



reliable power, at low cost

for generations

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# Letter from the Chair to the Minister

Larry Bell

The Honourable Richard Neufeld  
Minister of Energy, Mines and Petroleum Resources

Dear Minister:

On behalf of the Board of Directors and employees of BC Hydro, I am pleased to submit BC Hydro's Service Plan for fiscal years 2006/07 to 2008/09. The plan was prepared under my direction in accordance with the *Budget Transparency and Accountability Act*. The Board is accountable for the contents of the plan, including the selection of performance measures and targets. The plan is consistent with the government's strategic priorities and overall Strategic Plan. All significant assumptions, policy decisions and identified risks as of January 2006 have been considered in preparing the plan. The Board is accountable for ensuring BC Hydro achieves its specific goals and objectives identified in the Service Plan.

In the past year, BC Hydro continued to operate its business guided by the policy direction set out in the 2002 Provincial Energy Plan. The cornerstones of the Energy Plan preserve public ownership of BC Hydro, ensure rates are kept low for customers, provide a secure reliable supply of energy and encourage private sector involvement and environmental responsibility. I am pleased to report that we have completed work during the last year on all of these fronts.

Our heritage assets – British Columbia's publicly-owned hydroelectric dams – give us the ability to provide among the third lowest electricity rates in North America, according to a leading study with twenty other utilities. Through Powerex, our energy-trading subsidiary, our heritage assets generate export revenues, which in turn benefit British Columbia ratepayers. We remain committed to enhancing energy conservation, focusing on demand management through a variety of initiatives including the Power Smart program. And, we continue to upgrade and plan for the replacement of heritage assets, both to increase capacity and to bring on new supply.

In addition to meeting the current energy needs for the province, BC Hydro's Board and Management are looking ahead. Over the last year, we have been preparing a long-term integrated energy plan. This plan, to be released in early 2006, will outline the options for supplying the energy needs of our province in the future. They include choices around demand management and enhanced conservation initiatives, alternative energy supply options and resources mix, options for investing in our heritage assets as well as the potential for new projects.

In short, BC Hydro is meeting the current needs of the province while looking ahead to ensure we have a long-term, sustainable approach to meet the energy needs of British Columbians going forward. We will continue to do this with a commitment to conservation, efficiency, and innovation and a clear focus on the environmental, social, and financial bottom lines.

Yours truly,

A handwritten signature in black ink that reads "L. I. Bell". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

L. I. (Larry) Bell  
Chair



## Message from the President and Chief Executive Officer

Bob Elton

BC Hydro is the steward of a rich natural resource base and we operate with a clear purpose – to supply reliable power at low cost for generations. As part of our ongoing planning process, I am pleased to present BC Hydro's Service Plan for fiscal years 2006/07 to 2008/09 on behalf of the Board of Directors and employees of BC Hydro.

In last year's Service Plan we set bold, long-term goals with specific performance measures and targets to track our progress. These goals were disclosed to the shareholder and to the public and are used to evaluate the utility's performance each quarter. Our third quarter report highlights our most recent progress, and we performed better than target on our customer satisfaction, reliability, all injury frequency and strategic workforce planning positions filled. We met targets in the areas of demand side management and environmental regulatory compliance, but were below target on net income.

As we look to the year ahead, we recognize that the future presents some exciting yet formidable challenges for BC Hydro. In the province generally, short-term economic growth is outstripping short-term resource capacity, creating pressures on construction costs and labour markets; an aging population is changing the dynamics for attracting talented and skilled people; and we are stretching the capacity of our aging infrastructure and heritage assets as we work to meet demand growth. As well, stakeholders and First Nations communities are seeking a more active role in planning and decision-making, increasing both our planning horizon and impacting our ability to bring new power supply sources online. We are cognizant of and planning for these challenges as we move ahead.

In this year's Service Plan, we have re-aligned our performance measures and targets to reflect our priorities for the next three years. Work will continue on our longer-term priorities to ensure we put in place the conditions required to implement the directions that will flow from our integrated energy plan and the provincial energy policy. In the short term, we will direct our efforts to priority areas including safety, reliability (both for customers and of supply), meeting our financial targets, customer satisfaction, and our people. The Service Plan includes specific strategies, performance measures and targets for each of these key areas.

As the steward of BC's heritage assets, BC Hydro is committed to focusing on the long term, while delivering on shorter-term priorities. Going forward, we will continue to operate in a manner that builds on the province's competitive energy advantage and leaves a positive, publicly owned legacy for future generations.

Bob Elton

President and Chief Executive Officer

# Executive Summary

BC Hydro's 2006/07 – 2008/09 Service Plan is prepared in accordance with the *Budget Transparency and Accountability Act*. The plan sets out BC Hydro's strategy and plans for the next three years. It provides the targets and measures upon which the public, the shareholder, regulator and stakeholders can evaluate BC Hydro's performance.

BC Hydro is the largest electric utility in BC, serving over 90 per cent of the province's population. The dams and generating facilities are part of the province's heritage, and provide the low-cost, reliable power British Columbians require today. Regulated by the BC Utilities Commission, BC Hydro acts within the legislative requirements of the *Hydro and Power Authority Act* and the *Utilities Commission Act*. The province's electricity sector also includes private sector power producers, a number of which operate in the province under contract to BC Hydro and provide over 7,000 GWh of electricity to the system annually.

The provincial Energy Plan, introduced in November 2002, provided the framework for evolution of the electricity sector. The Energy Plan preserves public ownership of BC Hydro and ensures rates are kept low for customers. It also sets out the policies to encourage more private sector involvement, reliability of supply and environmental responsibility. In addition, it created an independent BC Transmission Corporation to manage and operate the transmission system. In November 2005, the Province announced its intention to build on the Energy Plan with a new vision for future generations, emphasizing conservation, efficiency, and innovation.

BC Hydro is governed by a Board of Directors, the Chair of which reports directly to the Minister of Energy, Mines and Petroleum Resources. A *Shareholder's Letter of Expectations* describes the working relationship and mandate direction from government, and is reviewed annually and updated as required. In developing its long-term goals, BC Hydro has integrated the shareholder's direction into its strategies and plans. BC Hydro has also considered the external and internal business environments, monitoring them to identify their potential influences and to revise strategies and plans accordingly.

BC Hydro's internal organizational structure is designed to align with the evolution of the electricity sector and to deliver on its purpose and goals. Its business model is based on one integrated company, structured into interdependent Lines of Business. Focusing on the core values of accountability, integrity, service and teamwork, BC Hydro will manage costs and increase productivity to ensure the company continues to operate efficiently and cost-effectively over the long term and thus maintain low rates for customers.

BC Hydro's biggest challenges are ensuring it can increase the supply of electricity to meet increasing demand, while preserving the benefits of the heritage hydroelectric system and ensuring there are sufficient, well qualified employees to maintain and operate the system. The assets are aging and need to be upgraded or replaced. The customer base and demand is growing, requiring BC Hydro to increase the supply of electricity. BC Hydro's most significant costs for supplying domestic needs include the cost of energy and the capital investment costs of maintaining and expanding assets (amortization and finance charges), which amount to approximately 70 to 80 per cent of total costs. BC Hydro must work to manage costs and increase productivity to maintain its price competitiveness compared to other utilities.

BC Hydro faces significant risks that are beyond its control, but that could affect the ability to achieve the short- and long-term goals of this plan. This Service Plan focuses on five key risks: employee and public safety; reliability; financial performance; organizational risk; and environmental and social performance. While risks cannot be eliminated, BC Hydro has specific risk management processes to minimize or mitigate them and short-term priorities to address them.

BC Hydro has defined its purpose as "reliable power, at low cost, for generations". The approach is about having energy available and being able to deliver it when it is needed, maintaining the legacy of low cost operations, and sustainability over the long term focusing on the environmental, social and financial bottom lines. BC Hydro has 15 long-term goals to help meet that purpose.

# Executive Summary

The 15 goals are bold, and some of them are in natural tension with others. BC Hydro recognizes that it cannot work to achieve progress on all of the goals, all of the time. Circumstances, the internal and external business environment, resource constraints, as well as operating priorities dictate changing areas of focus from one year to the next. In the next three years, BC Hydro will focus on initiatives in the areas of safety, reliability (both for customers and of supply), financial targets, customer satisfaction and people.

BC Hydro evaluates its performance with specific targets and measures, mapping the right indicators for each of the 15 long-term goals. This will enable BC Hydro to modify short- and long-term plans at early stages, and ensure BC Hydro is on the right track to meeting its goals. This Service Plan focuses on those measures and targets that support the key short-term priority areas.

The Service Plan ends with a high-level review of the financial outlook for BC Hydro. Consistent with previous years, financial projections have been prepared using the January 1, 2006 water forecast, which is the latest available data. It forecasts extremely low water levels for 2006 and may change substantially in coming months depending on the weather. The projections also exclude

certain costs relating to potential future wage settlements, the costs of meeting enhanced reliability and security requirements of the Olympics above tariff requirements, and any potential rate increases to meet return on equity requirements. BC Hydro is continuing to review its operations and costs and will wait for more accurate water forecasts prior to finalizing its budgets for fiscal 2007 and 2008. As a result, these forecasts should not be relied upon as indicative of the revenue requirement for fiscal 2007 and 2008 which BC Hydro anticipates filing with the BCUC in the Spring of 2006.

All British Columbians – customers, First Nations, stakeholders, the shareholder and regulator – will play a role in BC Hydro's future. Working together with these partners into the future with a commitment to environmental, social and financial factors will leave a legacy of reliable power, at low cost, for generations.



# 1. Introduction

BC Hydro's 2006/07 – 2008/09 Service Plan sets out BC Hydro's strategy for the years to come, with specific details for the next three years. This Service Plan is consistent with the September 2005 Updated Service Plan. It includes BC Hydro's long-term goals spanning 20 years, which provide the context for BC Hydro's shorter-term priorities.

This Service Plan outlines the business environment in which the company operates and defines the goals it plans to achieve, the risks it faces, and the measures and targets by which to evaluate BC Hydro's performance. Specifically:

- Section 2 provides the Organizational Overview that describes BC Hydro's legislative mandate, its purpose, policy environment, operations and the provincial energy plan. BC Hydro's purpose provides the context for its business decisions.
- Section 3 describes how BC Hydro aligns its organization to take advantage of the opportunities and address the challenges of its operating environment. Specific details around BC Hydro's operational business units are merged to provide an overall business approach for BC Hydro.
- Section 4 details the specific risks to BC Hydro's operations. These risks are assessed and risk management strategies are defined.
- Section 5 is structured to give the reader a sense of the strategic context in which BC Hydro operates today and expects to operate in the future. This includes the external and internal factors that BC Hydro considers in its planning.
- Section 6 references the company's long-term goals and details the priorities for the next three years.
- Section 7 describes BC Hydro's strategies for the priority areas, and provides the targets and measures on which BC Hydro will evaluate its performance.
- Section 8 summarizes the financial outlook and key financial assumptions made for the 2006/07 – 2008/09 Service Plan.
- Section 9 shows how BC Hydro is aligned with the government's Strategic Plan.
- Finally, additional information on subsidiaries and BC Hydro's long-term goals has been provided in appendices.



## 2. Organizational Overview

### BC Hydro's Mandate

BC Hydro, established under the *Hydro and Power Authority Act*, is a Crown corporation owned by the Province of British Columbia. BC Hydro's mandate is to generate, distribute and sell power, upgrade its power sites, and to purchase power from, or sell power to, a firm or person. The company owns the majority of the transmission and distribution systems in the province that deliver electricity.

BC Hydro is regulated by the BC Utilities Commission (BCUC), which is responsible for ensuring that BC Hydro operates in the best interests of its customers while providing a fair return to the shareholder, the Province of British Columbia.

### BC Hydro's Purpose

Translating this mandate to action, BC Hydro has defined its purpose as providing "reliable power, at low cost, for generations". This purpose enables BC Hydro to connect its past operations to the present and the future.

BC Hydro has defined each element of the purpose:

**Reliability** is the foundation of BC Hydro's commitment to its customers. Reliability is dependent upon generation supply, transmission capacity and distribution performance. BC Hydro will have the electricity available and delivered to domestic customers when it is needed. BC Hydro's aim is to continue to achieve strong reliable performance and to continue to do better. While this will be more challenging in some regions, where mountainous terrain or weather can impact reliability, BC Hydro will target maintenance and capital spending in those regions where reliability most needs to be improved. In addition, BC Hydro is addressing the reliability needs of different customer segments by implementing customer-driven reliability. Reliability is also about meeting domestic demand. BC Hydro's goal is to decrease reliance on market purchases where prices can be quite volatile.

**Low Cost** operations are at the forefront of business success. The utility industry across North America is facing increasing cost pressures, but by being fiscally prudent, investing wisely and making the right capital decisions, and always considering environmental and social costs, BC Hydro will maintain a legacy of low-cost operations over the long term. Even after its first rate increase in 10 years in fiscal 2005, BC Hydro customers pay some of the lowest electricity rates in North America. BC's heritage assets will be preserved and trade activity will continue, and the benefits will be directly passed on to customers and all British Columbians over the long term. Quality of service will not be sacrificed. A competitive mix of generation resources and conservation programs will ensure that BC Hydro continues to provide reliable, low-cost power in the future.

**For Generations** confirms BC Hydro's commitment to sustainability in managing its business. This involves thinking for the long term in all decisions, and balancing trade-offs along the environmental, social and financial bottom lines. It will ensure that reliable, low-cost power will be available to British Columbians today as well as in the future.



# Organizational Overview

## Overview of the British Columbia Electricity Sector

British Columbia's electricity sector has developed around the traditional vertically integrated utility model. Approximately 90 per cent of BC Hydro's electricity produced in the province is generated at hydroelectric plants. This combination of industry structure and renewable fuel source has resulted in a reliable, low-cost and flexible electrical system.

Today, that system continues to provide some of the lowest electricity rates in North America. BC Hydro is the largest electric utility in the province, serving over 90 per cent of the population. There are other smaller investor-owned and municipal utilities around the province that deliver electricity to local customers. In addition, the role of private producers in power generation is growing. Currently, 38 independent power producers (IPPs) provide over 7,000 GWh of energy annually to BC Hydro's system. A further 20 IPPs are contracted to bring on over 1,700 GWh of supply in the future. Of the existing 58 contracts, 36 are for green energy, providing approximately 2,700 GWh. A further call targeting 2,500 GWh of energy annually was made in December 2005.

## Energy Plan for BC

The provincial Energy Plan provides the framework for the evolution of BC's electricity sector. In November 2002, the government released its energy policy, *Energy for Our Future: A Plan for BC* (the Energy Plan). The plan has four cornerstones: low electricity rates and public ownership of BC Hydro; secure, reliable supply; more private sector opportunities; and environmental responsibility and no nuclear power sources. It secures public ownership of BC Hydro's core generation, distribution and transmission assets. To maintain low rates, the plan designates BC Hydro's integrated dams, hydroelectric plants and some thermal plants as heritage assets.

