

May 7, 2025

Impact Assessment Agency of Canada  
Place Bell Canada, 160 Elgin Street, 22<sup>nd</sup> Floor  
Ottawa, Ontario K1A 0H3  
Attention: Julie Buron, Senior Enforcement Officer  
Email: <Contact information removed>  
Email: <Contact information removed>

Dear Julie Buron:

**Re: Site C Clean Energy Project Decision Statement – Change to Capacity of Generating Units**

We are writing to advise you of a change in the capacity of the generating units for the Site C Clean Energy Project and to provide you with information on the implications of this change as related to Decision Statement for the Project.

**1. INTRODUCTION**

On November 25, 2014, the Minister of the Environment issued a Decision Statement for the Site C Clean Energy Project setting out a description of the Project and the conditions under which the Project can be constructed and operated. The Decision Statement's "Description of the Designed Project" states that BC Hydro proposes to construct and operate a dam and 1,100-megawatt (MW) hydroelectric generating station on the Peace River in northeastern British Columbia.

The purpose of this letter is to inform you that the installed capacity of the generating station described in the Decision Statement has increased from 1,100 MW to between 1,150 and 1,230 MW. With the Site C reservoir now at normal operating levels and testing and commissioning of four of six generating units complete, we have been able to confirm that the constructed ("as-built") generating units will be more efficient and will produce more power than anticipated during the environmental assessment, with the same amount of water.

This letter provides a description of the generating unit change, including:

- The difference between the Project Description in the Decision Statement and the amendment
- The impacts to relevant valued components as assessed in the Project's Environmental Impact Statement (EIS)
- Environmental studies undertaken to understand the impacts of the change
- Indigenous group consultation
- Provincial Government approvals related to the change

Overall, our assessment shows that the effects of the increased capacity will not have any effect on the Decision Statement conditions under which the Project can be constructed and operated or change the conclusions in the EIS in respect of key matters within federal jurisdiction (fish and fish habitat, navigation, species-at-risk, migratory birds). The increase in capacity is expected to provide a benefit to the province and the environment. The current permitted capacity of the generating units will allow the project to meet the peak demand of powering approximately 440,000 homes. The additional capacity

will allow the project to meet the peak demand of powering an additional 20,000 to 52,000 homes. The increase in installed capacity also provides additional electricity with low GHG emissions per unit energy produced.

On April 3, 2025, the Environmental Assessment Office issued Amendment #12 to the Project's Environmental Assessment Certificate, changing the Project Description from 1,100 MW to between 1,150 and 1,230 MW. The EAO's reasons agree with BC Hydro's assessment of effects, summarized below. Refer to Section 5, Government Approvals, for additional information on the EAC Amendment.

## **BACKGROUND**

### Changes in Generating Unit Characteristics

The installed capacity of a generating station is the maximum amount of electrical power that the facility is designed to produce under specific conditions, typically measured in megawatts (MW) or gigawatts (GW). The installed capacity is based on the assumption that all generating units are running at full output at the same time.

Installed capacity does not necessarily reflect the actual amount of electricity generated at any given time, as this depends on factors such as the design of the turbines, the volume of water that is discharged from the generating station, and the hydraulic head during generation – i.e., the vertical distance the water falls from the top of the reservoir as it passes into and out of the generating station turbines and flows out into the tailrace (Figure 1). The higher the water levels in the reservoir and deeper the bottom of the tailrace, the higher the hydraulic head.

During the environmental assessment of the Project, BC Hydro anticipated that the installed capacity of the Site C generating station would be 1,100 MW. This estimate was based on early design values selected by engineers and included the assumption that the generating station would discharge up to 2,540 m<sup>3</sup>/s of water during operations.<sup>1</sup> The EIS also indicated that, depending on final turbine design, the maximum turbine discharge capability could be plus or minus five percent of 2,540 m<sup>3</sup>/s, or between approximately 2,500 m<sup>3</sup>/s and 2,700 m<sup>3</sup>/s.

As part of the turbine and generator procurement process, BC Hydro incentivized prospective bidders to design units with higher efficiencies and capacities. This process resulted in proposed designs that are more efficient and exceed the original design estimates.

We are now in the process of testing and commissioning the as-built generating units. When all the units are operating together, we predict they will have an installed capacity of between 1,150 MW and 1,230 MW. As described below, we expect these higher capacities to be achieved depending on the rate of surface water flow through the turbines, the height of the reservoir and the depth of the tailrace.

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<sup>1</sup> EIS Volume 2, Section 11 Surface Water Regime ([link](#)) and EIS Volume 2, Appendix D1, Surface Water Regime Technical Memo, Part 1, Site C Operations Study ([link](#))

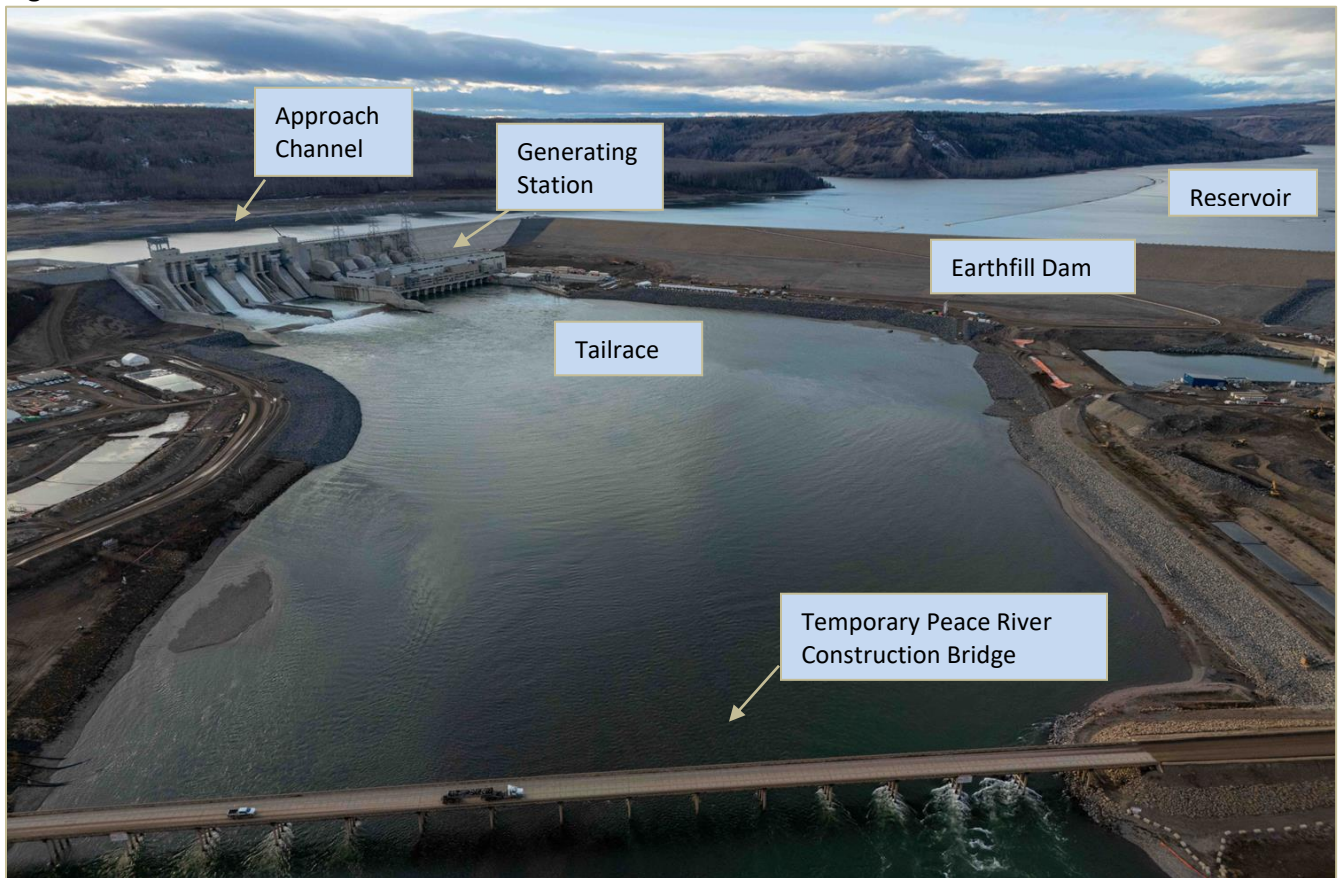
Surface Water Flow and Hydraulic Head

All reservoir levels and downstream discharges are governed by the Site C water licences. The water licences require that, under normal operating conditions, the reservoir level remain between elevations 460.0 m and 461.8 m, the downstream minimum flow be 390 m<sup>3</sup>/s, and the maximum turbine discharge be 2,700 m<sup>3</sup>/s.

We expect that the generating station will achieve a capacity of 1,150 MW to 1,170 MW with the more efficient turbines and a flow of 2,700 m<sup>3</sup>/s. The same flow will produce a higher estimated capacity of 1,195 MW with an increased hydraulic head, which we will achieve through the planned excavation of the tailrace and removal of the temporary Peace River Construction Bridge.

The upper bound of the generating station installed capacity is 1,230 MW. This capacity may be achieved at a flow of 2,700 m<sup>3</sup>/s if we further increase the hydraulic head by excavating the tailrace level an additional average of ~1.5 m. While this work is not yet scheduled, we are including the upper range of 1,230 MW in our amendment request to reflect the potential for this capacity to be achieved.

