

**PROJECT BRIEF**  
**for the**  
**John Hart Generating Station Replacement Project**

**Issue Date: March 13, 2012**

## TABLE OF CONTENTS

<b>1. INTRODUCTION.....</b>	<b>3</b>
1.1 Purpose of this Project Brief.....	3
<b>2. THE BUSINESS OPPORTUNITY.....</b>	<b>4</b>
2.1 The John Hart Generating Station Replacement Project.....	4
2.2 Procurement Objectives.....	4
2.3 Key Features of the Opportunity.....	4
<b>3. THE PROJECT .....</b>	<b>6</b>
3.1 Background to the Project.....	6
3.2 Project Scope .....	9
3.3 Project Site.....	9
3.4 Approvals and Permitting .....	10
3.5 Advance Work.....	10
3.6 General Responsibilities .....	10
3.7 Compensation of Project Co .....	12
3.8 The Project Team .....	13
<b>4. THE COMPETITIVE SELECTION PROCESS.....</b>	<b>15</b>
<b>5. GENERAL .....</b>	<b>16</b>
5.1 Transparency of the Competitive Selection Process.....	16
5.2 Partial Compensation.....	16
5.3 Project Schedule.....	17

## 1. INTRODUCTION

### 1.1 PURPOSE OF THIS PROJECT BRIEF

This Project Brief, and all comments included in it, is intended only as a convenient summary and reference describing the business opportunity, the John Hart Generating Station Replacement Project (the Project), BC Hydro, and the anticipated procurement process. **The Project Brief is not included as part of the Request for Qualifications (RFQ) or Request for Proposals (RFP), and is not intended to be included with, or referred to in any way in interpreting the requirements of, the RFQ, the RFP, the Project Agreement, or to in any way define or describe any party's rights with respect to the Project.**

## 2. THE BUSINESS OPPORTUNITY

### 2.1 THE JOHN HART GENERATING STATION REPLACEMENT PROJECT

Located near the City of Campbell River on Vancouver Island, the John Hart Generating Station has been operating since 1947 and is one of the oldest generating facilities in BC Hydro's hydroelectric system and an important Heritage Asset on Vancouver Island.

By completing the Project, BC Hydro will replace the existing facilities (excluding dam structures) and address the following age and design-related issues:

- The ongoing risk and consequence to fish resulting from unplanned outages at the generating station which impact river flows;
- Seismic risk to the pipelines and generating station; and
- Operational reliability, which may lead to an increase in power generation capacity by using more efficient equipment.

A high-level summary of the new infrastructure required for the Project is provided in Section 3.2 of this Project Brief.

### 2.2 PROCUREMENT OBJECTIVES

To aid with the development of the Project scope and infrastructure requirements, procurement objectives were established and include the following:

- Deliver the Project on schedule and within the approved budgetary constraints,
- Minimize the risk of safety-related incidents throughout the life of the facility,
- Achieve environmental commitments,
- Maintain and enhance relationships with First Nations and stakeholders,
- Optimize facility performance with respect to flow continuity, capacity, efficiency and reliability,
- Encourage innovation in design, construction and operations to achieve performance outcomes; and
- Conduct an effective, fair and transparent competitive selection process.

### 2.3 KEY FEATURES OF THE OPPORTUNITY

To deliver the Project, BC Hydro is seeking to enter into a long-term, availability-based contract with a qualified entity, "Project Co", to design, build, and partially finance the infrastructure described above. The contract will also require that Project Co take responsibility for the new infrastructure's performance and availability over a 15-year term following construction, which includes planning and executing all required maintenance within that term such that specific end-of-term requirements are satisfied.

The contract will also require that BC Hydro staff execute specific routine maintenance tasks relating to generating equipment in accordance with the plan developed by Project Co.

Additional details of the anticipated responsibilities of both Project Co and BC Hydro are provided in Table 1 of Section 3.6 below.