The Energy Plan contained 14 direct policy action items for BC Hydro, and work has been completed and is ongoing as summarized in the table on the following page:

# Organizational Overview

## Energy Plan Objectives Pertaining to BC Hydro

Policy Action Items	Complete	Comments
1. Establish a Heritage Contract	✓	Established Heritage Contract between distribution and generation lines of business, which reflects the low cost of existing generation. Design submitted to BCUC April 30, 2003 & accepted by government on November 28, 2003 after a public hearing process.
2. Ratepayers benefit from trade (up to \$200M)	✓ and ongoing	Powerex, BC Hydro's energy trading subsidiary, contributes a significant amount of net income, helping to keep rates low. Powerex's net income results from its sales of power and natural gas through its trading & marketing activities throughout North America.
3. Ensure public ownership of generation, transmission & distribution	✓	Ownership of generation, transmission, and distribution systems remains public through BC Hydro, a crown corporation.
4. Implement BC Hydro outsourcing of non-core services	✓	Outsourced non-core services to Accenture Business Services for Utilities, Inc. as of April 1, 2003.
5. BC Utilities Commission regulation of BC Hydro rates	✓ and ongoing	Revenue Requirements Application for F2005 and F2006 filed in December 2003, with a decision by BCUC in October 2004 for a 4.85% rate increase in F2005 and nil in F2006. The F2007/08 application is planned to be filed in the spring of 2006.
6. Review of Vancouver Island Generation Project	✓	Project reviewed by BCUC and cancelled by BC Hydro in June 2005.
7. Complete 2004 Integrated Electricity Plan	✓	Filed with the BCUC in December 2003. The 2005/06 IEP will be filed with the BCUC upon completion.
8. Separate distribution and generation lines of business	✓	Fully implemented in 2002.
9. New supply acquired on a least-cost basis	✓ and ongoing	Most recent open call for power issued in December 2005.
13. Private sector for new supply & BC Hydro improves existing plants	✓ and ongoing	Open call for power issued in December 2005 and Asset Management Plans implemented for facilities.
14. Choice of electricity supplier by large customers	✓ and ongoing	Retail wheeling to be implemented April 1, 2006.
15. Formation of BC Transmission Corporation	✓	British Columbia Transmission Corporation (BCTC) incorporated under the Company Act on May 3, 2003, and became financially independent of BC Hydro in April 2005. BCTC manages, maintains & operates the high voltage electric system in BC, and provides transparent open access transmission services. BC Hydro retains ownership of the transmission assets.
20. Voluntary target of fifty per cent clean energy target from new energy supply	ongoing	Fifty percent of load increases after November 2002 are to be met by Clean Energy. The time frame for achieving this target is 10 years to 2013.
21. New rate structures for large customers to encourage energy efficiency	✓ and ongoing	Stepped Rates for Transmission Customers - Transmission Service Rate Application was filed in March 2005 and will be implemented April 1, 2006.

# Organizational Overview

The two most recently completed Energy Plan items are stepped rates and net metering:

## Stepped Rates for Transmission Customers

In March 2005, BC Hydro filed a Transmission Service Rate Application. Further to Policy Action 21, this application advocated new rate structures to provide better price signals to large electricity consumers for conservation and energy efficiency. This application for a Time-of-Use (TOU) rate, a stepped rate and retail wheeling for BC Hydro's largest customers went to a BCUC sponsored negotiated settlement process with affected customers and other interveners. Except for some issues that were set aside, the negotiated settlement was approved by the BCUC. In December 2005, BC Hydro filed the "Transmission Service Outstanding Matters Application" with the Commission to address the issues set aside during the negotiated settlement. BC Hydro has requested an early decision on this application to enable the Stepped rate, TOU rate and retail wheeling to go into effect April 1, 2006.

## Net Metering

Net Metering was implemented in Spring 2004 as an outcome of the Energy Plan and allows consumers to produce electricity from BC Clean electricity sources for their own use. BC Hydro filed an evaluation report of the program in 2005, which the BCUC has accepted.

In November 2005, the Province announced its intention to build on the Energy Plan with a new vision for future generations, emphasizing conservation, efficiency and innovation.

## Description of BC Hydro's Electricity System

BC Hydro has been an important part of British Columbia's historical development. It is one of the largest electric utilities in Canada, and one of North America's leading providers of clean, renewable hydroelectric power. Approximately 4,200 employees are responsible for reliably generating and delivering electricity, and providing products and services for more than 1.7 million customer accounts in BC. BC Hydro owns 31 hydroelectric facilities, which provide about 90 per cent of the total electricity BC Hydro generates each year. Between 43,000 and 54,000 gigawatt hours (GWh) of electricity is generated annually from a generation system with an installed capacity of 11,210 megawatts (MW).

The majority of the hydroelectricity comes from the Peace and Columbia River systems. BC Hydro also owns three thermal power plants, and supplements domestically produced electricity with market purchases. Electricity is delivered to customers through an interconnected system of about 18,000 kilometres of transmission lines and 55,000 kilometres of distribution lines. Some customer service and other non-core administrative functions are delivered through contracts with Accenture Business Service for Utilities.

## 500 kV Transmission System and Major Generating Station



BC Hydro has corporate offices in Vancouver (Dunsmuir) and Burnaby (Edmonds), and through regional offices has a presence in more than 50 communities throughout the provinces.

# Organizational Overview

## Customers

BC Hydro operations serve a diverse domestic customer base consisting of residential, commercial and industrial customers. About 89 per cent of customer accounts are on residential rates, accounting for about 38 per cent of BC Hydro's domestic revenues. About 11 per cent of customer accounts are on commercial rates, accounting for almost 36 per cent of domestic revenues. Less than one percent of customer accounts are on transmission rates, most of which are large industrial customers, but account for 21 per cent of domestic revenues. The remaining 5 per cent of domestic revenues includes wholesale customers, other rate classes and miscellaneous sources of revenue.

## Demand Growth

Demand on BC Hydro's electricity system is growing. From March 2004 to March 2005, BC Hydro connected about 25,000 new customers to its system. Approximately a further 23,000 were connected in the 9 months to December 2005. The billed sales for the 12 months ended December 2005 also grew by 981 GWh compared to the prior year.

As discussed in the strategic context section of this Service Plan, BC Hydro updates its load forecasts and examines the gaps between demand and supply for electricity. This forms the basis for decision-making on sources of new supply, capital spending and overall operation of the system.

## Rates and Regulation

BC Hydro charges rates to its domestic customers using tariffs approved by the BCUC. Rates are set to allow BC Hydro to recover all costs appropriately incurred in running the business including earning a return on equity. Both the definition of equity and the method to determine an appropriate return on this equity are defined by Special Directions from the Province. BC Hydro is also required to make an annual Payment to the Province of 85% of its Net Income adjusted for capitalized finance charges and related amortization. Tariffs are set in a two-stage cost-based framework.

The first stage is a Revenue Requirement Application to the BCUC, in which BC Hydro provides justification for the total revenues it needs to collect to recover its expenses including a return on equity. A Revenue Requirement Application is usually for a two-year forecast period and the BCUC will test BC Hydro's application and render a decision on the total amount of revenue that BC Hydro should recover.

For the less frequent second-stage, BC Hydro will submit a rate design application to the BCUC, based on the BCUC determined revenue requirement. The purpose of the rate design is to update BC Hydro's rate levels, rate structures and Terms and Conditions of Service for individual customer classes to reflect current conditions and costs, and to ensure they are fair, efficient and simple. The result of a rate design proceeding may be changes to the portion of the total revenue collected from each customer class, based on how each contributes to the total system costs.

The BCUC review process includes public proceedings, after which the Commission makes a final determination on each application. BC Hydro is endeavouring to involve stakeholders and First Nations more in its business planning and regulatory processes to ensure the best decisions are made for all British Columbians.

In 2006, BC Hydro plans to file its first comprehensive rate design application since 1991. BC Hydro is also planning on filing its next Revenue Requirement Application (for fiscal 2007 and 2008) in the Spring of 2006. The BCUC will conduct hearings for both of these filings in 2006.

# 3. Organizational Structure

BC Hydro has organized itself internally to meet the challenges of the electricity sector. BC Hydro’s business model is based on one integrated company, structured into interdependent Lines of Business that work collectively to deliver on BC Hydro’s purpose and long-term goals.

This separation into Lines of Business is consistent with industry trends and best practices, and is done for operational focus only; BC Hydro is one company with a focus on integration where various groups work together in order to maximize the value for the enterprise as a whole. Knowledge, resources and experiences are shared to maximize value, and the Lines of Business communicate openly with a common goal of achieving long-term success.

In pursuing its purpose, BC Hydro is creating a performance-based, service-oriented culture and is working with employees to increase accountability, diversity and responsiveness. Employees will continue to “keep the lights on”, help manage costs, simplify processes and systems to increase productivity, and enable BC Hydro to operate as an efficient, low-cost business over the long term.

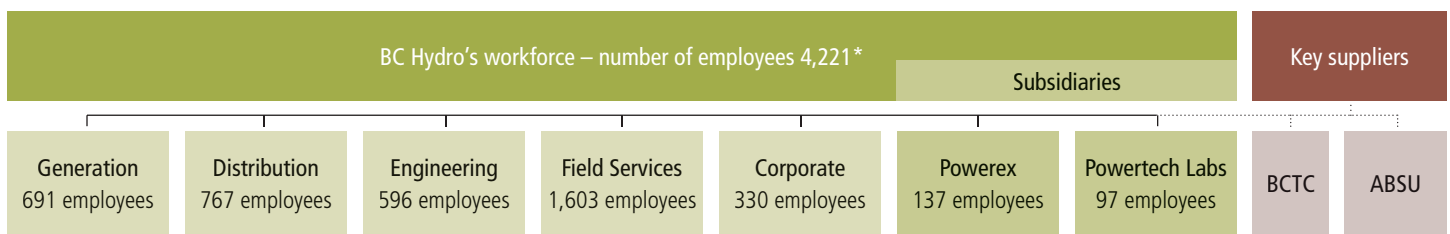
## Core Values

BC Hydro holds four core values as essential to its success: **Accountability, Integrity, Service** and **Teamwork**. As one company, these values underpin all decision making, and the ability to model and live them will contribute to BC Hydro’s success. Employee performance is measured and rewarded in accordance with these values, in addition to the performance of our goals and meeting Service Plan targets.

In conjunction with the four core values, BC Hydro’s Employee Code of Conduct provides clear guidelines to all directors and employees on the standards of conduct expected of them in all business relationships.

## Lines of Business, Subsidiaries and Key Suppliers

BC Hydro has four Lines of Business, two subsidiaries, corporate groups as well as two key suppliers. Changes to the organizational structure required to enhance the achievement of the purpose and long-term goals will be made as and when required.



\*total number of employees (including subsidiaries) is as at December 31, 2005

# Organizational Structure

**Generation** manages and operates BC Hydro's generation assets to optimize their value for the benefit of the company, customers and the shareholder. Generation manages the investment strategies related to generation assets including the expenditures that are required to meet social and environmental responsibilities. Generation assets include 41 dam sites (75 dams), 80 generating units at 31 hydroelectric facilities and nine units at three thermal generating plants.

**Distribution** acquires energy through demand-side and supply-side options, delivers it safely and reliably to customers, and provides extension, connection, and customer care services. Distribution manages 55,000 kilometres of overhead, underground and submarine distribution lines, 872,000 poles and 308,000 transformers, and substation distribution assets.

**Engineering** provides project management, maintenance, emergency response, design, environmental, contracts, and construction management services to BC Hydro and British Columbia Transmission Corporation (BCTC).

**Field Services** provides services such as emergency response and restoration, maintenance and construction services to BC Hydro and BCTC in more than 50 communities in the province. Field Services also manages the provision of vehicle fleet services and material supply chain services.

**Corporate** functions include finance, regulatory, risk management, audit, information technology, legal, properties, corporate transmission, communications and public affairs, human resources, stakeholder engagement, sustainability, and aboriginal relations. Groups that conduct these functions provide services to the overall organization.

## SUBSIDIARIES

Powerex, the energy marketing subsidiary of BC Hydro, buys and sells electricity and natural gas predominantly throughout Western North America. Powerex's marketing and trading activities help optimize BC Hydro's electric system resources, improve the reliability of electricity supply for the province, and provide significant economic benefits to the people of British Columbia.

Powertech Labs Inc. provides fee based consulting, analysis, testing and certification services and analytic tools and products to the electric and natural gas industries, their customers and suppliers worldwide. Powertech provides a centre for the innovative use of technology and is a leader in high pressure gas storage and fueling technology, alternative energy and analytic software for the design and secure operation of integrated electric power systems.

More detailed information can be found in Appendix A of this Plan, or on the subsidiaries' websites at [www.powerex.com](http://www.powerex.com) and [www.powertech.bc.ca](http://www.powertech.bc.ca), respectively.



# Organizational Structure

## KEY SUPPLIERS

British Columbia Transmission Corporation (BCTC) is one of two key suppliers to BC Hydro. Established in May 2003, BCTC is an independent Crown corporation whose mandate and functions are set out in the *Transmission Corporation Act*. It manages, maintains and operates the transmission system. While BC Hydro continues to own the transmission assets, BCTC ensures non-discriminatory open access to the transmission system for all electricity producers, supporting the growth of private sector involvement in the electricity sector and increasing electricity trade opportunities.

As with BC Hydro, BCTC is regulated by the British Columbia Utilities Commission. With open access to the transmission system, private power producers can also sell directly into regional wholesale markets and directly to large electricity customers. BCTC and BC Hydro work together through service level agreements. BCTC provides its own Service Plan and Annual Report.

Accenture Business Services for Utilities (ABSU), based in Vancouver, is the other key supplier. Established in April 2003 through a joint-venture partnership, ABSU provides services in customer care, human resources, building and office operations, payroll and accounts payable, financial systems and purchasing. The agreement between BC Hydro and ABSU is for 10 years and will expire in 2013. The benefit of this partnership is to reduce costs while maintaining quality service.

## Governance

A *Shareholder's Letter of Expectations* describes the relationship between BC Hydro and the provincial government, and mandate direction from government to BC Hydro. The government and BC Hydro review the letter annually and update it as required. BC Hydro is responsible to the Minister of Energy, Mines and Petroleum Resources through a 10-member Board of Directors. The government appoints the board to oversee business affairs, supervise management and ensure that all major issues affecting BC Hydro are addressed. The board delegates responsibility for the day-to-day leadership and management to the Chief Executive Officer. BC Hydro's Board of Directors operates on the principle of continuous improvement and annually assesses its own practices, policies and competencies to ensure that the board as a whole continues to bring the appropriate balance of skills and experience to its policy oversight role.

Looking to the future, the Board has reviewed Government's new *Best Practice Guidelines on Governance and Disclosure for Public Sector Organizations* issued in February 2005. Organizations are requested to meet the disclosure standards by April 2006, and BC Hydro's first annual disclosure was made available at the end of October 2005 on the company's website at [www.bchydro.com](http://www.bchydro.com).

The Director and Employee Code of Conduct guides the conduct for BC Hydro board members, employees, suppliers, consultants and contractors and suppliers. The code is also available on BC Hydro's website at [www.bchydro.com](http://www.bchydro.com).

### BC HYDRO BOARD OF DIRECTORS

Larry Bell* (Chair, BC Hydro & Powerex Boards)	Peter Powell*
Ken Finch	Elmer Derrick*
Stephen Bellringer	Walter Saponja*
Nancy Olewiler*	Brenda Eaton*
Wanda Costuros*	Jack Weisgerber

\*also member of **Powerex Board**. Additional Directors on Powerex Board: Bob Elton & Robert Fairweather (outside Director).

**Powertech Board** members are Bev Van Ruyven (Chair), Bruce Sampson, Bruce Ripley, and Bill Best (outside Director).



# Organizational Structure

The Board currently has three standing committees:

## **AUDIT AND RISK MANAGEMENT COMMITTEE:**

The Audit and Risk Management Committee assists the Board of Directors in fulfilling its obligations and oversight responsibilities relating to the audit process, financial reporting, the system of corporate controls, governance of the Corporation's pension plans, and various facets of risk management. In the process of overseeing the Corporation's audit procedures, the Committee has unrestricted access to the Corporation's personnel and documents as required.

Committee members are Wanda Costuros (Chair), Brenda Eaton, Nancy Olewiler, Peter Powell, and Walter Saponja.

## **CORPORATE GOVERNANCE COMMITTEE:**

The Corporate Governance Committee assists the Board of Directors by ensuring that BC Hydro develops and implements an effective approach to corporate governance which enables the business and affairs of the Corporation to be carried out, directed and managed with the objective of enhancing shareholder value.

