

PEACE RIVER SITE C HYDRO PROJECT

Information Sheet

Water Management

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Background

Site C, a potential third dam and generating station on the Peace River in north-eastern B.C., is one of several resource options being considered to help meet B.C.'s future energy needs. No decision has been made to build Site C. However, large projects like Site C have a long lead time and require early evaluation and study. To preserve Site C as an option for the future, significant work needs to take place now to understand the project's impacts and benefits from a technical, financial and environmental perspective.

BC Hydro is taking a stage-by-stage approach to the evaluation of the potential Site C project and is currently in Stage 2, Project Definition and Consultation. This stage involves three rounds of consultation: Pre-Consultation, which concluded in February 2008, Project Definition Consultation, Round 1, held May-June 2008, and Round 2, taking place October 1- November 30.

In addition, Stage 2 involves extensive engineering, environmental and technical work to further define the potential project, update decades-old studies, as well as to conduct new studies and technical work. Stage 2 will run through to fall 2009; BC Hydro will then make a recommendation to government for a decision on whether to proceed to the next stage of project planning and evaluation.

Water Management

Operation of a hydroelectric project, like the potential Site C project, is driven by decisions around how and when to use water for electricity generation, and when to retain water within the reservoir. As with other BC Hydro projects on the Peace River, if the Site C project were to proceed, water management decisions would likely be governed by limits on the reservoir operating range and the downstream flow range.

- The reservoir operating range represents the maximum and minimum water levels within which the reservoir can vary
- The downstream flow range represents the minimum and maximum rate at which water can be released and flow out of the reservoir

These variables are managed for the benefit of electricity generation and balancing consideration of environmental and social factors. Water management happens hour-to-hour, day-to-day and season-to-season. As currently designed, the potential reservoir would be one of the most stable in the BC Hydro system, with a maximum normal fluctuation of +/- 0.9 metres (3 feet). Average daily and monthly downstream flows would not change appreciably from what they are today.

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Decisions regarding water management at the potential Site C reservoir would affect several objectives. For example, allowing a wider operating range for the potential Site C reservoir would increase the flexibility and economic value of the project. However, a decision to increase the reservoir operating range could potentially impact environmental and social factors

The frequency and extent of changes to the reservoir level is an important consideration with respect to shoreline and aquatic habitat. Seasonal timing of such changes is another consideration; restrictions made on the operation of the reservoir to improve summer recreation activities may not need to apply in the winter.

Reservoir levels and downstream flows are interconnected; options for managing these need to be reviewed together, including the rationale for constraints. These constraints would have effects on a range of economic, environmental, and social issues. The specific overall and seasonal operating regimes that are appropriate for the potential Site C reservoir would be important considerations if the project were to proceed to the next stage of project planning and evaluation.

Generally, water management guidelines are developed by consulting with First Nations, stakeholders and regulatory agencies. If the potential Site C project were to proceed to construction, this consultation would take place and a water management approach would be designed that would then be reviewed and approved by both the Comptroller of Water Rights and Federal regulatory agencies. BC Hydro has demonstrated its responsible approach to water management for more than 50 years, and has Water Use Plans complete or awaiting approval for many of its existing facilities, including the existing facilities on the Peace River.

As part of the Site C consultation process, combined with further technical and environmental studies, BC Hydro is committed to understanding the costs and benefits of various operation scenarios on reservoir and downstream interests such as fish, wildlife, recreation, and existing water users, among others. Water Management was a topic of consultation in Site C Project Definition Consultation, Round 1, and is also a topic of discussion at the ongoing Site C Technical Advisory Committees.

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