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**Revenue Requirement Application**  
**2004/05 and 2005/06**

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**Volume 2**

**Appendix A.**  
**Glossary and Abbreviations**

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## Glossary and Abbreviations

### A

<b>ABS</b>	Accenture Business Services of British Columbia, a joint venture between BC Hydro and Accenture that provides customer service and various back-office services to BC Hydro's lines of business, corporate groups, service organizations, subsidiaries and to BCTC.
<b>Achievable Potential</b>	The portion of savings identified in the Conservation Potential Review study that could be realistically achieved within the study period.
<b>Acquired Energy</b>	Energy acquired by BC Hydro from third parties.  In the context of demand-side management, it is the energy saved within a specified time frame, usually a specific year.
<b>All Injury Frequency (AIF)</b>	An industry standard occupational safety measure that reflects the number of injuries for every 200,000 hours worked.
<b>Ancillary Services</b>	Services required to support transmission of capacity and energy from resources to loads and to maintain reliability.
<b>Available Transfer Capacity (ATC)</b>	Unit of measure for the transfer capability remaining in the physical transmission network for further commercial activity, over and above committed uses.
<b>Average Rate</b>	The overall average revenue per kilowatt-hour that a utility receives from a given class of customers (e.g. residential) pursuant to one or more tariffs.
<b>Average System Availability Index (ASAI)</b>	Measures the percentage of time during a year that power is available to customers.

**B**

<b>BC Hydro Service Area</b>	The areas of B.C. that receive retail electricity service from BC Hydro. Approximately 75-80% of B.C.'s electrical demand is in the BC Hydro Service Area. The area served by Aquila Networks Canada (previously known as West Kootenay Power and Utilicorp Networks Canada) is not included in the BC Hydro Service Area.
<b>British Columbia Transmission Corporation (BCTC)</b>	A Crown corporation formed to plan, operate and manage BC Hydro's transmission system.
<b>BCUC</b>	British Columbia Utilities Commission
<b>Building Customer Loyalty Program (BCLP)</b>	Program undertaken by BC Hydro Customer Care in 1996 that focused on improving the value of the services delivered while also reducing costs.

**C**

<b>CAIDI</b>	Customer Average Interruption Duration Index. The index measures the amount of time the interrupted customer is without power during a year.
<b>Capacity</b>	The rated power output, normally measured in kilowatts (kW) or megawatts (MW), of a power plant or a transmission facility's ability to transmit electricity, at any instant.
<b>Capacity Factor</b>	The ratio of the average annual power output of a generating plant to its rated power output.
<b>Capital Replacement Ratio (CRR)</b>	A measure of capital re-investment in the transmission system.
<b>CBG</b>	See Customer-Based Generation
<b>CBL</b>	Customer Base Line

<b>CBU</b>	Construction Business Unit
<b>CEA</b>	Canadian Electricity Association
<b>CICA</b>	Canadian Institute of Chartered Accountants
<b>CIS</b>	Customer Information System
<b>Clean Energy</b>	Alternative energy technologies that result in a net environmental improvement relative to existing energy production, as defined in the Energy Plan.
<b>Cogeneration</b>	The simultaneous production of electrical or mechanical energy and useful heat energy from a single fuel source. For example, forest sector mills can burn wood waste in a boiler to generate electricity and use low-temperature steam from the generator for production processes.
<b>Combined Cycle Gas Turbine (CCGT)</b>	The combination of one or more gas turbine and steam turbines to generate electricity.
<b>Congestion</b>	A transmission system condition that occurs when insufficient transfer capacity is available to implement all of the preferred schedules for electricity transmission simultaneously.
<b>Conservation Potential Review</b>	An assessment of the potential for electricity conservation in the BC Hydro Service Area under certain defined conditions compared to the expected level of electricity consumption in the absence of any new Power Smart initiatives. (In the 2002 Conservation Potential Review, only the energy savings achievable through hard-wired or hardware installations were included.)
<b>CRM</b>	Customer Relationship Management
<b>Customer-Based Generation (CBG)</b>	A BC Hydro initiative to buy electricity from customers.

**D**

<b>Demand</b>	The rate at which electric energy is delivered to or by a system, generally expressed in kilowatts (kW) or megawatts (MW), at a given instant or averaged over a period of time.
<b>Demand-Side Management (DSM)</b>	Actions that modify customer demand for electricity, helping to defer the need for new energy and capacity additions.
<b>Discount Rate</b>	A rate used to determine the present value of expenses and revenues that will occur over a period of time.
<b>Dispatchable</b>	A supply- or demand-side resource that can be varied to adjust for short-term variations in load or resource balance due to weather changes, unit outages, market price changes and non-power considerations at the utility's discretion.
<b>Distribution System</b>	Electrical lines, cables, transformers and switches used to distribute electricity over short distances from substations to customers, generally at voltages less than 60 kV.
<b>DSM</b>	See Demand-Side Management.