Committee members are Nancy Olewiler (Chair), Stephen Bellringer, Wanda Costuros, Elmer Derrick, and Brenda Eaton.

## **HUMAN RESOURCES COMMITTEE:**

The purpose of the Human Resources Committee is to assist the Board of Directors in fulfilling its obligations relating to senior management human resource and compensation issues. The committee is also responsible for monitoring standing reports on safety performance and reviewing major safety incidents.

Committee members are Stephen Bellringer (Chair), Elmer Derrick, Ken Finch, and Jack Weisgerber.

An Executive Committee holds the full power of the Board but only meets in exceptional circumstances when a quorum of the full board is not available.

The Peace River/Williston Reservoir Advisory Committee, chaired by a board member (Jack Weisgerber) and made up of local community representatives, reports to the Board of Directors. It provides advice and facilitates two-way communication between the Peace/Williston community and BC Hydro.

The IEP Review Committee is an ad hoc task group formed to assist the Board by providing focused resources to review options related to the Integrated Electricity Plan. Committee members are Jack Weisgerber (Chair), Larry Bell (ex officio), Stephen Bellringer, Wanda Costuros, Elmer Derrick, Brenda Eaton, Nancy Olewiler, and Walter Saponja.

In addition, the following risk issues currently undergo special oversight with the designated Director undertaking the following responsibilities:

### *a) Aboriginal Relations - Elmer Derrick*

- review the status and progress of ongoing Aboriginal negotiations;
- discuss risk and priorities and plans for risk mitigation, and
- review generally the activities of the Aboriginal Relations group.

### *b) Dam Safety- Ken Finch*

- review the status of the dam safety inspection process;
- discuss technical aspects related to identified deficiencies;
- assess risk and priorities for risk mitigation, and
- review generally the activities of the office of the Director of Dam Safety.

Quarterly Dam Safety reports go forward to the Board of Directors, including the Annual Report on Dam Safety.

## 4. Risks

BC Hydro faces risks specific to its business that could significantly impact its ability to achieve the short- and long-term goals of this Service Plan. While risks cannot be eliminated, BC Hydro's strategies aim to minimize or mitigate them.

### BC Hydro's Approach to Managing Risk

BC Hydro has a specific Enterprise Risk Management process that is applied to the day-to-day business activities as well as to specific projects and initiatives. Risk identification occurs through the business planning and project review processes and is a key factor in planning and resource allocation decisions.

A Chief Risk Officer supports the Enterprise Risk Management process in two key areas, by focusing on manager accountability and company-wide coordination. Managers need to have the necessary capabilities, such as people, systems, processes, reports, policies and procedures, to manage areas of risk for which they are accountable. BC Hydro's Corporate Risk Management Committee facilitates an integrated view of risk management and ensures an adequate review of the risk impacts of decisions. BC Hydro's Board of Directors plays a key role in the risk management process. The Board is charged with understanding the risks being taken by BC Hydro and ensuring they are appropriately managed. To help support them, BC Hydro conducts a risk-based internal audit program and external reviews by industry experts to ensure that BC Hydro's risk capability is consistent with industry best practices. Management apprises the Audit and Risk Management Committee of the Board of Directors of changes in the corporation's risk profile.

Risk analysis focuses on determining the likelihood and consequences, including financial and non-financial impacts, of a particular risk. BC Hydro continues to improve its analytical tools to enhance this capability in several critical areas, including energy cost or the commodity risk of domestic supply.

BC Hydro makes decisions on an ongoing basis and on specific business cases to accept, reduce or transfer risks to another party (such as with insurance). BC Hydro seeks to understand the acceptable risk level before determining the best strategy, and ongoing risk monitoring and reporting at the operational, executive and board levels are critical to identifying corrective actions.

### Key Risks BC Hydro Faces

Risks are divided into five categories: employee and public safety; reliability; financial performance; organizational risk; and environmental and social performance.

#### 1. EMPLOYEE AND PUBLIC SAFETY

Safety risks to the public can occur due to the multiple uses of water for electricity generation, recreation and waterways. Risks can also result from potential contact with transmission and distribution equipment located in communities. To minimize the risk, BC Hydro relies on design, construction and operating standards and practices, consultation with other agencies and stakeholder groups, and public education.

The potential impacts to BC Hydro's generation facilities as a result of catastrophic weather events and earthquakes are managed to minimize risk to public safety. BC Hydro also prepares and keeps current comprehensive emergency response plans to limit injury and loss of life and to restore electric service.

BC Hydro's accident frequency performance is well within the first quartile for Canadian Utilities; however, it has experienced several serious electrical contact incidents over the past three years. To reduce the risk, in Fiscal 2006 a renewed focus was placed on fundamentally changing the safety structure within the company and the resulting performance.

This focus included employee involvement, communication, training, additional resources, policy clarification and simplification, and increased manager time in the field. With the foundation that a well trained, well supervised worker is a safe worker, BC Hydro will continue this initiative through Fiscal 2009 with the objective of ensuring sustainable change and to achieve its long term goal that no employee will experience a serious safety injury.

As an owner of critical infrastructure, BC Hydro is also exposed to security risks related to acts of terrorism or sabotage. BC Hydro appointed a Chief Security Officer in March, 2005 to coordinate risk assessment and investment prioritization to ensure an appropriate level of security is in place across all critical infrastructure sites. BC Hydro works collaboratively with government agencies and other Canadian and US critical infrastructure owners to monitor security risks and identify best practices for risk mitigation.

# Risks

## 2. RELIABILITY

The most significant risk to the reliability of BC Hydro's system is the impact of weather, including storms and major events such as forest fires. With BC Hydro's large service territory there is significant exposure to trees, terrain, and diverse weather patterns. BC Hydro mitigates the likelihood and consequence of such impacts through effective design, construction, operations, maintenance and response. BC Hydro manages these risks by balancing customers' expectations and cost considerations. Reliability risks can also result from a lack of available generation supply and associated transmission capacity to meet customer demand. BC Hydro manages these risks through long-term planning, asset maintenance programs, by relying on a diverse supply of energy options, and through cooperative support arrangements with neighbouring utilities.

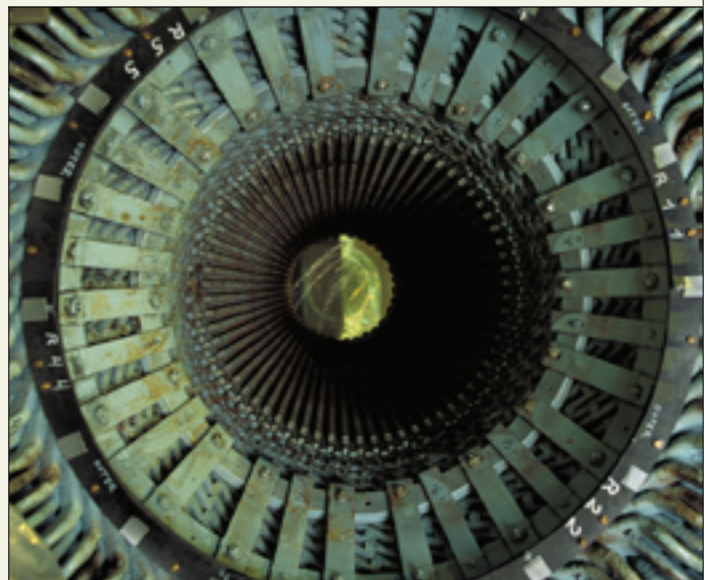
BC Hydro must meet government permitting requirements to operate its facilities and build new infrastructure, which can have an impact on project lead times. For example, a typical IPP project could take between 2 to 5 years to reach commercial operation, while a large hydro-electric project could take 10 years in comparison. Delays in obtaining appropriate permits and consent could adversely impact reliability.

### Asset Management

The purpose of asset management is to maximize the value of assets over their lives by minimizing and balancing maintenance expenditures and capital investment while achieving targeted performance levels and managing risks at acceptable levels. Aging physical assets have an impact on BC Hydro's operations and considerable time and resources have been invested in addressing this issue. As asset health decreases, the potential for equipment failures increases unless specific actions are taken to address this. Asset management decisions consider the design, original quality and current condition of the asset; the availability of spare parts and maintainability of the asset; how the asset has been and will be operated (duty cycle); how the asset has been and will be maintained; and past and planned investments.

Generation has developed Asset Plans for each of its facilities, to coordinate and optimize investment decisions considering technical, economic and environmental aspects of each facility for up to ten years. Generation has implemented a reliability-centered focus on equipment maintenance so as assets age, maintenance is modified so equipment will continue at targeted performance levels. An Equipment Health Rating (EHR) program has been implemented which objectively evaluates equipment condition and any work required (including replacement) for the equipment to perform reliably.

Distribution has an equal focus on asset management. The Distribution Strategic Asset Management group is responsible for the planning, expansion and maintenance of the distribution system, paying attention to equipment failure rates due to aging infrastructure. Given the number of assets under its management and immediate impact on customer reliability, Distribution has standardized its maintenance programs to ensure consistent application throughout the province. Standards are developed using industry-leading approaches such as Reliability Centred Maintenance (RCM), which follows a structured process for selecting condition assessment, maintenance, and replacement strategies based on performance expectations, causes of failure, consequences of failure, and the technical and economic viability of varying alternatives.



# Risks

## 3. FINANCIAL PERFORMANCE

In meeting its financial performance targets, BC Hydro faces risks related to energy costs, energy demand, interest and foreign exchange rates, pension obligations, and trading. Of these, risks associated with energy costs – specifically water inflows and gas and power market prices – are the most critical.

Increasing costs due to aging infrastructure, the need for new supply and the need to manage environmental impacts create challenges for BC Hydro in maintaining the low electricity cost advantage the province enjoys. How BC Hydro manages tradeoffs between these competing objectives will be important to its financial performance and its ability to make the required infrastructure investment. External long-term costs of environmental and social impacts need to be factored into decision-making today to ensure the right business decisions are made for the long term.

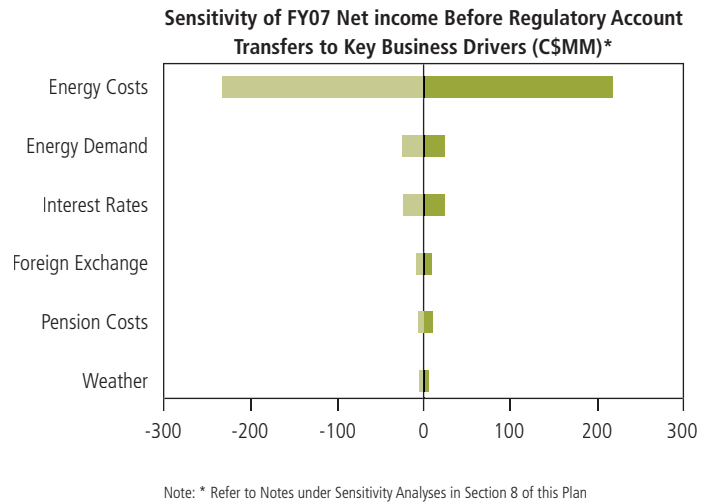
### Energy Cost

Energy cost risk, or commodity risk as it is often referred to, is the most significant financial risk to BC Hydro. It can result when BC Hydro unexpectedly needs to purchase electricity from the markets due to increased electricity demand in BC or lower than expected water inflows. It can also result from changing market prices for electricity and natural gas. Over the past five years, BC Hydro has experienced below average water inflows and has increasingly relied on volatile energy trading markets. In fiscal 2005, BC Hydro imported 6,896 GWh to meet increased domestic demand and to compensate for low water inflows. BC Hydro manages energy cost risk through its flexible hydroelectric system, which allows water to be stored in large reservoirs and used when it is most economic. BC Hydro also hedges the cost of imported power and natural gas.

However, this risk has increased recently due to increased volatility in market prices and reduced flexibility in operation of the hydroelectric system as demand continues to grow. Academic studies also suggest that changes in snow and rainfall patterns may occur due to climate change. BC Hydro is looking at how to assess the likelihood and magnitude of this risk.

### Energy Demand

Energy demand is increasing as BC's population increases and its economy grows. However, this demand increase can be volatile particularly from larger customers whose consumption is driven by export markets and world commodity prices. BC Hydro typically acquires this energy through market purchases and at market prices. BC Hydro is fully exposed to price risk on all customer demand in excess of its planned load, as customer rates are based on average costs (including heritage energy costs), which are significantly below the price of market purchases.



# Risks

## Interest & Foreign Exchange Rates

Changes in interest and foreign exchange rates can significantly impact BC Hydro's finance charges. BC Hydro uses debt-management strategies to minimize the impact, including limiting the allowable percentage range of variable interest rate debt, and closely monitoring settlement and counterparty credit risks associated with both derivative and foreign exchange currency agreements. Interest and foreign exchange rate changes can also influence the performance and cost of BC Hydro's employee benefit and pension plans. BC Hydro is exposed to exchange rate risk through the cost of U.S. dollar electricity purchases, gains from U.S. trading activity and U.S. dollar capital equipment purchases. To minimize the impact, BC Hydro manages its net foreign exchange position within strict limits. Both foreign exchange and interest rate Earnings-at-Risk limits are monitored and reported on a monthly basis.

## Energy Trading

BC Hydro's energy trading subsidiary Powerex is exposed to the risk of variable market prices and to the risk of counterparties who might not meet their obligations. Powerex manages these risks by operating through defined limits that are regularly reviewed by both the Powerex and BC Hydro Board of Directors. Powerex primarily focuses on near-to-mid term (up to 18 month) trading positions, backing forward commitments with physical supply, and operating within board approved market and credit limits. Longer-term positions are reviewed in the context of the overall energy-trading portfolio. Powerex is exposed to the risk of litigation, such as the potential liabilities from the California power crisis. Powerex follows Standards of Conduct and the Electric Power Supply Association's Code of Ethics and Sound Trading Practices to guide its trading activities.

## Regulatory Risk

BC Hydro is permitted to earn an allowed return on equity. Tariff rates are set based upon BC Hydro's cost and equity forecast. In general, the risk (the difference between forecast and actual) associated with uncontrollable costs is covered through regulatory deferral accounts. The major cost components susceptible to variation included in the regulatory deferral accounts are water inflows, energy prices including thermal fuel costs, major unplanned capital costs and trade income. BC Hydro's risk includes those associated with capital assets, domestic load volumes and prices, maintenance costs, operations and administration costs, and debt related costs.

## 4. ORGANIZATIONAL RISK

An aging population is changing the dynamics for attracting skilled people at the same time many employees are retiring or are eligible to retire. In BC Hydro, an increasing number of employees are becoming eligible for retirement, and during the past year there was a significant increase in the rate of retirement uptake, resulting in fewer employees opting to remain working after their first eligible retirement date. Furthermore, short-term economic growth is outstripping resource capacity with a consequent pressure on labour availability and cost. This shortage of capable labour and the potential loss of institutional knowledge poses a risk to BC Hydro's ability to deliver on projects and capital plans.

Of BC Hydro's current workforce, 15% are eligible to retire now, over one third are eligible to retire in the next 5 years, and 50% are eligible to retire within the next 10 years.

To attract and retain employees, BC Hydro is striving to ensure a safe workplace and create a culture that values people and performance and works collaboratively as one team for the benefit of all stakeholders.

# Risks

## 5. ENVIRONMENTAL AND SOCIAL

BC Hydro's environmental responsibility policy states that BC Hydro will meet or exceed environmental regulations defined by legislation, regulation, government directives and guidelines, as well as its commitments and agreements. The company has many programs in place to avoid, reduce and offset environmental impacts in and around its operations. BC Hydro mitigates the risk of increasing greenhouse gas emissions through programs that create a culture of conservation, such as Power Smart and Resource Smart, and through the voluntary acquisition of at least 50 per cent of new supply from clean sources by F2013. Other areas of potential environmental impact are monitored and managed through the environmental management system and risk mitigation strategies.