**Figure 1.** Site C Dam Site



## 2. DECISION STATEMENT

Table 1 summarizes the change to the Decision Statement.

**Table 1.** Current Decision Statement Text versus Changed Text

Reference	Existing Text	Changed Text
Description of Designated Project	BC Hydro and Power Authority (the Proponent) proposes to construct and operate a dam and 1,100-megawatt hydroelectric generating station on the Peace River in northeastern British Columbia. The Site C Clean Energy Project (the Designated Project) would be the third in a series of dams on the Peace River in British Columbia. The project components would consist of an earthfill dam 1,050 metres long and 60 metres high, a 1,100 megawatt generating station and associated structures, a 83-kilometre long reservoir, realignment of four sections of Highway 29, and two 77-kilometre transmission lines along an existing transmission line right-of-way connecting Site C to Peace Canyon.	BC Hydro and Power Authority (the Proponent) proposes to construct and operate a dam and <b>1,150 to 1,230 megawatt</b> hydroelectric generating station on the Peace River in northeastern British Columbia. The Site C Clean Energy Project (the Designated Project) would be the third in a series of dams on the Peace River in British Columbia. The project components would consist of an earthfill dam 1,050 metres long and 60 metres high, <b>a 1,150 to 1,230 megawatt</b> generating station and associated structures, a 83-kilometre long reservoir, realignment of four sections of Highway 29, and two 77-kilometre transmission lines along an existing transmission line right-of-way connecting Site C to Peace Canyon.

## 3. EFFECT OF INCREASED CAPACITY ON DECISION STATEMENT CONDITIONS

The below sections describe: (a) the potential surface water changes assessed as a result of the increased capacity of the generating units, and (b) the valued components assessed in the EIS as having an interaction with the increase in capacity. No changes to the Decision Statement conditions are anticipated as a result of the increased capacity of the generating units.

### Surface Water Changes

Because turbine output is correlated with surface water flow, we undertook modelling to determine whether the operation of the as-built units would result in any material changes to the surface water regime that was described in the EIS, and therefore any corresponding changes to valued components. As described below, our modelling shows the reservoir will continue to be operated within the various ranges approved under the reservoir's conditional water licence and within the discharge range set out

in the EIS (2,540 m<sup>3</sup>/s plus or minus 5 percent) . Finally, the revised modelling suggests that operations with the as-built units would result in very similar, but slightly lower, spills from the facility.

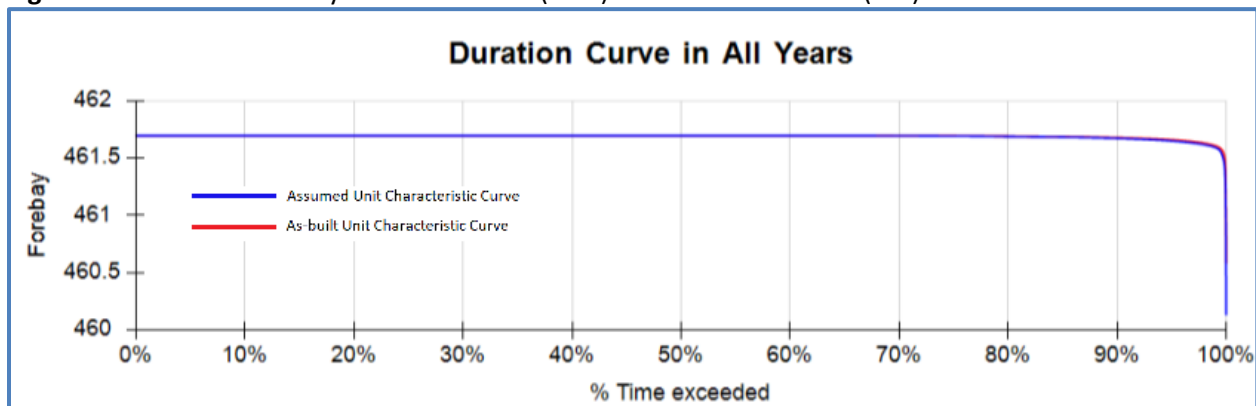
Using the same period of historical inflows as the EIS, the model outputs compare a) the simulated reservoir (forebay) levels, total discharge levels, and spills based on the assumptions of the generating unit characteristics at the time of the EIS, against b) the simulated reservoir (forebay) levels, total discharge levels, and spills using the as-built generating unit characteristics.<sup>2</sup>

Figures 2, 3, and 4 present the model results as “Duration Curves.” These curves show the percentage of time a quantity (e.g. flow) is likely to exceed a specific value (e.g. 1,000 m<sup>3</sup>/s). The blue lines in the figures represent the quantity described in the EIS (the “assumed unit characteristic curve”); the red lines represent the updated quantity reflecting this EAC amendment request (the “as-built unit characteristic curve”).

**Figure 2 shows that the reservoir (forebay) levels during operations with the as-built units are expected to be the same as those described in the EIS (i.e., the red line is the same as the blue line).**

The model results show the reservoir being operated within 0.6 m of its maximum operating level of elevation 461.8 m (461.8 m) over 99% of the time.

**Figure 2.** Simulated Forebay Elevations – EIS (blue) versus As-built units (red)



**Figure 3 shows that the total discharge levels during operations with the as-built units are expected to be largely identical to those described in the EIS (i.e., the red line mostly matches the blue line).**

Operations with the as-built units are expected to result in a total discharge of approximately 2,100 m<sup>3</sup>/s for somewhat more time than operations with the EIS units. A total discharge at that level reflects a point of “peak” operational efficiency when all six as-built units are making the most amount of power

<sup>2</sup> The EIS simulations assumed a capacity of 1,100 MW and maximum turbine discharge rate of 2,540 m<sup>3</sup>/s. The revised simulations assume a capacity of 1,195 MW and a maximum turbine discharge flow rate of 2,700 m<sup>3</sup>/s. We did not undertake modelling assuming a capacity of 1,230 MW and a maximum turbine discharge rate of 2,700 m<sup>3</sup>/s as the results are expected to be similar to those assuming a capacity of 1,195 MW and maximum turbine discharge rate of 2,700 m<sup>3</sup>/s.

per unit of water. When requiring high output from the facility, operating at this peak efficiency helps maximize the energy produced.

The model also shows other small differences in the total discharge levels between operations with the as-built units versus the EIS units. Over time, the total flow of water entering the facility must equal the total flow of water discharging from the facility. The amount of time the facility operates with a discharge of 2,100 m<sup>3</sup>/s therefore influences the amount of time operations will be at other total discharge levels. These differences in total discharge over time are reflected by the differences in the “as built” and EIS (“assumed”) lines on the figure.

**Figure 3.** Simulated Total Discharge - EIS (blue) versus As-built units (red)

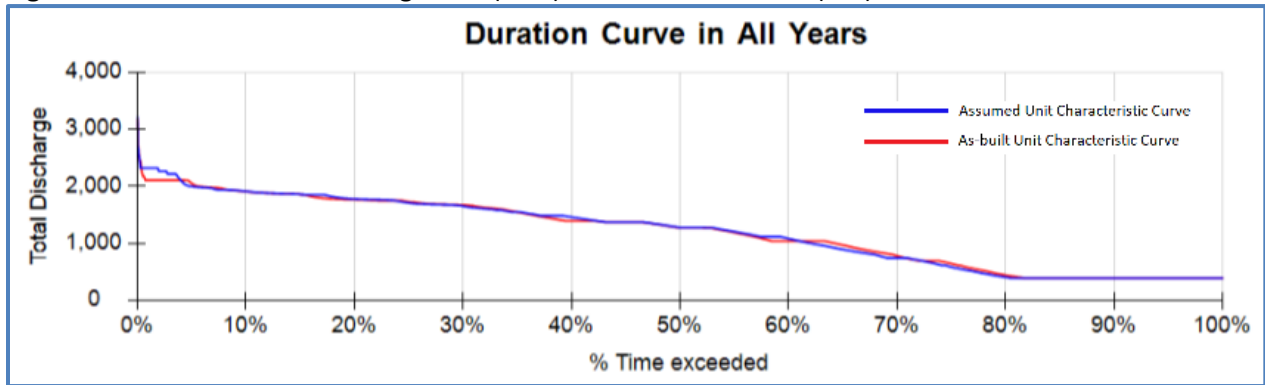
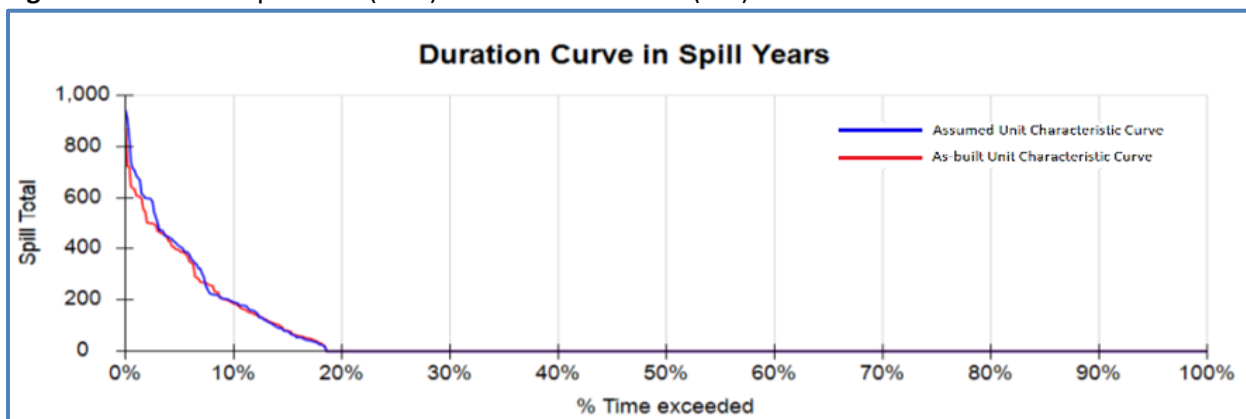


Figure 4 shows that spills from the Site C reservoir are also expected to be similar, and overall slightly lower, than those described in the EIS (i.e., the red line is similar to the blue line).