**E**

<b>Electric Energy</b>	The cumulative amount of electricity produced or consumed over a period of time, measured in kilowatt-hours (kWh) or gigawatt-hours (GWh).
<b>Electric Power</b>	The instantaneous rate that electric energy is produced, transmitted or consumed, measured in watts, kilowatts (kW), megawatts (MW), etc.
<b>Electricity Purchase Agreements (EPA)</b>	The contract that defines the terms and conditions by which BC Hydro purchases electricity from independent power producers.
<b>Electricity System</b>	See Integrated System.
<b>Energy Capability</b>	The assured amount of energy that a generating plant can produce in a given time period (typically one year).

<b>Energy Plan</b>	A document containing a new energy policy for B.C. issued by the Minister of Energy and Mines on November 25, 2002.
<b>E-Plus Rate</b>	Dual fuel rates for interruptible service to BC Hydro's customers for space heating, water heating and industrial process heating.
<b>EPRI</b>	Electric Power Research Institute
<b>F</b>	
<b>FERC</b>	United States Federal Energy Regulatory Commission
<b>Firm Capacity</b>	The maximum generator output or transmission power transfer that can be supplied reliably during a system peak load, taking into account good utility practice, the physical state and availability of the equipment, and water or fuel constraints.
<b>Firm Energy</b>	The assured energy contribution of the electric system over a period of time (typically one year).
<b>Firm Transmission</b>	Priority transmission service that will not be interrupted for economic reasons.
<b>FOICO</b>	Freedom of Information Co-ordinating Office established by BC Hydro to respond to inquiries made under the <i>Freedom of Information Act</i> .
<b>Forced Outage</b>	The occurrence of a component failure or other condition which results in the generating unit being shutdown automatically by protection and control schemes which requires that a generating unit be taken out of service immediately.
<b>Forced Outage Rate</b>	Total forced outage time as a percentage of total operating time.
<b>Free Driver</b>	Demand-side management (DSM) project or action that did not participate in a DSM program, but was influenced by the program and proceeded because of the program. Free drivers are also called "tag-ons" or "spillover".
<b>Free Rider</b>	Demand-side management (DSM) project or action that participated in a DSM program, but would have occurred even without the program.

**FRSR** Future Removal and Site Restoration

## **G**

**GAAP** Generally Accepted Accounting Principles

**Georgia Strait Crossing Pipeline (GSX)** A proposed pipeline to deliver natural gas to the proposed Vancouver Island Generation Plant and the Island Cogeneration Plant.

**GHG Offset** Reducing total emissions of greenhouse gases by decreasing emissions from sources other than a specified source. For example, reducing methane emissions from landfill sites can be an offset for a thermal generation plant.

**Gigawatt-Hour (GWh)** One million kilowatt-hours, enough energy to serve about 100 residential customers for one year.

**Green Energy** Energy produced from a project that is renewable, environmentally and socially responsible, and licensable.

**Greenhouse Gases (GHG)** Gases that are thought to contribute to global climate change, or the “greenhouse effect,” including carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO) and methane (CH<sub>4</sub>).

**GRTA** Generation Related Transmission Assets

## **H**

**Headcount** Based on the number of employees at a point in time (generally at fiscal year end). Headcount includes: full time regular, part time regular, full time temporary, and part time temporary employees.

**Heritage Contract** A contract between BC Hydro Generation and BC Hydro Distribution that will preserve the value of BC Hydro’s existing, low cost electricity for British Columbians.

**Heritage Payment Obligation** BC Hydro Generation's cost of supplying electricity from BC Hydro’s Heritage Resources to BC Hydro Distribution.

<b>Heritage Recommendations</b>	The BCUC's November 28, 2003 formal recommendations to government regarding BC Hydro's proposal for a Heritage Contract, stepped rates and access principles.
<b>Heritage Resources</b>	BC Hydro's hydro facilities and thermal plants as listed in chapter 5, schedule 5-2.
<b>HSD #1</b>	Heritage Special Directive No. HC1 to BC Hydro, which requires BC Hydro to pay a dividend to the province. It replaces Special Direction 4 to BC Hydro and has no provision for the RSA.
<b>HSD #2</b>	Heritage Special Direction No. HC2 to the British Columbia Utilities Commission, which replaces Special Direction #8 and requires the BCUC to treat the Heritage Contract as legally binding and provides that all of the trade benefits up to \$200 million per year accrue to BC Hydro's ratepayers.
<b>Hydroelectric Generation</b>	Production of electricity by using turbines to extract energy from falling water or streamflow.
<b>HVDC</b>	High voltage direct current
<b>I</b>	
<b>IBEW</b>	International Brotherhood of Electrical Workers
<b>IEP Update</b>	The 2000 update to BC Hydro's 1995 Integrated Electricity Plan.
<b>Independent Power Producer (IPP)</b>	A privately owned electricity generating facility that produces electricity for sale to utilities or other customers.
<b>Integrated Electricity Plan (IEP)</b>	The documented plan resulting from the Integrated Resource Planning process.
<b>Integrated Resource Planning (IRP)</b>	A planning process that involves stakeholders in evaluating a wide range of supply-side and demand-side options to determine the most appropriate mix of resources to reliably meet future electricity requirements.