### 3. THE PROJECT

#### 3.1 BACKGROUND TO THE PROJECT

The John Hart facility is the furthest downstream station in the three-station Strathcona-Ladore-John Hart cascading hydroelectric development on the Campbell River. The facility has been in commercial operation since 1947, and with an installed capacity of 126 megawatts (MW), represents approximately 17 per cent of the total generating capacity on Vancouver Island. The generating station currently produces an average of 740 gigawatt hours (GWh) of energy annually, which is equivalent to the average annual consumption of approximately 74,000 households. A number of important components of the existing facility are in need of replacement because of age-related deterioration and seismic conditions, including the woodstave penstocks and generating equipment.

##### 3.1.1 Existing Infrastructure

The existing facility is comprised of the components described below:

- (a) Six dam structures impounding the John Hart Reservoir;
- (b) A six-gate intake facility located at the intake dam, which diverts water from John Hart Reservoir and supplies the water conduits;
- (c) Three 3.66-metre (12 foot) diameter woodstave pipelines (each 1.1 kilometres long), connecting to three 3.66-metre (12 foot) diameter steel penstocks (each 0.7 kilometres long) with surge towers, which deliver water from the intake to the powerhouse;
- (d) A powerhouse containing six 21 MW, vertical Francis generating units (a total capacity of 126 MW), which discharge through the tailrace into the natural river channel;
- (e) A switchyard and control buildings; and
- (f) Site office and maintenance shops adjacent to the powerhouse.

The infrastructure referenced above is shown in Figure 1 and Figure 2 below.

