPA would prepare a separate EIS and ROD.

4. Environmental Evaluation

The environmental consequences of the action alternatives were identified and compared to the Base Case. In Figure 2 the environmental consequences of all the action alternatives are compared to the Base Case. The environmental consequences of the Base Case and Alternative E are summarized in Figure 3. Alternatives A, B, C, and D were discussed in the previous ROD.

The environmental analysis in the EIS examined effects in Canada, as well as within the United States, in the spirit of providing full and complete information to the United States Entity on the consequences, both direct and indirect, of actions in the United States. The assessment of impacts in Canada was based on the United States Entity's perspective and interpretation of the Treaty requirements. The Canadian Entity did not necessarily agree with or endorse this analysis of the environmental effects in Canada.

5. Decision-Making Process

In April 1993, consultations began between the United States and Canadian Entities on how to accomplish delivery of the Entitlement through 2024, the earliest date under Article XIX that the Treaty can be terminated. Several other organizations actively participated in this process, including the mid-Columbia generating utilities (those utilities that own and operate several hydroelectric dams along the mainstem of the Columbia River) and the Department of State. As a result of these consultations, the United States and Canadian Entities and the Province of British Columbia executed a non-binding Memorandum of Negotiators' Agreement and Principles for Delivery and Disposition of the Canadian Entitlement (MONA) on September 9, 1994. Together, these established a framework for future negotiations of comprehensive agreements for delivery of Canada's Treaty power.

Execution of the MONA was followed by extensive negotiations to draft final, detailed, binding agreements. Negotiations between the United States and Canadian Entities continued periodically through May 1995. While negotiating with the Canadians, the United States Entity also worked with the mid-Columbia utilities to negotiate their share of the Entitlement obligation. After the MONA was signed, the electric utility market changed dramatically. Following a thorough review of the economics of the MONA, the United States Entity concluded that the agreement contemplated by the MONA no longer had an economic advantage over building the required transmission facilities to deliver the Entitlement to Oliver, BC, and that it could not reach final agreement with the Canadian Entity and the BC government.

Because the United States and Canadian Entities were unable to agree to any alternative arrangements for delivery of the Entitlement and because the Treaty requires that the United States Entity deliver the Canadian Entitlement to Oliver, BC, when there is no mutually agreeable alternative, the United States Entity decided to deliver the full Entitlement to Oliver. This decision was documented in the March 12, 1996 ROD. To comply with the Treaty and environmental review requirements, the United States Entity proceeded with plans to construct a new

Figure 2: Summary of Environmental Consequences of Action Alternatives

Figure 3: Comparison of Environmental Consequences of Action Alternatives (Compared to Base Case)

transmission line to a point on the border near Oliver, BC. On March 25, 1996, BPA issued a NOI for the site-specific Oliver Delivery Project EIS and began scoping.

Subsequent to the March 12, 1996 ROD, technical discussions have led to a mutually agreed upon alternative for Entitlement delivery. The United States and Canadian Entities are prepared to execute an Entity Agreement that would replace delivery of the Entitlement to Oliver with delivery of the Entitlement at existing transmission interconnections between the United States and Canada in the vicinity of Blaine, Washington and Nelway, BC. The proposed Entity Agreement will supersede and terminate the interim agreement. Delivery will commence April 1, 1998.

The proposed Entity Agreement does not address delivery of the Entitlement in the United States. If the United States and Canadian Entities propose delivery in the United States, the United States Entity will review the Delivery of the Canadian Entitlement EIS to ensure that the impacts are adequately analyzed. A decision to dispose of the Entitlement in the United States would be the subject of a separate United States Entity ROD.

6. Decision Factors

The United States Entity used the purpose and need identified in the Delivery of the Canadian Entitlement EIS as decision factors to evaluate alternatives for the delivery of the Canadian Entitlement. The United States Entity needs to fulfill the United States' obligations under the Columbia River Treaty to deliver Canada's share of the downstream benefits of the Columbia River Treaty dams. The purposes of the action are to:

- **Meet the Treaty obligations cost-effectively.** In a period of increasingly competitive energy markets and the deregulation of transmission and generation, BPA's financial viability requires that the United States Entity give heavy emphasis to lower cost alternatives for delivering the Canadian Entitlement.
- **Avoid or minimize adverse environmental effects of fulfilling the Treaty obligation.** Selecting an alternative for the delivery of the Entitlement with lower environmental impacts was one goal of the United States Entity.
- **Develop means for fulfilling the Treaty that are acceptable to the Canadian and United States Entities.** Any alternative for delivering the Entitlement other than the Treaty provision for delivery at Oliver would require agreement by both the Canadian and United States Entities.
- **Maintain the reliability of BPA's power system.** Any alternative for delivering the Canadian Entitlement must not impede BPA's ability to operate the transmission system to meet its obligations to its customers.

7. The United States Entity's Decision

The preferred alternative in the Final EIS was the Proposed Action, Delivery at Oliver. This designation reflected the inability of the United States and Canadian Entities to mutually agree on an alternative to the Treaty-specified delivery of the Entitlement at Oliver. The environmentally preferred alternative was identified as Alternative B - PNW Purchase, because it would avoid the environmental impacts of constructing new transmission lines in the United States and Canada.

Alternative E, Full Delivery at Blaine and Selkirk, is consistent with the proposed Entity Agreement. It fulfills the United States Entity's obligations under the Treaty to deliver Canada's share of the downstream benefits of the Treaty dams. It is also consistent with the purposes of action:

- **Meet the Treaty obligations cost-effectively.** Full delivery at Blaine and Selkirk is the most cost-effective alternative. It requires no new transmission facilities.
- **Avoid or minimize adverse environmental effects of fulfilling the Treaty obligation.** It has less environmental impact than any of the other alternatives, including the environmentally preferred alternative (Alternative B).
- **Develop means for fulfilling the Treaty that are acceptable to the Canadian and United States Entities.** This is the only alternative to delivery at Oliver that is mutually agreed upon by the Entities.
- **Maintain the reliability of BPA's power system.** Like all of the alternatives, it does not impede BPA's ability to operate the transmission system to meet its obligations to its customers.

Therefore, the United States Entity has decided to deliver the full Entitlement at the existing transmission interconnections between the United States and Canada near Blaine, Washington and Nelway, BC. This decision replaces the previous decision documented in the United States Entity's March 12, 1996 ROD and withdraws the NOI for the Oliver Delivery Project EIS.

Issued by the United States Entity in Portland, Oregon on: November 8, 1996.

/s/ Randall W. Hardy

Randall W. Hardy, Chair

/s/ Bartholomew B. Bohn, III

Bartholomew B. Bohn, III, Member
Colonel, US Army Corps of Engineers