# BC HYDRO SERVICE PLAN 2014/15-2016/17



# BChydro Constructions



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## LETTER FROM THE CHAIR TO THE MINISTER

## TO: THE HONOURABLE BILL BENNETT, MINISTER OF ENERGY AND MINES AND MINISTER RESPONSIBLE FOR CORE REVIEW

On behalf of the Board of Directors, the Executive Team and employees, I am pleased to submit BC Hydro's Service Plan for fiscal years 2014/15–2016/17. This Service Plan was prepared under the direction of the Board and management in accordance with the *Budget Transparency and Accountability Act* and the B.C. Reporting Principles. It has been developed to be consistent with the Government's strategic priorities and fiscal plan.

The Board and management are accountable for the contents of the plan, including the selection of performance measures and targets. The performance measures presented are consistent with BC Hydro's mandate and strategic objectives, and focus on aspects critical to the organization's performance. The targets in this plan have been determined based on an assessment of BC Hydro's operating environment, forecast conditions, risk assessment and past performance.

All significant assumptions, policy decisions and identified risks as of January 31, 2014 have been considered in preparing this Service Plan.



Stephen Bellringer Chair, BC Hydro

#### POWERING BRITISH COLUMBIA FORWARD

For generations BC Hydro has powered the province with clean, reliable electricity. That electricity has supported the quality of life and economic prosperity in British Columbia. Today, our population is growing and the economy is expanding. With that growth comes an increasing demand for power: that is why we are investing in our aging infrastructure across the province.

Over the next three years, we will be investing approximately \$6 billion dollars in capital projects. Projects like the Northwest Transmission Line will support industrial development by opening up an area of Northwest B.C. currently off of the electricity grid. We are increasing capacity for the whole province with the installation of new generating units at the Mica Dam. Capital projects such as these will be the primary driver of rate changes over the next few years.

BC Hydro's Integrated Resource Plan (IRP) provides a long-term look at how BC Hydro can continue to cost-effectively and reliably meet the forecasted electricity needs in B.C. The plan was developed in consultation with the public, stakeholders and First Nations and was approved by the Province of British Columbia in November 2013. The plan recommends that BC Hydro continue to promote conservation and energy efficiency, develop or acquire renewable energy resources for the future, plan for the emerging liquefied natural gas industry, and support the clean energy sector and increased First Nations participation.

To meet future demand, the IRP recommends building Site C, a proposed third dam and hydroelectric generating station on the Peace River in Northeast B.C. This project is part of our planning for the long term and, subject to approvals, would be a source of clean, renewable and cost-effective electricity for more than 100 years. Site C would power the equivalent of about 450,000 homes per year.

As we work to meet the long-term needs of our customers, BC Hydro will continue to dedicate itself to environmental stewardship in all areas including funding fish and wildlife programs, managing GHG emissions, and promoting energy conservation through our Power Smart programs.

### KEEPING RATES COMPETITIVE FOR CUSTOMERS

In November 2013, the province announced a 10 year plan detailing how the Province and BC Hydro will keep electricity rates as low as possible while BC Hydro makes investments in aging assets and new infrastructure to support British Columbia's growing population and economy.

British Columbia has among the lowest rates in North America, in large part because of the ambitious hydroelectric facilities BC Hydro constructed in the 1960s, 1970s and 1980s. Generations of customers have benefited from this historical investment. In 2014, Power Smart celebrates 25 years of helping British Columbians save energy and money, reminding us that conservation in B.C. has also played a large and innovative part in keeping rates low for customers. Electricity is essential to our province's economy: it powers our industries and businesses, and affordable electricity continues to draw investment to our province. As we upgrade our assets and renew our system, we are committed to keeping our rates competitive over the long term.

As of December 2013, 48 of the 50 recommendations directed to BC Hydro as part of the 2011 Government Review have been completed. Work is well underway to complete the remaining two by March 31, 2014. We are also on track to achieve a three-year cumulative operating cost savings of \$391 million. As a result of the 10 year plan, BC Hydro is implementing a number of measures that build on these savings, including prioritizing capital and Power Smart spending; staff and operating cost reductions; and, surplus property sales. While the day-to-day challenges of our BC Hydro employees are many, our executive group is focused on managing operating costs through improvements and efficiencies in all areas of the company. Operating costs are forecast to increase at less than the rate of inflation over the F2015 to F2017 period.

Modernizing the electricity grid plays a crucial role in BC Hydro's plan to provide a secure and reliable power system for customers across the province. Once complete, a modern grid will help BC Hydro improve its management of the electricity system, including lowering costs, reducing theft, encouraging conservation and automatically detecting outages.

Over 97 per cent of BC Hydro customers now have a digital wireless meter, also known as a smart meter, installed in their home or business. This upgrade in technology is part of a North American-wide evolution to a more knowledge-based electrical grid that now encompasses over 50 utility companies. Almost all customers with a meter will be able to sign up for automated billing, and view their detailed energy use through their secure online myhydro account. This will help them save energy and money while at the same time assisting in optimizing the electrical grid and reducing future energy-related expenditures.

### SAFETY ABOVE ALL

Safety must always be at the heart of what we do at BC Hydro. Electricity is essential to our everyday lives, but it can also be very dangerous. An employee fatality in 2010 is a sobering and tragic reminder of the power of electricity. We are accountable to our employees and to the public to make decisions and take actions to increase the safety of our operations.