Where there is a sound business case, BC Hydro will pursue activities to address risks or opportunities that go beyond current regulatory requirements. These activities are done in the prudent best interests of customers and the shareholder, with a view to managing long-term risk, improving public service and controlling costs. One example of this type of activity is the Water Use Plans program that attempts to find a better balance between competing uses of water such as domestic water supply, fish and wildlife, recreation, heritage and electrical power needs.

BC Hydro's business depends on building and maintaining healthy relationships with stakeholders, customers, aboriginal communities and employees. BC Hydro recognizes the growing social concerns of its customers, and the increasing focus on using its assets - such as reservoirs – for alternative uses such as recreation. First Nations past grievances, land claims, service reliability and regulatory processes pose risks to BC Hydro. BC Hydro recognizes the importance of building respectful relationships with First Nations to meet its business interests, while at the same time appropriately taking into account the interests of First Nations. BC Hydro's ongoing initiatives related to the resolution of grievances and benefits from new projects will reduce financial, legal and operating risks, and new initiatives will build long term and sustainable relations with First Nations.

In addition to the mitigation outlined above, BC Hydro's short-term priorities for the next three years address employee safety, reliability, financial performance and organizational risk.



## 5. Strategic Context

BC Hydro's long-term planning considers both external and internal issues and trends that could affect BC Hydro's business.

### BC Hydro's External Context

The North American utility industry is generally facing common cost pressures. The replacement of aging, obsolete, or defective equipment is driving capital expenditures across the industry. Almost all jurisdictions are seeing more calls for tender and increases in competitive bidding processes. In many instances, growth in demand is increasing in excess of heritage pool energy, causing a heavier reliance on market purchases at a time when market prices are relatively high. Construction cost pressures and the need for people replacement is adding to costs. BC Hydro is facing the same issues as the general industry.

### WESTERN NORTH AMERICAN ENERGY SECTOR DEVELOPMENTS AND OPPORTUNITIES

BC Hydro operates within the Western Electricity Coordinating Council (WECC), one of the eight areas of the North American Electricity Reliability Council (NERC).

Energy prices in the Western North American energy sector have become increasingly volatile over the past several years. At the same time, electricity and natural gas prices are more closely correlated. Since natural gas is the fuel on the margin for electricity generation in most markets in North America, electricity prices have also risen with natural gas prices, which in turn have been influenced by an increase in crude oil prices. Natural gas prices are forecast to remain high until at least 2008-2010.

BC Hydro's flexible hydroelectric system allows water storage in large reservoirs and enables the company, through its power marketing subsidiary Powerex, to minimize the negative effects and as a result profit from some of the price volatility. However, this flexibility of the hydroelectric system is being diminished over time as customer load increases with little new storage capacity added in the past few years. Powerex received its Power Marketing Authorization (PMA) license in 1997, which allows it to conduct wholesale power sales and purchases directly in the US rather than doing business solely at the BC/US border. The PMA was renewed by the US Department of Energy in November 2005. Powerex has

also expanded its customer base and increased the number of the products and services it offers. The revenues and profits generated from this activity contribute to BC Hydro's total net income and help to keep electricity rates low for domestic customers.

The Western electricity market area is characterized by significant north-south transmission interties which allow large volumes of electricity to be moved, reflecting regional supply and demand patterns. However, transmission constraints often inhibit the flow of electricity to where it is needed. Regional Transmission Organizations were established to address these transmission issues, and while there is much discussion, there is not yet a coordinated, cohesive plan for fixing the current transmission problems or planning for the future.

Collaboration between all the jurisdictions in the WECC will be necessary to address potential issues related to transmission constraints, system reliability, load growth and boom/bust investment cycles.

### Labour Outlook

British Columbia has the oldest workforce in Canada. By 2010, the number of people in the province's labour force aged 55 to 64 will be greater than those aged 15 to 24. Infrastructure projects associated with the 2010 Olympic Games and the development of the oil sands in Alberta will likely intensify the demand for skilled workers and contractors. BC Hydro will be competing for trades and skilled workers in this labour market.





# Strategic Context

## BRITISH COLUMBIA UTILITIES COMMISSION

The BCUC is an independent regulatory agency of the provincial Government whose primary responsibility is to ensure utility rates are fair, just and reasonable and that utilities provide safe, adequate and secure service to their customers. It is important that BC Hydro establishes and maintains a strong relationship with the regulator, and that the shareholder and customers have a clear understanding of the costs and benefits of such regulation in the short and long term. By actively engaging stakeholders and participating in public forums, BC Hydro will consider the views of all parties interested in BC Hydro's business. This will also help inform the BCUC in its deliberations on BC Hydro's regulatory filings.

## TECHNOLOGICAL DEVELOPMENTS

As technology advances, BC Hydro can take advantage of new resource solutions and "smart grid" technology, as well as demand-side solutions for energy efficiency, conservation and optimizing the output of existing equipment. BC Hydro will balance these solutions with customers' values and expectations. The value of technology developments can be enhanced in combination with solutions such as rate designs and new energy efficiency building standards.

## ECONOMIC FACTORS

The economic outlook suggests strong annual growth in British Columbia of around 3.0% over the next 3-5 years.<sup>1</sup> Strength in the economy is evident in mining, forestry and oil and gas. The service sector is also expected to be strong.

The volatility of oil and gas prices, as well as changes to interest rate levels, are significant external economic factors. Near and mid-term market forward price forecast assumptions for gas have increased significantly since last year's Service Plan. These factors need to be considered in business decisions and risk mitigation strategies.

<sup>1</sup> *Economic assumptions from Ministry of Finance dated January 5, 2006.*

## ENVIRONMENTAL ISSUES

Organizations must view their environmental impacts both in the context of their immediate business systems and the broader global system. One environmental impact of particular significance on both levels is greenhouse gas emissions. Environmental issues and standards continue to increase, in part due to increased public demand for higher standards. Internationally, the Kyoto Protocol came into effect in February 2005, although how it will be implemented in Canada has not yet been fully clarified. Impacts could include:

- By as early as 2008, BC Hydro may be required to reduce emissions and/or purchase greenhouse gas credits for its thermal generating plants to comply with expected federal regulations, and
- BC Hydro and independent power producers may face significant costs related to emissions and/or they may have to change their business practices to reduce emissions.

A key environmental issue for British Columbia is the attack on forests by the mountain pine beetle. The mountain pine beetle affected approximately seven million hectares of BC forests in 2004. The impact to BC Hydro is centered mainly around reliability and safety issues, as affected trees can fall and affect overhead power lines. Increased vegetation management will be required to mitigate this risk.

### Project Lead Times

BC Hydro must meet government permitting requirements to operate its facilities and build new infrastructure. BC Hydro and independent power producers are being challenged to meet more stringent financial, social and environmental standards. More stringent standards can benefit British Columbians, but they can also increase costs. For example, a typical IPP project could take between 2 to 5 years to reach commercial operation, while a large hydroelectric project could take 10 years in comparison. BC Hydro will work with the shareholder, regulator and stakeholders to meet permitting requirements, while minimizing the time required to obtain these.

# Strategic Context

## **RISING COST OF CONSTRUCTION**

In the last eighteen months, British Columbia has seen a major increase in non-residential construction activity. Construction volumes are currently at their highest levels and rising. Projects such as a new rapid transit line, Sea-to-Sky Highway improvements, Kelowna Bridge, Garibaldi Bridge, YVR Airport upgrades and the Olympic Facilities, to name a few, have had a significant impact on the volume and cost of non-residential construction. The Construction Sector Council (CSC) is predicting that this volume of non-residential activity will increase steadily through 2010 before declining. When coupled with commodity price increases, shortages in labour and high residential construction levels, construction costs are rising.

This rise in construction costs has had an impact on some large civil/mechanical projects sponsored by Generation. This trend has not yet been as evident in the Transmission, Stations and Distribution sectors of the utility industry, although costs may start to escalate here as well.

## **FIRST NATIONS**

Finding innovative ways to resolve outstanding issues and continuing to build positive and sustainable relationships with First Nations is key for BC Hydro in the long term and will have a positive impact on the business. BC Hydro will develop initiatives that support the work of the Provincial and Federal Governments, including: development and implementation of aboriginal employment; training and procurement strategies; improved results from current education and training initiatives; scholarships and donations; and Power Smart outreach.

## **BC Hydro's Internal Context**

In managing its operations, BC Hydro continually monitors and updates its short and long-term forecast electricity load. It then considers how this demand can be met. This includes existing and short and long-term new supply options, as well as the condition of physical assets and energy trade impacts.

## **LOAD FORECAST**

The Load Forecast is used to provide decision-making support for several aspects of BC Hydro's business, including future financial projections, revenue requirements and rate design, integrated resource planning, and BC Hydro's Service Plan.

The Load Forecast is prepared using the most recent information on economic projections from the public sector (such as the BC Ministry of Finance) and information augmented by private sector consultants. The main variables or drivers of future load growth are:

- housing starts,
- gross domestic product growth (GDP),
- weather, and
- electricity prices.

## **DEMAND-SUPPLY OUTLOOK**

As a public utility, BC Hydro is obligated to meet domestic customer demand. The company reviews the demand-supply outlook to ensure that it can meet that responsibility. In advance of when forecast demand will exceed existing supply, BC Hydro develops plans for new electricity resources (supply and demand programs) to close the gap. New resources are needed to meet growing energy demand at the times when customers want it. Because the planning cycle for new supply is long, BC Hydro is planning now to meet this future demand.

BC Hydro not only plans for the total amount of energy customers demand throughout the year (energy demand), but also plans the amount of capacity required to meet peak demand. To meet these requirements, BC Hydro, working with its stakeholders, explores a variety of options, including contracts with independent power producers, Resource Smart projects on existing facilities, and energy conservation.

# Strategic Context

Over the short term, the system relies on the downstream benefits as back up to ensure reliability. Also, due to the high cost of operating the Burrard plant, BC Hydro imports lower cost electricity from the marketplace to supply ongoing customer energy needs. Both of these factors underline the requirement for BC Hydro to invest in demand side management programs, ensure investments in existing equipment are adequate and continue the effort to call for power from IPPs. Also during this period, BC Hydro is reviewing the business case for adding an additional unit of capacity at Revelstoke for the 2010/2011 period.

## **OPEN CALL FOR POWER (F2006 CFT)**

On December 8, 2005 BC Hydro issued the Fiscal 2006 Open Call for Power.

First Nations and Stakeholders provided significant input on the call design. The target is to acquire approximately 2,500 GWh or more per year of firm electrical energy supply plus associated non-firm electrical energy supply from large projects (10 MW and higher) and approximately 200 GWh/year of electrical energy supply from small projects (0.05 to 10 MW).

All generation facilities are to be built and operated by IPPs, and a target minimum of 50 per cent of the energy to be purchased will be from BC Clean Electricity sources. All “proven” generation technologies (other than nuclear) are eligible for this Call.

## **ELECTRICITY TRADE**

Electricity trade is important to BC Hydro, its customers and the province. In fiscal 2005, trade activity accounted for \$1.02 billion of revenues, making up 27 per cent of BC Hydro's total revenues, and contributed approximately \$140 million in net income from ongoing trade activities to keeping rates low. In addition to supporting energy requirements for BC Hydro, Powerex's revenues result from its sales of power and natural gas through its trading and marketing activities throughout North America. BC Hydro is able to benefit from trade because of the flexibility of its large, integrated hydroelectric system. This flexibility allows BC Hydro to react according to market demands. BC Hydro can buy electricity on the market when prices are lower and sell electricity when prices are higher. This enables BC Hydro to earn a profit through trade even when, as in recent years, inflows have been below average and BC Hydro has been a net electricity importer. Profit from electricity trade helps keep rates low for domestic customers.

## **PHYSICAL ASSETS**

BC Hydro's assets are aging and many components of the system are nearing the end of their useful lives. This can lead to equipment failure and reduce service reliability to customers. While the costs of maintaining assets is increasing, the cost of replacing equipment is also significant. BC Hydro, through its asset planning, is addressing the challenge of determining the optimal investment strategy to minimize costs to customers.

BC Hydro will continue to better align capital, operating and maintenance expenditures with customers' needs. Over the next few years, BC Hydro will substantially invest to maintain the reliability and safety of its physical assets.

# Strategic Context

## **INTEGRATED ELECTRICITY PLAN (IEP)**

Over the next 20 years, key decisions need to be made so that low-cost, reliable electricity continues to be available for British Columbians. These decisions revolve around the questions of how much supply is required, and from what mix of resources.

Input from stakeholders and First Nations across the province was sought over the past year to develop an integrated electricity plan (IEP) that explores options and related values and risks for meeting the province's electricity needs over the next 20 years. As a result of this work, BC Hydro will file its 2005 Integrated Electricity Plan (IEP) with the BCUC this year. The IEP identifies BC Hydro's long term customer load forecast and indicates how this load could be met. More specifically, the IEP has and will continue to promote the necessary public discourse on BC Hydro's approach, which will focus on three priority areas:

- growing Power Smart demand-side management programs,
- getting more out of existing heritage hydro assets, and
- increasing purchases from independent power producers.

Given the strategic context and the challenges BC Hydro is facing both from external and internal pressures, in the next three years it will have to focus its efforts on addressing the most urgent challenges, which are set out in the next section.

## 6. Long Term Goals and Short-term Priorities

### Long-Term Goals

In the February 2005 Service Plan, BC Hydro presented its 15 long-term goals. Meeting the responsibilities to customers and employees, ensuring positive social, environmental and financial performance, as well as enabling future opportunities, are bold long-term goals. They are strategically aligned to BC Hydro's purpose to guide business decisions and operations in the years to come. Taken collectively, the 15 long-term goals guide BC Hydro in meeting its purpose to provide reliable power, at low cost, for generations. (A more detailed summary of the goals can be found in Appendix B.)

### Short-term Priorities

BC Hydro's 15 long-term goals provide the picture of the low-cost, sustainable and socially responsible company BC Hydro will be in 20 years. These are bold goals. Some of the goals are in natural tension with one another. BC Hydro recognizes that it cannot work to achieve significant progress on all of the goals, all of the time.

So far, this Service Plan has demonstrated that circumstances, risk factors, the internal and external business environment, resource constraints, as well as operating priorities dictate changing areas of focus from one year to the next, but within the context of the long-term goals.

Growth has been an important theme in shaping the priority areas for the next three years, both in terms of customers and the associated required resource growth, as well as the impact of an aging system. British Columbia is experiencing strong economic growth, causing significant growth in electricity demand. This means that BC Hydro has to expand the system and connect more customers, while at the same time maintaining an aging system with expected high levels of reliability. An additional challenge of growth is the lack of resources, particularly skilled labour, to accomplish this work.

Given constraints on available resources, BC Hydro has prioritized its goals, focusing on those where significant progress has to be achieved most urgently. In the next one to three years, BC Hydro will focus on initiatives in the areas of:

- Safety
- Reliability (customer and supply)
- Financial Targets
- Customer Satisfaction
- People

Some of the key initiatives under each of these areas are described below, and the following section outlines the associated key performance measures and targets.

#### SAFETY

BC Hydro believes a well-trained, well-supervised worker is a safe worker, and its safety initiatives are focused to achieve this standard. Focusing on the area of safety means that all BC Hydro employees are aware of safety in every situation and place safety for themselves and others before all else. Over the next three years, this means initiatives will focus on implementing the recommendations of a recent safety review.