This is consistent with the as-built units having higher capacity than those assumed in the EIS modelling. Note that Figure 4 shows data only for the 5 out of 60 years for which spills occurred. For all other years, the spill flow was zero.

**Figure 4.** Simulated Spills - EIS (blue) versus As-built units (red)



For additional information on modelling results, refer to Appendix A, “Memo: Evaluating the Impact of As-built Plant Characteristics on the STC Clean Energy Project”. The technical memo indicates that the

differences between of the “assumed unit characteristics” and the “as built unit characteristics” are not expected to significantly affect overall operations.

Valued Components

Table 2 provides an overview of BC Hydro’s consideration of how the valued components described in the EIS interact with proposed amendment. As shown in the table, the following valued components were reviewed as having potential interactions with the proposal: fish and fish habitat, vegetation and ecological communities, wildlife resources, greenhouse gases, local government revenue, current use of land and resources for traditional purposes, harvest of fish and wildlife, navigation and heritage resources. Table 2 also identifies Decision Statement Conditions associated with interacting valued components – namely, Conditions 8 (Fish and Fish Habitat), 9 and 16 (Wildlife), 10 (Vegetation and Ecological Communities), 14 (Current Use of Lands and Resources for Traditional Purposes), and 15 (Heritage Resources).

Note: Condition 5 of the Decision Statement is not related to a valued component, but requires that BC Hydro manage potential risks to infrastructure between the Site C dam and the Town of Peace River, Alberta caused by low water flows during reservoir filling and operation. The operation of the Site C facility with the as-built turbines, including any associated excavations of the tailrace, is not expected to result in material changes to total discharge levels or spills. The proposed change in installed capacity due to the as-built turbines is therefore not anticipated to affect the conclusions of the EIS with potential risks to downstream infrastructure.

**Table 2. EIS Valued Components Interactions – Increased Installed Capacity**

Valued Component	Interaction (Y/N)	Decision Statement Condition	Description
Fish and Fish Habitat	Y	8	<p>The EIS assessment of fish and fish habitat considers potential effects on fish habitat, fish health and survival and changes in fish movement. As described in the EIS, the transformation of a river ecosystem to a reservoir would create a new and productive ecosystem. However, the composition of fish species would change, with species that rely on riverine habitats declining – namely, the migratory component of the Moberly River Arctic grayling, migratory bull trout that spawn in the Halfway River, and Mountain Whitefish that rear in the Peace River and spawn in tributaries of the Peace River upstream of the Site C dam site. As a result of the potential loss of these species, the EIS found that the Project may result in a significant adverse effect on fish and fish habitat.</p> <p>The operation of the Site C facility with the as-built turbines, including any associated excavations of the tailrace, is not expected to result in material changes to the reservoir levels, total discharge levels, or spills</p>

Valued Component	Interaction (Y/N)	Decision Statement Condition	Description
			affecting fish and fish habitat as described in the EIS. The proposed change in installed capacity due to the as-built turbines is therefore not anticipated to affect the conclusions of the EIS with regard to fish and fish habitat.
Vegetation and Ecological Communities	Y	10	<p>The EIS assessment of vegetation and ecological communities considers habitat alteration and fragmentation. As described in the EIS, the creation of the reservoir and other Project activities would alter and fragment some unique terrestrial ecosystems that include marl fen, tufa seeps, and old and mature riparian and floodplain forests. In addition, occurrences of rare vascular and non-vascular plants would be lost. The EIS found that the Project may result in a significant adverse effect on vegetation and ecological communities due to the potential alteration and fragmentation of unique terrestrial ecosystems and loss of occurrences of vascular and non-vascular plant species at risk.</p> <p>The operation of the Site C facility with the as-built turbines is not expected to result in material changes to the reservoir levels, total discharge levels, or spills potentially affecting vegetation and ecological communities as described in the EIS. The proposed change in installed capacity due to the as-built turbines is therefore not anticipated to affect the conclusions of the EIS with regard to vegetation and ecological communities.</p>
Wildlife Resources	Y	9, 16	The potential effects of the Project on wildlife resources focused on a number of wildlife key indicators under the species groups of butterflies and dragonflies, amphibians and reptiles, migratory birds, non-migratory game birds, raptors, bats, furbearers, ungulates, and large carnivores. The EIS found that the residual effects to wildlife resources would be local for all indicator species, except migratory birds, and would not jeopardize the persistence of those indicators groups in a regional context. The EIS found that certain migratory birds would be affected by the creation of the reservoir (e.g., Canada, Cape May and Bay-breasted Warblers, Yellow Rail and Nelson’s Sparrow). The EIS found that the Project may result in a significant

Valued Component	Interaction (Y/N)	Decision Statement Condition	Description
			<p>adverse effect on wildlife resources because these species are considered species at risk.</p> <p>The operation of the Site C facility with the as-built turbines is not expected to result in material changes to the reservoir levels, total discharge levels, or spills potentially affecting wildlife resources as described in the EIS. The proposed change in installed capacity due to the as-built turbines is therefore not anticipated to affect the conclusions of the EIS with regard to wildlife resources.</p>
Greenhouse Gases	Y	NA	<p>The potential effects of the Project on greenhouse gases during the environmental assessment considered the net change in greenhouse gas (GHG) emissions from the construction and operations of the Project, including emissions associated with construction activities, land use change and clearing to form the reservoir. The environmental effects of the Project on Greenhouse Gases were determined to be not significant because GHG emissions from the Project are low in relation to other forms of non-renewable electricity generation and in relation to the provincial, regional or national GHG emission totals.</p> <p>The assessment concluded that the Project would result in a net benefit from a GHG perspective, producing electricity with substantively lower GHG emissions per unit energy produced compared to non-renewable thermal electricity generation resources. The proposed increase in installed capacity is expected to be beneficial as the increased capacity provides additional electricity with low GHG emissions per unit energy produced.</p>
Local Government Revenue	Y	NA	<p>The EIS assessment of local government revenue considers local government expenditures on programs and services, local government revenues from property taxes, grants in lieu of payments, sales of services, transfers or other income.</p> <p>The EIS assessed that, once operational, the Project would contribute annually to provincial and local governments through grants-in-lieu of taxes, school</p>

Valued Component	Interaction (Y/N)	Decision Statement Condition	Description
			taxes, and water rental fees, in addition to a return on equity and contribution to dividend to the Province each year. The Province of British Columbia may consider the increased capacity in the calculation of any grants in lieu provided to local governments.
Labour Market	N	NA	The EIS assessment of the labour market considers labour supply and demand of workers with specific skills and training in proximity to the Project, throughout, British Columbia, Canada or internationally. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Regional Economic Development	N	NA	The EIS assessment of regional economic development considers the Projects effects on the regions overall economy. Key indicators assessed were the regional business and contracting profile, capabilities, including Indigenous companies. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Current Use of Lands and Resources for Traditional Purposes	Y	14	<p>Project effects on Current Use of Lands and Resources for Traditional Purposes were assessed in the EIS by considering Project changes to current use of lands and resources for hunting, fishing and trapping activities, as well as current use of lands and resources for activities other than hunting, fishing and trapping by Indigenous Nations.</p> <p>The proposed increase in installed capacity is not expected to result in any adverse effects on fish and fish habitat, vegetation and ecological communities, or wildlife resources. The proposed amendment is therefore not anticipated to affect the conclusions of the environmental assessment regarding the effects of the Project on current use of land and resources for traditional purposes.</p>
Agriculture	N	NA	The EIS assessment of agriculture considers interactions of the Project with the agricultural land base, farm operations, the agricultural economy, and food production and consumption. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Forestry	N	NA	The EIS assessment of forestry considers changes in land use, resource use, access and activities related to industrial forest use, and changes in land use that affect

Valued Component	Interaction (Y/N)	Decision Statement Condition	Description
			Crown forest management. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Oil, Gas and Energy	N	NA	The EIS assessment of oil, gas and energy considers changes in land and resource use for tenured oil, gas, and energy activities, operations and facilities, and changes in access for oil and gas industry activities. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Minerals and Aggregates	N	NA	The EIS assessment of minerals and aggregates considers changes to land use, resource use, and access, the Project's use of local aggregate for construction activities, and any new or improved access to aggregate sources created by the Project. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Harvest of Fish and Wildlife	Y	NA	The EIS assessment of harvest of fish and wildlife resources considers the use of and access to hunting, fishing, trapline and guide outfitter areas, tenure areas, or the availability of harvested species based on the affects to fish and fish habitat, and wildlife resources. The proposed increase in installed capacity is not expected to result in any adverse effects on fish and fish habitat or wildlife resources. The proposed amendment is therefore not anticipated to affect the conclusions of the environmental assessment regarding the effects of the Project on harvest of fish and wildlife resources.
Outdoor Recreation and Tourism	N	NA	The EIS assessment of outdoor recreation and tourism considers interactions with outdoor recreation and tourism features, amenities, sites, activities, visitor levels and use levels. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Navigation	Y	NA	The EIS assessment of navigation considers changes and potential effects to water-based navigation (navigation) and air navigation (aviation). The EIS determined that the dam and associated permanent restriction to navigation would result in an adverse residual effect that remains after mitigation measures are in place. However, new types of navigable uses on

