

COLUMBIA RIVER TREATY
ENTITY AGREEMENT
on
ASPECTS OF THE
DELIVERY OF THE CANADIAN ENTITLEMENT
for
APRIL 1, 1998 THROUGH SEPTEMBER 15, 2024
BETWEEN THE CANADIAN ENTITY AND THE UNITED STATES ENTITY
DATED MARCH 29, 1999

WHEREAS:

- A. Canada and the United States are parties to the Treaty; and
- B. The Canadian Entity (being, for purposes of this Agreement, British Columbia Hydro and Power Authority) and the United States Entity (collectively, the "Entities") are designated as the entities under Article XIV of the Treaty for certain purposes under the Treaty; and
- C. Pursuant to Article V(2) of the Treaty, the United States is obligated to deliver to Canada the Canadian Entitlement at a point on the Canada-United States boundary near Oliver, British Columbia, or at such other place as the Entities may agree upon; and
- D. Pursuant to Article VIII(1) of the Treaty, portions of the Canadian Entitlement may be disposed of within the United States with the authorization of Canada and the United States evidenced by an exchange of notes; and
- E. By exchange of notes dated September 16, 1964, Canada and the United States authorized the sale of the Canadian Entitlement within the United States of America pursuant to Article VIII of the Treaty; the sale expires in steps occurring March 31, 1998, March 31, 1999, and March 31, 2003; and
- F. By an exchange of notes (the "1999 Exchange of Notes"), Canada and the United States have authorized or will authorize disposals of all or portions of the Canadian Entitlement within the United States pursuant to Article VIII of the

Treaty with delivery and other arrangements for such disposals to be made in accordance with the Disposal Agreement; and

- G. Pursuant to Article XIV(2)(j) of the Treaty, the Entities have the powers and duties to make appropriate arrangements for delivery of the Canadian Entitlement including such matters as load factors for delivery, times and points of delivery, and calculation of transmission loss; and
- H. The Entities wish to enter into this Agreement for the delivery of the Entitlement Delivery Amount at points on the Canada-United States boundary other than a point near Oliver, British Columbia, and to resolve certain matters pertaining to scheduling and calculation of transmission loss.

NOW THEREFORE in accordance with the Treaty the Entities agree as follows:

1. This Agreement shall be effective on the later of the date of execution or the effective date of the Disposal Agreement and shall continue in full force and effect until 2400 hours on September 15, 2024. All then outstanding obligations shall continue until satisfied. Execution of this Agreement supersedes and terminates the Columbia River Treaty Entity Agreement on aspects of the Delivery of the Canadian Entitlement for April 1, 1998 through September 15, 2024 between the Canadian Entity and the United States Entity, dated November 20, 1996, and the Entity Agreement of the same name, dated March 26, 1998, but never having reached its effective date.

2. For the purpose of this Agreement:

- (a) "Annual U.S. Obligation" for any year shall mean the Transmission Cost that the United States Entity would incur to deliver the relevant amounts of Entitlement Delivery Amount at the Points of Delivery if the amounts of Entitlement Delivery Amount had previously been continuously delivered at the Points of Delivery pursuant to this Agreement; and
- (b) "Bonneville" means the Administrator of the Bonneville Power Administration not acting in its capacity as or on behalf of the United States Entity; and
- (c) "Canadian Entitlement" at any time shall mean the downstream power benefits to which Canada is entitled at that time as described in Article V(1) and Article VII of the Treaty and determined in accordance with the Treaty; and
- (d) "deliver" shall mean make available in the case of electrical capacity or deliver in the case of electrical energy, or both, as the context may require and derivatives of "deliver" shall have corresponding meanings; and
- (e) "Disposal Agreement" shall mean the "Agreement on Disposals of the Canadian Entitlement within the United States for April 1, 1998 through

September 15, 2024" between British Columbia ("British Columbia") and Bonneville Power Administration acting on behalf of the United States Entity; and

