

## **Canadian Entities Responses and Questions to the US Entity Regarding the Columbia River Treaty Review**

[Note: These responses and seven questions back represent the views of the Canadian Entities (BC Hydro and the Province of British Columbia) and are not to be interpreted necessarily as the views of the Government of Canada.]

The Canadian Entities appreciate the opportunity to provide their views and perspectives in response to US Entity questions derived from Sovereign Review Team discussions.

The Canadian Entities (BC Hydro<sup>1</sup> and the Province of British Columbia<sup>2</sup>) are committed to the creation and sharing of benefits as a continuing foundational principle of the Columbia River Treaty (Treaty), and are interested in exploring operations that are mutually beneficial to both parties. The Canadian Entities believe that the default Called Upon Flood Control is a step backwards that will create challenges in flood risk management and meeting fisheries flows and water use objectives for other purposes. The Canadian Entities are open to exploring alternative arrangements that would create more certainty and benefits for both countries. Any agreement on ecosystem function within the Treaty needs to be mutually beneficial and not at the expense of Canadian social, economic or environmental interests.

Potential changes do not necessarily require the development of a new or modified Treaty and could most likely be completed within the framework of the existing Treaty. Furthermore, there are significant procedural and legislative obstacles to amending or negotiating a new international treaty and the challenges this could pose should be well understood when contemplating the future of the Treaty.

1. What are the primary objectives that the Canadian Entity would want to achieve in a new or modified Treaty?

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<sup>1</sup> As designated under Article XIV(1) under the Columbia River Treaty for certain purposes under the Treaty.

<sup>2</sup> As designated under Article XIV(1) via a 1999 Exchange of Notes, Canada designated British Columbia as the Canadian Entity under the Treaty for the purpose of making arrangements for disposals of all or portions of the Canadian Entitlement within the United States.

Canadian Entities Response: There are a number of objectives the Canadian Entities would like to achieve if either party to the Treaty would like to seek changes to the Treaty. Canada was significantly impacted by the creation of Treaty storage and continues to be impacted by Treaty operations. The Canadian Entities would be interested in exploring mutually beneficial operations that address some of these impacts. Some of these objectives are:

- The Canadian Entities are committed to the creation and sharing of benefits as a continuing foundational principle of the Treaty. We recognize that in today's world, benefits extend beyond those originally considered in the 1960s (i.e. flood control and power production) to include benefits to the environment, fisheries, water supply, navigation and recreation. We believe that the full range of costs, impacts and benefits associated with coordinated operations should be factored into future benefit sharing arrangements.
- The Canadian Entities believes that the shift to Called Upon Flood Control in 2024 is a step backwards that does not make efficient use of reservoirs, creating operational uncertainty and unnecessary social, economic and environmental impacts. The Canadian Entities are open to exploring alternative arrangements that would create more certainty and benefits for both countries provided these are shared fairly.
- The agreement for the delivery of the Canadian Entitlement expires in 2024. The Canadian Entities believe there are mechanisms for future delivery of the Canadian Entitlement that take into account the full range of benefits and are prepared to explore these with the US Entity.
- The Canadian Entities are open to further exploration of incorporating ecosystem function into Treaty operations where there are mutual benefits.
- The Canadian Entities would be open to a new arrangement(s)/agreement(s) that incorporate flexibility and adaptive management principles to address evolving issues such as climate change.

It is important to seek clarification from relevant US and Canadian officials on the mechanisms and process necessary to amend the Treaty, let alone negotiate a new Treaty, and the feasibility of potential options.

2. Would the Canadian Entity support integrating into a new or modified Treaty a future balanced operation of the Columbia River that incorporates

hydropower, flood risk management, ecosystem function, and other factors such as water supply?

Canadian Entities Response: The Canadian Entities would be interested in exploring operations that are mutually beneficial to both parties and believe that continued coordination on the Columbia River would help to meet many of these objectives.

The US Entity is responsible for re-regulation of flows for US purposes and domestic allocation of water is strictly a US decision. There are no restrictions in the Treaty on domestic water use such as water supply.

British Columbia has made significant progress in balancing many of these interests through Water Use Planning processes which (for the Columbia and Duncan Rivers) were finalized in 2007. Water Use Plans were designed to address issues of declining fish stocks and aquatic habitat, and consequently water management, as well as the relationship between fish and wildlife, flood protection, recreation, and power generation.

The Columbia River water use planning process started in 2000, and an initial plan was completed in 2007. As a result of that process, considerable investments continue to be made to address issues such as flow management for various non-power interests including: fisheries; nutrient enhancement; fish habitat; migration and stranding; wetland protection; riparian and wildlife habitat; flood control; navigation; recreation; dust and debris concerns; reservoir access; and heritage protection. The Columbia Water Use Plan is scheduled for review in 2021.

A similar process was undertaken for the Duncan Dam.