**Integrated System** An interconnected network of transmission lines, distribution lines and substations linking generating stations to one another and to customers throughout a utility's service area, but excluding isolated customers who are connected to free-standing diesel or hydroelectric generators.

**IT** Information Technology

## **K**

**Kilowatt (kW)** One thousand watts; the commercial unit of measurement of electric power. A kilowatt is the flow of electricity required to light ten 100-watt light bulbs.

**Kilowatt-hour (kWh)** One thousand watts used for a period of one hour; the basic unit of measurement of electric energy.

## **L**

**Load Displacement** The reduction of electricity requirements from existing customers through electricity conservation or through customer self-generation.

**Load Factor** The ratio of the average load supplied during a given period to the maximum load occurring during the same period.

**Load Forecast** The expected load requirements that an electricity system will have to meet in future years.

**Load Forecasting** The process of determining an estimate of load requirements for some future time.

**Load Shape** The variation in electrical load over time, usually hour-by-hour. A load shape can be for the electricity system, a customer or an *end-use* over a set period of time such as a day or a year.

**Losses (or Line Losses)** Reduction in power and energy as resistance converts electricity to heat in electrical equipment and transmission lines.

**M**

**Materials Management Business Unit (MMBU)** An internal service organization that provides services to BC Hydro's lines of business and service organizations, and to BCTC.

**Megawatt (MW)** One thousand kilowatts. A unit commonly used to measure both the capacity of generating stations and the rate at which energy can be delivered.

**M&P** BC Hydro's Management and Professional (non-union) staff.

**N**

**Nameplate Capacity** The maximum rating of a generator or transmission station equipment under specified conditions, as identified by the manufacturer.

**NCS** Network Computing Services

**NEB** National Energy Board

**NERC** The National Electricity Reliability Council comprised of 10 regional electricity reliability councils.

**Network Integrated Transmission Service (NITS)** The transmission service provided under the WTS tariff that is required to serve BC Hydro's domestic load.

**Non-Integrated Areas** BC Hydro service areas that are not connected to the transmission grid. Local diesel or hydroelectric generation provides supply to these areas.

**O**

**OASIS** Open Access Same-time Information System

<b>OCIO</b>	BC Hydro's Office of the Chief Information Officer
<b>OMA</b>	Operations, Maintenance and Administration expenses
<b>OPEIU</b>	Office and Professional Employees' International Union
<b>Outage</b>	A planned or unplanned interruption in electricity delivery.

**P**

<b>Peaking Capability</b>	The ability of an electricity system to generate and transmit power above normal levels to meet peak demands.
<b>Peak Capacity</b>	The maximum amount of electrical power that a generating station can produce in any instant.
<b>Peak Demand</b>	The maximum instantaneous demand on a power system.
<b>Power</b>	The instantaneous rate at which electrical energy is produced, transmitted or consumed, typically measured in watts (W), kilowatts (kW), or megawatts (MW).
<b>Power Factor</b>	The power factor is the ratio of active power (kW) to apparent power (kVA) in a circuit.
<b>Power Smart</b>	BC Hydro's demand-side management (DSM) program to encourage energy efficiency by its customers. Originally launched in 1989, Power Smart includes a full range of DSM programs for residential, commercial and industrial customers.
<b>Power Transfer Capability</b>	The ability of a given section of a transmission system to transfer power in a reliable manner, typically measured in megawatts (MW).
<b>Preventive Maintenance Factor</b>	The ratio of preventive maintenance hours to total number of hours per year (8760).
<b>PSEC</b>	Public Sectors Employers Council of British Columbia
<b>PTP</b>	Point-to-Point Transmission Service provided under the WTS tariff.