In order to permanently transform BC Hydro's safety culture, we are implementing the recommendations of the Safety Taskforce. Employees across the organization have contributed to the safety path we are taking over the next three to five years: it is important to incorporate the insights and observations of those that know the hazards of our operations from firsthand experience.

Keeping our communities safe drives much of our capital investment. We are investing to make our facilities seismically stable, and upgrading our transmission and distribution infrastructure to increase the reliability of our system.

The John Hart Generating Station Replacement Project will mitigate both environmental and earthquake risk with upgrades at a facility operating since 1947. The Interior to Lower Mainland project will expand the capacity of essential transmission circuits that supply power to the Lower Mainland and Vancouver Island. Deployment of distribution feeders throughout BC Hydro's service area will add system capacity at the distribution level to connect new customers and serve load growth, while replacement of aging distribution infrastructure like poles and underground cables that have reached their end of life will continue to keep the current system operational. The critical work that our crews do to get the lights back on will be made safer and more efficient, as smart meters will help determine the exact location and extent of power outages.

The events of this past winter in eastern Canada remind us that extreme conditions can take surprising turns that we don't expect. This underscores the importance of continuing to invest in our system and investigate ways we can better prepare.

At BC Hydro, our job is to think about the electricity system so our customers don't have to. When they turn the lights on, they know that power will be delivered to them in a safe and reliable way and at a competitive rate. Our customers can continue to count on us to safely keep the lights on in British Columbia for many years to come.

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Stephen Bellringer, Chair



BC Hydro was created over 50 years ago to generate and deliver clean, reliable and competitively priced electricity to homes and businesses throughout British Columbia. The electricity generated by our dams and delivered by our transmission and distribution infrastructure has powered B.C.'s economy and quality of life for generations.

As the economy and population of our province grows, so does the demand for power. With industrial growth in the north and the unique opportunity of liquefied natural gas (LNG) development, investment is flowing into our province.

British Columbia's hydroelectric system is vast, but it is aging and requires investment to ensure it continues to operate safely and effectively while maintaining B.C.'s clean electricity advantage. That is why BC Hydro is in the midst of updating and upgrading our assets - from making seismic and safety improvements at our dams, to expanding and strengthening our transmission system, to upgrading our metering system.

In addition to advancing this capital program, we continue to maintain our commitment to safety, and encourage conservation through our Power Smart initiatives. We are also looking to the long-term with a 10 year plan to keep electricity rates as low as possible, and an Integrated Resource Plan (IRP) that outlines the actions that BC Hydro must take to ensure our customers continue to receive cost-effective, reliable and clean electricity for years to come.

With prudent investment and careful planning, BC Hydro is positioned to continue to safely and reliably power the province forward.

#### SAFETY IS A FUNDAMENTAL VALUE

We continue our efforts to transform our safety culture. Enhancing employee, contractor and public safety is critical to BC Hydro. We are implementing the recommendations of the Safety Taskforce, which was established in 2010 following an employee fatality. The recommendations include BC Hydro's implementation of the Life Saving Rules (below) and Just Culture Principles to further improve worker safety. The Life Saving Rules support BC Hydro's focus on addressing hazards that have the potential to result in loss of life or permanently disabling injury, and support our goal of zero fatalities and serious injuries.



1. Maintain your Limits of Approach



4. Ensure that Worker Protection Grounding/ Bonding is applied



7. Prevent harmful exposure to known carcinogens, toxins and bio-hazards



2. Ensure there is a Safety Protection Guarantee of Lockout in place and check that it is appropriate for your work



5. Protect yourself from falling when working at height



9. Adjust your driving to the weather and road conditions

TES

1807

3. Test for

hazardous energy

6 Maintain a safe atmosphere

in a confined space and ensure

## PLANNING TO MEET FUTURE DEMAND

Meeting current and future demand for electricity is the foundation of BC Hydro's planning activities. B.C.'s economy has continued to expand, bringing new businesses, industry and people to the province. At the same time, new consumer technologies are becoming available, and more of B.C. is becoming electrified. BC Hydro must consider all of these trends that will increase electricity demand as we plan for the future.

BC Hydro's IRP outlines how BC Hydro will meet British Columbia's increasing energy needs over the long term. The final plan was approved by the Province in November 2013, and is consistent with the provincial energy objectives formalized in the Clean Energy Act, including electricity self-sufficiency, reduced greenhouse gas emissions, support for clean energy and economic development.

The IRP recommends:

- A continued focus on electricity conservation, as the first and best choice to meet future demand growth.
- Planning for the future by building Site C, which would provide clean, renewable and cost-effective electricity for more than 100 years.

8. Don't work while under the influence of alcohol



- Supporting LNG. The plan demonstrates that BC Hydro will have sufficient supply to meet the initial 3,000 gigawatt hours of LNG load and will prepare to meet further LNG requirements as they emerge.
- Supporting clean energy opportunities. To encourage a healthy, diverse clean energy sector and promote clean energy opportunities for First Nations.
- Creating contingency plans in case demand grows faster than expected or if planned resources do not become available when expected.

This balanced approach to both building and maintaining options allows BC Hydro to meet future demand while minimizing costs to current customers.

#### CONSERVATION AND ENERGY EFFICIENCY

Conservation is the first and best choice to meet future demand growth. Such measures are less expensive, have lower environmental impact, and benefit customers directly.

Through our Power Smart program, BC Hydro is a recognized leader in conservation, providing a range of programs and incentives to help our customers conserve, be more efficient, use power wisely, and ultimately use less. British Columbians are now saving the equivalent amount of electricity to meet the annual needs of approximately 425,000 homes.