The Columbia River Treaty has also proven to be flexible and has allowed the Canadian Entities and the United States Entity to address interests beyond power generation and flood control. The primary example of this is the annual Non-Power Uses Agreement which allows outflows from the Arrow Lakes Reservoir to be modified during the mid-December through July period in order to:

- Protect Canadian trout spawning;
- Enhance/smooth the refill of the Arrow Reservoir;

- Enable storage and release of flow augmentation water for US salmon operations; and
- Assist in meeting minimum fish flow requirements at Vernita Bar (US).

In recent years the agreement was also extended to incorporate some protection for whitefish spawning in Canada and to provide further enhancements for US fisheries.

The flexibility in the Treaty has also been used to support higher Treaty reservoir levels, during certain water years, for recreation, fisheries and other interests on both sides of the border, than otherwise would be possible through such mechanisms as the Summer Storage Agreement and the Libby/Canadian Treaty Storage Swap.

The Treaty has also provided the foundation for other agreements, such as the Non-Treaty Storage Agreement, which provides additional flexibility to modify flows on the Columbia River for power, flood control, and fisheries interests in both countries.

In summary, the Canadian Entities believe that the US is responsible for domestic regulation of water, British Columbia has managed to achieve balance through a number of consultative processes and the inherent flexibility in the existing Treaty can provide for balanced operations to address a full range of values in both countries. Our incentive to develop these arrangements and deliver on the associated commitments is the benefits that we receive under the Treaty, including the Canadian Entitlement.

3. Does the Canadian Entity have thoughts or recommendations on how Canadian operations for US flood risk management and improving spring fish flows could be integrated or redesigned to both maintain current risk levels for high-impact floods and restore salmon flows in other than higher runoff water conditions?

Canadian Entities Response: The U.S Army Corps of Engineers is responsible for flood risk management in the United States and the Canadian Entities are not in a position to comment on what operations are required.

Whether or not the Treaty terminates, the current flood control regime will shift to Called Upon Flood Control in 2024. As compared with current flood control procedures, the Canadian Entities believe that Called Upon Flood Control neither balances nor makes most efficient use of reservoirs due to the Treaty requirements for the US to make effective use of US reservoirs before calling upon Canada for flood control space. Making effective use of US reservoirs will create challenges in meeting fisheries flows and other water use objectives.

The Canadian Entities are open to exploring the implementation of a mutually beneficial flood control operation post-2024 that is an improvement upon the default Called Upon operation for flood risk management and other water use objectives.

The Canadian Entities are not in a position to determine varied flood control operation to benefit US salmon interests. This could be explored in relation to the implementation of mutually beneficial operations post-2024. However, the Canadian Entities do not believe that these changes should come at the expense of Canadian social, economic or environmental interests (i.e. changes to operations should provide mutual benefit to Canada and the US).

4. Does the Canadian Entity have an interest in restoring salmon access to Canadian waters via the Columbia River Treaty? If yes, does the Canadian Entity have an interest to jointly share costs of investigating this potential?

Canadian Entities Response: The Canadian Entities recognize that the loss of salmon in the mainstem of the Upper Columbia is a result of the Grand Coulee Dam being constructed by the US in 1938 well prior to the Columbia River Treaty. This important loss to British Columbia First Nations and communities has never been fully acknowledged. While the Canadian Entities support the goal of the return of salmon to the Upper Columbia Basin, passage at US facilities is a US responsibility that is not within the scope of the Columbia River Treaty, nor is it affected by the strategic decision on whether to continue or terminate the Treaty. This notwithstanding, fish passage considerations were included in the environmental assessment process for the certification of the Arrow Lakes Generating Station on the Columbia River and the Brilliant Dam Expansion on the Kootenay River.

It should be noted that in Canada, transboundary salmon is a matter of federal jurisdiction under the mandate of the Canadian Department of Fisheries and Oceans.

5. Does the Canadian Entity have an interest in an Ecosystem Function objective in the Treaty for Canadian waters as well as for ecosystem operations in the US to aid Canadian salmon -- now and in the future -- through the Columbia River Treaty? How does the Canadian Entity view its potential role in mitigating ecosystem impacts in the US due to operation of Canadian dams?

Canadian Entities Response: The Canadian Entities do not believe that they have a role in mitigating ecosystem impacts in the US; rather, they have put in place domestic programs to address the extensive amount (110,000 ha or 270,000 acres) of aquatic and terrestrial ecosystems inundated in Canada as a result of the Treaty, as well as the ongoing impacts to Canadian interests as a result of Treaty operations. The US Entity makes decisions on re-regulation of Treaty flows for US domestic purposes. This clearly makes the US Entity responsible for mitigating US ecosystem impacts.

The Canadian Entities do have an interest in ecosystem function in Canadian waters, and have already begun to incorporate ecosystem function into the operations of its facilities both inside and outside of the Treaty. This has largely occurred through the annual Non-Power Uses Agreement, the Non-Treaty Storage Agreement, the Columbia Basin and Kootenay-Koocanusa Fish and Wildlife Compensation Programs and Water Use Planning.

