3 PROJECT OVERVIEW

3.1 Project Governance Process

3.1.1 Multi-staged Decision-Making Process

Consistent with best practices for large infrastructure projects, BC Hydro adopted a multi-stage approach for the planning and evaluation of the Project. This approach provides multiple decision-making points during project development and focuses on specific deliverables and objectives at each stage.

Stage 1, Review of Project Feasibility, took place from 2004 to 2007. During this stage, BC Hydro conducted a review of project feasibility, with a view to determining if there was enough potential to address key impacts, and whether it was in the best interests of ratepayers to move to the next stage of project planning and development. Specifically, BC Hydro reviewed existing studies and historical information, including information relating to engineering, project costs, and environment, as well as previous consultations.

The review concluded that it would be prudent to continue to investigate Site C as a potential resource option to address the growing electricity supply gap within the province. It was also determined that further review of the Project, including updating some previous technical studies, would provide important information about benefits, issues, costs, and potential mitigation options (BC Hydro 2007).

BC Hydro moved to Stage 2, Consultation and Technical Review, following direction by the Province in the *BC Energy Plan*. Stage 2 work, which commenced in the fall of 2007, included consultations with the public, stakeholders, communities, Aboriginal groups, and property owners, as well as preliminary discussions with the Province of Alberta and the Northwest Territories.

BC Hydro also initiated field studies to better understand current conditions related to the physical, biological, and socio-economic environment, and to gather engineering and technical information regarding the design, construction, and operation of the Project. Based on the Stage 2 key findings, BC Hydro recommended proceeding to the next stage of project planning and development, including an environmental and regulatory review (BC Hydro 2009).

BC Hydro entered Stage 3, the Environmental and Regulatory Review stage, in April 2010, following a decision by the Province to advance the Project to the next stage of development. BC Hydro filed its Project Description in May 2011 and it was accepted by the federal and provincial governments in August 2011, formally initiating the environmental assessment process.

Should the project receive environmental certification at the end of Stage 3, Stage 4 would include a decision by the BC Hydro Board of Directors and the Province to proceed to full project construction.

Stage 5, Construction, is the final stage, involving an approximate seven-year construction period with one additional year for final project commissioning, site reclamation, and demobilization.

3.1.2 Governance Structure and Implementation of Corporate Policies

The mechanism used to ensure that the Project implements and respects BC Hydro's corporate policies is through the Project's governance structure.

As a business unit within BC Hydro, the Project is headed by an Executive Vice-President who reports directly to BC Hydro's President and Chief Executive Officer (CEO). Governance oversight is provided by the:

- BC Hydro Board of Directors, which is appointed by British Columbia's Lieutenant Governor in Council and oversees the conduct of BC Hydro, supervises management, and ensures that all major issues affecting BC Hydro are given proper consideration. Day-to-day leadership and management of BC Hydro is delegated to the President and CEO.
- Site C Project subcommittee of the Board, which includes the Board Chair, President and CEO, three additional board members, and the Site C Executive Vice-President.
- BC Hydro Executive Team, which is led by the President and CEO and includes the Site C Executive Vice-President, and executives for each business unit and corporate services group at BC Hydro

Technical Advisory Board

For the design of large-scale hydroelectric projects such as the Project, it is typical industry practice to retain external advisory review boards to provide independent due diligence, opinions, and advice on the technical aspects of the project design.

The Project has an established international Technical Advisory Board that has provided technical advice on the project engineering and design. The members of the Site C Technical Advisory Board are globally recognized for their technical knowledge and experience with the design of hydroelectric projects around the world.

The Technical Advisory Board meets twice per year to review key design milestones and will continue to provide input to the project as it progresses through implementation and final design.

BC Hydro, through its governance structure, is responsible and accountable for the implementation of mitigation measures for the Project, including the oversight of contractors' obligations.

3.1.3 Corporate and Management Structure: Insurance and Liability

The Board of Directors is accountable for all risks incurred by BC Hydro and its subsidiaries. Authority for risk management is delegated to the Chief Executive Officer. The Chief Risk Officer is charged with the development of the enterprise risk management framework across all of BC Hydro, which provides the basis for consistent application of risk management practices. The Board of Directors and BC Hydro management regularly review and discuss the risk profile of the organization, and consider the nature and amount of risk incurred in the pursuit of the organization's objectives.

BC Hydro also manages significant risks in conformity with the provisions of the international standard ISO 31000, *Risk management – Principles and guidelines*, or in

conformity with other externally recognized standards appropriate to the risk being managed.

During construction of the Project, BC Hydro would put in place a construction insurance program that would include, but not be limited to, the following:

- Course of Construction Insurance, to cover damage to the project during construction
- Professional Liability, covering claims arising from errors and omissions
- Wrap-up Liability, to cover third-party liability during construction

In addition, where applicable, BC Hydro may transfer various risks through contracts with insurance service providers.

Project risks during operations, to the extent that they are not covered by BC Hydro's insurance program, are self-insured and managed through a comprehensive dam safety management system involving dam safety professionals and experts. Dams are continually monitored, and conditions are compared against national and international best practices. Interim risk management plans and capital upgrade programs are initiated as required.