The *Clean Energy Act* calls for BC Hydro to meet 66 per cent of future incremental electricity demand through conservation and energy efficiency by 2020. BC Hydro will continue to work to create a permanent conservation culture in B.C. by collaborating with the Province, local governments, First Nations and Natural Resources Canada to implement new programs, codes and standards and encouraging British Columbians to be smart with their power.

#### INVESTING TO ENSURE RELIABILITY

BC Hydro's current capital investment program is one of the largest expansions of generation, transmission and distribution infrastructure in British Columbia's history. Much of the electricity system was built in the 1960s, 1970s and 1980s. Upgrades are required so that BC Hydro can continue to meet current and future energy needs. Investments in the electricity system create jobs and economic activity throughout B.C.

BC Hydro's capital investments are evaluated using a risk-based methodology to ensure BC Hydro is mitigating asset-related risks in a prudent fashion. Dependencies between projects, opportunities to bundle work for more efficient delivery and resource considerations are among the other factors that are also considered to optimize the portfolio of investments. Timely investments in the system will enhance safety and long-term reliability. Highlights include:\*

- Mica Generating Station—installation of two additional 500 megawatt generating units into existing turbine bays for additional capacity.
- Gordon M. Shrum Generating Facility—replacement of the turbines for Units 1 to 5, which represent 12 per cent of BC Hydro's generating capacity. This upgrade will ensure ongoing reliability, availability, operational flexibility and increased output.
- Ruskin Dam Safety and Powerhouse Upgrade includes reinforcement of the right bank; seismic upgrade of the dam and water intakes; powerhouse upgrades; and, relocation of the switchyard.
- Northwest Transmission Line—this approximately 340-kilometre transmission line between Terrace and Bob Quinn Lake will ensure a reliable supply of clean power to communities and industrial developments in northwest B.C.
- The Interior to Lower Mainland Project (ILM) A new 500 kV transmission line approximately 247 km in length between the Nicola substation near Merritt and the Meridian substation in Coquitlam and a new series capacitor station at Ruby Creek near Agassiz to serve domestic load in the Lower Mainland.

\* For a complete list of BC Hydro projects in progress over \$50 million, please see the Capital Expenditures Section.

### THE 10 YEAR PLAN FOR KEEPING RATES COMPETITIVE

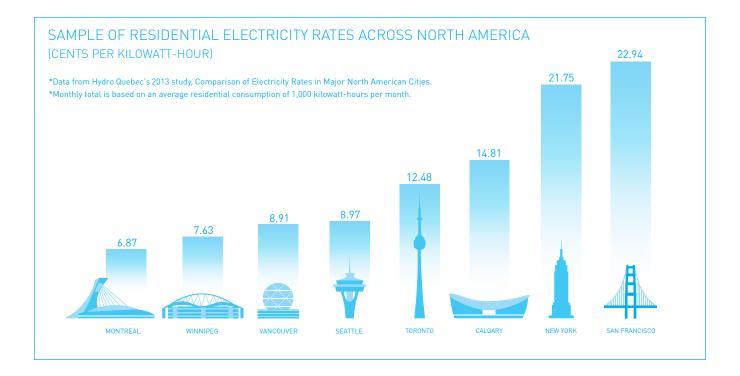
The Province and BC Hydro have worked together to reduce pressure on rates. The 10 year plan will keep electricity rates as low as possible while BC Hydro makes investments in aging assets and new infrastructure to support British Columbia's growing population and economy.

This Plan builds on the 2011 Government Review. New measures in the 10 year plan will reduce the amount of money that the Province takes from the utility, free up additional cash to support investments in infrastructure and limit BC Hydro's operating costs.



BC HYDRO'S RATES ARE AMONG THE LOWEST IN NORTH AMERICA.

According to an independent study by Hydro-Quebec, BC Hydro's residential rates are the third lowest in North America. Rates for industrial business customers are the fifth lowest.



## ORGANIZATIONAL OVERVIEW

BC Hydro is one of Canada's largest electric utilities, serving 95 per cent of B.C.'s population and delivering electricity safely and reliably at competitive rates to approximately 1.9 million customers. Nearly 90 per cent of customer accounts are residential, with the remainder either commercial or industrial.

BC Hydro operates 31 hydroelectric facilities and three thermal generating plants, totalling approximately 12,000 MW of installed generating capacity. The hydroelectric facilities provide over 95 per cent of the total electricity generated and are located in the Peace, Columbia and Coastal regions of B.C.

BC Hydro delivers electricity to customers through a network of over 75,000 kilometres of transmission and distribution lines. This system also includes more than 300 substations, approximately one million utility poles and 325,000 individual transformers. The transmission network connects with transmission systems in Alberta and Washington State, which improves the overall reliability of the system and provides opportunities for trade.

#### MANDATE

As a Provincial Crown corporation, the owner and sole shareholder of BC Hydro is the Province of British Columbia. BC Hydro reports to the B.C. Government through the Minister of Energy and Mines and the Government's expectations are expressed through legislation, policy and instructions.

#### Legislation

The *Hydro and Power Authority Act* is the most important long-standing piece of legislation governing BC Hydro. This *Act* gives BC Hydro its mandate: to generate, manufacture, conserve, supply, acquire, and dispose of power and related products.

The Utilities Commission Act gives the British Columbia Utilities Commission (BCUC) the power to regulate BC Hydro to ensure customers receive safe, reliable and non-discriminatory energy services at fair rates and the Province, as Shareholder, is afforded a reasonable opportunity to earn a fair return on its invested capital.