The first cornerstone of the recommendations of this review is leadership, and focuses on managers spending time in the field coaching, assisting, providing feedback and uncovering practices that should be changed or shared across BC Hydro. Employees will be clear on BC Hydro's expectation that they will do everything possible to work safely and encourage their peers to do so also. Staffing levels will be reviewed throughout the company to determine appropriate levels of overtime, front line manager span of controls, trades trainers and support resources. Training will be extensive, and will ensure that individuals working on the BC Hydro system have appropriate training to perform their roles in a safe manner. Among other things, technical training will be standardized and enhanced, and journey-level tradespeople will keep their skills current in a systematic way. Communication and employee engagement will be key components of work in this area.

# Long Term Goals and Short-term Priorities

The second area of focus will be a systematic review of the current safety structure. The existing system will be standardized and simplified. Safety policies and procedures will be clear, well communicated, and trained effectively. BC Hydro will undertake a comprehensive risk management-based review of the current safety systems to ensure best-in-class status. Talent review and succession planning will be built into the safety profession within BC Hydro.

Thirdly, contractor and public safety will be a key area of focus. BC Hydro plans to further develop its current strategy for enhanced contractor and public safety.

## **RELIABILITY (CUSTOMER AND SUPPLY)**

Delivering on its goals of Reliability of Supply and Customer Reliability means BC Hydro has to execute on its capital spending plans, execute current calls for power and build new open calls, as well as build on its successful demand-side management (DSM) program.

Reliability of supply is reliant on the physical assets in the three areas of generation, transmission, and distribution operating and delivering as designed. Generation reliability is provided by BC Hydro's heritage assets, IPPs, and the use of the downstream benefits at the US/Canadian border. The reliability of the heritage assets is monitored by the number of hours that generation units are forced out of service on an unplanned basis during the period between November 15 and February 15, the period of peak load due to Christmas lighting, adverse weather, and shorter hours of sunlight. Transmission assets are operated and managed by BCTC, hence transmission reliability is the responsibility of BCTC. BC Hydro monitors the appropriateness of these reliability levels and works with BCTC. Distribution reliability is what BC Hydro's customers experience on an ongoing basis. This is closely monitored to ensure that the most appropriate load is delivered to customers, while making efficient and effective use of resources.

The objective of initiatives around capital is to improve both customer and supply reliability by prioritizing capital spending across BC Hydro in accordance with the company's goals and risk mitigation strategies. Enhanced, comprehensive capital reporting will be required to better manage the execution of spending commitments. Asset management processes have been implemented in generation and distribution to align capital priorities to goals and risk profiles. These processes will be further enhanced over the next two years to ensure that capital only flows to the highest priority in the company.

Reliability of Supply also means that BC Hydro has enough electricity (energy and capacity) to meet customers' needs. In order to support this priority, BC Hydro will continue to deliver on a number of key activities, including completing the fiscal 2006 Open Call for power in F2007 that targets 2,500 GWh of energy, and prepare for further calls in F2007 and F2008. BC Hydro will also deliver an up-to-date Integrated Electricity Plan and associated action plans to the BCUC, and will continuously improve the planning methodologies and processes to advance low-cost reliable energy, capacity and transmission requirements.

Furthermore, BC Hydro will advance long-term DSM activities to ensure that future needs are met at low cost. This initiative will require focusing on six key areas, including: influencing government policy and legislative instruments to create a suitable utility regulatory environment; establishing a conservation ethic; providing appropriate price signals with new rates and rate structures; offering demand side management programs where rates are ineffective in overcoming market barriers; pursuing innovation in the advancement of new energy efficient technologies; and influencing government policy to drive electricity use behaviour. DSM activities will include increased dialogue with stakeholders beginning with the creation of an external advisory panel; increased communication with and information provided to customers about their energy usage and opportunities to save; and the establishment of centers of excellence for specific energy efficient technologies. BC Hydro will be leading the way to ensure that all its facilities and buildings meet appropriate levels of energy efficiency. Recently, an energy efficiency retrofit of the Revelstoke generating station was completed, with others to follow.

# Long Term Goals and Short-term Priorities

## **FINANCIAL TARGETS**

Achieving the financial targets of the company is undeniably key to its success in all other areas. A focus on productivity and efficiency through improved processes and systems will drive all work in this area. Focus areas will include initiatives to rationalize the IT platforms and systems across BC Hydro, and to coordinate a common purchasing approach to leverage the purchasing power of BC Hydro.

The most immediate task will be to complete and file the Fiscal 2007/08 Revenue Requirements Application - planned for Spring 2006, and to complete the application through the hearing process.

## **CUSTOMER SATISFACTION**

BC Hydro's aim is to offer extraordinary value and service to customers, as measured by customer satisfaction. As a priority, BC Hydro is focusing improvements in areas where most customers contact the company to exchange information important for service, such as reporting or receiving information on outages. Improving the outage communication process will give customers the information they need to best manage during an outage.

An outage notification initiative will improve the three inter-related areas that determine the customer experience: the method for receiving the information, the message they receive, and their knowledge of the restoration process so they know what to expect and how to get information. In addition, a thorough process review will be undertaken to identify additional areas for improvement.

BC Hydro has committed to provide appropriate electric service to all remote communities including those not currently served by BC Hydro and that would like to receive service from Hydro. The Remote Community Electrification program will target approximately 20 communities currently served by Indian and Northern Affairs Canada (INAC) and a further 10 First Nations and 30 other communities not served by BC Hydro nor INAC. These communities are in all areas of the Province, including the North, Vancouver Island and several close to the Lower Mainland.

The program will provide a more reliable power source to communities that have previously been utilizing expensive and unreliable power. It will also provide training and employment opportunities for some members of eligible communities, improve living conditions in these areas, and help reduce greenhouse gas emissions in the Province.

## **PEOPLE**

In order to accomplish any of the above, BC Hydro has to ensure it has the right focus on people. This means having the right employees in the right role, with the right skills at the right time, working on the right priorities. In an increasingly tight labour market this is a challenge. BC Hydro is focusing on enhancing its attraction, retention and motivation of the best people and on increasing employee engagement to support achievement of its goals.

Initiatives to support this are centered on recruitment, leadership development, and employee involvement. The focus on recruitment consists of establishing common recruitment practices, building an orientation strategy, standardizing all entry-level recruitment programs, focusing on upgrading senior level hiring, building strategic partnerships with stakeholders, and aligning recruitment practices with the company's long-term goals. Clarity around recruitment also involves ensuring a careful review of whether it best meets the needs to fill an open role by identifying a like for like replacement, changing the specifications for the role to reflect changes in business need, eliminating that work, outsourcing the work, or combining the work into another role. BC Hydro is seeking to simplify and streamline its people practices to become more effective and more efficient.

For leadership development, BC Hydro is developing and entrenching career pathing and succession planning, developing and delivering training for new leaders and people with leadership potential, standardizing coaching criteria, developing an integrated learning strategy and implementing learning standards.



# Long Term Goals and Short-term Priorities

With respect to employee engagement, BC Hydro is increasing the involvement of employees in the decisions that impact them. The result is better decisions, better implementation of change and enhanced results both financially and in terms of employee satisfaction. By working smart, doing things right the first time and making change faster, productivity is enhanced. Greater employee involvement will also support achievement of BC Hydro's financial targets.

BC Hydro is committed to achieving its 15 goals over the long-term, and even though some may not be a priority in the next three years, all goals taken together provide the direction for the company and the actions it takes. Going forward BC Hydro expects that the short-term priorities will change as initiatives are completed and progress is made in achieving individual goals.

## 7. BC Hydro's Strategies, Performance Measures and Targets

BC Hydro's strategy is managing the business for the long term – in environmentally and socially responsible ways and within the financial goals committed to. Reliability and low rates for customers are key. The long-term goals provide further clarity on short- and long-term strategies, and specific performance measures and targets are developed for each.

BC Hydro uses a series of measures to guide business performance and progress. Some of these measures are tracked on a quarterly basis; others are tracked semi-annually and annually. BC Hydro has developed and is developing leading measures where practical to determine if progress on the goals is on track and to identify where adjustments need to be made. Measures are results-based where possible and will help the company, shareholder and public to more accurately evaluate performance. In conjunction with the Auditor General's "Building Better Reports" initiative, BC Hydro's Audit Services group developed assurance standards for performance measures. On a scheduled basis, internal audits are conducted on performance measures using these standards. All internal audits are reviewed by BC Hydro's Audit and Risk Management Committee of the Board. Additionally, BC Hydro participates in a number of

benchmarking studies to determine areas where improvement may be required.

BC Hydro has re-evaluated its past performance measures and targets in light of its purpose and goals, to ensure that these are the right indicators for each long-term goal, and more directly linked. As primary goals of focus shift in certain years, the measures and targets that have been included in this year's Service Plan focus on the short-term priority areas, which are:

- Safety
- Reliability (customer and supply)
- Financial Targets
- Customer Satisfaction
- People

Environmental measures have been included to allow for tracking of the clean energy target as identified in the provincial Energy Plan. BC Hydro tracks the measures and targets for all long-term goals, including those not presented in this Service Plan. Differences to previous years' targets have been defined and explained.

<b>COMPARISON OF PAST AND CURRENT PERFORMANCE MEASURES:</b>	
<b>2005/06 to 2007/08 Service Plan Measures</b>	<b>Current Service Plan Measures</b>
Reliability ASAI & CAIDI	<ul style="list-style-type: none"> <li>• System measures of ASAI &amp; CAIDI still tracked; also reporting <i>CEMI &amp; CELID</i> measures that better reflect reliability from the customers' point of view</li> <li>• Additional generation reliability measure: <i>Availability Factor</i></li> </ul>
Customer Satisfaction	<ul style="list-style-type: none"> <li>• Have moved to a higher standard; tracking only highly satisfied versus satisfied &amp; highly satisfied</li> </ul>
All Injury Frequency	<ul style="list-style-type: none"> <li>• Also measuring <i>Severity</i></li> </ul>
Approved Strategic Workforce Positions Filled	<ul style="list-style-type: none"> <li>• Measure dropped; not a key measure to deliver on our strategy in respect of people (still tracked for internal purposes).</li> <li>• Measure replaced with <i>Employee Engagement Score</i></li> </ul>
Environmental Regulatory Compliance (# of incidents)	<ul style="list-style-type: none"> <li>• Continuing with same measure</li> </ul>
Demand-side Management (GWh)	<ul style="list-style-type: none"> <li>• Changed to a cumulative target</li> </ul>
New Electricity from Clean Energy %	<ul style="list-style-type: none"> <li>• Targets have been revised due to impact of higher demand</li> </ul>
Financial Targets	<ul style="list-style-type: none"> <li>• Net Income measure as well as additional <i>Price Competitiveness</i></li> </ul>
Sustaining Capital Ratio	<ul style="list-style-type: none"> <li>• Measure dropped; not a key measure to deliver on our strategy. Success in allocating sustaining capital will be reflected in reliability (customer and generation) measures.</li> </ul>

# BC Hydro's Strategies, Performance Measures and Targets

## Short Term Priority – Safety

**Safety** – to provide the safest work environment compared to the best performers in any industry. None of our employees will experience a serious safety injury.

### Near-term Strategies:

- ensure adequacy (quantity and quality) of safety leadership, particularly at the first line supervisory level
- enhance worker qualification and certification through development of trades training and mandatory safety training
- streamline and simplify safety standards and procedures, starting with specific attention to the Safety Practice Regulations

Performance Measure	Actual F2004/05	Forecast F2005/06	Target F2006/07	Target F2007/08	Target F2008/09
<b>All Injury Frequency</b> (# of injuries per 200,000 hrs. worked)	2.5	2.3	2.1	1.9	1.5
<b>Severity</b> (# of days lost due to injury per 200,000 hrs. worked)	38	33	29	25	22
<b>Target/Measure Rationale</b>	<p>The Safety performance targets have been set to reflect the planned achievements in providing the safest work environment compared to the best performers in comparable industries. These targets are consistent with moving BC Hydro towards achieving world-class safety performance, which for the Canadian Electric Association's (CEA) best-in-class utilities, was a collective 5-year AIF average of 1.3.</p> <p><b>All Injury Frequency</b> is defined as the total number of employee Medical Aids and Disabling Injuries occurring in the last 12 months per 200,000 hours. Medical Aid injuries are those where a medical practitioner has rendered services beyond the level defined as "first aid", and the employee was not absent from work after the day of the injury. Disabling injuries are those where the employee is absent beyond the day of injury.</p> <p><b>Severity</b> is defined as the number of days lost due to injury, per 200,000 hours worked. This is a standard CEA measure; for comparison, the 2004 CEA composite result was 49.</p> <p>These are standardized definitions across the CEA, and are compatible with US statistics for comparison.</p>				

# BC Hydro's Strategies, Performance Measures and Targets

## Short Term Priority – Reliability

**Reliability (Customer)** – best in class reliability by customer segment

### *Near-term Strategies:*

- fully understand customer expectations and reliability performance gaps through Stakeholder Engagement
- develop the capability for delivering differentiated levels of reliability so we can offer customers choices in the future
- develop an Asset Management Framework that will deliver an optimized investment strategy with an embedded customer reliability component

Performance Measure	Actual F2004/05	Forecast F2005/06	Target F2006/07	Target F2007/08	Target F2008/09
CAIDI	2.69	2.34	2.15	2.15	2.15
ASAI	99.9550	99.961	99.970	99.970	99.970
CEMI-4	N/A	12%	11%	10%	9%
CELID-6	N/A	18%	17%	16%	14%
<b>Target/Measure Rationale</b>	<p>BC Hydro has a high level of customer satisfaction with overall system reliability.</p> <p>CAIDI and ASAI reflect the reliability of the overall distribution system, and targets have been set to achieve a level of performance that will maintain the high level of Customer satisfaction. While these measures are industry standards, they do not reflect that in some areas of the Province the frequency and duration of outages is consistently higher than the system average.</p> <p>Prior to F2005, overall system reliability was declining based on an increasing impact of vegetation, wildlife and ageing infrastructure. With increased effort and funding in F2005 and F2006, the declining reliability trend has been reversed, and BC Hydro is expecting to achieve expected target levels.</p> <p>CEMI and CELID are new customer reliability measures which address this issue. The initial targets have been set based on F2006 performance on these measures.</p> <p><b>Definitions:</b></p> <p><b>CAIDI</b> – Customer Average Interruption Duration Index is the average number of hours per interruption</p> <p><b>ASAI</b> – Average System Availability Index is the percentage of time power is available</p> <p><b>CEMI</b> (Customers experiencing multiple interruptions) 4—% of customers experiencing more than 4 outage interruptions per year, excluding major events</p> <p><b>CELID</b> (Customers experiencing long interruption duration) 6—% Customers experiencing interruptions of more than 6 hours, excluding major events</p>				

# BC Hydro's Strategies, Performance Measures and Targets

**Reliability (Supply)** – meeting all domestic needs

**Near-term Strategies:**

- ensure generation heritage assets maintain threshold reliability targets
- advance sequential power acquisition processes and ensure incremental supply is in place to meet future needs

Performance Measure	Actual F2004/05	Forecast F2005/06	Target F2006/07	Target F2007/08	Target F2008/09
<b>Availability Factor</b> The percentage of time that units are available for service.	94.80%	95.10%	95.75%	TBD*	TBD*
<b>Target/Measure Rationale</b>	<p>The reliability measure provides a means to gauge BC Hydro's performance on the reliability of its hydro generation fleet over the critical winter peak period (November 15th – February 15th) when demand is greatest due to Christmas lighting, adverse weather, and shorter hours of sunlight.</p> <p>The measure is a percentage rate of units in the system available to generate electricity. (Hours available for service/Total Hours). This target is an incentive to have all BC Hydro generation running for this critical period without maintenance or planned outages scheduled.</p> <p>The measure and targets exclude generation facilities of 12MW and below. These exclusions account for an aggregate capacity of 55MW out of a total capacity of 11,210MW.</p> <p><i>* BC Hydro will establish a target in F2007 and thereafter in support of this measure</i></p>				

BC Hydro anticipates the inclusion of an overall supply measure and targets in the future, pending the establishment of government policy through the current renewal of the Energy Plan that was announced in November 2005.