Valued Component	Interaction (Y/N)	Decision Statement Condition	Description
			<p>the reservoir would be available during Project operations.</p> <p>The operation of the Site C facility with the as-built turbines is not expected to result in material changes to the reservoir levels, total discharge levels, or spills potentially affecting navigation as described in the EIS. The proposed change in installed capacity due to the as-built turbines is therefore not anticipated to affect the conclusions of the EIS with regard to navigation.</p>
Visual Resources	N	NA	The EIS assessment of visual resources considers visibility of Project components from selected sites, viewpoints, or predicted scenic values. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Population & Demographics	N	NA	The EIS assessment of population and demographics considers a change in population as a result of the Projects demand for an in-migration of skilled workers. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Housing	N	NA	The EIS assessment of housing considers that a change in population would drive a change in the demand for local housing. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Community Infrastructure and Services	N	NA	The EIS assessment of community infrastructure and services considers that a change in population would affect infrastructure that services communities in Proximity to the project. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Transportation	N	NA	The EIS assessment of transportation considers the effects of the Projects use of existing roadways, rail, and air modes of travel. The proposed increase in the installed capacity of the generating units does not interact with this valued component.
Heritage Resources	Y	15	The EIS assessment of heritage resources considers disturbance to heritage sites and features, disturbance to elements essential to the heritage character, disturbance to artifacts, features, human remains, and fossils, hindrance or increase in access to sites, and other relevant issues raised by Indigenous groups in

Valued Component	Interaction (Y/N)	Decision Statement Condition	Description
			<p>relation to palaeontological, archaeological and historical sites, as well as preservation of heritage resources for cultural uses by Indigenous peoples.</p> <p>The operation of the Site C facility with the as-built turbines is not expected to result in material changes to the reservoir levels, total discharge levels, or spills potentially affecting heritage resources as described in the EIS. The proposed change in installed capacity due to the as-built turbines is therefore not anticipated to affect the conclusions of the EIS with regard to heritage resources.</p>
Human Health	N	NA	<p>The EIS assessment of human health considers changes in air quality, water quality, noise and vibration, electric and magnetic fields and methylmercury levels in fish. The proposed increase in the installed capacity of the generating units does not interact with this valued component.</p>

#### 4. RELATED STUDIES

The following sections of the EIS provide additional information regarding the effects assessments of the valued components that potentially interact with the proposed amendment:

- Volume 2, Section 11.4 Surface Water Regime
- Volume 2, Appendices D1, D2, and D3, Surface Water Regime Technical Memos
- Volume 2, Section 12, Fish and Fish Habitat
- Volume 2, Section 13, Vegetation and Ecological Communities
- Volume 2, Section 14, Wildlife Resources
- Volume 2, Section 15, Greenhouse Gas Emissions
- Volume 3, Section 16, Local Government Revenue
- Volume 3, Section 19 Current Use of Lands and Resources for Traditional Purposes
- Volume 3, Section 24, Harvest of Fish and Wildlife Resources
- Volume 3, Section 26, Navigation
- Volume 4, Section 32, Heritage Resources

Appendix A contains a memo outlining the potential changes to the surface water regime as a result of the as-built unit characteristics: “Evaluating the Impact of As-built Plant Characteristics on the STC Clean Energy Project”.

#### 5. GOVERNMENT APPROVALS

On April 3, 2025, the Environmental Assessment issued Amendment #12 to the Project’s Environmental Assessment Certificate (EAC #E14-02). The amendment reflected the change in installed capacity of the

generating units from 1,100 MW to between 1,150 and 1,230 MW. In their “Assessment of an Application for Certificate Amendment Increase Installed Capacity”, the EAO indicated that they were satisfied that:

- The Amendment would not introduce additional or incremental effects on the matters described in Section 25(2) [of the *Environmental Assessment Act*];
- The Amendment Application and supporting information adequately identified and assessed the potential changes to the environmental, economic, social, cultural, and health effects of the Project that would result from amending Schedule A in the BC Hydro Site C Certificate;
- The Amendment is unlikely to change the residual effects predicted in the original Site C EA;
- The changes outlined and assessed in the Amendment Application are unlikely to cause incremental or negative effects to First Nations or their Section 35 Rights; and
- The Crown has fulfilled its consultation obligations with First Nations regarding the issuance of this amendment.

The EAC Amendment and EAO’s assessment of the Amendment are attached in Appendix B.

In addition to Environmental Assessment Certificate #E14-02 authorizing the Site C Project, the Project’s capacity and discharge are authorized under:

- Conditional Water Licences ([link](#))
- Fisheries Act Authorization ([link](#))
- Canadian Navigable Waters Act Approval ([link](#))
- Federal Decision Statement ([link](#))

The proposed amendment to the capacity of the generating station and associated discharge will not require any amendments to the Project’s Conditional Water Licences, Fisheries Act Authorization, or Canadian Navigable Waters Act Approval.

## 6. INDIGENOUS NATION CONSULTATION

Regulatory and compliance matters for BC Hydro’s northeast projects (including Site C) are discussed during regular/monthly meetings with some BC Treaty 8 First Nations. The amendment was discussed with Doig River First Nation, West Moberly First Nations, Sauteau First Nations, Halfway River First Nation and McLeod Lake Indian Band at monthly meetings at the end of November and early December 2024.

On January 8, 2025, BC Hydro shared the draft request to amend Section 4.3.1.4 of Schedule A, EAC #E14-02 with the Indigenous Nations listed in the EAC and federal Decision Statement, namely: Blueberry River First Nation, Dene Tha’ First Nation, Doig River First Nation, Duncan’s First Nation, Fort Nelson First Nation, Halfway River First Nation, Horse Lake First Nation, McLeod Lake Indian Band, Sauteau First Nations, Prophet River First Nation, West Moberly First Nations, Kelly Lake Métis Settlement Society and Métis Nation British Columbia.

BC Hydro asked Indigenous Nations to provide their comments on the draft amendment request by February 7, 2025. Indigenous Nations were advised that their input would inform the final amendment request. BC Hydro offered to meet with Indigenous Nations to discuss the proposed amendment. BC

Hydro sent a follow-up reminder to Nations at the end of January and in early February regarding our request for comments by February 7, 2025.

EAO received two questions from Saulteau First Nations during the EAC amendment process regarding potential effects of the increased capacity on flow and river species as well as turbidity. BC Hydro provided a response to these questions indicating that the effects on river fish species are not anticipated because the total discharge levels during operations with the as-built generating units are expected to be largely identical to those described in the EIS. We also noted that changes in turbidity in the Peace River downstream of the Project are not anticipated with the updated turbine characteristics because the river discharge levels are predicted to be similar to those described in the EIS.

## **7. LOCAL GOVERNMENT ENGAGEMENT**

On January 8, 2025, BC Hydro shared the draft request to amend Section 4.3.1.4 of Schedule A, EAC #E14-02 with the following local governments: City of Fort St. John, District of Hudson’s Hope, District of Chetwynd, District of Taylor, and the Peace River Regional District. BC Hydro asked local governments to provide their comments on the draft amendment request by February 7, 2025. Local governments were advised that their input would inform the final amendment request.

During the assessment process, the Peace River Regional District requested that the EAO require BC Hydro to amend the Site C Regional Legacy Benefit Agreement to include an annual payment increase proportional to the generating unit capacity increase. Signed in 2013, the Regional Legacy Benefit Agreement is a 70-year agreement between the PRRD and BC Hydro, which provides financial compensation to the PRRD for population and service impacts related to Site C.

As set out in the EAO’s Assessment Report (Appendix B), the EAO “responded that this request falls outside the scope of the process, as the Site C Certificate does not require the proponent to financially compensate local governments. Additionally, the proposed amendment does not alter the project’s impacts, VCs, or assessment matters previously considered by the EAO. Therefore, the EAO does not consider this condition warranted.”

## **8. APPENDICES**

### **Appendix A: Technical Memorandum**

- Evaluating the Impact of As-built Plant Characteristics on the STC Clean Energy Project

### **Appendix B: EAC Amendment #12**

- Amendment Order and EAO’s “Assessment of an Application for Certificate Amendment Increase Installed Capacity”

**9. CLOSURE**

Please don't hesitate to contact me if you have any questions or comments.