- (f) "Entitlement Delivery Amount" at any time shall mean the Canadian Entitlement less the amount described in Article V(2)(a) and Article V(2)(b) of the Treaty; and
- (g) "Points of Delivery" shall mean the Blaine No. 1 Point of Delivery, the Blaine No. 2 Point of Delivery, the Nelway Point of Delivery and the Waneta Point of Delivery, each as described in more particularity in Attachment A; and
- (h) "Transmission Cost" for any period shall mean (i) the cost of transmission service, plus (ii) any cost, excluding transmission losses, which is necessarily incurred to deliver Entitlement Delivery Amount for such period, in each case based on published prices, plus (iii) any costs of redispatch, construction or modification of transmission facilities as determined by the regulatory methodology then applicable to the parties involved; and
- (i) "Treaty" shall mean the "Treaty between Canada and the United States of America relating to cooperative development of the Water Resources of the Columbia River Basin" including its Annexes A and B, signed at Washington, District of Columbia, United States of America on the 17th day of January, 1961, and the Protocol, brought into force by exchange of instruments of ratification and an Exchange of Notes on September 16, 1964.

3. Pursuant to Article V(2) and Article XIV(2)(j) of the Treaty, the Entities agree that the places of delivery of the Entitlement Delivery Amount for the period commencing April 1, 1998, and ending at 2400 hours on September 15, 2024, shall be the Points of Delivery. Subject to paragraphs 8 through 11, the United States Entity shall make available, at no cost to Canada imposed in the United States, the Entitlement Delivery Amount capacity at the Points of Delivery in the following amounts:

- (a) 3/14ths at the Nelway Point of Delivery and the Waneta Point of Delivery; and
- (b) 11/14ths at the Blaine No. 1 Point of Delivery and the Blaine No. 2 Point of Delivery.

Subject to paragraphs 8 through 11, the United States Entity shall deliver at no cost to Canada imposed in the United States, and the Canadian Entity shall accept, the Entitlement Delivery Amount energy at the Points of Delivery as scheduled by the Canadian Entity pursuant to paragraph 5, up to the capacity amounts referred to in subparagraphs (a) and/or (b) of this paragraph 3.

4. Deliveries of the Entitlement Delivery Amount shall not be interrupted or curtailed except for reasons of uncontrollable force or maintenance and then only on the same basis as deliveries of firm power from the Federal Columbia River Power System to Pacific Northwest customers of Bonneville or any successor. To the extent the Entities are unable to effect delivery of that part of the Entitlement Delivery Amount referred to in subparagraph 3.(a) to the Points of Delivery so specified in that subparagraph, the part not able to be so delivered shall be added to the amount to be delivered to the Points of Delivery so specified in subparagraph 3.(b). Notwithstanding the foregoing, the Entities agree that at any time, and from time to time, the portions of the Entitlement Delivery Amount to be delivered to the respective Points of Delivery specified in subparagraphs 3.(a) and 3.(b) may be changed temporarily for operational reasons upon agreement by the Columbia River Treaty Operating Committee representing the Entities.

5. During the period commencing on April 1, 1998, and ending on September 15, 2024, the Canadian Entity shall schedule the Canadian Entitlement pursuant to this Agreement and the scheduling provisions set forth in Attachment B. The Canadian Entity may appoint a suitably qualified "Scheduling Agent" to actually perform the scheduling duties required under this Agreement, subject to the United States Entity's approval, which shall not be unreasonably withheld.

6. During the period commencing on April 1, 1998, and ending on September 15, 2024, the transmission loss referred to in Article V(2)(a) of the Treaty shall be calculated as 3.4% of the Canadian Entitlement energy from which first has been subtracted the amounts described in Article V(2)(b) disposed of within the United States pursuant to the Exchange of Notes between Canada and the United States of America dated September 16, 1964, or pursuant to the 1999 Exchange of Notes authorizing such disposition.

7. During the period of time specified in Section 4.2(c) of the Disposal Agreement, the United States Entity shall not have any obligation to maintain, purchase or reserve transmission for future deliveries to the Points of Delivery as Entitlement Delivery Amount of the portion of the Canadian Entitlement delivered within the United States pursuant to Section 4 of the Disposal Agreement; provided that if the Canadian Entity requests that the United States Entity purchase or reserve transmission for future deliveries of such portion of the Canadian Entitlement as Entitlement Delivery Amount to the Points of Delivery pursuant to this Agreement and agrees to pay all costs associated with such actions, the United States Entity shall purchase or reserve the transmission, requested by the Canadian Entity, if such transmission is available in the market for purchase or reservation.