# BC Hydro's Strategies, Performance Measures and Targets

**Electricity Conservation and Efficiency** – to develop and foster a conservation culture in BC that leads to customers choosing to make a dramatic and permanent reduction in electricity intensity.

**Near-term Strategies:**

- lead by example, by ensuring BC Hydro facilities take advantage of all possible DSM practices
- establish an energy conservation ethic through a broad foundation of awareness, support and involvement
- send appropriate price signals with new rates and rate structures to encourage efficiency and conservation
- continue to offer DSM programs where rates are ineffective in overcoming market barriers to ensure efficient end use products and information technologies are adopted within the market place
- promote a utility regulatory environment that is more conducive to DSM
- pursue innovation by establishing BC Hydro as a leader in the advancement of new energy efficient technologies, ideas and practices
- influence government policy, codes and standards to drive changes in the availability of energy efficient products, design and use of buildings and general electricity use behaviour

Performance Measure	Actual F2004/05	Forecast F2005/06	Target F2006/07	Target F2007/08	Target F2008/09
<b>Demand Side Management</b> (GWhs/Year, rounded)	1,400	2,000	2,500	2,900	3,400
<b>Target/Measure Rationale</b>	<p>Targets are expected electricity savings from demand side management programs. These annual targets are denoted in cumulative annual electricity savings in order to gauge the contribution to the supply/demand balance and include additional energy savings consistent with moving beyond the previous DSM target of 3,600 GWh/year by F2012.</p> <p>DSM is defined as the rate at which annual gigawatt hours (GWh) are being saved as a result of economic demand-side management (conservation, energy efficiency, and load displacement).</p>				

# BC Hydro's Strategies, Performance Measures and Targets

## Short Term Priority – Financial Targets

**Financial targets** – maintain existing North American competitive position of average electricity unit costs; deliver 100% forecast net income on an annual basis (after adjustments for water volatility, etc.)

### **Near-term Strategies:**

- manage cost of energy through a) optimal decision of buy versus generate and b) hedge energy prices and foreign exchange
- initiate corporate level prioritization and improved reporting and execution of capital spending across BC Hydro
- implement productivity/efficiency projects focusing on rationalization of IT systems and the procurement process.

Performance Measure	Actual F2004/05	Forecast F2005/06	Target F2006/07	Target F2007/08	Target F2008/09
<b>Net Income (\$Millions)</b>	\$402	\$294	\$50	\$140	\$51
<b>Target/Measure Rationale</b>	<p>Net income is defined as total revenue less total expenses after regulatory account transfers, and represents the net impact of key economic and business factors that affect BC Hydro's performance. Regulatory account transfers reflect the financial impact of the factors beyond BC Hydro's control (such as water volatility, market prices, etc.)</p> <p>Forecasts for the next three years do not include any rate increases required to allow BC Hydro to earn its allowed rate on equity. Rate increases require the approval of the BCUC.</p>				
<b>Price Competitiveness</b>	-	TBD	TBD	TBD	TBD
<b>Target/Measure Rationale</b>	<p>The targets will be based on maintaining BC Hydro's relative rate differential compared to the average of a select group of utilities in areas used by the BC Progress Board to assess BC competitiveness. This consists of six utilities in Seattle, Washington; Portland, Oregon; Montreal, Quebec; Toronto, Ontario; Edmonton, Alberta; and San Francisco, California.</p> <p><b>Definition:</b> Price Competitiveness is defined as the percentage difference between BC Hydro's rates (calculated on an arithmetic average of rate classes) and the average of the rates of the above-mentioned group of utilities. Rate comparisons will be based on data supplied in Hydro Quebec's annual "Comparison of Electricity Prices in Major North American Cities" study. The purpose of this measure is to track and ensure that BC Hydro maintains its relative competitive rate advantage.</p>				



# BC Hydro's Strategies, Performance Measures and Targets

## Short Term Priority – Customer Satisfaction

**Customer Satisfaction** – to lead other companies in offering extraordinary value and service

### **Near-term Strategies:**

- prioritize opportunities for improvement to those aspects of service that are relatively important to customers, where satisfaction is relatively low
- improve outage communication and other high customer contact areas
- continue to build better knowledge through customer research, review of best practices and comprehensive benchmarking

Performance Measure	Actual F2004/05	Forecast F2005/06	Target F2006/07	Target F2007/08	Target F2008/09
% of Customer Highly Satisfied	72%	75%	76%	78%	81%
Target/Measure Rationale	<p>Targets have been set to achieve levels of Customer Satisfaction that are consistent with moving towards the goal of leading other companies in offering extraordinary value and service. Based on independent surveys of residential customers of electric utilities across Canada, leaders have had average satisfaction scores ranging between 80-84%. These results were used as proxies for benchmarking and setting a target of 84% by 2010 (to be validated by further benchmarking).</p> <p>The target is the percent of customers which score BC Hydro 8, 9, or 10 (highly satisfied on a 10-point scale) in customer surveys. This scoring level is a more accurate reflection of when a customer has a positive impression of BC Hydro and is truly satisfied. Previously, the target used scoring of 7 - 10 ; F2005 and F2006 are restated using the new scale.</p>				

# BC Hydro's Strategies, Performance Measures and Targets

## Short Term Priority – People

**Workplace** – top employer for generations

### **Near-term Strategies:**

- sustain real change in the area of safety; continue to implement/entrench Safety Trend recommendations
- strengthen our leadership team; ensure we have the right leaders
- involve employees in meaningful employee engagement; build effective 2-way employee communication
- build/implement an aligned learning strategy
- focus on recruitment: become an employer of choice, hire better and faster
- improve Human Resource processes & important tools that support the organization

<b>Target/Measure Rationale</b>	BC Hydro will establish a baseline in F2006 and targets after completion of its employee engagement survey in March 2006.  Employee Engagement is a consistent element of all the working definitions of Best Employer BC Hydro has reviewed. It consists of four pillars, which include alignment, capability, resources and motivation. The level of employee engagement is indicative of both employee satisfaction and productivity across the company, and can be measured by means of an employee survey. This measure was selected as indicative of a top employer.	
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# BC Hydro's Strategies, Performance Measures and Targets

## Long Term Goal – Environment

**Environmental Impact** – no net incremental environmental impact by 2025

### Near-term Strategies:

- aligns with BC Hydro's Environmental Responsibility Policy to avoid, reduce and offset environmental impacts
- specifically, focus on initiatives in the following six main areas: greenhouse gas emissions, air quality, land, water, waste, and species at risk
- focus on conservation and demand-side management

Performance Measure	Actual F2004/05	Forecast F2005/06	Target F2006/07	Target F2007/08	Target F2008/09
<b>Environmental Regulatory Incidents</b> (# of incidents)	14	16	16	15	15
<b>Target/Measure Rationale</b>	The Environmental Regulatory Incidents Measure is defined as the number of externally reportable, preventable environmental incidents. The targets were set internally based on a review of past performance.				

Performance Measure	Actual F2004/05	Forecast F2005/06	Target F2006/07	Target F2007/08	Target F2008/09
<b>Clean Energy delivered in that year as a % of the incremental demand since F2003.</b>	36%	21%	19%	25%	34%
<b>Target/Measure Rationale</b>	<p>The Energy Plan set out a 50% BC Clean Energy Target to be achieved over a 10-year period, beginning in 2002/2003 and ending in 2012/2013. Since the establishment of the clean energy target in 2002, all energy acquired has been BC Clean.</p> <p>The annual results will fluctuate with the amount of incremental demand over F2003 levels, and the timing, volume and type of actual supply delivered. Since F2003, there has been a significant increase in our demand due to economic activity, which has been met by increasing energy imports that do not meet the criteria. In addition, there has been attrition in the volume of BC Clean energy delivered relative to that contracted. BC Hydro is in the progress of developing an appropriate strategy for meeting the target over the remaining reporting period.</p>				

The Energy Plan defines Clean Energy as energy from alternative energy technologies that result in a net environmental improvement relative to existing energy production. Examples include: hydro, wind, solar, photovoltaic, geothermal, tidal, wave and biomass energy, as well as cogeneration from heat and power, energy from landfill gas and municipal solid waste, fuel cells and efficiency improvements at existing facilities (ie. Resource Smart projects). For BC Hydro this means new supply commitments made after November 2002, or an energy efficiency improvement at an existing facility that came into service after the same date, that meet the definition.

## 8. Financial Outlook Summary

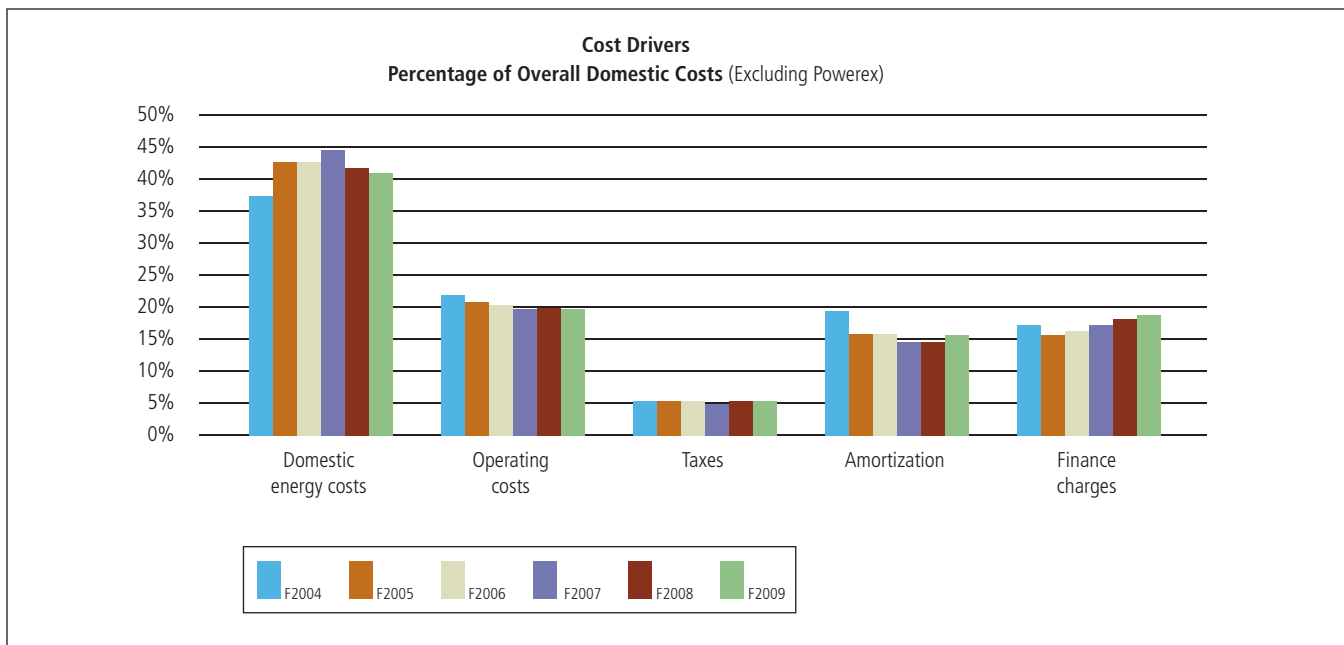
This section includes high-level financial forecasts for BC Hydro's revenues and expenses, the key assumptions and risks considered in setting these projections and the major capital expenditures that support the business.

Consistent with past years, the projections have been prepared using the January 1, 2006 water forecast, which are the latest available data. It forecasts extremely low water levels for 2006 and may change substantially in coming months depending on the weather. The projections also exclude certain costs relating to potential future wage settlements, the costs of meeting enhanced reliability and security requirements of the Olympics above tariff requirements, and any potential rate increases to meet return on equity requirements. BC Hydro is continuing to review its operations and costs and will wait for more accurate water forecasts prior to finalizing its budgets for fiscal 2007 and 2008. As a result, these forecasts should not be relied upon as indicative of the revenue requirement for fiscal 2007 and 2008 which BC Hydro anticipates filing with the BCUC in the Spring of 2006.

Financial performance focuses on the financial return to BC Hydro's shareholder and the electricity rates paid by customers. The economic value BC Hydro generates for the province directly benefits customers and all British Columbians. In fiscal 2005, BC Hydro paid \$716 million to government. BC Hydro pays about half of this amount through water rental fees (royalties paid for the use of provincial water resources), provincial and municipal taxes and grants-in-lieu of taxes. In addition, BC Hydro pays an annual dividend to the provincial government.

### Cost Drivers

BC Hydro's most significant costs for supplying domestic needs include the cost of energy and the capital investment costs of maintaining and expanding assets (amortization and finance charges), which amount to approximately 70 to 80 per cent. The single largest cost is the cost of energy – the cost of market and Independent Power Producer energy purchases, natural gas costs, water rental fees, and transmission costs – to meet customer demand. On average, the cost of energy makes up between 40 and 45 per cent of BC Hydro's overall domestic costs. Pressure on this cost driver comes from the new energy supplies required to meet demand growth, which are significantly more expensive than the heritage assets.



# Financial Outlook Summary

BC Hydro's amortization costs and finance charges derived from the capital investment needed to ensure the reliability of assets add up to 30 to 35 per cent of all domestic costs. The main pressures on these cost drivers are BC Hydro's aging assets, construction cost pressures, and increasing market interest rates.

Labour costs, which are primarily included in operating costs, are between 10 and 12 per cent of overall domestic costs.

Simplifying processes and systems, thereby gaining productivity in operations and effectively managing all costs, continues to be a key focus for BC Hydro, and will ensure that the company remains among the lowest-cost operators in North America. Maintaining or reducing administration costs from current levels is a key objective.

## Financial Performance and Key Assumptions

BC Hydro's operations are subject to a number of risks and uncertainties that may cause actual financial results to differ materially from those contemplated in the Service Plan. These factors are largely beyond BC Hydro's control. The use of regulatory deferral accounts, which began in fiscal 2005 will help in reducing this volatility between actual and plan net income (see the discussion on regulatory accounts following).

Over the next several years, the most significant cost pressures are expected to come from the following areas:

### GROWTH

As discussed in Section 5, economic growth has been particularly strong in the last two fiscal years, resulting in higher than expected demand growth. The economic forecasts of continued strong growth over the next 3-5 years will result in further increases in demand, and:

- increased cost of energy because bringing on new sources of energy to meet demand growth is more costly than from existing heritage assets;
- increased capital expenditures and operating costs to upgrade the heritage assets on the Peace and Columbia river systems and the capacity of the transmission and distribution systems;
- increased demand-side management program spending to increase the efficient use of electricity.

### RELIABILITY

BC Hydro's assets are aging and many components of the system are nearing the end of their useful lives. This can lead to equipment failure and reduce service reliability to customers. As demand grows, there is increased need for the existing assets to operate when required, and the flexibility to deal with unexpected equipment failure is diminished. This will result in:

- increased capital expenditures to refurbish aging assets;
- increased maintenance expenditures to reduce the occurrence of unexpected equipment outages;
- increased vegetation management costs to respond to the risk of the Mountain Pine Beetle to the distribution system.

### SAFETY

As discussed in Section 4, in fiscal 2006 a renewed focus was placed on fundamentally changing the safety structure within the company and the resulting performance. Key elements will be:

- increased manager time and resources in the field supervising employees;
- increased training for all employees on safety policies and procedures.

### FINANCIAL

- Increased capital expenditures for reliability and growth purposes will be funded by increased debt resulting in higher finance charges.
- Short-term interest rates are expected to increase from extremely low levels over the past few years. With approximately 30% of the debt subject to short-term rates, this will have a significant impact on finance charges.
- Due to construction market pressures, BC Hydro is already experiencing significant increases in labour and contractor rates and equipment costs and this is expected to continue in the medium term.