Regards,

<Signature removed>

Karen von Muehldorfer  
Regulatory Manager  
Site C Clean Energy Project  
<Contact information removed>

Cc: Greg Scarborough, Manager, Site C Environmental Compliance, Mitigation and Monitoring

## **Appendix A: Technical Memorandum**

- Evaluating the Impact of As-built Plant Characteristics on the STC Clean Energy Project

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**Memo: Evaluating the Impact of As-built Plant Characteristics on the Site C Clean Energy Project**

**To:** Karen von Muehldorfer, Regulatory Manager, Site C Project, BC Hydro

**From:** Naser Moosavian, Engineer, Resource Planning & Coordination, BC Hydro

**Date:** 2024-12-05

**Subject:** Evaluating the Impact of As-built Plant Characteristics on the simulated operations of the Site C Clean Energy Project

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## 1 Introduction

This memo summarizes the studies carried out by BC Hydro Resource Planning & Coordination in support of the environmental assessment for the Site C Clean Energy Project (STC). The objective of these studies was to characterize the Project operation under two different operating scenarios: i) the first scenario characterizes the releases from the Site C reservoir using the assumed unit characteristics used in modeling in the Site C Environmental Impact Statement (EIS), and ii) the second scenario characterizes releases from the Site C reservoir using the as-built unit characteristics.

As was done for the EIS, the Hydro Simulation Model (HYSIM) was initially employed to simulate the monthly operations of BC Hydro's generation system, utilizing 60 years of historical inflow data to the Peace River from October 1, 1940, to September 30, 2000. The Generalized Optimization Model (GOM) was subsequently used to optimize the hourly operation of the hydropower system, guided by the month-end storage targets produced by HYSIM. GOM results provide the basis for expected reservoir levels and the expected reservoir releases, with assumed and as-built unit characteristic curves, across different historical inflow sequences. The as-built characteristics assumed a maximum power output of 1195 MW and a maximum turbine discharge of 2700 m<sup>3</sup>/s.

## 2 Summary of Results

We analyzed the as-built plant characteristics using the GOM model over 60 years and found no material changes in system operation compared to previous results based on assumed plant characteristics. The limited changes in the modelled results are minor, and align with the actual Site C units being more efficient and slightly larger than initially assumed. The sections below detail the changes in various operational quantities between the two scenarios.

In this analysis, the forebay measurements are in metres (m), and all discharge values are in cubic metres per second (m<sup>3</sup>/s).

### 3 Forebay Duration Curves: Assumed vs As-built Unit Characteristics

Forebay duration curve plots the forebay level (m) on the y-axis against the percentage of time that forebay rate is equaled or exceeded on the x-axis. The difference between the two duration curves is minimal, with a maximum deviation of only 0.005% for five spill years (1964, 1972, 1976, 1996, and 1997). This indicates that the general operation of the system in both cases are quite similar.

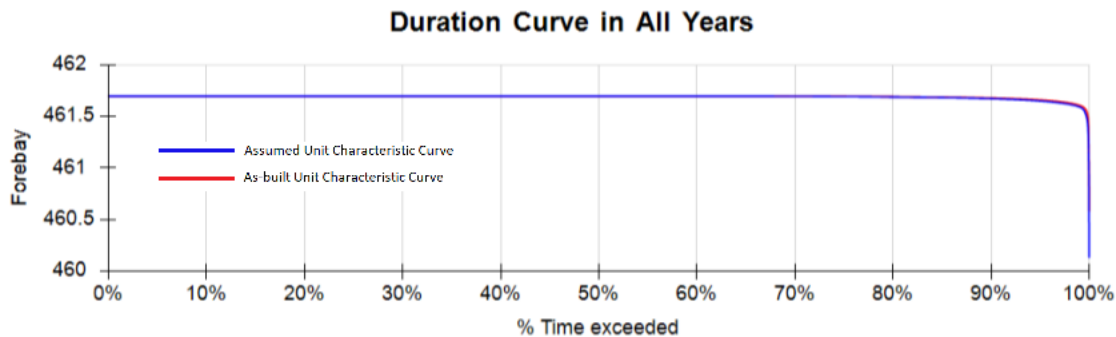


Figure1: Forebay Duration Curves in All Years: Assumed vs As-built Unit Characteristics

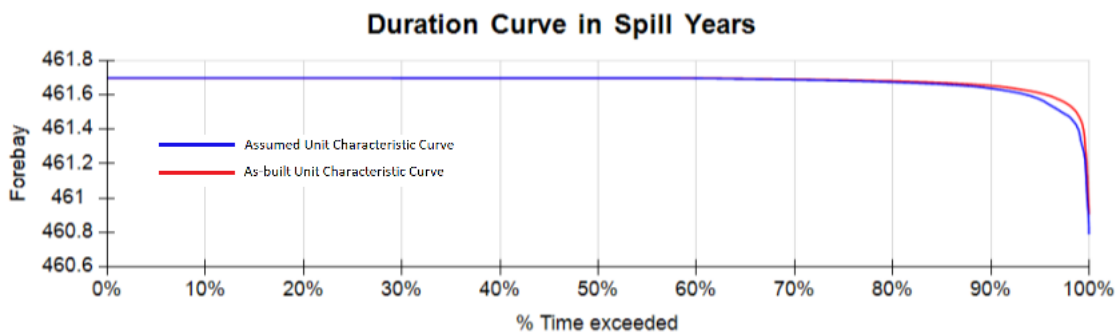


Figure2: Forebay Duration Curves in Spill Years: Assumed vs As-built Unit Characteristics

The reservoir level scenario analysis described in section 5.1.2.1 of the EIS Surface Water Regime Technical memo has been reviewed and remains valid. As this scenario analysis was not derived from GOM results, there are no updated figures provided in this memo.

## 4 Total Discharge Duration Curves: Assumed vs As-built Unit Characteristics

The total flow duration curve plots the flow rate (discharge) on the y-axis against the percentage of time that flow rate is equaled or exceeded on the x-axis. This type of plot helps in understanding the flow characteristics of a river or stream over time. The difference between the assumed and as-built duration curves is minimal, with a maximum deviation of only 5% for five spill years (1964, 1972, 1976, 1996, and 1997). This also indicates that the general operation of the system in both cases are quite similar.

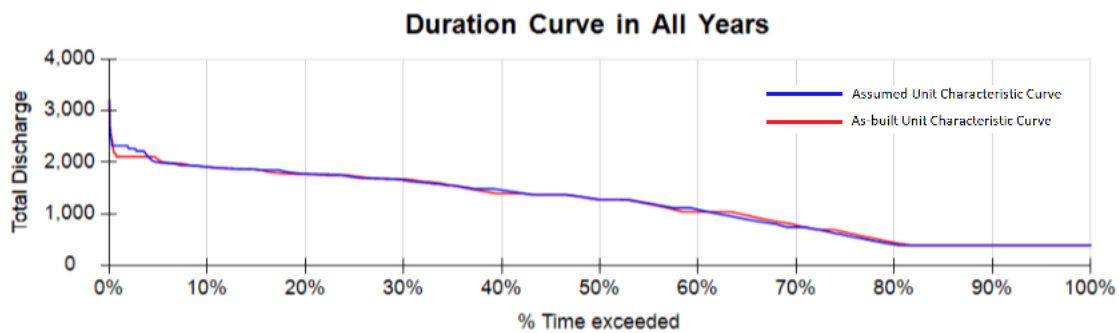


Figure3: Total Discharge Duration Curves in All Years: Assumed vs As-built Unit Characteristics

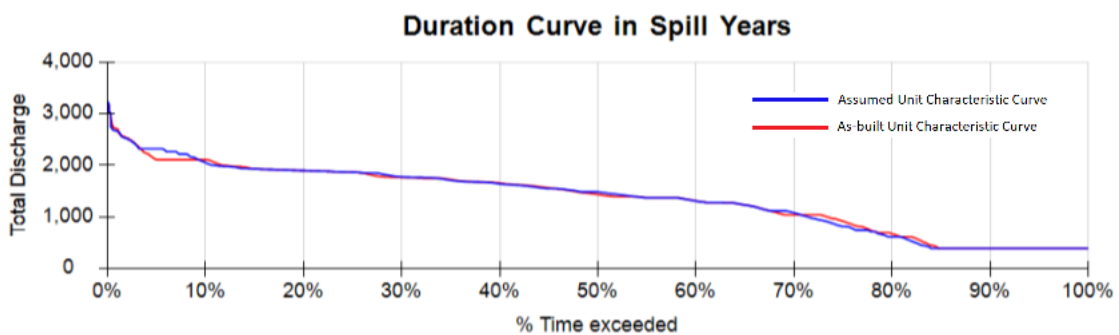


Figure4: Total Discharge Duration Curves in Spill Years: Assumed vs As-built Unit Characteristics

A duration graph of the Site C reservoir releases on a seasonal (winter, spring freshet and summer) basis, over the 60-year simulation period is provided in Figure 5,6, and 7. The seasons are defined the same as in the EIS, as follows:

- Winter: November 15 to February 15
- Freshet: May 1 to July 15
- Summer: July 16 to September 30

In both scenarios, the volume of reservoir releases from the Site C reservoir is typically highest during the winter months when increased generation is needed to meet high system loads. Additionally, there is limited opportunity to decrease releases during light load hours over the winter due to ice control flow requirements. Conversely, the volume of reservoir releases is usually

lowest during the spring freshet due to low demand and the low financial value of generation during this period, which is influenced by high generation from non-dispatchable resources such as run-of-river hydro. In both cases, we see almost similar results in terms of the volume of releases during their respective periods.