The *BC Hydro Public Power Legacy and Heritage Contract Act* ensures public ownership of BC Hydro's heritage resources, which include BC Hydro's transmission and distribution systems, and all of BC Hydro's existing generation and storage assets. The Province's 2007 BC Energy Plan lays out the general energy policies BC Hydro is required to follow and the 2010 *Clean Energy Act (CEA)* updated several elements and targets included in that plan and provided further guidance for how BC Hydro is to meet the Province's energy objectives. The *B.C. Government's Letter of Expectations* (GLE) describes the relationship between BC Hydro and the Province, and sets out objectives that the Shareholder wishes BC Hydro to achieve. The Province and BC Hydro review the letter annually and update it as required. Directions outlined in the letter focus on:

- Implementing the IRP.
- Continued development of the Site C project and supporting it through the environmental assessment process.
- Delivery of value and maintenance of competitive rates by efficiently and responsibly managing the business.
- Minimizing rate increases to consumers and industry.
- Continuing to replace and build infrastructure.
- Working with the Columbia Power Corporation to report to Government on the progress of the Columbia Power Corporation / BC Hydro Joint Development Committee.

This Service Plan outlines how BC Hydro intends to meet the Shareholder's expectations over the next three years. Appendix B outlines specific directives received from the Province in the GLE and BC Hydro's corresponding actions.

#### STRATEGIC OBJECTIVES

BC Hydro's vision is "Powering B.C. with clean, reliable electricity for generations" and there are six core values that are essential to our success: safety, accountability, teamwork, integrity, service, and ingenuity.

Six Strategic Objectives guide our actions. These are supported by corresponding strategies, performance measures and targets. Each performance measure has a definition and rationale, as well as benchmarking measures that allow a comparison of performance over time. These measures track our progress on delivering key priorities. BC Hydro management is responsible for measuring performance against targets, and results are reported to the Board on a quarterly basis and publicly in the Annual Report.

and in the operation, maintenance and advancement of our system.

with customers, suppliers, First Nations and the communities we serve.

Create a sustainable energy future in B.C. by carefully managing our impacts on the environment and fostering an energy conservation and efficiency culture.

Foster economic development opportunities across B.C. through our projects, practices and advancement of the energy efficiency and clean energy sectors.

#### **Maintain Competitive Rates**

Deliver value for British Columbia and maintain competitive rates I SUT by efficiently and responsibly managing our business.

Empower a team that is committed to safety, innovative and prepared for the future.

## SAFETY

#### STRATEGIC OBJECTIVES, PERFORMANCE MEASURES AND TARGETS

## SAFELY KEEP THE LIGHTS ON

Safely and reliably meet the electricity needs of our customers through integrated planning and technology, and in the operation, maintenance and advancement of our system.

BC Hydro is focused on safely and reliably meeting customer needs in the generation, transmission and distribution of electricity.

This includes ensuring a safe and reliable electricity supply through effective maintenance of our system. BC Hydro is responsible for maintaining the long-term health of our assets, identifying the sources of supply to meet future customer needs, and using technologies and methods that help us safely keep the lights on. New measures in the 10 year plan will reduce the amount of money government receives from BC Hydro, freeing up additional dollars to support investments in infrastructure.

Safe and reliable electricity also includes preventing employee and contractor injuries; mitigating and responding to outages from events such as natural disasters including storms, floods and earthquakes; and continuing to enhance our disaster preparedness, aligning to industry best practices.

BC Hydro intends to continuously improve its safety performance. BC Hydro's Safety Taskforce, comprised of a cross-functional group of employees, led comprehensive reviews of processes, best practices, culture and organizational effectiveness. They developed 21 recommendations that were largely focused on leadership and culture. Implementation began in September 2011, and will take multiple years; sustainment and continuous improvement will follow before the changes will be fully embedded in the organization. It is then that we will realize our vision for the future of safety at BC Hydro.

The targeted future state of safety at BC Hydro will be one where all employees are aware of hazards, feel that their voices matter in resolving issues, and take accountability for their decisions.

BC Hydro revised our safety policy to guide and facilitate ongoing improvement efforts. The new policy is aligned with our "Safety Above All" vision of having an injury-free

## PERFORMANCE MEASURES

(Please see Appendix A for Performance Measure definitions, rationales and benchmarking information.)

#### ZERO FATALITY AND SERIOUS INJURY

There has either been a loss of life or an injury resulting in a permanent disability.

3								
2								
1								
0								
	FOUR YEAR AVG.1	ACTUAL F2012	ACTUAL F2013	TARGET F2014	FORECAST F2014	TARGET F2015	TARGET F2016	TARGET F2017
	N/A	0	1 <sup>2</sup>	0	0	0	0	0

#### SEVERITY

Number of days lost due to injury per 200,000 hours, based on actual hours worked (*lower is better*)



#### ALL INJURY FREQUENCY<sup>4</sup>

Number of injuries per 200,000 hours, based on actual hours worked *(lower is better)* 



SAFETY TASKFORCE RECOMMENDATIONS IMPLEMENTATION Number of recommendations fully implemented and in sustainment (out of 21 total)

15							-	-
10						-	-	-
5				-	-	-	-	-
0			_					
	FOUR YEAR AVG.1	ACTUAL F2012	ACTUAL F2013	TARGET F2014	FORECAST F2014	TARGET F2015	TARGET F2016	TARGET F2017
	N/A <sup>3</sup>	N/A	1	7	7	12	16	21

<sup>1</sup>For trending purposes, four-year averages are included in the Targets section, where applicable. Four-year averages are based on historical actuals.

