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# **Vancouver Island Generation Project Major Capital Project Plan**

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## **1.0 OBJECTIVES OF THE PROJECT**

### **1.1 The Project Objective**

The project under construction in this Major Project Capital Plan is the development and construction of a gas fired electrical generation facility in Nanaimo by Vancouver Island Energy Corporation, a BC Hydro subsidiary. The project is being implemented to meet domestic electricity needs. The Vancouver Island Generating facility, referred to as the Vancouver Island Generating Project ("VIGP"), will increase BC Hydro's installed generating capacity by approximately 265 MW and will produce additional energy of about 2100 GWh per year. BC Hydro plans to develop VIGP and will explore divesting its interest at or near commencement of commercial operation.

### **1.2 Background and status**

BC Hydro's January 2000 Integrated Electricity Plan Update identifies the Port Alberni Generation Project (now VIGP) as a committed resource scheduled to be in service in the fall of 2003. This was based upon BC Hydro's analysis of several long-term options for supply to Vancouver Island (VI). That long-term option analysis has identified a preferred alternative, namely the construction of the Georgia Strait Crossing (GSX) gas pipeline and new natural gas-fired combined cycle gas turbines (CCGTs) on Vancouver Island.

VIGP was originally sited in Port Alberni. Failure to obtain necessary zoning required BC Hydro to find a new site and delayed the project for one year. Siting this generation on VI addresses capacity shortfall on VI through 2007. VI load growth is projected at 1.6% and the HVDC system is expected to be fully retired by 2007. As well, this generation project provides capacity and energy supply to the BC Hydro system.

In May 2002, BC Hydro announced termination of discussions with Calpine Canada Power Holdings Ltd., of Calgary on a proposed partnership to co-develop VIGP. BC Hydro has now assumed Calpine's interest in the project.

Additional information on VIGP can be found in the comprehensive application submitted to the BC Environmental Assessment Office on June 17, 2002. The application is available on line at:

<http://www.eao.gov.bc.ca/project/energy/vigp/home.htm>

## **2.0 COSTS AND BENEFITS OF THE PROJECT**

### **2.1 Costs**

Development costs of the VIGP generation facility for a fall 2004 in-service date are currently under review. The current construction cost estimate is \$370 million, excluding major spare parts to be purchased for use after construction, estimated at \$15 – 20 million.

### **2.2 Benefits**

The electrical benefits of the project are the annual expected generation of approximately 2100 GWh of energy and the availability of up to approximately 265 MW of base loaded power plus 30 MW of additional peaking capacity to meet domestic load requirements.

In addition to the direct energy provided by the project, there are direct construction employment benefits and industrial offsets through the Gas Turbine Purchases with GE Canada. The project is expected to generate 240 person-years direct construction employment, twenty permanent operating jobs plus \$14 million in industrial offsets under the Gas Turbine Purchase Agreement with GE Canada and will use local suppliers wherever practical.

## **3.0 RISKS ASSOCIATED WITH THE COSTS AND BENEFITS**

### **3.1 Risks Associated with Costs**

BC Hydro has structured the project to mitigate significant risks including the major elements of development.

A detailed project management plan has been developed that covers an implementation schedule and provides standards for project reporting and control.

An Engineering, Procurement, Construction Management Contractor will be engaged to provide necessary expertise.

Most of the major equipment purchases are complete, reducing price and availability uncertainty.

The VIGP and the Georgia Strait Crossing (GSX) gas pipeline project schedules are linked as GSX provides the pipeline infrastructure necessary to bring natural gas destined for the VIGP generating facility from the mainland to Vancouver Island. Both projects have distinct regulatory approval and construction schedules. Both projects' in

service dates and project schedules are being coordinated to ensure economic optimization. Contingency plans have been developed in the event of project delays.

### **3.2 Risks Associated with Benefits**

The project benefits are associated with the amount of energy generated in any year and minimizing the cost of the energy.

#### **Operations Risk**

VIGP utilizes proven technology. Combined Cycle Gas Turbine technology is well established with a proven track record. Equipment is sourced from reputable vendors.

Structural alternatives for transfer of ownership and operation of the plant at or around commercial operation are being considered.

#### **Market Risk (Natural Gas and Electricity Price Risks)**

VIGP is being built to serve domestic load on Vancouver Island. Natural gas fuel and domestic electricity price risk management related to VIGP will be incorporated into BC Hydro's supply and demand portfolio upon which existing commodity risk management policies and practices apply.