### Duration Curve in Winter

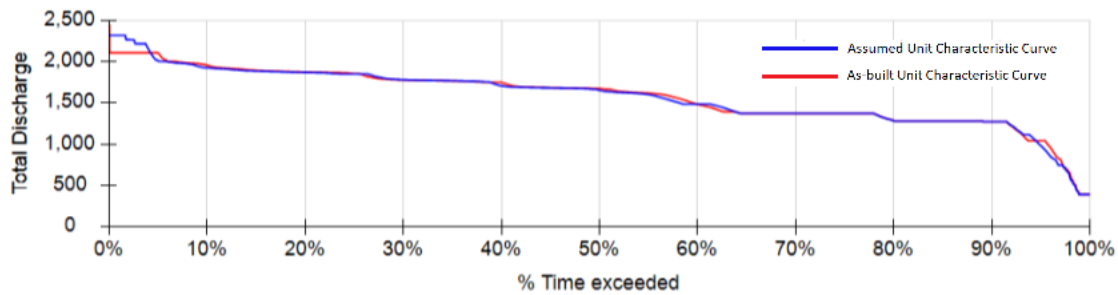


Figure5: Total Discharge Duration Curves in All Years (Winter): Assumed vs As-built Unit Characteristics

### Duration Curve in Freshet

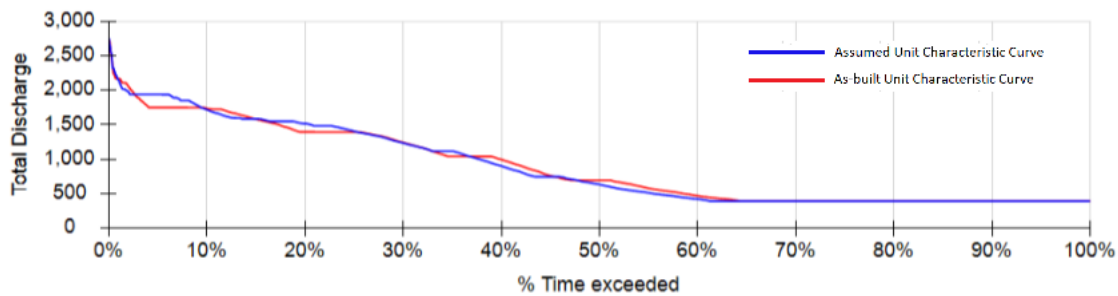


Figure6: Total Discharge Duration Curves in All Years (Freshet): Assumed vs As-built Unit Characteristics

### Duration Curve in Summer

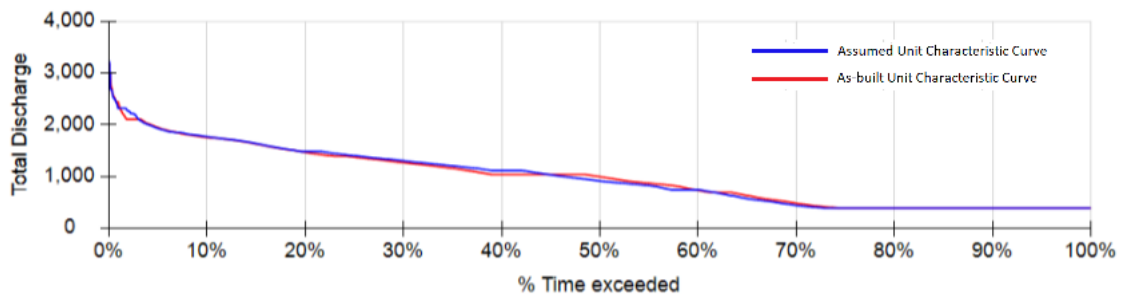


Figure7: Total Discharge Duration Curves in All Years (Summer): Assumed vs As-built Unit Characteristics

## 5 Total Spill Duration Curves: Assumed vs As-built Unit Characteristics

The total spill duration curve plots the spill rate (discharge) on the y-axis against the percentage of time that spill rate is equaled or exceeded on the x-axis. Similarly, the results from the spill discharge duration curves are consistent with the total discharge plots, showing only minor variations. This consistency indicates that the flow patterns and characteristics remain stable across both characteristic curves, with no significant changes in system operation.

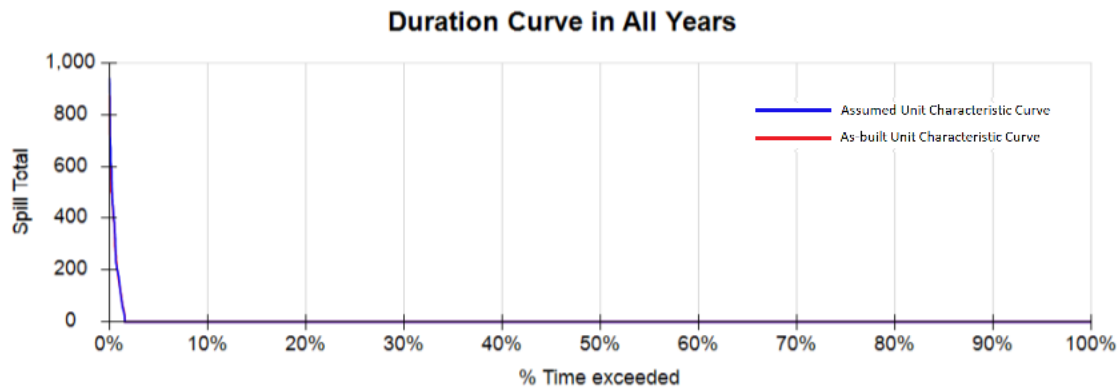


Figure8: Total Spill Duration Curves in All Years: Assumed vs As-built Unit Characteristics

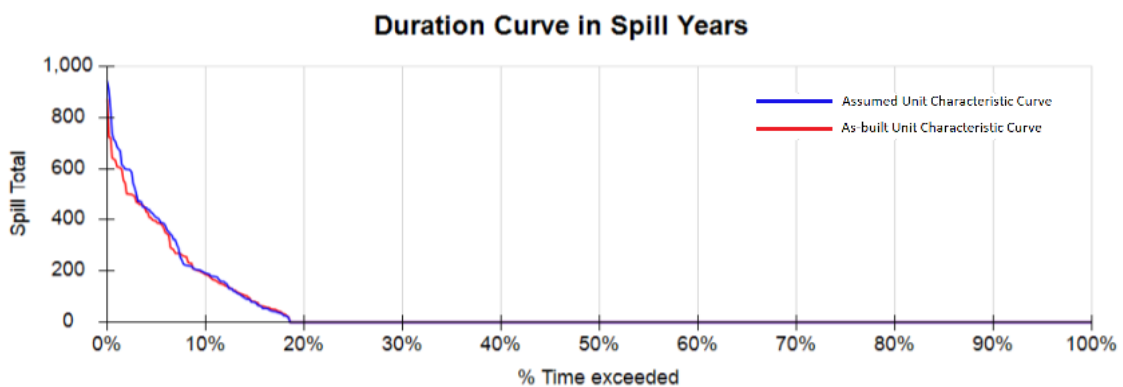


Figure9: Total Spill Duration Curves in Spill Years: Assumed vs As-built Unit Characteristics

To show the total spill discharge differences, we focus on the 5 spill years (1964, 1972, 1976, 1996, and 1997). In all other cases, the spill flow is zero. As can be seen, the overall envelope under the spill flow, from Jun to Sep, plot is quite similar, indicating no significant difference in general system operation.

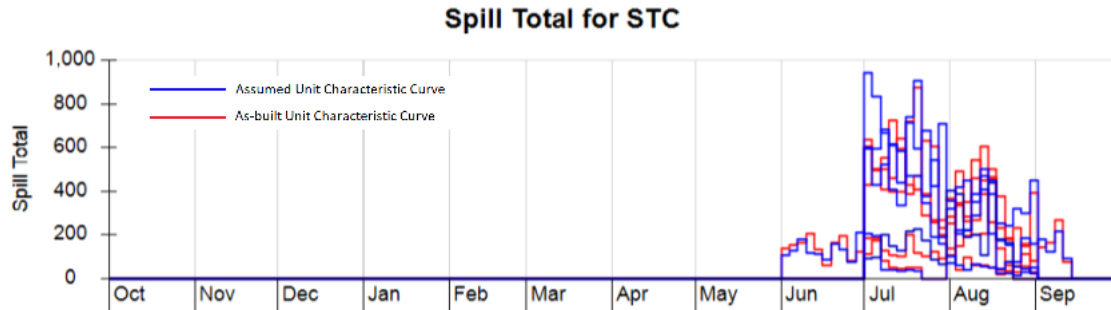
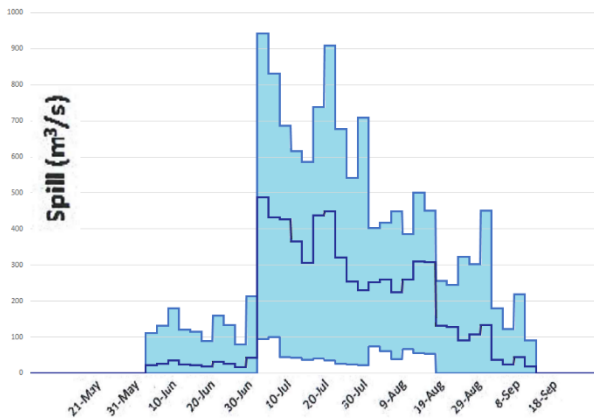


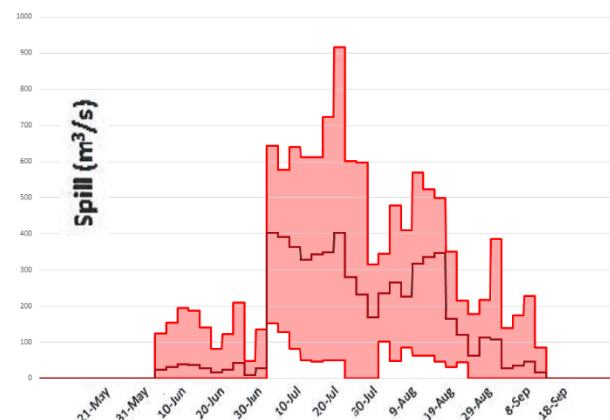
Figure10: Total Spill Variations: Assumed vs As-built Unit Characteristics

In only 5 spill years among 60 years, (1964, 1972, 1976, 1996, and 1997), the spill discharges are non-zero. The Site C spill plot comparisons for these 5 spill years are provided below. It should be re-iterated that for the other years, the spills are zero, so they have not been included in the chart.

