BC hydro

Integrated Resource Plan

Appendix

3B

Information Sheet Site C Clean Energy Project

SITE C CLEAN ENERGY PROJECT

July 2013

INFORMATION SHEET

SITE C CLEAN ENERGY PROJECT

BC Hydro's Site C Clean Energy Project (Site C) is a proposed third dam and hydroelectric generating station on the Peace River in northeast B.C. It would provide 1,100 megawatts (MW) of capacity, and produce about 5,100 gigawatt hours (GWh) of electricity each year — enough energy to power the equivalent of about 450,000 homes per year in B.C.

Site C Project Components

- An earthfill dam, approximately 1,050 metres long and 60 metres high above the riverbed.
- A generating station with six 183 MW generating units.
- An 83-kilometre-long reservoir that would be, on average, two to three times the width of the current river.
- The realignment of up to six segments of Highway 29 over a total distance of up to 30 kilometres.
- Shoreline protection at Hudson's Hope.
- Two new 500 kilovolt AC transmission lines that would connect the Site C facilities to the existing Peace Canyon Substation, along an existing right-of-way.
- Access roads in the vicinity of the site and a temporary construction access bridge across the Peace River at the dam site.
- Construction of two temporary cofferdams across the main river channel to allow for construction of the earthfill dam.
- Worker accommodation options include two construction camps at the dam site, with other workers being housed off site and in the region.

- more -

Given the long lead time and the scope of evaluation and development work required for a major hydroelectric facility, BC Hydro adopted a multi-stage approach for the planning and evaluation of Site C. This approach provides multiple decision-making points during project development, and focuses on specific deliverables and objectives at each stage. The project is currently in the Environmental and Regulatory Review stage, which includes an independent environmental assessment process.

Environmental Assessment

The Site C project is undergoing a cooperative environmental assessment by the federal and provincial environmental assessment agencies, including a Joint Review Panel process. The environmental assessment process for Site C started in August 2011 and is anticipated to take approximately three years to complete.

In January 2013, BC Hydro filed its Environmental Impact Statement (EIS) for Site C. The EIS describes the project rationale, its potential effects — including environmental, social, economic, heritage and health — and proposed measures to avoid or mitigate adverse effects. It also includes the benefits Site C would provide to customers, Aboriginal groups, northern communities, and the province.

The environmental assessment process includes multiple opportunities for participation by the public, Aboriginal groups, governments, and other interested stakeholders, including public hearings as part of a Joint Review Panel process.

Site C requires environmental certification and other regulatory permits and approvals before it can proceed to construction. In addition, the Crown has a duty to consult and, where appropriate, accommodate Aboriginal groups.

More information on the environmental assessment process, including the five-volume Environmental Impact Statement, is available on the Canadian Environmental Assessment Agency and the B.C. Environmental Assessment Office websites.

Project Attributes

The Site C project has the following attributes which make it an attractive resource option:

- Site C would be source of both energy and dependable capacity for the BC Hydro system.
- Site C would provide clean and renewable electricity in B.C. for more than 100 years.
- At a cost of $83 per megawatt hour at the point of interconnection, Site C would be among the most cost-effective resource options to meet long-term electricity needs in B.C.
- The project would have among the lowest GHG emissions, per gigawatt hour, compared to other resource options.
- Site C would gain significant efficiencies by taking advantage of water already stored in the Williston Reservoir. This means that Site C would generate approximately 35 per cent of the energy produced at W.A.C. Bennett Dam, with only five per cent of the reservoir area.
- Site C would create approximately 10,000 person-years of direct employment during construction, and about 33,000 total jobs through all stages of development and construction.
- Construction of Site C would contribute approximately $3.2 billion to provincial GDP.

Subject to environmental certification and other regulatory permits and approvals, Site C would take approximately seven years to construct, with an anticipated in-service date of fiscal 2024.