8. Canadian Entitlement that is being disposed of within the United States as authorized by the 1999 Exchange of Notes shall, upon written notice from the Canadian Entity pursuant to paragraph 11 prior to expiry or suspension of the disposal, be delivered at the Points of Delivery as Entitlement Delivery Amount in accordance with paragraph 3 upon expiry or suspension of the disposal to the extent that:

- (a) firm transmission capacity required to deliver such Entitlement Delivery Amount at the Points of Delivery is available for purchase by the United States Entity, including by way of assignment; and
- (b) the United States Entity's Transmission Cost in any year of delivering such Entitlement Delivery Amount does not exceed the Annual U.S. Obligation for such year.

9. If firm transmission capacity required to deliver a portion of the Entitlement Delivery Amount referred to in paragraph 8 at the Points of Delivery is not available for purchase by the United States Entity, the United States Entity shall so notify the Canadian Entity, and:

- (a) the Canadian Entity may request a lower quality or quantity of delivery than that specified in the Treaty and this Agreement, and if the transmission required to deliver the requested capacity and energy is available for purchase, the United States Entity shall so deliver such Entitlement Delivery Amount at the Points of Delivery; and/or
- (b) the Canadian Entity may notify the United States Entity that it wishes the United States Entity to procure redispatch, construction or modification of transmission facilities and, subject to the Canadian Entity agreeing to reimburse the United States Entity for any Transmission Cost that exceeds the Annual U.S. Obligation, the United States Entity shall procure such redispatch, construction or modification and so deliver that portion of the Entitlement Delivery Amount at the Points of Delivery.

10. If, for any year, the United States Entity's Transmission Cost of delivering the portion of the Entitlement Delivery Amount referred to in paragraph 8 at the Points of Delivery would exceed the Annual U.S. Obligation for such year and the Canadian Entity agrees to reimburse the United States Entity for all of its Transmission Cost in excess of the Annual U.S. Obligation, then the United States Entity shall purchase such transmission and deliver such Entitlement Delivery Amount at the Points of Delivery.

11. The Canadian Entity shall notify the United States Entity in writing if it wishes all or portions of the Canadian Entitlement being disposed of within the United States to be delivered as Entitlement Delivery Amount at the Points of Delivery pursuant to paragraph 8 upon expiry or suspension of any disposal. Within a reasonable period of time after receipt of the foregoing notice or notice pursuant to paragraph 9, and before the United States Entity purchases transmission or procures redispatch, construction or modification of transmission facilities, the United States Entity shall notify the Canadian Entity of any expected excess costs referred to in either subparagraph 9(b) or paragraph 10 or both. Within a reasonable period of time after the United States Entity's notice, the Canadian Entity shall notify the United States Entity in writing whether the Canadian Entity agrees to reimburse the United States Entity for all excess costs referred to in either subparagraph 9(b) or paragraph 10 or both. If the Canadian Entity agrees to reimburse the United States Entity for such excess costs, the Canadian Entity shall be obligated to do so, whether or not

such transmission is used by the Canadian Entity. The Canadian Entity and the United States Entity shall from time to time at the request of the other party provide information necessary to determine these excess costs and the Annual U.S. Obligation. Any portion of the Canadian Entitlement that can not be delivered under paragraph 8 or paragraph 10 due to failure of the Canadian Entity to notify the United States Entity to procure transmission under paragraph 9 or to agree to reimburse the United States Entity under paragraph 11 for excess costs shall be deemed delivered unless British Columbia arranges disposal of such portion of the Canadian Entitlement in the United States pursuant to the Disposal Agreement.

12. Upon termination of the Disposal Agreement pursuant to Section 10 of the Disposal Agreement, Canadian Entitlement being disposed of within the United States shall be delivered at the Points of Delivery as Entitlement Delivery Amount in accordance with paragraph 3. Delivery at the Points of Delivery shall be made pending any dispute about whether the Disposal Agreement has been properly terminated pursuant to Section 10 of the Disposal Agreement. Any such dispute shall be resolved in accordance with the Disposal Agreement.