As illustrated in the Figure 11, the envelopes of the two spill curves cover approximately the same area. This indicates that there is no significant impact on the overall system operations.



Spill flow considering "Assumed Unit Characteristic Curves"



Spill flow considering "As-built Unit Characteristic Curves"

Figure11: Envelope of site spills modelled by GOM considering Assumed and As-built unit characteristic curves.

## 6 Conclusion

After re-running the Generalized Operational Model (GOM) with the as-built Site C unit characteristics, we found that the Site C releases are very similar to our previous simulation using the original assumptions. This similarity confirms that our initial assumptions about the input parameters and simulations were almost accurate.

As shown in the duration curve plots in comparison sections, comparing the assumed and actual unit characteristics, there are no significant changes in our metrics. The results are consistent with our previous findings, indicating that the difference in characteristics is not expected to significantly affect overall operations.

## 7 References

- Site C Environmental Impact Statement, Volume 2, Appendix D, Surface Water Regime Technical Memo, Part 1, Available at:
  - [https://projects.eao.gov.bc.ca/api/public/document/5fd40a887dd8fd0022b5ccf9/download/EIS\\_Vol2\\_Appendix\\_D\\_Surface\\_Water\\_Regime\\_Technical\\_Memo.pdf](https://projects.eao.gov.bc.ca/api/public/document/5fd40a887dd8fd0022b5ccf9/download/EIS_Vol2_Appendix_D_Surface_Water_Regime_Technical_Memo.pdf)

**Appendix B: EAC Amendment #12**

- Amendment Order and EAO's "Assessment of an Application for Certificate Amendment Increase Installed Capacity"

**IN THE MATTER OF THE *ENVIRONMENTAL ASSESSMENT ACT*  
S.B.C. 2018, c. 51 (THE ACT)**

**AND**

**IN THE MATTER OF ENVIRONMENTAL ASSESSMENT CERTIFICATE #E14-02  
HELD BY BRITISH COLUMBIA HYDRO AND POWER AUTHORITY**

**FOR THE  
SITE C CLEAN ENERGY PROJECT**

**AMENDMENT #12 (AMENDMENT) TO  
ENVIRONMENTAL ASSESSMENT CERTIFICATE #E14-02**

**WHEREAS:**

- A. On October 14, 2014, the Minister of Environment and the Minister of Forests, Lands and Natural Resource Operations issued Environmental Assessment Certificate #E14-02 (Certificate) to British Columbia Hydro and Power Authority.
- B. The Certificate authorized British Columbia Hydro and Power Authority to construct and operate the Site C Clean Energy Project (Project) approximately seven kilometres south-west of Fort St. John, British Columbia.
- C. The Executive Director issued six Amendments to the Certificate under Section 19(3) of the *Environmental Assessment Act*, S.B.C. 2002, c.43 [Act (2002)]:
  - i. On June 22, 2018, the Certificate was amended to modify the design of the generating station and spillway (Amendment #1).
  - ii. On October 26, 2018, the Certificate was amended to modify the design of the Halfway River bridge (Amendment #2).
  - iii. On November 14, 2018, the Certificate was amended to allow expanded use of material from the West Pine Quarry for construction (Amendment #3).
  - iv. On February 12, 2019, the Certificate was amended to allow the use of machines near watercourses in clearing the reservoir area (Amendment #4).
  - v. On December 13, 2019, the Certificate was amended to change a portion of the realignment of the Cache Creek segment of Highway 29 and the design of the Cache Creek bridge (Amendment #5).
  - vi. On December 13, 2019, the Certificate was amended to make changes to the worker accommodation camps (Amendment #6).
- D. The Chief Executive Assessment Officer issued five Amendments to the Certificate under Section 32(3) of the Act:
  - vii. On May 27, 2020, the Certificate was amended to modify the design of the Highway 29 realignment crossings of Farrell Creek, Dry Creek, and Lynx Creek (Amendment #7).
  - viii. On November 24, 2020, the Certificate was amended to develop and use the Halfway River East Borrow Source (Amendment #8).

- ix. On May 6, 2022, Condition #40 of the Certificate was amended to relocate the Cache Creek boat launch and day use area to a location east of the Halfway River (Amendment #9).
  - x. On June 30, 2022, the Certificate was amended to allow the use of haul trucks on a contingency basis to transport material from the 85th Avenue Industrial Lands to the dam site area (Amendment #10).
  - xi. On February 23, 2023, the Certificate was amended to allow for certain temporary structures to permanently remain within the reservoir and become submerged only if retaining the structure would not have an adverse effect on fish or fish habitat (Amendment #11).
- E. On February 12, 2025, British Columbia Hydro and Power Authority requested an amendment under Section 32(1) of the of the Act to increase the maximum installed capacity of the six generating units from 1,100 megawatts to between 1,150 and 1,230 megawatts.
- F. Pursuant to Section 4 of the Act (2018), the Chief Executive Assessment Officer has delegated to the undersigned, powers and duties under the Act, including the power to amend certificates.

**NOW THEREFORE,**

I amend the Certificate as follows:

1. Section 4.3.1.4 of the Certified Project Description in Schedule A of the Certificate which reads:

- The powerhouse would contain six generating units with a combined installed capacity of up to 1,100 MW.

Is repealed and replaced with:

- The powerhouse would contain six generating units with a combined installed capacity of between 1,150 and 1,230 MW.

2. Clause A. of the Recitals of the Certificate which reads:

- The proponent proposes to construct and operate a dam and an 1,100 megawatt hydroelectric generating station and associated structures on the Peace River known as the Site C Clean Energy Project as described in the document listed in Schedule A (the "Project").

Is repealed and replaced with:

- The proponent proposes to construct and operate a dam and an 1,150 to 1,230 megawatt hydroelectric generating station and associated structures on the Peace River known as the Site C Clean Energy Project as described in the document listed in Schedule A (the "Project").



Chris Trumpy  
Deputy Chief Executive Assessment Officer  
Environmental Assessment Office

Issued this 3rd day of April, 2025

# **EAO's Assessment of an Application for Certificate Amendment Increase Installed Capacity**

**SITE C CLEAN ENERGY PROJECT**

**REQUESTED BY:**

**BRITISH COLUMBIA HYDRO AND POWER AUTHORITY**

**APRIL 3, 2025**

*Pursuant to Section 32 of the Environmental Assessment Act, S.B.C 2018, c. 51*



**EAO**

Environmental  
Assessment Office

## Acronyms and Abbreviations

Former Act	<i>Environmental Assessment Act</i> , S.B.C. 2002, c. 43
Act	<i>Environmental Assessment Act</i> , S.B.C. 2018, c. 51
Amendment Application	The application to amend the Environmental Assessment Certificate
B.C.	British Columbia
BC Hydro	British Columbia Hydro and Power Authority (the Certificate Holder)
EA	environmental assessment
EAC or Certificate	Environmental Assessment Certificate # E14-02
EAO	Environmental Assessment Office
MW	Megawatts
m	metre
Schedule A	Certified Project Description in the Certificate
Schedule B	Table of Conditions in the Certificate
Site C	Site C Clean Energy Project
VC	valued component

## 1.0 OVERVIEW OF PROPOSED AMENDMENT

### 1.1. Background

On October 14, 2014, Environmental Assessment Certificate # E14-02 (the Certificate) was issued to British Columbia Hydro and Power Authority (BC Hydro) for the Site C Clean Energy Project (Site C). Site C is located on the Peace River, approximately seven kilometres south-west of Fort St. John, British Columbia (B.C.).

The Certificate, along with amendments made to the Certificate to date, includes the Certified Project Description (Schedule A) that outlines the project components, and the Table of Conditions (Schedule B) that contains the 86 legally binding provincial conditions enforceable throughout the life of the project.

The Environmental Assessment Office (EAO) has granted 11 Certificate amendments for Site C.

### 1.2. Amendment Request – Increase Installed Capacity

On February 12, 2025, BC Hydro applied, under [Section 32](#) of the *Environmental Assessment Act* (2018) (the Act), to amend Schedule A (Certified Project Description) of the Certificate to reflect an increase in the combined maximum possible power output of the six generating units from 1,100 Megawatts (MW) to between 1,150 and 1,230 MW (Amendment Application) <sup>1</sup>.

Schedule A of the Certificate indicates that the powerhouse will “contain six generating units with a combined installed capacity of up to 1,100 MW.” With the Site C reservoir now full and two of six generating units tested and commissioned, BC Hydro has confirmed that the units are more efficient than anticipated during the environmental assessment (EA) and have the potential to generate more electricity with the same amount of water. It is expected that the water levels during operations will continue to be within the range assessed during the EA.