<sup>2</sup> Injury not fatality

<sup>3</sup>This is a cumulative target; an average is not applicable.

<sup>4</sup> In the 2013/14 - 2015/16 Service Plan, the Severity and All Injury targets were revised to better reflect performance. In the previous Service Plan, the targets had been set based on uncharacteristically good results in fiscal 2009/10 for Severity and in fiscals 2009/10 and 2010/11 for All Injury Frequency. The revised targets are more realistic and are based on the previous four years' average performance results.

<sup>5</sup> While the AIF result is above the target, it is improved over the F2013 result of 2.1. This improvement is mainly due to BC Hydro employees experiencing fewer injuries in F2014 year-to-date compared to the same period in F2013. However, if we experience the same number of injuries in the remainder of the fiscal year as we did in the same period of F2013, we will not meet the AIF target of 1.7 for F2014.

workplace for employees and contractors, and for the public in relation to our infrastructure. This new policy also emphasizes visible and felt leadership by management that will drive the safety culture, with full participation by employees.

#### STRATEGIES

#### Safety

- Continue to implement the recommendations of the Safety Taskforce.
- Develop an integrated safety, health and environment management system that is easy for field workers to use, and embeds a single set of processes in the business. This system will improve safety and environmental performance, and ensure due diligence in meeting compliance with regulation and internal policy, standards, rules and procedures.
- Systematically identify and, where possible, reduce the number of hazards through work-planning activities and work procedure development.
- Increase integration of job-safety planning into daily work for all operational facilities and activities.

#### Reliability

- Plan regionally to identify opportunities to increase regional transmission capacity and advance work on major transmission projects.
- Improve the reliability of poor performing feeders in the short and medium-term through focused vegetation management and automated recloser programs.
- To address reliability in the long-term, implement our Distribution Automation Strategy. The strategy uses smart meters and other technology to increase automation and flexibility in outage management.
- Invest in technology projects that support safe and reliable operations, such as the Smart Meter and Infrastructure Program; the Distribution Management System; and, the Enterprise Geographic Information System.
- Through our asset management principles, prudently invest in our assets to extend their operating lives, enhance capability, manage risk, and increase efficiency.
- Continue to effectively manage dam safety issues, risks and regulatory requirements.

## PERFORMANCE MEASURES

(Please see Appendix A for Performance Measure definitions, rationales and benchmarking information.)

**CAIDI**—Average interruption in hours per interrupted customer *(lower is better)* 



SAIFI—Number of interruptions per customer per year (lower is better)



**CEMI-4** (%)—Percentage of customers experiencing 4 or more outages (*lower is better*)



WINTER GENERATION AVAILABILITY FACTOR (%)— Heritage Asset units >20 MW available to generate electricity, excluding certain planned capital and maintenance outages (higher is better)



<sup>1</sup>For trending purposes, four-year averages are included in the Targets section, where applicable. Four-year averages are based on historical actuals.

<sup>2</sup>Annual targets are based on number of factors including long-term historic reliability trending, current year performance, previous years investments and future years investment plans.

Note: Reliability targets are based on specific values, however performance within 10 per cent is considered acceptable given the wide range of variations in weather patterns and other uncontrollable elements that can significantly disrupt the electrical system. BC Hydro measures reliability under normal circumstances, because major events are not predictable and largely uncontrollable. The reliability measure is therefore based on data that excludes major events. BC Hydro reviews performance during major events and takes that performance into consideration in reliability improvement initiatives.

## SUCCEED THROUGH RELATIONSHIPS

#### STRATEGIC OBJECTIVES, PERFORMANCE MEASURES AND TARGETS

# Gain support for our work by building trusted relationships with First Nations, customers, suppliers and the communities we serve.

BC Hydro works to build and improve relationships with customers and suppliers. Our goals include delivering outstanding value and service to our customers and being a customer of choice for our suppliers.

We recognize the importance of building mutually beneficial relationships with Aboriginal communities. We continue to implement a comprehensive approach that provides a foundation for long-term and effective business relationships with Aboriginal people in B.C. This can uncover new opportunities for collaboration and reduce financial, legal and operating risks for BC Hydro associated with the outstanding claims of Aboriginal rights and title.

BC Hydro is also working with communities, including local governments, regional districts and constituents, to advance shared goals. BC Hydro's Power Smart and Community Relations programs help gain support for work in communities where BC Hydro operates or has projects underway.

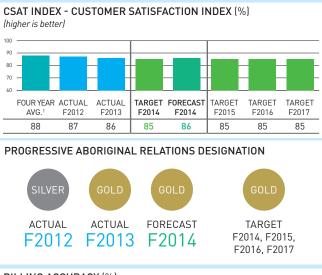
#### STRATEGIES

- Sustain gold-level certification under the Progressive Aboriginal Relations program by maintaining leading practices in the areas of Aboriginal employment, business development, capacity development and community engagement.
- Increase project and operational certainty by continuing to build collaborative and enduring relationships with First Nations.
- Strengthen BC Hydro's understanding of customers' needs and expectations through the use of enhanced data collection and reporting capabilities.
- Meet the evolving needs of customers by providing choice, increasing self-service and giving timely, easy access to consistent, high-quality information.
- Partner with external organizations and communities, and work with the energy efficiency industry to successfully implement the Demand Side Management (DSM) Plan.