13. Paragraphs 8 to 11 inclusive shall not apply to:

- (a) Entitlement Delivery Amount required to be delivered at the Points of Delivery as a result of the termination of the Disposal Agreement pursuant to Section 10 of the Disposal Agreement; or
- (b) Entitlement Delivery Amount delivered under this Agreement upon expiry of an exchange or similar arrangement between British Columbia and Bonneville whereby Entitlement Delivery Amount is exchanged for power delivered to points of delivery in the United States.

Such Entitlement Delivery Amount referred to in this paragraph shall be delivered at no cost pursuant to paragraph 3.

14. If British Columbia has provided a written instrument as described in Section 3.2 of the Disposal Agreement, then the United States Entity shall accept the reductions identified in Sections 3.2(b) and 3.2(c) of the Disposal Agreement of the obligation of the person identified in Section 3.2(a) of the Disposal Agreement and as soon as practicable shall sign amendments to contracts with such person or other instruments necessary to provide for such reductions.

15. Disputes under this Agreement shall be resolved in accordance with the Treaty.

16. If any provision of this Agreement is determined to be unenforceable, that provision shall be deemed severed from and shall not affect the enforceability of the remaining provisions.

17. This Agreement shall not be construed to amend or modify the Treaty or the obligations of Canada or of the United States under it.

IN WITNESS WHEREOF the Entities have caused this Agreement to be executed as of the day and year first above written.

Executed for the Canadian Entity

this 29th day of March, 1999

By: Brian R. D. Smith
Brian R. D. Smith, Chairman

Executed for the United States Entity

this 26th day of March, 1999

By: J. A. Johansen
Judith A. Johansen, Chair

By: Robert H. Griffin
Robert H. Griffin, Member
Brigadier General, U.S. Army Corps of Engineers

ATTACHMENT A
POINTS OF DELIVERY

1. BLAINE NO. 1 POINT OF DELIVERY:

Location: The point at the border between the United States and Canada in the vicinity of Blaine, Washington, where the 500 kV facilities of the U.S. Government and B.C. Hydro are connected on the Custer-Ingledow No. 1 500 kV transmission line;

Voltage: 500 kV;

Metering: at the B.C. Hydro Ingledow Substation, in the 500 kV circuit over which such electric power flows;

Adjustments:

- (1) Demands are totalled with deliveries at the Blaine No. 2 Point of Delivery;
- (2) for losses between the point of metering and the Point of Delivery.

2. BLAINE NO. 2 POINT OF DELIVERY:

Location: The point at the border between the United States and Canada in the vicinity of Blaine, Washington, where the 500 kV facilities of the U.S. Government and B.C. Hydro are connected on the Custer-Ingledow No. 2 500 kV transmission line;

Voltage: 500 kV

Metering: At the B.C. Hydro Ingledow Substation, in the 500 kV circuit over which such electric power flows;

Adjustments:

- (1) Demands are totalled with deliveries at the Blaine No. 1 Point of Delivery.
- (2) for losses between the point of metering and the Point of Delivery.

3. NELWAY POINT OF DELIVERY:

Location: The point at the border between the United States and Canada near Nelway, British Columbia, where the 230 kV facilities of the U.S. Government and B.C. Hydro are connected on the Boundary-Nelway 230 kV transmission line;

Voltage: 230 kV;

Metering: At the U.S. Government's Boundary Substation, in the 230 kV circuit over which such electric power flows;

Adjustments: For losses between the point of metering and the Point of Delivery.

4. WANETA POINT OF DELIVERY:

Location: The point at the border between the United States and Canada in the vicinity of Nelway, British Columbia, where the 230 kV facilities of the U.S. Government and Cominco Ltd. are connected on the Boundary-Waneta 230 kV transmission line;

Voltage: 230 kV;

Metering: At the U.S. Government's Boundary Substation, in the 230 kV circuit over which such electric power flows;

Adjustments: For transmission losses between the point of metering and the Point of Delivery.

