

# 2004

## Integrated Electricity Plan



### Part 7 Action Plan

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## 1 Introduction

The Action Plan identifies specific actions that BC Hydro will take in fiscal years 2005 to 2008 to realize the objectives of the 2004 Integrated Electricity Plan (IEP). The objectives are to provide reliable, least cost electricity supply in an environmentally responsible manner. Section 2, Actions, is divided into four categories:

1. **Continuation of Current Programs** - recognizes the current supply-side and demand-side programs and lays out plans for their continuation in the future.
2. **New Projects and Initiatives** - presents specific actions pertaining to new resource acquisitions.
3. **Future Resource Additions Requiring Near-Term Evaluation** - considers issues that need further research and evaluation.
4. **Electricity Planning and Portfolio Management** - outlines improvements that BC Hydro will make to its electricity planning and portfolio management processes.

Section 3, Contingency Plan, presents the steps BC Hydro will take to manage risks and uncertainties.

## 2 Actions

### 2.1. Continuation of Current Programs

#### *First Nations Consultation*

Plan Item	Completion Date <sup>1</sup>
BC Hydro will consult First Nations on transmission and generation projects. BC Hydro's Aboriginal Relations Department will consult with First Nations with respect to the transmission system in accordance with agreements between BC Hydro and British Columbia Transmission Corporation.	Ongoing

#### *First Nations and Stakeholder Engagement*

Plan Item	Completion Date
BC Hydro will continue to engage First Nations and stakeholders in electricity planning. BC Hydro plans to update the IEP every two years and the Action Plan annually and to seek further comments and input from First Nations and stakeholders.	Ongoing
BC Hydro will work with British Columbia Transmission Corporation on stakeholder engagement for transmission plans and projects. BC Hydro's Aboriginal Relations Department will provide First Nations engagement with respect to the transmission system in accordance with agreements between BC Hydro and British Columbia Transmission Corporation.	Ongoing

#### *Power Smart: Demand Side Management*

Plan Item	Completion Date
BC Hydro will continue the current Power Smart 10 Year-Plan (Power Smart 2) and will continue to monitor its performance to aid future decisions for Power Smart 3 and 4.	Ongoing

<sup>1</sup> "F" refers to BC Hydro's fiscal year, ending March 31. "Q" refers to quarters in the fiscal year.

**Private Sector Power Acquisitions**

<b>Plan Item</b>	<b>Completion Date</b>
BC Hydro will work with electricity suppliers (IPPs <sup>2</sup> and customers with generation) by providing them with information on permitting and approval processes, conducting workshops and creating web-based resources.	Ongoing
BC Hydro will improve the process for IPPs to interconnect to BC Hydro's distribution system.	Q1 F2005

**BC Hydro Generation: Heritage Contract Resources**

<b>Plan Item</b>	<b>Completion Date</b>
BC Hydro will implement the Heritage Contract Accountability Framework between BC Hydro Distribution and BC Hydro Generation.	Q1 F2005
BC Hydro will continue to evaluate and implement current planned Resource Smart projects (See Part 3 of the IEP) identified in the BC Hydro's Generation Capital Plan.	Ongoing
BC Hydro will update the Resource Smart inventory.	Q4 F2006
BC Hydro will undertake studies to assess options for Burrard, including shutdown of Burrard, maintaining existing units on standby, and maintaining exiting units on recall. For the shutdown option, BC Hydro will assess costs of site remediation, as well as the costs and timing for replacing system voltage support provided by the existing Burrard units (with input from British Columbia Transmission Corporation). BC Hydro will update cost estimates for repowering.	Q4 F2005
BC Hydro will continue major refurbishment projects to preserve the capabilities of existing facilities.	Ongoing

**Vancouver Island-Specific Purchases**

<b>Plan Item</b>	<b>Completion Date</b>
BC Hydro will complete the Vancouver Island Call for Tenders process.	Q3 F2005
BC Hydro will maintain a shelf-ready contingency plan that can be put in place depending on the outcome of the Vancouver Island Call for Tenders. The Vancouver Island supply contingency plan is summarized in Section 3.	Q2 F2005

<sup>2</sup> Independent power producers.

## 2.2. New Projects and Initiatives

### ***BC Hydro Generation – Revelstoke 5 and Mica 5***

<b>Plan Item</b>	<b>Completion Date</b>
BC Hydro will determine the optimum sequence for the Revelstoke 5 and Mica 5 capacity additions and will preserve the option of a F2009 in-service date for one of these units.	Q3 F2005