• Continue to implement the remaining recommendations from our supplier engagement review to improve the effectiveness of procurement and contract management and how we engage and interact with our suppliers.

## PERFORMANCE MEASURES

(Please see Appendix A for Performance Measure definitions, rationales and benchmarking information.)



**BILLING ACCURACY** [%] (higher is better) 100 TARGET FORECAST TARGET FOUR YEAR ACTUAL ACTUAL TARGET TARGET AVG.1 F2012 F2013 F2014 F2014 F2015 F2016 F2017 98.5 98.4 98.5 98.4 99.0 99.0 99.1 99.2

#### FIRST CALL RESOLUTION [%]

(higher is better)



<sup>1</sup>For trending purposes, four-year averages are included in the Targets section, where applicable. Four-year averages are based on historical actuals.

#### STRATEGIC OBJECTIVES, PERFORMANCE MEASURES AND TARGETS

## MIND OUR FOOTPRINT

Create a sustainable energy future in B.C. by carefully managing our impacts on the environment and fostering an energy conservation and efficiency culture.

At BC Hydro, we mind our footprint by investing in energy conservation and efficiency programs; incorporating effective design in capital projects by managing, understanding and reducing risks from operational interactions with the environment; and, funding Fish and Wildlife Compensation Programs. BC Hydro is committed to maintaining a low-carbon electricity supply and pursuing cost-effective GHG emission reductions from our buildings and vehicle fleet.

BC's lowest cost resource option continues to be energy conservation and efficiency. Demand-side management is the first and best choice to meet future demand growth. By helping customers be more efficient and use their power wisely, BC Hydro can reduce future demand growth and lower customer consumption. This reduces the need for future supply side investments and helps customers to reduce their energy bills. Demand-side management (DSM) is also crucial for meeting the *Clean Energy Act's* objective to meet at least 66 per cent of all new electricity demand through conservation by 2020.

### STRATEGIES

- Implement the Demand-Side Management (DSM) plan recommended in the IRP, including Power Smart programs and conservation rate structures, supporting new energy efficiency regulations, and maintaining an energy conservation and efficiency culture.
- Continue to meet the 93 per cent clean energy objective in the *Clean Energy Act* by managing energy purchased from independent power producers and advancing clean energy capacity resources.
- Continue to meet regulatory requirements related to GHG emissions reporting and verification. Contribute to the Province's goal of achieving carbon neutrality in the public sector by reducing GHG emissions from our buildings, vehicles and paper use and by purchasing offsets for our residual emissions. Continue to facilitate the electrification of transportation in B.C.

## PERFORMANCE MEASURES

(Please see Appendix A for Performance Measure definitions, rationales and benchmarking information.)

#### DEMAND-SIDE MANAGEMENT (GWh/yr)

Cumulative annual electricity savings since 2008 (higher is better)

10,000								
8,000								
6,000							-	-
4,000			-	-	-	-	-	-
2,000								
	FOUR YEAR	ACTUAL	ACTUAL	TARGET	FORECAST		TARGET	TARGET
	AVG.	F2012	F2013	F2014	F2014	F2015 <sup>2</sup>	F2016 <sup>2</sup>	F2017
	N/A <sup>1</sup>	3,424	4,460	5,000	4,930	5,500	6,300	6,700

<sup>1</sup>This is a cumulative target; an average is not applicable.

<sup>2</sup> Compared to the 2013/2014 Service Plan, BC Hydro's energy saving targets have been updated and are now drawn from the DSM plan consistent with the 2013 Integrated Resource Plan. Last year's targets were drawn from DSM plan presented in BC Hydro's fiscal 2012-fiscal 2014 Revenue Requirements Application. Target numbers are rounded values presented as cumulative run-rate savings since 2008 and include energy savings from Power Smart programs as well as from codes/standards and rate structures. The energy savings resulting from rate structures.

- Manage the impact on the environment from BC Hydro's new developments and retrofits of existing facilities by incorporating an "avoid, minimize and offset" approach to project design, planning and implementation.
- Continue to implement environmental studies and projects related to water licence requirements under BC Hydro's Water Use Plans, to confirm the suitability of operational controls at hydroelectric generating plants.
- Continue implementing the PCB electrical equipment phase-out strategy, and pursue a long-term strategy for the handling, decontamination and disposal of PCB-contaminated equipment and materials.

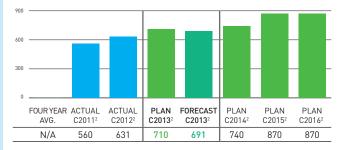
- Ensure resources, training and tools are in place at BC Hydro's facilities and throughout our operations to identify risks and prevent environmental incidents; and, to deploy the most effective approaches to minimize impacts when incidents occur.
- Work in partnership with First Nations and communities to understand impacts related to managing BC Hydro's assets and implement compensation programs and other environmental projects reflective of this input.

## PERFORMANCE MEASURES

(Please see Appendix A for Performance Measure definitions, rationales and benchmarking information.)

#### ELECTRICITY PRODUCTION GHG EMISSIONS1 (kt)

Carbon dioxide equivalent metric kilotonnes from electricity production *(lower is better)* 



#### CARBON NEUTRAL PROGRAM EMISSIONS (kt)

Carbon dioxide equivalent metric kilotonnes from building energy use and vehicles (*lower is better*)



#### CLEAN ENERGY [%]

Energy from clean or renewable resources (higher is better)



<sup>1</sup> The Electricity Production GHG Emissions targets are based on the forecasted need to run the generating stations, taking into account hydrology, reliability, system needs and market conditions, including the expected price of carbon emissions. The targets for Electricity Production GHG Emissions have been recalibrated from the 2013/14–2015/16 Service Plan to reflect updates to the forecast. The upward revision of the plan compared to the previous Service Plan is primarily related to a forecasted increase in market electricity prices relative to the price of natural gas, as well as new IPPs expected to come online.