ATTACHMENT B

CANADIAN ENTITLEMENT SCHEDULING GUIDELINES

These guidelines implement the following Treaty provisions:

Article VII (3) and (4)

(3) The downstream power benefits to which Canada is entitled shall be delivered as follows:

- (a) dependable hydroelectric capacity as scheduled by the Canadian entity, and
- (b) average annual usable hydroelectric energy in equal amounts each month, or in accordance with a modification agreed upon under paragraph (4)

(4) Modification of the obligation in paragraph (3)(b) may be agreed upon by the entities

Article XIV (2)(j)

(2) In addition to the powers and duties dealt with specifically elsewhere in the Treaty the powers and duties of the entities include:

- (j) making appropriate arrangements for the delivery to Canada of the downstream power benefits to which Canada is entitled including such matters as load factors for delivery, times and points of delivery, and calculation of transmission loss,

1. Interpretations

"Agreement" in this Attachment B means the "Columbia River Treaty Entity Agreement on Aspects of the Delivery of the Canadian Entitlement for April 1, 1998 through September 15, 2024" between the Canadian Entity and the United States Entity, dated March 29, 1999.

Initially capitalized terms in this Attachment B will have the meaning ascribed to them in the Agreement. If there is any conflict between this Attachment B and the Agreement, the Agreement will prevail.

"Equal amounts each month" will be interpreted as "constant average kilowatts" which means the amount of Canadian Entitlement energy for any given month is the average annual Canadian Entitlement energy pro rated based on the number of days in that month.

All times stated in this Attachment B are Pacific Time.

Use of the word "scheduling" in conjunction with "Canadian Entitlement" shall mean generation scheduling; use of the word "scheduling" with "transmission" shall mean transmission scheduling; and use of "scheduling" on its own shall mean both generation and transmission scheduling.

2. The Canadian Entitlement will be scheduled on a daily pre-scheduled basis in accordance with and subject to the terms of this Attachment B. The Canadian Entity will use best efforts to schedule in each month all of the Canadian Entitlement energy for that month unless prevented from doing so by a forced outage or emergency conditions at B.C. transmission or generation facilities.
3. Prior to 1000 hours each Friday, or the last working day of the week if Friday is not a working day, the Canadian Entity will provide the U.S. Entity with an estimate (the "Initial Weekly Estimate") of the amount of Canadian Entitlement energy that will be scheduled during the week commencing 2400 hours that day through 2400 hours the following Friday. Prior to 1000 hours each Monday, or the following working day if Monday is not a working day, the Canadian Entity will provide the U.S. Entity with a mid-week estimate (the "Mid-Week Estimate") of the Canadian Entitlement energy that will be scheduled for the balance of the week commencing 2400 hours that day, added to the actual energy delivered or scheduled up to 2400 hours that day.

Prior to 1000 hours each Friday, or the last working day of the week if Friday is not a working day, the Canadian Entity will notify the U.S. Entity of the amount, if any, of available Entitlement Delivery Amount capacity that the Canadian Entity determines in good faith that it does not require at the Points of Delivery specified in subparagraph 3(a) of the Agreement during the following week, and the U.S. Entity will not, therefore, need to make available such Entitlement Delivery Amount capacity.

4. The Canadian Entity will each working day, on or before 0930 hours, provide the U.S. Entity with schedules specifying the hourly Canadian Entitlement deliveries for the following day. If the following day is not a working day, the Canadian Entity will also provide the U.S. Entity with schedules for the day or days up to and including the next following working day.

For the Entitlement Delivery Amount the schedules may specify hourly deliveries of any amount up to the maximum set by the Entitlement Delivery Amount capacity specified in either or both subparagraph 3(a) and/or subparagraph 3(b) of the Agreement.