### ***Transmission Additions and Upgrades***

<b>Plan Item</b>	<b>Completion Date</b>
BC Hydro has requested that British Columbia Transmission Corporation (BCTC) preserve the earliest in-service date for the 230 kV AC submarine transmission (ARN-VIT) cables. This will help to mitigate the uncertainty about the outcome of the Vancouver Island call for tenders and preserve the option of meeting the Island's capacity requirements from the Mainland. BCTC confirmed that, as part of its mandate to ensure adequate transmission is available in British Columbia, it is proceeding with this project to the extent necessary to preserve the earliest possible in-service date.	Q3 F2009
BC Hydro has requested that BCTC preserve the earliest in-service date of F2014 for Interior to Lower Mainland Transmission (5L83, from Merritt to Coquitlam). This will help to mitigate various supply uncertainties, including the future of Burrard Thermal Generating Station and the outcome of the Vancouver Island call for tender process. BCTC confirmed that, as part of its mandate to ensure adequate transmission is available in British Columbia, it is proceeding with this project to the extent necessary to preserve the earliest possible in-service date.	F2014
BC Hydro will submit a Network Integration Transmission Services (NITS) application to BCTC to meet its domestic load requirements. BCTC will determine the detailed transmission requirements based on this application.	Q2 F2005

**Energy Calls**

<b>Plan Item</b>	<b>Completion Date</b>
The IPP community has indicated that, while the rigour associated with contracts and commercial terms in BC Hydro's recent calls for energy and capacity is appropriate for large projects, it can be onerous for smaller IPP projects. In response, BC Hydro will develop a separate contracting process for smaller IPP projects.	Q3 F2005
A number of uncertainties are considered in the IEP, including IPP attrition, shortfall in Power Smart savings, load forecast uncertainty, outcome of the Vancouver Island Call for Tenders, and the potential phase-out of Burrard. BC Hydro therefore plans to acquire cost-effective replacement energy and capacity on a regular basis over the next few years. The first step in this acquisition plan is to make a call to the private sector in F2005 to acquire up to 400 GWh for delivery starting in F2009.	Q3 F2005

**2.3. Future Resource Additions Requiring Near-Term Evaluation*****New Transmission & Distribution Infrastructure***

<b>Plan Item</b>	<b>Completion Date</b>
BC Hydro will complete the re-examination of the policies with respect to network upgrades for IPPs connecting to the distribution system.	Q3 F2005
BC Hydro will work with BCTC as its largest customer to determine the best way to address infrastructure upgrades to facilitate IPP development.	Q3 F2005

***Demand-Side Management & Rate Options***

<b>Plan Item</b>	<b>Completion Date</b>
BC Hydro will investigate the feasibility of a capacity-based Power Smart program.	Q4 F2005
BC Hydro will design stepped rates, time-of-use rates and other rate options.	Q4 F2005

### ***New Supply Options***

<b>Plan Item</b>	<b>Completion Date</b>
To take into account the uncertainties around supply and demand, and to preserve the option of realizing the potential benefits of cost-effective large hydroelectric projects, BC Hydro will maintain the Peace River Site C project as an option for F2015 by, e.g., consulting First Nations, engaging stakeholders, and pursuing licensing and environmental assessment processes.	Q2 F2006
BC Hydro will continue to monitor existing supply resources and domestic load growth to decide upon the timing of the future energy and capacity calls. The rationale for future calls will be reflected in future Action Plans, which BC Hydro plans to produce every year.	Ongoing

## **2.4. Electricity Planning and Portfolio Management**

<b>Plan Item</b>	<b>Completion Date</b>
Given the existence of regional constraints outside British Columbia, BC Hydro will investigate the impact of these constraints on the levels of dependable capacity and firm energy currently assumed, for planning purposes, to be available from neighbouring control areas.	Q4 F2005
BC Hydro will re-examine the minimum temperature weather adjustment methodology in order to refine the estimate of peak demand sensitivity to variations in temperature throughout the year.	Q2 F2005
BC Hydro will implement a management and reporting framework for the existing portfolio of energy and capacity resources and transmission contracts.	Q1 F2005
BC Hydro will improve its gas and electricity price forecasting process to better reflect the risk and uncertainties in these commodity prices.	Q3 F2005
BC Hydro will continue to update the Resource Database (Part 3) to reflect new information.	Ongoing
BC Hydro will continue to improve its planning and econometric models and make them more transparent.	Ongoing
BC Hydro will continue to work with BCTC to identify and mitigate transmission project risks.	Ongoing

### 3 Contingency Plan

The contingency plan is needed to respond to uncertainties, such as:

- changes in forecast customer demand
- uncertainty regarding the future of existing supply (e.g., Burrard)
- gas and electricity market conditions,
- technology innovation, and
- new information regarding resource options.

During the period covered by the Action Plan, most uncertainties can be accommodated through adjustments in project in-service dates.

The major exception is supply to Vancouver Island where BC Hydro faces uncertainty from the amount and type of new energy supply that will be derived from the Vancouver Island Call for Tender process currently underway. To preserve the ability to meet the expected capacity shortfall on Vancouver Island, BC Hydro has maintained the following backup options:

- BC Hydro has requested BCTC to preserve the earliest in-service date of F2009 for the 230 kV AC submarine transmission link to Vancouver Island, and BCTC has agreed to BC Hydro's request; and
- BC Hydro continues to review the alternatives or supplements to the 230 kV transmission option, including BCTC review of the HVDC life extension and conversion of the on-Island transmission between Qualicum and Duncan from 230 kV to 500 kV.