The Canadian Entities are working with the Okanagan Nation Alliance and the Canadian Department of Fisheries and Oceans in order to understand how different flow regimes on the Columbia River may affect different components of the lifecycle of Okanagan salmon.

Any agreement on ecosystem function within the Treaty needs to be mutually beneficial and not at the expense of Canadian interests.

6. Does the Canadian Entity support an expanded membership to the Canadian Entity to include members of natural resources agencies and/or First Nations?

Canadian Entities Response: Through the provincial Columbia River Treaty Review process the Canadian Entities have heard from some stakeholders that there is a desire for improved awareness and knowledge of the Treaty and domestic operations as well as the ability to influence and provide input into operations. The Province of British Columbia already has a number of mechanisms to enable stakeholder and First Nations engagement, including annual community updates to the Columbia Basin by BC Hydro operations staff, Water Use Planning processes and the Columbia Operations Fisheries Advisory Committee.

The Province of British Columbia, through its comprehensive CRT Review public and stakeholder engagement process as well as government-to-government First Nations consultations, is exploring a range of models and it is premature to determine which will be the most effective. The existing Entities have a clear focus and operational responsibility. Improvement to the governance arrangements to facilitate better participation should not come at the expense of effective operational management.

It should also be noted that it is the Canadian federal government that designates Entities under the Treaty.

7. Does the Canadian Entity believe a new or modified Treaty should take into account the future impacts of climate change?

Canadian Entities Response: Climate change projections for the Pacific Northwest indicate that there is a need to prepare for greater extremes in weather at both ends of the spectrum: flooding and drought. The extensive reservoir storage system of the Columbia Basin is an excellent climate change adaptation mechanism, allowing both Canada and the US the ability to shape flows and mitigate risks to many interests during times of relative water abundance and scarcity.

Climate change projections have shown that the Pacific Northwest can expect more precipitation falling as rain during the winter along with an earlier snowmelt which will lead to peak flows being earlier, with longer and lower periods of low flows during the summer, when out-of-stream demands are highest and in-stream demands for hydroelectricity generation and fish are important. The coordination and flexibility contained within the

Columbia River Treaty provide an important mechanism to help address some of the challenges and risks that climate change may cause. For these reasons the Canadian Entities believe it is worth having further discussion on how best to address climate change in the context of the Treaty.

*Low Flow Years: Proportional Draft*

Under the Columbia River Treaty, the operations of Canadian dams are coordinated with US operations to maximize generation (firm and secondary energy) in both countries. In low water years, or when seasonal flows are less than expected, the whole Columbia system, including the Canadian reservoirs, enters into “proportional draft mode”. The purpose of proportional draft operation is to maximize the ability of the overall system to meet the firm energy load, resulting in more water being drafted from Canadian Treaty reservoirs during a low water period. Therefore, the US receives more water during a low-flow period than they would if the Treaty did not exist.

*High Flow: Flood Risk Management*

Climate change studies have indicated that there will be a greater likelihood and incidence of winter storms in the Columbia basin. Unlike spring flood events which are mainly snowmelt driven and can be planned months in advance based on inflow forecasts, winter flood events tend to be due to intense rain events which are less predictable and more immediate. With the shift to Called Upon Flood Control operations in 2024, the Canadian Entities believe that Called Upon Flood Control could never be effectively applied to help mitigate those events, thus the need for coordinated operations.

The inherent flexibility within the Treaty should be fully explored in future discussions on how best to address climate change in the context of the Treaty. Significant procedural and legislative obstacles to amending or negotiating a new international treaty and the challenges this could pose should be well understood when contemplating incorporating climate change considerations.



## **Questions from the Canadian Entities to the US Entity**

The Canadian Entities have appreciated the opportunity to provide our answers, perspectives and clarifications to the US Entity. In return, we would also appreciate the US Entity's thoughts on the following questions from the Canadian Entities.

1. What does the US Entity see as the benefits to Canada if the Treaty is to continue?
2. From the US Entity's perspective, what are the risks and uncertainties across the range of US interests if the Treaty is terminated?
3. How does the US Entity view the importance of flood control in the context of ecosystem priorities?
4. What is the US Entity's view on the consequences of Called Upon Flood Control given that the US will be required to make effective use of all of its reservoirs during a Called Upon event? Given these consequences, what are the US Entity's thoughts on the Canadian Entity proposal to examine alternative flood control operations?
5. Given the initial and ongoing social and environmental impacts of the Treaty in Canada, how would the US Entity propose that ecosystem function in Canada be balanced with ecosystem function priorities in the US?
6. There are a wide range of benefits associated with coordinated operations on the Columbia River and the Canadian Entities believe these should be defined and shared fairly in a manner consistent with sharing of benefits under the Treaty. What does the US Entity think of this proposition?
7. What is the US Entity's view of the value of agreements such as Non-Treaty Storage Agreement that under the Treaty continuation scenario provide significant ecosystem and economic benefits to both countries but would not be available in a Treaty termination scenario?