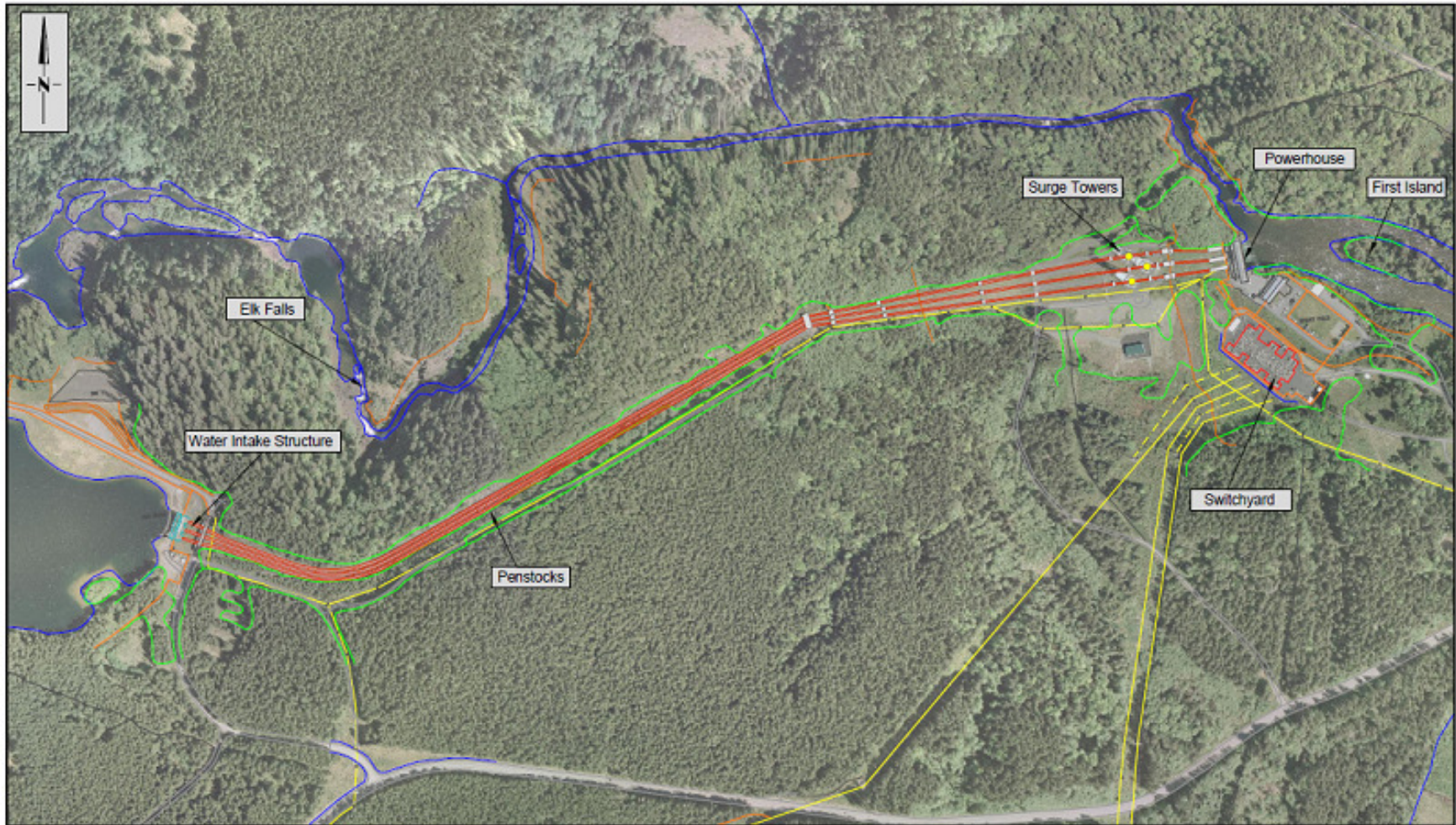
**Figure 1: John Hart Facility**



The spillway from John Hart Reservoir discharges into the natural Campbell River channel upstream of Elk Falls Canyon, approximately 2.5 kilometres upstream of the powerhouse. Presently, there is no flow bypass facility located at the powerhouse. If flow through the generating units is lost or restricted, the spillway is utilized to provide any required compensating flows to maintain the continuity of flow in the Campbell River downstream of the powerhouse. As a result, river levels downstream of the powerhouse can drop, exposing fish habitat, while the compensating flow travels from the reservoir down the spillway.



Figure 2: John Hart Facility - Existing Facilities Overview





## 3.2 PROJECT SCOPE

The proposed Project will replace the existing John Hart facility (excluding the dam structures), increasing the installed capacity from 126 MW to an estimated 138 MW, and integrating a new flow bypass mechanism to maintain flows in the Campbell River.

At a high level, the scope of the Project will include the following:

- (a) A water intake and conveyance tunnel that will replace the existing penstock structures;
- (b) A replacement powerhouse and all associated equipment;
- (c) A bypass mechanism located within the replacement powerhouse or externally which will allow water to circumvent the turbine-generators. The bypass will help to ensure flow continuity in the river downstream of the powerhouse; and
- (d) Decommissioning of the existing structures no longer required following successful start-up and operation of the Project.

In addition to the new infrastructure described above, there are six existing impoundment structures (i.e. dams) at the John Hart Reservoir which are not included in the scope of the Project.

## 3.3 PROJECT SITE

At all times throughout the Project, BC Hydro will continue to own the land and any new or existing infrastructure associated with the Project.

### 3.3.1 Site Considerations

In addition to power generation facilities which will continue to operate throughout the construction of the replacement facility, the BC Hydro property at the John Hart Generating Station also includes other facilities such as energized transmission lines and distribution lines, fibre optic communication lines, a Fortis BC natural gas main, and the City of Campbell River drinking water treatment and distribution facilities. The City of Campbell River obtains up to 20 million imperial gallons per day of raw water from the existing John Hart penstocks under an agreement that is renewed annually.

Excluding access roads, the Project is located on BC Hydro property that is surrounded by Elk Falls Provincial Park. Elk Falls Provincial Park is a high-use public recreation area, with areas considered to be environmentally sensitive. Public walking trails on BC Hydro property interconnect with trails in Elk Falls Provincial Park.

### 3.4 APPROVALS AND PERMITTING

BC Hydro intends to pursue a Certificate of Public Convenience and Necessity (CPCN) from the British Columbia Utilities Commission (BCUC) and environmental approval from Fisheries and Oceans Canada (DFO) pursuant to the Canadian Environmental Assessment Act (CEAA) for the Project. BC Hydro is also pursuing an amendment to the Elk Falls Provincial Park boundary to facilitate construction access and flexibility in locating certain Project elements.

Project Co will be required to obtain additional approvals and permitting for the Project. Details will be provided at the RFP stage of the competitive selection process.