3.1.4 Site C Clean Energy Project Charter

A Project Charter for the Project was approved by the BC Hydro Board of Directors in May 2011. It includes the following Vision, Mission and Objectives (Table 3.1).

Vision

Through the construction of the Project, BC Hydro will deliver a modern project that will:

- Support our clean energy objectives, of electricity self-sufficiency, job creation and greenhouse gas reduction
- Facilitate the development of clean energy projects by providing additional capacity to back up intermittent resources, such as wind, run-of-river hydro and solar

Mission

To design and construct a clean and renewable hydroelectric generation facility that will:

- Produce and deliver electricity in an environmentally and socially responsible manner
- Recognize the impacts of electricity generation and identify and incorporate options for mitigation that minimize effects
- Be best in class for engineering and environmental design and safety
- Build relationships and encourage participation and input from the public, local governments and stakeholders
- Build relationships with Aboriginal groups, and ensure meaningful consultation occurs in all stages of project development
- Employ a best practices standard in working with private property owners to minimize disruption, to ensure property owner input is thoroughly considered in project planning and to conduct work in a manner that demonstrates a respectful attitude towards the property and property rights of others

- Provide value to ratepayers by ensuring a competitive cost structure and maintaining the Project as a Heritage asset

Objectives

The objectives are outlined in Table 3.1.

Table 3.1 Site C Clean Energy Project Charter Objectives

Project Objectives	Description
Provide reliable capacity	• Maximize capacity available from Site C while meeting owner's requirements
Deliver low cost energy	• Maximize energy available from Site C while meeting owner's requirements • Minimize project unit energy cost (UEC) while meeting owner's requirements
Ensure a long term source of energy and capacity	• Maximize project life within owner's requirements • Retain public ownership of energy supply
Support Clean Energy Objectives	• Maintain BC generation as >=93% clean • Low life-cycle GHG emissions from project • Aids in integration of other intermittent renewable resources • Contribute to BC's self-sufficiency goals
Public and worker safety	• Achieve zero fatalities and zero serious injuries • Include safety in the design of all project components • Meet or exceed BC Hydro's worker safety standards • Integrate job-safety planning into day-to-day work for all project activities
Ensure that the Crown's duty to consult Aboriginal groups is met	• Consult Aboriginal groups with a focus on impact assessment, mitigation, and where applicable, accommodation • Identify opportunities for Aboriginal participation in the project
Environmental Leadership	• Meet or exceed environmental requirements defined by legislation, regulation and government directives
Optimize existing BC Hydro assets on Peace River system	• Increase value of Williston Reservoir storage and regulation • Maintain operational and maintenance flexibility at existing BC Hydro generation facilities on the Peace River

Project Objectives	Description
Follow best practice in public process	• Undertake thorough, best practice consultation with the public, communities and stakeholders • Employ a best practices standard in working with private property owners to minimize disruption, to ensure input is thoroughly considered in project planning
Provide lasting economic and social benefits for northern communities, Aboriginal groups and the province	• Create construction-related jobs and business opportunities • Consult and work with communities about regional benefits such as upgrades to infrastructure including roads, bridges and parks • Work with Aboriginal communities to identify and create opportunities for skills training, jobs and economic development

3.1.5 Legal Entity

British Columbia Hydro and Power Authority is the legal entity that would develop, manage, and operate the Project.

3.2 Scheduling

The anticipated development schedule for the Project (Figure 3.1) shows the key implementation phases for the regulatory, procurement, and construction processes as of the filing date of this Environmental Impact Statement.

The schedule for the regulatory process is based on the timelines given in the Amendment of the Agreement to Conduct a Cooperative Environmental Assessment, Including the Establishment of a Joint Review Panel, of the Site C Clean Energy Project between the Minister of the Environment, Canada and the Minister of Environment, British Columbia.

As described in Volume 1 Section 8 Assessment Process, after filing the Environmental Impact Statement, applications will be made for a number of provincial permits so that construction could begin as soon as practicable after receipt of the provincial Environmental Assessment Certificate and the federal Environmental Assessment Decision Statement, as well as receipt of required provincial and federal permits, licences, authorizations, and approvals.

As is common with many large infrastructure projects, procurement will commence during the regulatory process to allow construction to begin as soon as practicable after project approval. However, all procurements will be subject to receiving all permits, licences, authorizations, and approvals, and subject to a decision by BC Hydro and the Province to proceed to construction; construction will not begin until these are all in place. The procurement schedule is based on the lead times required to conduct the procurement processes and award contracts in a timely manner.

It is anticipated that, during the regulatory process, procurement will commence for works that are required early in the construction period, such as site access, preliminary

excavations, and worker accommodation, as well as items with long lead times such as the turbines and generators.

An overview of the month-by-month schedules for construction of the Project components is provided in Volume 1 Section 4 Project Description. These schedules were based on project planning at the time of preparation of the Environmental Impact Statement and may change as a result of procurement and project planning advancements.

References

Literature Cited

BC Hydro 2007. Peace River Site C Hydro Project, An option to help close B.C.'s growing electricity gap, Summary: Stage 1 Review of Project Feasibility, December 2007. Report available at www.bchydro.com/sitec.

BC Hydro 2009. Peace River Site C Hydro Project, Stage 2 Report: Consultation and Technical Review, Fall 2009. Report available at www.bchydro.com/sitec.