### WATER FORECASTS

Consistent with previous years, the January 1, 2006 water forecast has been used in the preparation of the financial forecast included in this Service Plan. Water levels are currently forecast at 90% of normal which, if confirmed, would have a significant impact on the cost of energy, as replacement energy would be required to be purchased at significantly higher cost. However, water forecasts in

# Financial Outlook Summary

January have tended to be unreliable indicators of the likely water supply for the coming year. The March forecast tends to be a much more reliable measure of future water supply and will be used in the preparation of the Revenue Requirement Application to be submitted to the BCUC in the Spring of 2006.

These cost pressures are offset to a certain extent by productivity gains.

## REGULATORY ACCOUNTS

In its decision of October 29, 2004, the BCUC endorsed BC Hydro's application for regulatory accounts. The regulatory accounts will be used to capture specific differences between forecast costs and actual costs. The intent of the regulatory accounts is to smooth the overall impact to ratepayers of cost impacts out of BC Hydro's control. This use of regulatory accounts is similar to most regulated utilities. BC Hydro will be subject to periodic reporting of changes in the regulatory accounts. At this time, the parameters for using any accumulated balances in future rate applications are yet to be determined and approved by the BCUC.

In the revenue requirements application, BC Hydro applied for the following regulatory accounts:

- Heritage Payment Obligation Deferral Account
- Trade Income Deferral Account
- Non-Heritage Deferral Account
- BCTC Transition Deferral Account

Regulatory account transfers for the above regulatory accounts are not forecast for fiscal 2007 to fiscal 2009 as regulatory accounts capture the differences between certain forecast costs and the actual costs. The forecasts for F2007-F2009 also assume no recovery of regulatory account balances through rate adjustments.

## FINANCING STRATEGY

The overall borrowing requirement is forecast to be \$1,108 million in F2007, \$530 million of which will be used to refinance retired debt for a net requirement of \$578 million. BC Hydro expects to borrow \$600 million of the \$1,108 million through long-term debt, with the remainder through available revolving borrowing capacity. During Fiscal 2006, BC Hydro borrowed \$400 million of new long-term debt. As a Crown corporation, BC Hydro borrows all funds through the Province of BC, and all of BC Hydro's debt is either held or guaranteed by the Province, resulting in a credit rating on long-term debt similar to the Province's own rating.

Debt net of sinking funds as of March 31, 2006 is forecast to be \$6.7 billion and will increase to \$7.4 billion at the end of Fiscal 2007. Finance charges are forecast to be \$483 million in Fiscal 2007, compared to \$436 million for Fiscal 2006.

## RATE STRATEGY

On April 1, 2006 BC Hydro will be introducing mandatory Stepped Rates for its large industrial customers, as set out in the Energy Plan. In addition, a Time-of-Use (TOU) rate will be available as an option for those customers who choose not to go onto the stepped rate. Both these rates are designed to encourage conservation and efficient energy use at the margin by BC Hydro's largest customers.

BC Hydro anticipates filing a Revenue Requirements Application in the Spring of 2006. This application will be the subject of a public process with a decision expected late in 2006.

During fiscal 2007, BC Hydro will also file a Rate Design Application with the BCUC, which essentially updates its Terms and Conditions and costs assigned to customer classes since the last application was filed in 1991. Although there is no impact on BC Hydro's total revenue there may be some impacts on certain customers upon implementation, depending on the relative contribution of each customer class to overall system costs.

# Financial Outlook Summary

## Revenues and Expenses – Financial Projections

BC Hydro's financial projections for revenues and expenses through fiscal 2009 were calculated based on information as at January 2006.

Consolidated Statement of Operations (\$ millions)	Actual		Forecast		
	F2005	F2006	F2007	F2008	F2009
<b>Revenues</b>					
Domestic	2,704	2,753	2,807	2,835	2,873
Trade	1,021	1,765	2,094	2,044	2,050
	3,725	4,518	4,901	4,879	4,923
<b>Expenses</b>					
Energy costs	1,959	2,664	3,195	3,032	3,061
Operating costs <sup>2</sup>					
Operation	207	179	188	182	185
Maintenance	246	266	269	265	270
Administration	178	162	165	168	176
	631	607	622	615	631
Taxes	143	146	152	155	156
Amortization	446	445	431	424	475
	3,179	3,862	4,400	4,226	4,323
<b>Income Before the Following Items:</b>	546	656	501	653	600
Finance charges	(443)	(436)	(483)	(518)	(567)
Payment from Alcan Inc. <sup>1</sup>	137	-	-	-	-
<b>Net Income Before Regulatory</b>	240	220	18	135	33
<b>Account Transfers</b>					
<b>Regulatory Account Transfers:</b>	162	74	32	5	18
<b>NET INCOME</b>	\$402	\$294	\$50	\$140	\$51

1. On December 23, 2004, Alcan Inc. paid Powerex US\$110.4 million (Cdn\$137 million), the full value of the arbitration award of US\$100 million plus US\$10.4 million in interest, to settle obligations under a power purchase and sale agreement.

2. Prior to F2006 BCTC was consolidated into BC Hydro's results and the BCTC Transmission costs were included in Operating costs. Effective F2006, BCTC Transmission costs are included in energy costs.

The forecast years do not include any rate increases that might be required to enable BC Hydro to achieve its allowed return on equity established by the BCUC. Further analysis of water supply, cost structures and the use of the deferral account balances would be required before any conclusions could be reached in respect of future rates.



# Financial Outlook Summary

## Key Assumptions

The following key assumptions were used in preparing BC Hydro's financial projections.

	F2006	F2007	F2008	F2009
Water inflows <sup>1</sup>	99%	90%	Normal	Normal
Average Mid-C price (\$US/MW.h)	62.2	66.1	66.3	60.2
Average natural gas price at Sumas (US\$/MMBTU)	8.1	8.8	8.8	8.4
Electricity trade sales volumes (GWh)	30,035	34,772	37,449	40,117
Domestic load growth (%) <sup>2</sup>	1.93%	1.73%	1.05%	1.25%
Residential customer load growth (%) <sup>2</sup>	2.17%	3.20%	1.95%	1.88%
Light Industrial and Commercial customer load growth (%) <sup>2</sup>	3.08%	1.88%	0.16%	1.36%
Large Industrial customer load growth (%) <sup>2</sup>	1.38%	-0.73%	1.04%	0.54%
B.C. Real Gross Domestic Product (%) <sup>3</sup>	3.60%	3.40%	3.00%	3.00%
Net market purchases / imports (excluding gas for trade)	2,908	5,316	3,133	3,737
Canadian short-term interest rates <sup>3</sup>	3.26%	4.30%	4.39%	5.06%
Foreign exchange rate - US\$ per Cdn\$ <sup>3</sup>	0.8377	0.8605	0.8498	0.8500
Rate Increase	0.00%	0.00%	0.00%	0.00%
Domestic sales volume (GWh)	52,192	53,097	53,653	54,326
Line Loss and System Use (GWh)	5,569	5,302	5,369	5,430
Total Energy Sources of Supply for Domestic Sales (GWh)	57,761	58,399	59,022	59,756
Sources of Supply for Domestic Sales:				
Hydro Generation (Water Rentals) (GWh)	45,746	44,690	46,909	47,119
Market Electricity Purchases (GWh)	4,948	6,183	3,948	4,072
Independent Power Producers and Long Term Purchases (GWh)	6,757	7,230	7,850	8,221
Other	310	296	316	343
	57,761	58,399	59,022	59,756

1. F2007 - Based on the January 2006 water supply forecast.

2. Includes impact of Power Smart (conservation) programs.

3. Economic assumptions from Ministry of Finance dated November 29, 2005 for GDP. Interest rates and foreign exchange rates revised January 5, 2006.

Due to the size, complexity and nature of BC Hydro's operations, various legal and regulatory matters are pending. It is not possible at this time to predict with any certainty the outcome of such litigation or regulatory decisions. BC Hydro's Annual and Quarterly reports describe significant legal and regulatory matters. All reports are available on BC Hydro's website at [www.bchydro.com](http://www.bchydro.com).

# Financial Outlook Summary

## Sensitivity Analysis

The following table illustrates the impact that key factors can have on BC Hydro's earnings over the forecast period. The combined effect of these factors can affect Income before Regulatory Accounts by a significant amount as outlined below.

	F2006		F2007		F2008		F2009	
	Low	High	Low	High	Low	High	Low	High
Estimated Income before Regulatory Account Transfers	220	220	18	18	135	135	33	33
Inflows / Gas Prices <sup>1</sup>	(40)	60	(234)	219	(262)	397	(302)	356
Weather <sup>2</sup>	(4)	4	(6)	6	(3)	3	(1)	1
Customer Load <sup>3</sup>	(6)	6	(25)	25	(25)	25	(25)	25
Pension Costs <sup>4</sup>	-	-	(5)	10	(10)	15	(20)	20
Foreign Exchange <sup>5</sup>	(1)	1	(10)	10	(10)	10	(10)	10
Interest Rates <sup>6</sup>	(5)	5	(25)	25	(30)	30	(30)	30
<b>Combined Sensitivity - Income before Regulatory Account Transfers</b>	<b>164</b>	<b>296</b>	<b>(287)</b>	<b>313</b>	<b>(205)</b>	<b>615</b>	<b>(355)</b>	<b>475</b>

1. High and low range based on being within an 80 per cent probability band. The range is smaller for F2006 as the range only reflects the uncertainty for the remainder of the year. The ranges fluctuate from year to year due to the impact inflow levels and market prices have on decisions for optimizing the system, including reservoir levels.

2. Assumes weather will be five per cent warmer or cooler than normal and fall within this range approximately 80 per cent of the time.

3. High and low range based on being within an 80 per cent probability band. The range is smaller for F2006 as the range only reflects the uncertainty for the remainder of the year. Assumes change in customer load is supplied by market purchases at current forecast average purchase prices.

4. Probable forecast assumes return on pension plan assets is seven per cent. Low forecast assumes return of five per cent and high forecast assumes rate of 10 per cent. The next tri-annual actuarial valuation of the pension fund liability will be as at December 31, 2006 and will be completed by the summer of 2007. Impacts of changes to the actuarial valuation assumptions are not reliably estimable at this time and the range of possibilities can be large.

5. High and low are based on being within the 80 per cent probability band (translates to +/- 5 cents from expected). The impact of a change in the dollar includes the impact on Powerex electricity trade, generation requirements, hedging and debt management.

6. A change of one percentage point in short-term interest rates changes finance charges by approximately \$35 million. High and low are based on being within the 80 per cent probability band (translates to +/- 50 basis points from expected).

BC Hydro reports on actual performance in its quarterly and annual reports, and provides updated forecasts each year in its Service Plan.

# Financial Outlook Summary

## Capital Expenditures and Capital Expenditure Process

BC Hydro classifies capital expenditures as sustaining capital, growth capital, or demand-side management capital. Sustaining capital is the capital expenditure on the existing assets required to meet targeted levels of customer and supply reliability and also comply with requirements such as dam safety. It includes expenditures to ensure the continued availability and reliability of generation and distribution facilities. It also includes expenditures to support the business such as vehicles and information technology. Growth capital is the capital expenditure required to expand the system to meet customer load growth or other business investments. It includes Resource Smart projects for the expansion of existing generation assets and expansion and reinforcement of the distribution system. The execution of growth projects is uncertain as to scope and timing. Further supply additions to meet demand growth are provided by IPPs. These are not funded by BC Hydro.

Demand side management capital expenditures are related to initiatives that assist customers to implement energy efficiency and load displacement projects to reduce their electricity requirements from BC Hydro. These initiatives offset the need for new electricity supply projects.

BC Hydro, as the owner of the Transmission system operated by BCTC, funds the capital expenditures incurred by BCTC and these costs are included in BC Hydro's capital expenditures.

The table below shows actual and forecast capital expenditures for the various capital classifications:

Capital Expenditures (\$ millions)	Actual	Actual	Forecast			
	F2004	F2005	F2006	F2007	F2008	F2009
<b>BCH Excluding Transmission:</b>						
Sustaining	236	233	328	417	465	655
Growth	152	163	211	344	364	355
Demand Side Management	63	71	111	54	80	79
<b>Total Excluding Transmission</b>	451	467	650	815	908	1,088
Transmission	186	145	141	205	256	283
<b>Total</b>	637	612	791	1,020	1,165	1,371

# Financial Outlook Summary

BC Hydro's Long Term Goals provide the basis to ensure that specific capital projects are aligned with the enterprise-wide strategic direction. Projects are then evaluated based on their ability to mitigate risk and/or enhance value to the company's operations. The decision to proceed or not to proceed is also based on certain drivers:

- **Reliability** – projects that will prevent a loss of existing capability or protect existing equipment, systems and system capability.
- **Consent to Operate** – projects that will protect BC Hydro's consent to operate today and in the long term (primarily environmental and social).
- **Regulatory** – projects that will ensure regulatory compliance.
- **Risk Management** – projects that will identify and manage a variety of anticipated risks as good business practice.
- **Cost Efficiency** – projects that will reduce costs or increase productivity.
- **Employee Safety** – projects that will identify and manage a variety of workplace risks/hazards to protect employees.
- **Supply Expansion** – projects that will ensure that BC Hydro responds effectively to requirements to meet load or customer growth.

BC Hydro follows both a bottom-up and top-down approach in its capital planning. BC Hydro has established a process to oversee the capital planning process across the company and to ensure that there is appropriate integration and trade-off among capital plans proposed by various Lines of Business (LOBs).

This process will ensure that individual LOBs' capital plans do not exceed the overall BC Hydro tolerance for capital expenditures. At the same time, the process will ensure that all needed expenditures are undertaken to meet performance targets.

## Approved Projects over \$50 Million

BC Hydro has planned for the following projects that have capital costs expected to exceed \$50 million. BC Hydro has a statutory requirement under the *Budget Transparency and Accountability Act* to disclose these in this Service Plan.

### MICA GENERATOR STATOR REPLACEMENT (UNITS 1-4)

The Mica Stator Replacement project is intended to reduce the risks of forced outages and particularly the risk of a long, unplanned outage due to catastrophic failure of the four stators at the Mica Generating plant. The project includes purchasing and installing new stators for each unit over a number of years, beginning with Unit 4 in 2006. The project protects the overall investment in the Mica Generating Station and meets safety and reliability requirements.

Scheduled completion: 2009

Total cost: \$78 million

#### What is a Stator?

A generator is made up of stationary outer coils (the stator) and rotating inner coils (the rotor) which convert mechanical energy to electrical energy.

### PEACE CANYON GENERATOR STATOR REPLACEMENT AND ROTOR MODIFICATION (UNITS 1-4)

The Peace Canyon Stator Replacement project is intended to reduce the risks of forced outages and particularly the risk of a long, unplanned outage due to catastrophic failure of the four stators at the Peace Canyon Generating plant. The project includes purchasing and installing new stators for each unit over a number of years, beginning in 2006 and will also include modification of the existing rotors. The project protects the overall investment in the Peace Canyon Generating Station and meets safety and requirements.

Scheduled completion: 2009

Total cost: \$73 million

# Financial Outlook Summary

## **ABERFELDIE REDEVELOPMENT**

The Aberfeldie facility, located southeast of Cranbrook, is over 80 years old and the wood-stave pipeline and powerhouse equipment at the plant have reached the end of their useful lives. The dam was rebuilt in 1955 and requires no major expenditures. Redevelopment of the facility from 5MW to 24MW was approved in 2004.

Scheduled completion: 2008

Total Cost: \$65 million (estimated cost based on known tenders)

## **COQUITLAM DAM SEISMIC IMPROVEMENT PROJECT**

In October 2003, approval was granted to construct a new dam downstream of the existing Coquitlam Dam. This was the recommended solution to address the dam safety risk that the existing Coquitlam Dam will liquefy under a moderate to large earthquake. At that time the estimated total cost to complete the project was \$40 million. The actual bids to complete the civil work are higher than estimated due to a very strong demand for civil contractors in British Columbia and costs have increased significantly.