### 3.5 ADVANCE WORK

BC Hydro anticipates performing certain work relating to site preparation prior to construction. Following the selection of a preferred proponent, BC Hydro may choose to provide a limited notice to proceed with the Project work prior to the final execution of the Project Agreement.

### 3.6 GENERAL RESPONSIBILITIES

Table 1 identifies and describes the anticipated general responsibilities of Project Co and BC Hydro for the Project.

**Table 1. General Responsibilities**

Responsibility	Description
<b>Elements to be delivered by Project Co</b>	
Design, construction, commissioning, and decommissioning	<ul style="list-style-type: none"> <li>• All aspects of design in accordance with performance specifications developed by BC Hydro;</li> <li>• Obtaining all permits and approvals necessary for construction of the Project, excluding those permits and approvals obtained by BC Hydro;</li> <li>• Provision of utilities and other site services required to support the Project, including off-site works as required to connect the Project to existing infrastructure;</li> <li>• Constructing and commissioning the Project while BC Hydro continues operating the existing John Hart facility; and</li> <li>• Following commissioning of the new facilities, decommissioning those aspects of the existing facility which are no longer required.</li> </ul>
Equipment	<ul style="list-style-type: none"> <li>• All aspects of the design, manufacture, supply, installation, and commissioning of required equipment, including generating equipment such as turbines and generators.</li> </ul>
Finance	<ul style="list-style-type: none"> <li>• Providing financing to fund all costs required to complete the scope of work that is in excess of the capital payments made by BC Hydro during the construction phase of the Project. BC Hydro currently anticipates funding approximately 40 per cent of eligible construction costs.</li> </ul>
Project infrastructure asset management and maintenance	<ul style="list-style-type: none"> <li>• Ensuring the project infrastructure is available and maintained to a specified physical and performance standard (BC Hydro to provide specified labour for certain routine maintenance tasks relating to the generating equipment). This includes:                             <ul style="list-style-type: none"> <li>○ Maintenance planning;</li> <li>○ Major inspections;</li> <li>○ Corrective maintenance;</li> <li>○ Building maintenance;</li> <li>○ Site safety and security; and</li> <li>○ Grounds maintenance including waste and snow removal and landscaping.</li> </ul> </li> <li>• Undertaking all the necessary tasks to ensure that the facility and site are returned to BC Hydro as specified at the end of the contract term.</li> </ul>

Responsibility	Description
Generating equipment asset management and maintenance	<ul style="list-style-type: none"> <li>• Creating and executing the program for routine maintenance, long term maintenance, and rehabilitation.</li> <li>• Bearing the cost associated with rectification of defects.</li> </ul>
Communications and consultation	<ul style="list-style-type: none"> <li>• Supporting BC Hydro as necessary in all aspects of public communication and consultation.</li> </ul>
First Nations	<ul style="list-style-type: none"> <li>• Developing and executing a plan that supports and complies with BC Hydro's requirements regarding First Nations participation.</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• Developing and executing a plan that supports and complies with BC Hydro's requirements regarding environmental management and sustainability.</li> </ul>
Safety and security	<ul style="list-style-type: none"> <li>• Developing and executing a plan that supports and complies with BC Hydro's requirements regarding safety and security.</li> </ul>
<b>Elements to be delivered or managed by BC Hydro:</b>	
Approvals	<ul style="list-style-type: none"> <li>• Obtaining a CPCN from BCUC;</li> <li>• Obtaining CEAA approval for the Project from DFO; and</li> <li>• Obtaining an amendment to the Elk Falls Provincial Park boundary to facilitate construction access and flexibility in locating certain Project elements.</li> </ul>
Facility operation/dispatch	<ul style="list-style-type: none"> <li>• Planning and dispatching of the existing and new facilities throughout construction and the 15-year operating term.</li> </ul>
Generating equipment asset management and maintenance	<ul style="list-style-type: none"> <li>• Supplying personnel for the implementation of Project Co's routine maintenance program to a set maximum number of hours annually, and for the performance of equipment isolation as necessary.</li> </ul>
Communications and consultation	<ul style="list-style-type: none"> <li>• Leading all aspects of public communication and consultation.</li> </ul>
Payments	<ul style="list-style-type: none"> <li>• Payments to Project Co for eligible construction costs during construction and a regular availability payment during the 15-year operating term.</li> </ul>

### 3.7 COMPENSATION OF PROJECT CO

Project Co is expected to be compensated through both capital payments made during the construction of the Project for eligible construction costs and availability-based monthly payments made during the 15-year operating term.