## 2.0 AMENDMENT REVIEW PROCESS

On February 27, 2025, the EAO notified BC Hydro that it would commence the review of the Amendment Application. In considering the Amendment Application, the EAO categorized the proposed amendment as a “simple amendment”<sup>2</sup>, because:

- There is no physical change to the project;
- The proposed change is administrative in nature;
- There is no potential for effects or interactions with valued components (VC) and Section 25(2) matters;
- The proposed change has limited potential for adverse effects to Indigenous interests; and
- The proposed change is unlikely to cause significant public interest.

On February 27, 2025, the EAO requested feedback and comments on the Amendment Application from technical advisors. These advisors were selected based on their involvement in the original Site C EA and subsequent amendment review processes.

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<sup>1</sup> Link to BC Hydro’s Application for the Increased Installed Capacity Amendment: [BCH-to-EAO-request-for-amend-EACE14-02-Capacity-20250212-Fnl.pdf](#).

<sup>1</sup> Link to BC Hydro’s Addendum to the Application for the Increased Installed Capacity Amendment: [BCH-to-EAO-Amend-EACE14-02-Capacity-Addendum-20250318.pdf](#)

<sup>2</sup> The EAO’s Environmental Assessment Certificate and Exemption Order Amendment Policy: [amendment\\_guidance\\_for\\_certificates\\_and\\_exemption\\_orders.pdf](#)

One comment was submitted. On March 20, 2025, the Peace River Regional District (PRRD) requested that the EAO require BC Hydro to amend the Site C Regional Legacy Benefit Agreement to include an annual payment increase proportional to the generating unit capacity increase. Signed in 2013, the Regional Legacy Benefit Agreement is a 70-year agreement between the PRRD and BC Hydro, which provides financial compensation to the PRRD for population and service impacts related to Site C.

The EAO responded that this request falls outside the scope of the process, as the Site C Certificate does not require the proponent to financially compensate local governments. Additionally, the proposed amendment does not alter the project's impacts, VCs, or assessment matters previously considered by the EAO. Therefore, the EAO does not consider this condition warranted.

The following First Nations in B.C. and Alberta were invited to participate as technical advisors:

- Blueberry River First Nations (B.C.);
- Doig River First Nation (B.C.);
- Halfway River First Nation (B.C.);
- Horse Lake First Nation (Alberta);
- McLeod Lake Indian Band (B.C.);
- Saulteau First Nations (B.C.); and
- West Moberly First Nations (B.C.).

The following First Nations in B.C. and Alberta were sent notice of the Amendment Application:

- Dene Tha' First Nation (Alberta);
- Duncan's First Nation (Alberta);
- Fort Nelson First Nation (B.C.); and
- Prophet River First Nations (B.C.).

The following local governments, provincial and federal government agencies, were invited to participate as technical advisors:

- Ministry of Agriculture and Food;
- Ministry of Energy and Climate Solutions;
- Ministry of Forests;
- Ministry of Transportation and Transit;
- Ministry of Environment and Parks;
- Ministry of Water, Land and Resource Stewardship;
- Environment and Climate Change Canada;
- Fisheries and Oceans Canada;
- Natural Resources Canada;
- Transport Canada;
- City of Fort St. John;
- District of Chetwynd;
- District of Hudson's Hope;
- PRRD; and
- Northern Health.

## 3.0 FIRST NATION ENGAGEMENT

### 3.1. BC Hydro-Led Engagement

BC Hydro provided a draft of the Amendment Application to affected First Nations on January 8, 2025, inviting comments by February 7, 2025. No comments were received.

### 3.2. The EAO-Led Engagement

On February 27, 2025, the EAO shared the Amendment Application with Blueberry River First Nations, Doig River First Nation, Halfway River First Nation, West Moberly First Nations, McLeod Lake Indian Band, Saulteau First Nations, and Horse Lake First Nation, offering the opportunity to review the application and identify as a participating Indigenous nation.

On the same day, the EAO notified Dene Tha' First Nation, Duncan's First Nation, Fort Nelson First Nation, and Prophet River First Nations, stating that the Amendment Application is not expected to impact their rights but inviting them to contact the EAO if they believe otherwise.

One response was received. On March 3, 2025, Sauteau First Nations inquired about the potential for increased flow to affect river species, water flow rates, and turbidity downstream of the dam. On March 27, 2025, BC Hydro responded, stating that no effects on aquatic species or increased turbidity are expected, as discharge levels and high flow patterns will remain very similar to those in the original EA.

## 4.0 SUMMARY OF AMENDMENT APPLICATION AND CHARACTERIZATION OF EFFECTS

### 4.1. Valued Components

The following VCs were selected by BC Hydro for effects assessment and informed by the VC selection process undertaken during the original EA:

- Fish and Fish Habitat;
- Vegetation and Ecological Communities;
- Wildlife Resources;
- Greenhouse Gases;
- Local Government Revenue;
- Current Use of Lands and Resources for Traditional Purposes;
- Harvest of Fish and Wildlife;
- Navigation; and
- Heritage Resources.

The proposed amendment is not anticipated to cause any adverse or cumulative effects on the above VCs that go beyond the effects identified in the original EA of Site C, as there are no material changes to the Project.

The reservoir will continue to be operated within the approved water license ranges and the discharge range outlined in the Environmental Impact Statement. BC Hydro has also stated that the as-built generating units will result in similar, though slightly lower, spills from the facility. The increase in installed capacity is expected to have a beneficial impact on the Greenhouse Gases VC, as it will increase generation capacity of electricity with low Greenhouse Gas emissions.

#### 4.1.1. Required Assessment Matters

[Section 25\(2\)](#) of the Act sets out the required assessment matters. The Amendment Application reported on how [Section 25\(2\)](#) matters were considered. The EAO found the following information to be relevant to the EAO's assessment:

- a. The proposed amendment is not anticipated to cause adverse effects on VCs beyond the effects assessed as part of the original Site C Project;
- b. The proposed amendment is not anticipated to change the risks and uncertainties associated with those residual effects that were assessed as part of the original Site C Project;
- c. The proposed amendment is not anticipated to result in increased risks to malfunctions or accidents;
- d. The proposed amendment is not anticipated to have disproportionate effects on distinct human populations, including populations identified by gender;

- e. The proposed amendment assessed VCs that include biophysical factors that support ecosystem function (fish and fish habitat) and is not anticipated to result in adverse effects beyond those considered and approved in the original EA;
- f. The proposed amendment is not anticipated to result in adverse effects on current or future generations;
- g. The proposed amendment is not anticipated to result in a change to the current land use plan and is being consulted on with First Nations;
- h. The proposed amendment would not alter greenhouse gas emissions for the construction and operations of Site C or effect the province being able to meet its targets under the *Greenhouse Gas Reduction Targets Act*;
- i. BC Hydro did not explore alternative means of carrying out the project as there are no material changes to the project; and
- j. The proposed amendment would not introduce any additional disturbance beyond what was contemplated in the original EA for Site C. As such, the EAO assessed that the proposed amendment would not be expected to exacerbate previously assessed potential effects on Site C from the environment.

Given the limited potential for effects resulting from the proposed amendment, the EAO concludes that there would be no material change to [Section 25](#) matters as a result of this Amendment.

## 5.0 SUMMARY OF CHANGES TO THE CERTIFICATE

The EAO proposes to amend the Site C Certificate in the following ways:

1. Section 4.3.1.4 of the Certified Project Description (Schedule A of the Certificate) which reads:
  - The powerhouse would contain six generating units with a combined installed capacity of up to 1,100 MW.

Is repealed and replaced with:

- The powerhouse would contain six generating units with a combined installed capacity between 1,150 MW and 1,230 MW.

2. Clause A. of the Recitals of the Certificate which reads:

- The proponent proposes to construct and operate a dam and an 1,100 MW hydroelectric generating station and associated structures on the Peace River known as the Site C Clean Energy Project as described in the document listed in Schedule A (the “Project”).

Is repealed and replaced with:

- The proponent proposes to construct and operate a dam and an 1,150 to 1,230 MW hydroelectric generating station and associated structures on the Peace River known as the Site C Clean Energy Project as described in the document listed in Schedule A (the “Project”).

## 6.0 CONCLUSIONS

Based on:

- The information contained in BC Hydro’s Amendment Application indicating no material change to the project;
- The EAO’s and BC Hydro’s engagement with technical advisors and consultation with First Nations; and
- BC Hydro’s requirements under the Certificate to mitigate and monitor the effects of Site C.

The EAO is satisfied that:

- The Amendment would not introduce additional or incremental effects on the matters described in Section 25(2);

- The Amendment Application and supporting information adequately identified and assessed the potential changes to the environmental, economic, social, cultural, and health effects of the Project that would result from amending Schedule A in the BC Hydro Site C Certificate;
- The Amendment is unlikely to change the residual effects predicted in the original Site C EA;
- The changes outlined and assessed in the Amendment Application are unlikely to cause incremental or negative effects to First Nations or their Section 35 Rights; and
- The Crown has fulfilled its consultation obligations with First Nations regarding the issuance of this amendment.

The EAO recommends that the Deputy Chief Executive Assessment Officer of the EAO, upon consideration of the conclusions in this Report and any other relevant factors, issue an Amended Certificate under [Section 32](#) of the Act to allow the requested amendment of the Certificate for Site C.