Scheduled completion: 2007

Total Cost: \$58 million



## **Contemplated Projects over \$50 Million**

The following projects over \$50 million are under consideration and review, but are not yet approved.

## **JOHN HART REDEVELOPMENT**

The John Hart generating facility is located on Vancouver Island and was originally constructed in 1947. In addition to key components being at end of life and in poor condition, numerous risks have been identified at the facility. These include seismic risk (powerhouse, surge tower) and fisheries risk in the event of forced outages. Several options to address the condition and risks at John Hart are being studied, including rehabilitation, redevelopment and options to mitigate fisheries risk with a bypass.

Scheduled completion: 2014

Total cost: \$270 million (preliminary engineering estimates)

## **GMS CAPACITY INCREASE**

The stators of G.M. Shrum (GMS) generating units 1 to 4 are approximately 35 years old and are in poor or unsatisfactory condition based on BC Hydro's equipment health rating. The replacement of these units will mitigate the negative financial impact of forced outages at GMS. In conjunction with the stator upgrades at GMS, capital has been earmarked for potential capacity increases for units at GMS to increase the capacity of the facility and for turbine upgrades for units 1 to 5.

Scheduled completion: 2011

Total cost: \$101 million (preliminary engineering estimates)



# Financial Outlook Summary

## **CAMPBELL RIVER FLOOD RISK CONTROL**

Issues associated with the safe passing of large floods through the Campbell River system have been recently identified. Development of conceptual options to address the flood risks for the Campbell River System (Strathcona, Ladore and John Hart dams) are underway.

Targeted completion: 2011

Total Cost: \$115 million (preliminary engineering estimates)

## **RUSKIN DAM SEISMIC IMPROVEMENT PROJECT**

The Ruskin Dam is located approximately 50 km east of Vancouver and was constructed in 1930. Earthquake standards have increased since construction of the dam and deficiency investigations concluded that the stability of the main body of the dam and gates were vulnerable in certain earthquake events. The Ruskin Dam Seismic Improvements project is intended to mitigate earthquake risk and protect public safety.

Targeted completion: 2010

Total Cost: \$145 million (preliminary engineering estimates)

## **RUSKIN REHABILITATION**

The Ruskin Generating Station is a three unit, 105 MW facility located downstream of the Alouette and Stave Falls Generating Stations. The facility was commissioned in 1930 with additional generating units installed in 1938 and 1950. Significant capital expenditures are required to support the safe and reliable operation of the facility; however, the economic viability of the facility needs to be confirmed. A high-level feasibility study is underway to evaluate alternatives and the cost for rehabilitating the powerhouse to meet seismic standards and to replace major generating equipment is included below.

Targeted completion: 2015

Total Cost: \$175 million (preliminary engineering estimates)

## **REVELSTOKE UNIT 5**

The Revelstoke Generating Station consists of four generating units with a combined capacity of 1980 MW. The plant was originally designed to be a six-unit generation station; however, two bays were left empty. The fifth generating unit at Revelstoke, an additional 500 MW of capacity, was identified as the next economic source of dependable capacity for the BC Hydro system. Currently, \$2.1 million has been approved to complete the regulatory approvals and to work with First Nations towards achieving, in principle, a benefits agreement before starting construction.

Scheduled completion: 2011

Total cost: \$200 million (preliminary engineering estimates)

## **ADVANCED METERING INFRASTRUCTURE**

Advanced Metering Infrastructure (AMI) is a program to install smart meters that have multi-functions and are capable of two-way communication between BC Hydro and its customers.

Scheduled completion: 2012 (preliminary estimate)

Total cost: \$350 million (preliminary estimate)

Transmission projects over \$50 million, which—if approved by the BCUC—will be financed by BC Hydro, are disclosed in BCTC's Service Plan ([www.bctc.com](http://www.bctc.com))

# 9. Alignment to the Government's Strategic Plan

BC Hydro is aligned with government's Strategic Plan and Goals:

Government Goals	BC Hydro's Alignment
<ul style="list-style-type: none"> <li>• To make BC the best educated, most literate jurisdiction on the continent.</li> <li>• To lead the way in North America in healthy living and physical fitness.</li> <li>• To build the best system of support in Canada for persons with disabilities, special needs, children at risk and seniors.</li> </ul>	<p>Providing significant revenues to government to fund priority services such as health care and education, through various means such as the dividend and water rentals.</p> <p>Supporting charities and community organizations, as well as scholarships through direct monetary contributions both corporately and from current and retired employee organizations.</p>
<ul style="list-style-type: none"> <li>• To lead the world in sustainable environmental management, with the best air and water quality, and the best fisheries management, bar none.</li> </ul>	<p>Operating with a long-term, triple-bottom-line business approach that values social, environmental and financial factors.</p> <p>Investing in clean energy sources to meet growing demand.</p> <p>Promoting energy conservation and efficiency programs.</p>
<ul style="list-style-type: none"> <li>• To create more jobs per capita than anywhere else in Canada.</li> </ul>	<p>Providing low-cost, reliable electricity to maintain and enhance competitiveness of BC industries and businesses.</p> <p>Involving independent power producers in order to diversify energy supply, generate economic wealth and create jobs.</p> <p>Promoting energy conservation and efficiency programs which will create employment opportunities as products and services are developed.</p>



# Conclusion

BC Hydro's purpose clearly defines the company's long-term vision.

**Reliable Power:** Having enough electricity when customers need it.

**At Low Cost:** Maintaining a competitive, low rate advantage.

**For Generations:** Sustainability for today, tomorrow and the future.

Together with 15 long-term goals and corporate values, the purpose will guide BC Hydro's planning and operations over the next 20 years. There are challenges ahead, but centred on the customer, employee, social, environmental, financial, and enabling goals, BC Hydro will manage the balance between environmental, social and financial bottom lines.

BC Hydro has considered the business environment, both internally and externally, and assessed risks to its operations in order to develop a long-term plan. Its short-term priorities deal with key risks and business issues impacting BC Hydro today. The right performance measures ensure that BC Hydro can focus employees on those priorities, evaluate its performance, be accountable to British Columbians, and make necessary adjustments as required to meet its vision for the future.

Every British Columbian – First Nations, stakeholders, customers, the shareholder and regulator – will play a role in BC Hydro's future. Working together with these partners, BC Hydro will leave a legacy for future generations. This is a sustainable vision. It is a vision that is based on environmental, social and financial bottom lines. And one that will ensure reliable power, at low cost, for generations.

# Appendix A – Subsidiary Information

## Powerex

Powerex Corp., BC Hydro's wholly-owned energy marketing subsidiary is a leading marketer of wholesale energy products and services (power and gas) in Western Canada and the Western United States, and a growing niche player in other markets across North America. Powerex's power marketing and trade activities help optimize BC Hydro's electric system resources, improve the security and reliability of electricity supply for the province, and provide significant economic benefits to the people of British Columbia.

Electricity trade is possible because BC Hydro's bulk transmission network is interconnected with Alberta to the east, and the Bonneville Power Administration to the south. This transmission network links BC Hydro with a huge market for the purchase and sale of wholesale electricity outside the province. The flexibility of BC Hydro's predominantly hydroelectric generating system enables Powerex to purchase electricity from the market when prices are lower, and sell electricity to the market when prices are higher. This flexibility also enables Powerex to take advantage of differences in demand between the winter-peaking north and summer-peaking south, and between heavy use and light use hours.

## RESOURCES

In recent years, as BC Hydro's surplus energy has decreased, Powerex has increasingly been purchasing lower-priced electricity from outside the BC Hydro system to meet its own trade commitments and to support BC Hydro's domestic needs. These purchases are made from entities in BC, western Canada and the United States. Powerex also markets, on behalf of the province, the Downstream Benefits of the Columbia River Treaty.

## LICENSES & PERMITS

Powerex holds Power Marketing Authorization from the U.S. Federal Energy Regulatory Commission, allowing Powerex to conduct wholesale power sales and purchases directly in the U.S. This authorization enables Powerex to earn even greater revenues for BC Hydro and the province through the purchase and sale of electricity completely outside BC. Powerex also holds Export Permits from the National Energy Board which outline the terms and conditions for Powerex's electricity exports from Canada.

## CUSTOMERS

Powerex customers include utilities, power pools, large industrials and energy marketers. Its primary trade area is the Western Electric Coordinating Council (WECC) region, extending from western Canada through the U.S. Pacific Northwest and into the southwestern United States and Baja, Mexico.

## PRODUCTS & SERVICES

Powerex offers its customers a variety of products and services that can be tailored to meet their changing daily and seasonal energy needs. Products like energy and capacity, and services like energy exchanges and natural gas trading. Powerex provides power for days, weeks, months or longer, and its fully staffed real-time trading desk means it's open 24 hours a day, 7 days a week.

## Powertech Labs

Powertech Labs Inc. operates on a commercial basis, providing fee based consulting, analysis, testing and certification services and analytic tools and products to the electric and natural gas industries, their customers and suppliers worldwide.

Powertech provides a centre for the innovative use of a wide array of technology including high voltage, high power, high current, mechanical, materials, coatings, chemical and civil technologies. The company is organized around seven distinct business units: Power System Studies; Electrical Technologies; Power Engineering Labs; Civil Infrastructures and Alternative Energy Technologies; Gas Systems Engineering; Materials Engineering and Applied Chemistry. Powertech is a leader in high pressure gas storage and fuelling technology, alternative energy and analytic software for the design and secure operation of integrated electric power systems.

The Powertech facility located in Surrey, British Columbia has 18 labs and approximately 80 professional engineers, scientists and technologists. Through resource sharing, they form a network that provides a one-stop analysis service not only for power utility customers but also for industries such as gas transmission and distribution, transportation, and pulp and paper. What sets Powertech apart is the ability to combine expertise from the different disciplines to provide the optimum solution to complex

# Appendix A – Subsidiary Information

problems. For example, dealing with a malfunction of a power transformer could require pooling knowledge from electrical, chemical, and materials engineering. Powertech has the required knowledge in each area and the ability to make it all work together.

Powertech's experts assess and improve the performance, efficiency, safety, reliability and environmental impact of structures, systems, equipment and components, solving technical problems throughout the life cycle, from the design stage through service life, to disposal and re-use. The resulting solutions are practical, timely, and cost-effective.

Powertech's professional engineers, scientists and senior technologists experts maintain a high standard of technical excellence and integrity through participation in accredited professional associations, committees and working groups, adjunct teaching at universities, and through publishing and presenting peer-reviewed papers at technical conferences worldwide. Powertech is registered for its Environmental (ISO 14001:2004) and Quality (ISO 9001:2000) Management Systems.

## Other Subsidiaries

BC Hydro has created a number of other subsidiaries for the purpose of risk management in the development of projects and/or contracting with third parties. The Boards and management of these subsidiaries are made up of BC Hydro employees, who perform these duties without incremental remuneration.

# Appendix B – BC Hydro's Long Term Goals

BC Hydro will partner with customers, build relationships of mutual respect with First Nations and stakeholders, and act within public policy and the regulatory environment to successfully meet its 15 long-term goals. They are grouped into six categories, encompassing customers, employees, social, environment, financial, and enabling topics.

## **CUSTOMER**

The customer is of primary importance to BC Hydro. BC Hydro aims to operate and provide a service that satisfies customers, and provides remote communities with service on an equitable basis. To do this, BC Hydro will recognize and respond to customers' needs collectively as well as to those of individual customer groups. Each has different needs. For example, certain industrial and commercial operations cannot tolerate power outages of any duration and may be prepared to pay a premium for higher levels of reliability. BC Hydro will give customers greater choice for supply, and target capital and maintenance investments where they are needed most. British Columbians have been well served by a large and integrated domestic electricity system. To build on this legacy, BC Hydro will continue to add domestic resources to satisfy 100 per cent of the province's power needs. This will minimize supply price volatility and open up new economic development opportunities for BC's Independent Power Producers. At the same time, in the shorter term, BC Hydro will continue to take advantage of external power market volatility to make market purchases when it is economic.

## **EMPLOYEES**

BC Hydro is aligning the organization to deliver on its purpose over the long term. BC Hydro seeks to build both a skilled workforce that mirrors the diversity of the province and a culture that is performance-based and service-oriented. All employees will clearly understand how their work individually and as a team contributes to BC Hydro's business success. In addition, to meet its long-term goals, BC Hydro must provide a safe workplace and ensure safety for the public. This will be achieved through injury prevention and implementing the right practices and policies.

## **SOCIAL**

BC Hydro will continue to be a socially responsible company and a leader over the next 20 years. It is very important to build strong working relationships with First Nations, based on mutual respect. BC Hydro will engage and partner with suppliers who take a similar triple-bottom-line approach to ensure that all aspects of BC Hydro's operations create a sustainable energy future.

## **ENVIRONMENT**

Protecting the environment today will build a positive future for tomorrow. BC Hydro will seek to better understand the environmental footprint of its operations and run the business in a way that produces no net incremental environmental impacts. Where impacts are unavoidable, BC Hydro is committed to developing positive projects, such as investments to improve fish stocks, to offset these impacts. BC Hydro, in partnerships with stakeholders and First Nations groups, will foster a culture of conservation and energy efficiency and will engage British Columbians in making wise energy choices. Ensuring that British Columbians use less energy will mean that fewer new resources need to be brought online and will minimize the environmental footprint.

## **FINANCIAL**

BC Hydro will continue to have among the lowest electricity rates in North America, and it will also continue to be an important contributor to the provincial economy. This goal is challenging, considering the investments required to upgrade and replace aging infrastructure, bring on new energy supplies and proactively address external factors, such as market forces and environmental and social impacts. BC Hydro will be prudent in its planning and invest wisely to ensure that it continues to be a more efficient, low-cost operation over the long term.

# Appendix B – BC Hydro’s Long Term Goals

## ENABLERS

BC Hydro, through Powerex, will act on western market opportunities to continue providing the trade revenues and profits that help to keep rates low, and allow the provincial government to invest in services that British Columbians rely on most. Technological innovation will help to support BC Hydro in achieving the long-term goals and improving BC Hydro’s triple-bottom-line performance. BC Hydro will also listen, engage and respond to the needs of stakeholders – from employees to the provincial government, to business partners, to customers, giving the company the trust and permission to make decisions in the best interest of all British Columbians.

Category	Goal Name	Goal Description
Customer	Reliability (Customer)	Best-in-class reliability by customer segment
	Reliability (Supply)	Meeting all domestic needs
	Customer Satisfaction	To lead other companies in offering extraordinary value & service
	Remote Community Electrification	To provide appropriate electric service to all remote communities on an equitable basis
Employees	Workplace	Top employer for generations
	Teamwork	Exceptional teamwork is used to engage all employees in the achievement of BC Hydro’s purpose and long-term goals
	Safety	To provide the safest work environment compared with the best performers in any industry; none of our employees will experience a serious safety injury
Social	First Nations Relationships	Establish relationships with First Nations built on mutual respect and that appropriately reflect the interests of First Nations
	Suppliers	100% of suppliers have demonstrated values congruent with those of BC Hydro
Environment	Environmental Impact	No net environmental impact by 2025
	Electricity Conservation & Efficiency	Develop & foster a conservation culture in BC that leads to customers choosing to make a dramatic & permanent reduction in electricity intensity
Financial	Financial Targets	Maintain existing position of having costs among the lowest in North America; deliver 100% of forecast net income on an annual basis
Enablers	Western Opportunities	Profitably increase Western market share based on access to assets in BC and the Western system and increased trading activity
	Innovation & Technology	To be an industry leader in the innovative use of technology, directly supporting & advancing BC Hydro’s long-term goals
	Stakeholder Engagement	To be the most respected company in BC

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