### 3.7.1 Capital Contributions to Construction

During the construction phase of the Project, Project Co will receive payments for eligible costs associated with construction progress. Capital contributions are expected to be limited to 40 per cent of the eligible construction costs for progress and not to exceed a predetermined maximum in each month of construction.

### 3.7.2 Availability Payment

During the operating phase of the Project, Project Co will receive monthly payments based on the availability and performance of the project infrastructure. The payment will be subject to a performance mechanism, which clearly defines deductions to the payment for failure to deliver specific availability and performance requirements.

## 3.8 THE PROJECT TEAM

### 3.8.1 BC Hydro

BC Hydro is one of North America's leading providers of clean, renewable energy, and the largest electric utility in British Columbia, serving approximately 95 per cent of the province's population and 1.8 million customers. BC Hydro's goal is to provide reliable power, at low cost, for generations.

BC Hydro's various facilities generate between 43,000 and 54,000 gigawatt hours of electricity annually, depending on prevailing water levels. Electricity is delivered through a network of 18,336 kilometres of transmission lines and 55,705 kilometres of distribution lines.

As a provincial Crown Corporation established in 1962 under the Hydro and Power Authority Act, BC Hydro reports to the Minister of Energy, Mines and Petroleum Resources, and is regulated by BCUC.

BC Hydro aligns its business activities with the Ministry's energy policies, as described in the 2007 BC Energy Plan, and is required in its long-term plan to respond to the B.C. Government's objectives set out in the Clean Energy Act.

Additional information about BC Hydro is available at: [www.bchydro.com](http://www.bchydro.com).

Additional information about the 2007 Energy Plan is available at: [www.energyplan.gov.bc.ca](http://www.energyplan.gov.bc.ca).

Additional information about the Clean Energy Act is available at:  
[www.leg.bc.ca/39th2nd/1st\\_read/gov17-1.htm](http://www.leg.bc.ca/39th2nd/1st_read/gov17-1.htm).

BC Hydro has engaged Partnerships British Columbia Inc. (Partnerships BC) to manage the competitive selection process for the Project.

### 3.8.2 Partnerships BC

Partnerships BC brings together ministries, agencies and the private sector to evaluate, structure and implement major capital projects.

Additional information about Partnerships BC is available at [www.partnershipsbc.ca](http://www.partnershipsbc.ca).

### 3.8.3 Governance

BC Hydro has established a Project governance structure for the Project. A Project Director is responsible for the Project and the day-to-day management of the Project working team. The Project Director reports to the Project's Executive Sponsor, and seeks direction from the Project's Sponsor and the Executive Board. The Project's Executive Board reports to BC Hydro's Board of Directors for strategic direction, authorization and approval.

### 3.8.4 Advisors

A Fairness Advisor has been appointed to monitor the competitive selection process from a fairness perspective.

BC Hydro has also retained the following advisors to assist in the Project's procurement:

- Borden Ladner Gervais LLP (Legal Advisor);
- Boughton Law Corporation (Conflict of Interest Adjudicator);
- Ernst & Young Orenda Corporate Finance Inc. (Financial Advisor);
- Golder Associates Ltd. (Geotechnical Advisor);
- Hemmera Envirochem Inc. (Environmental Advisor);
- MWH Global Inc. (Project and Design Management Advisors); and
- Singleton Urquhart LLP (Fairness Advisor).



#### 4. THE COMPETITIVE SELECTION PROCESS

BC Hydro intends the competitive selection process to be a two-stage process as follows:

- (a) RFQ; and
- (b) RFP from proponents qualified at the RFQ stage.

Table 2 provides an outline of the competitive selection process.