- <sup>2</sup> Electricity Production GHG Emissions are reported by calendar year rather than fiscal year to ensure consistency with GHG emissions reports filed under the *Canadian Environmental Protection Act, 1999* and the B.C. *Reporting Regulation*.
- <sup>3</sup> Carbon Neutral Program Emissions are reported by calendar year rather than fiscal year to ensure consistency with GHG emissions reports filed under the B.C. Carbon Neutral Government Regulation.
- <sup>4</sup> The Clean Energy Target represents a minimum threshold generation target in accordance with the B.C. Government's requirement that at least 93 per cent of electricity generation in the province be from clean or renewable resources. BC Hydro's forecast is based on actual resource use and is consistent with previous years.

## FOSTER ECONOMIC DEVELOPMENT

# Foster economic development opportunities across B.C. through our projects, practices and advancement of the energy efficiency and clean energy sectors.

Over the past half century, BC Hydro has helped enable economic development in B.C. by building out our transmission and distribution system to communities and industries across the province and by supplying clean, reliable power at competitive rates. BC Hydro has also helped to make businesses and industry more competitive through our Power Smart programs, supported First Nations economic development across B.C., and purchased competitively priced energy from independent power producers.

BC Hydro plays an important role in supporting new economic development in B.C., such as the unprecedented growth in mining, natural gas and the emerging LNG industry while minimizing impacts to customers.

In the years to come, BC Hydro will continue to place a strong emphasis on providing reliable power at competitive rates. For this Service Plan, BC Hydro will measure performance through reliability, maintaining competitive rates, and through implementing our capital plans. These measures are a more accurate reflection of how BC Hydro contributes to B.C. communities.

#### STRATEGIES

- As outlined in the IRP, advance a set of actions that support a healthy, diverse clean energy sector and promote clean energy opportunities for First Nations.
- Support the Province's economic development priorities with implementation of such projects as: the Northwest Transmission Line; transmission upgrades required to supply the initial 3,000 gigawatt hours of LNG load and to prepare to meet future LNG requirements; and, clean energy opportunities for First Nations.
- Integrate economic development principles into decisionmaking tools, procurement practices, business cases and corporate policies.
- Ensure appropriate tariff/rate structures are in place to enable business expansion across B.C.
- Help expand and retain current customers by improving the competitiveness of businesses through Power Smart programs and the delivery of clean, reliable energy.

## MAINTAIN COMPETITIVE RATES

#### STRATEGIC OBJECTIVES, PERFORMANCE MEASURES AND TARGETS

# Deliver value for British Columbia and maintain competitive rates by efficiently and responsibly managing our business.

With a 10 year plan in place, BC Hydro's goal is to keep electricity rates as low as possible while making investments in aging assets and new infrastructure to support British Columbia's growing population and economy.

This effort builds on the 2011 Government Review that identified over \$391 million in savings. New measures in the 10 year plan will reduce the amount of money that the Province receives from BC Hydro, free up additional cash to support investments in infrastructure and limit operating costs.

To keep rates predictable while funding investments in aging and new infrastructure:

- the Province will set rate increases for the initial two years (F15 and F16) of the 10 year plan at nine per cent and six per cent;
- the BC Utilities Commission (BCUC) will set increases for the following three years within caps of four per cent, 3.5 per cent and three per cent; and,
- in the final five years of the plan, rates will be set by the BCUC. Actions by the Province and BC Hydro will ensure increases remain low and predictable.

In addition, BC Hydro will carefully manage costs; operate in a lean and efficient manner; and strive to ensure that projects deliver benefits on-time. Operating costs are forecast to increase at less than the rate of inflation over the F2015 to F2017 period.

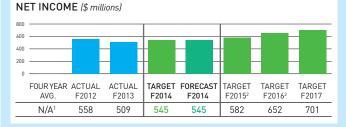
#### STRATEGIES

- Continue to focus on management and control of our cost structure in order to realize cost-savings and efficiencies.
- Prudently implement our capital plan and continue to deliver on BC Hydro's capital investment program, including process and procurement improvements.
- Improve operational excellence, safety and reliability in the Transmission & Distribution business group by improving work delivery methods, resourcing strategies, integrated planning, as well as technology platforms.

- Continue to implement category and materials management strategies to deliver improved supply chain operational efficiencies; meet cost control and other business objectives through improved sourcing of products and services; and build strong supplier relationships.
- Manage the cost of energy by: implementing a DSM plan; ensuring new electricity supply is the most cost-effective available; making prudent short-term generate and buy decisions; and, optimizing BC Hydro's ability to use the flexibility of our heritage assets.
- Optimize BC Hydro's balance sheet and cost of capital.

## PERFORMANCE MEASURES

(Please see Appendix A for Performance Measure definitions, rationales and benchmarking information.)



**OPERATING COSTS** (\$ millions)



#### COMPETITIVE RATES

<sup>st</sup> Quartile

•FOUR YEAR AVERAGE

•ACTUAL F2012 & F2013

•FORECAST F2014

•TARGET F2014, F2015, F2016, F2017

<sup>1</sup> As a result of reintegration of BCTC in July 2010 and changes to the presentation of certain financial statement items, previous year numbers are not comparable.