5. Unless otherwise agreed by the Entities' operating personnel, schedules provided pursuant to paragraph 4 will not be changed by the Canadian Entity, except as may be necessary or advisable due to outage or emergency conditions on the transmission system of an electric utility or other entity receiving deliveries of Canadian Entitlement.
6. The Entities acknowledge and agree that, except as may be agreed by the Entities' operating personnel:
 - 6.1 total deliveries of Canadian Entitlement in any hour will not exceed the Canadian Entitlement capacity;
 - 6.2 Canadian Entitlement capacity is fully discharged when the U.S. Entity makes such capacity available, whether or not the Canadian Entity schedules hourly deliveries up to this capacity; and

- 6.3 to the extent that all of the Canadian Entitlement energy in respect of any month is not or cannot be scheduled during that month by the Canadian Entity, then the undelivered energy will be scheduled by the U.S. Entity for return at the Points of Delivery. When the remaining energy to be delivered in any month exceeds the amount of energy that can be scheduled by full use of the capacity available to the Canadian Entity, the U.S. Entity may schedule delivery of excess energy to the Points of Delivery. The U.S. Entity will endeavour to schedule such energy during the month to the extent possible but may, at its option, schedule such energy up to 7 days into the subsequent month. In making such deliveries, the U.S. Entity will take reasonable account of constraints on the transmission and generation systems in B.C. accepting such energy.
7. To the extent that the Mid-Week Estimate differs from the Initial Weekly Estimate for that week and notwithstanding reasonable efforts the U.S. Entity cannot accommodate the expected daily schedules within existing contractual and system operating constraints, and if the difference is more than the equivalent of a change of 1,000 cfs in flow in the Columbia River at the international boundary, the U.S. Entity may request and the Canadian Entity will, at the Canadian Entity's option, either:
- 7.1 provide or accept an amount of energy to accommodate the difference between the Initial Weekly Estimate and the Mid-Week Estimate, or such other amount as may be mutually agreed; or
- 7.2 make a mid-week flow change in lieu of the amount of energy described in subparagraph 7.1 based on the appropriate total downstream water to power conversion factor ("h/k") for the period under consideration.

Should actual deliveries consistently exceed or be exceeded by the Mid-Week Estimate, the U.S. Entity may request flow changes in addition to those above to cover such differences.

8. Energy delivered pursuant to subparagraph 7.1 will be scheduled by the delivering Entity, unless adjustments are needed by the receiving Entity in order to accept the energy that day due to system constraints. Energy received will be returned during the following week on like hours, unless otherwise agreed. Each Entity will bear all costs of transmitting such energy in its own country.
9. Canadian Entitlement required to be delivered and not delivered due to uncontrollable force will be delivered within 7 days following the outage at times and rates determined by the Canadian Entity but limited by the Canadian Entitlement capacity, unless otherwise agreed.

Canadian Entitlement required to be delivered to points other than the Points of Delivery, and not delivered due to uncontrollable force, may, at the option of the U.S. Entity, be delivered to the Points of Delivery if possible and subject to adjustments needed by the Canadian Entity in order to accept the energy that day due to system constraints.

Canadian Entitlement scheduled to be delivered to points other than the Points of Delivery, which cannot be delivered due to recall of non-firm transmission, or due to failure by British Columbia to schedule transmission which it was responsible for arranging, shall be deemed delivered.

10. Losses associated with Canadian Entitlement deliveries will be dealt with as follows:
 - 10.1 for deliveries of the Canadian Entitlement to the Points of Delivery the losses will be deducted at the time of delivery, and the resulting net Canadian Entitlement will be scheduled and delivered to the Points of Delivery;
 - 10.2 for deliveries of the Canadian Entitlement to points other than the Points of Delivery, the full amount scheduled will be delivered with losses being scheduled for return exactly 7 days later during the same hour as that during which the losses were incurred, or as otherwise agreed by the Entities.
11. The Columbia River Treaty Operating Committee is empowered to act on behalf of the Entities to modify or amend from time to time this Attachment B. Under emergency conditions the operating personnel of the Entities are authorized to agree to deviate from the terms and conditions of this Attachment B during the period of the emergency as may be necessary or advisable.
12. Notice provisions for scheduling to points of delivery in the United States may be covered by the terms and conditions of agreements executed pursuant to the 1999 Exchange of Notes.
13. All transmission schedules to points other than the Points of Delivery under this attachment B must meet the requirements of the transmission provider that apply to all transmission customers at the time of the schedule.
14. The Canadian and United States Entities agree to use best efforts to alleviate any administrative difficulties created by scheduling under these guidelines.