**R**

<b>Rate</b>	Generic term for a utility's rate structure.
<b>Rate Base</b>	BC Hydro's rate base is the net book value of capital assets in service including demand-side management programs, less contributions in aid of construction.
<b>Rate Stabilization Account (RSA)</b>	An account that had been established under Special Direction #4 to BC Hydro to minimize and smooth rate increases by transferring positive balances in this account to BC Hydro's consolidated net income to allow the utility to achieve its allowed rate of return. The new Heritage Contract Directive No.1 to BC Hydro replaces Special Direction #4 and has no provision for the RSA.
<b>Rate Structure</b>	The different charges that are used to calculate the customer's electricity bill. For example, the present BC Hydro rate structure for residential customers consists of a flat rate monthly charge plus charges for the amount of electric energy used (in cents per kWh). Other BC Hydro rate structures charge for energy at a rate per kilowatt-hour, while others include charges for demand.
<b>Reference Load Forecast</b>	BC Hydro's estimated 20-year forecast of electricity demand, before and after Power Smart.
<b>RFP</b>	Request for Proposals
<b>RFQ</b>	Request for Qualifications
<b>RTO</b>	Regional Transmission Organization
<b>Reliability Centered Maintenance</b>	A risk- and cost-based methodology with the objective of determining optimum maintenance task frequency for any physical asset in its operating context.
<b>Reliability Management System (RMS)</b>	A system developed by the Western Electricity Coordinating Council that sets compliance standards for reliability
<b>Reservoir</b>	A body of water collected and stored behind a dam.

**Resource Option** Investments in facilities, expenditures in programs or purchases to meet electricity needs by providing new supply or reducing the demand for electricity.

**Resource Planning** The long-term planning process for electricity generation and transmission facilities to reliably meet forecast requirements. Resource planning considers regional supply requirements, supply- and demand-side resources, and economic, environmental and social impacts and risks.

**Resource Smart** BC Hydro's program of improvements to existing power generation and transmission facilities to increase supply-side efficiency through physical and operational modifications.

**Run Rate** The rate at which a demand-side management program is saving electricity at any point in time. This is usually expressed as GWh per year at the end of a specific fiscal or calendar year.

## **S**

**SAIDI** See System Average Interruption Duration Index.

**Self-Generation** Generation of electricity by an industrial or commercial enterprise whose principal product is not electricity. Self-generation can either reduce the amount of electricity purchased from the utility or it may be sold to the utility as a supply-side resource.

**Spot Market** Includes real-time and day-ahead purchases and sales of electricity or other commodities.

**Stepped Rate** A rate structure that uses tiered price levels to encourage the more efficient use of electricity.

**Substation** An electrical switching station to terminate transmission lines and/or a station at which transmission voltage is reduced to a level suitable for sub-transmission or distribution systems.

**Sustainability** The responsible and integrated management of the environmental, social, and economic aspects of BC Hydro's business over the long term for the benefit of the shareholder, customers, and stakeholders.

**System Average Interruption Duration Index (SAIDI)** An industry standard measure of the amount of time the average customer is without power during the year. SAIDI is calculated as the total number of customer hours lost divided by the total number of customers on the system.

**T**

**Tariff** A document filed by a regulated utility and approved by its Commission that lists the rates the utility will charge to provide service to its customers as well as the terms and conditions it will follow in providing service.

**Thermal Generation** Generation of electricity by converting heat energy into electric energy through the controlled combustion of fossil fuels or biomass.

**Total Resource Cost (TRC)** The total economic cost of acquiring energy resources. For demand-side management (DSM) programs, this includes costs incurred by the utility (program administration, taxes and incentives) and by the customer (the cost of the DSM measure net of incentives).

**Transformer** An electrical device for changing electricity from one voltage to another.

**Transmission System** Electrical facilities used for the transmission of electricity over long distances, usually at voltages greater than 60 kV.

**Triple Bottom Line** BC Hydro's corporate reporting on financial, environmental and social performance.

**U**

**UEA** Uneconomic Extension Assistance Program.

**V**

<b>Vancouver Island Call for Tender</b>	A process currently underway by BC Hydro that will determine if alternative resources are available on Vancouver Island to meet forecasted capacity shortfalls.
<b>Vancouver Island Generation Project (VIGP)</b>	A proposed electricity generation station on Vancouver Island that will use a combined cycle gas turbine (CCGT).
<b>Voltage-Ampere-Reactive (VAR)</b>	A measure of reactive power.

**W**

<b>Water Licences</b>	Water Licences are granted by the Comptroller of Water Rights of the province of British Columbia and give BC Hydro the authority to store and divert water for generating electricity and other purposes.
<b>Water Use Plans</b>	Plans for BC Hydro's hydroelectric system that will determine how water will be managed taking into account the water use interests of BC Hydro, regulators, First Nations and stakeholders.
<b>Watt (W)</b>	The basic unit of measurement of electric power, representing the rate at which electric energy is generated or consumed.
<b>Western Electric Coordinating Council (WECC)</b>	The body that sets electric system operating performance and reliability standards for members in Western Canada and the United States.
<b>WTS Tariff</b>	The Wholesale Transmission Service tariff provides the terms and conditions for both network integration and point-to-point transmission services on BC Hydro's transmission system.