**Table 2. The Competitive Selection Process**

Project Stage	Description
Request for Qualifications	<ul style="list-style-type: none"> <li>▪ Identify and select respondents who will be invited to respond to the RFP.</li> <li>▪ The RFQ sets out the information requested from respondents, and the evaluation criteria that will be used to evaluate responses.</li> <li>▪ BC Hydro intends to shortlist a maximum of three respondent teams who will then be invited to submit proposals based on the specifications that will be included in the RFP.</li> </ul>
Request for Proposals	<ul style="list-style-type: none"> <li>▪ Proponents will be invited to submit proposals based on the performance specifications, the final draft Project Agreement, and requirements included in the RFP.</li> <li>▪ The RFP will detail the business opportunity to which proponents will be invited to submit proposals.</li> <li>▪ It is anticipated that a technical submission addressing technical aspects of the RFP will be submitted in advance of the financial submission.</li> <li>▪ It is anticipated that the RFP will include a financial affordability threshold and it is anticipated that proposals that exceed this threshold will not be evaluated.</li> </ul>
Collaborative Discussion Process	<ul style="list-style-type: none"> <li>▪ BC Hydro expects the RFP process to include a series of collaborative meetings with each proponent.</li> <li>▪ The purpose of such meetings is to aid proponents in submitting quality proposals that effectively address the needs of BC Hydro.</li> <li>▪ Meetings will typically include three topic areas: Design, Project Infrastructure, Maintenance, and Commercial/Legal.</li> </ul>

Project Stage	Description
Project Agreement	<ul style="list-style-type: none"> <li>▪ The draft Project Agreement will be included with the RFP.</li> <li>▪ Proponents will be invited to provide comments on the Project Agreement and BC Hydro will respond to these comments while the RFP is open.</li> <li>▪ Prior to the close of the RFP, BC Hydro will issue a Project Agreement in final form to which the Proponents will be expected to provide a proposal.</li> </ul>

## 5. GENERAL

### 5.1 TRANSPARENCY OF THE COMPETITIVE SELECTION PROCESS

The RFQ and RFP (including addenda) will be public documents, although only proponents will be invited to respond to the RFP. The names of shortlisted teams will be made public.

At the completion of the procurement process, the Project team will prepare a summary document that describes the outcome of the procurement process and identifies the benefits of the procurement approach. The Project Agreement will be disclosed.

The Fairness Advisor will issue reports documenting the procurement process from a fairness perspective and providing an unbiased opinion on the fairness of the entire competitive selection process.

Both the project report and the Fairness Advisor's reports will be released publicly.

The entire process is subject to the *Freedom of Information and Protection of Privacy Act* (FOIPPA).

### 5.2 PARTIAL COMPENSATION

BC Hydro will not provide any compensation to respondents for participating in the RFQ stage of the competitive selection process. BC Hydro intends to provide partial compensation to unsuccessful proponents, subject to the terms of the Participation Agreement included in the RFQ and the terms of the RFP.

### 5.3 PROJECT SCHEDULE

Table 3 provides BC Hydro's estimated timeline for the competitive selection process and the Project.

**Table 3. Project Schedule**

<b>Activity</b>	<b>Estimated Date</b>
RFQ Issue Date	<b>March 13, 2012</b>
Introductory Project Meeting	<b>March 26, 2012</b>
RFQ Submission Time	<b>April 25, 2012</b>
Inspection of Respondent's complete turbine model test report (optional, at BC Hydro's discretion)	<b>May 2012</b>
Respondent interviews/presentations (optional, at BC Hydro's discretion)	<b>May 2012</b>
Announce Shortlist	<b>June 2012</b>
Issue RFP and Draft Project Agreement to Proponents	<b>June 2012</b>
Issue Final Draft Project Agreement	<b>Winter 2013</b>
Submission Time for Technical Proposals	<b>Winter 2013</b>
Submission Time for Financial Proposals	<b>Spring 2013</b>
Selection of Preferred Proponent	<b>Spring 2013</b>
Financial Close	<b>Summer 2013</b>
Construction Commences	<b>Summer 2013</b>

All dates in the above timeline are subject to change at the sole and absolute discretion of BC Hydro.