<sup>2</sup> As described in the Financial Outlook section of the Service Plan, BC Hydro's allowed net income is calculated by multiplying its deemed equity [which is essentially 30% of its assets in service and DSM expenditures] by its allowed return on equity which is currently 11.84%. The reduction in the net income forecast from the last Service Plan is due to the reduction in our capital expenditure and DSM forecasts.

**NOTE:** The Province, as part of the 10 year plan will restrict the amount of dividends received from BC Hydro starting in F2018 until such time as the Debt:Equity ratio reaches 60:40. BC Hydro does not anticipate reaching the Debt:Equity ratio of 60:40 during the 10-year period. As a result of this change the Debt:Equity ratio has been removed as a performance measure.

## ENGAGE A SAFE AND EMPOWERED TEAM

#### STRATEGIC OBJECTIVES, PERFORMANCE MEASURES AND TARGETS

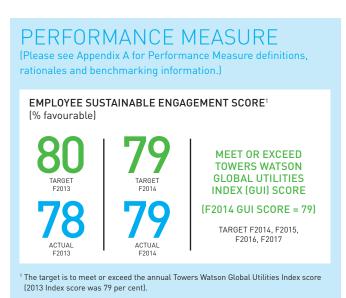
# Empower a team that is committed to safety, innovative and prepared for the future.

BC Hydro requires highly gualified technical, trade and degreed professionals to meet its operational goals and objectives. While BC Hydro continues to focus on managing overall staffing levels, we also recognize the need to balance staffing with the ability to meet our goals and objectives as laid out in this Service Plan. BC Hydro believes it can meet its current performance targets with the current staffing levels, and continues to look for additional opportunities to find efficiencies that will not directly impact the completion of work. In the future, BC Hydro's demand for people with industry-specific expertise and specialized skills will continue as it undertakes large-scale capital projects. At the same time, burgeoning demand in labour markets in Western Canada and the retirement of aging workers within B.C.'s workforce are creating higher demand for people across the region. Additionally, the electric utility sector across Canada is undergoing capital expansion and as such, three types of competition are being faced for skilled labour: industry pressures given the net shortage of electric utility occupations at a time of industry growth; western economy pressures given faster growth in the four western provinces; and, remote location challenges given the location of our capital programs.

To help address this need for a highly qualified, diverse and flexible workforce, BC Hydro has established programs to close the gap between our need for workers and the supply of them. BC Hydro has invested in a new trades and technical training school, which will enhance BC Hydro's ability to deliver specialized technical and safety training in a simulated environment. The Trades Training Centre will be the primary venue for formal apprenticeship and journey person training across all trades at BC Hydro as well as safety training for the broader BC Hydro employee audience. BC Hydro will continue to consistently emphasize improving our safety culture, and ensure technical and safety leadership competencies in work delivery.

#### STRATEGIES

- Address workforce gaps by ensuring that development plans provide a readily available talent pool for critical roles.
- Continue to prudently manage staffing levels.
- Ensure the optimal complement of new recruits; skilled, experienced and high-performing employees; and, contracted or outsourced service providers.
- Provide sustainable total compensation that attracts the best candidates, aligns employees to our key objectives, retains top performers and maintains employee well-being while also keeping rates low for customers.
- Ensure organizational leaders have the training and tools to encourage high performance and engage teams to work together safely and effectively.



BC Hydro's financial performance considers the financial return to the Province of British Columbia and the electricity rates paid by customers.

In fiscal 2013, BC Hydro's return to government was \$1,083 million. This amount includes water rental fees (royalties paid for the use of provincial water resources), provincial and municipal property taxes and grants-in-lieu of taxes, and BC Hydro's net income (return on equity). BC Hydro's dividend payment to the Province was \$215 million in fiscal 2013.

BC Hydro is projecting its return to government will average approximately \$1,265 million per year for the fiscal 2015 to fiscal 2017 plan period and its dividend payment will average approximately \$410 million<sup>1</sup> per year over the same period.

### CAPITAL AND REGULATORY STRUCTURE

BC Hydro is regulated by the British Columbia Utilities Commission (BCUC) and both entities are subject to general or special directives and directions issued by the Province. BC Hydro operates primarily under a cost of service regulation as prescribed by the BCUC. Orders in Council from the Province establish the basis for determining BC Hydro's equity for regulatory purposes, as well as its allowed return on deemed equity and the annual dividend to the Province.

BC Hydro's deemed equity for regulatory and rate setting purposes is 30 per cent of the company's rate base, comprised largely of BC Hydro's property, plant and equipment in service.

BC Hydro's allowed return on its deemed equity will be set at 11.84% for the F2014 to F2017 period. BC Hydro's allowed net income for F2014 to F2017 is therefore calculated by multiplying its deemed equity and allowed rate of return.

The Government, as part of the 10 Year Plan, has announced that the allowed net income for F2018 and future years will increase by inflation and therefore the concepts of deemed equity and the allowed return on its deemed equity will no longer be relevant after F2017.

BC Hydro is required to make an annual dividend to the Province on or before June 30 each year. The dividend is equal to 85 per cent of BC Hydro's net income assuming that the actual debt to equity ratio, after deducting the dividend, is not greater than 80:20. If the dividend would result in a debt to equity ratio exceeding 80:20, then the dividend will be based on the greatest amount that can be paid without causing the debt to equity ratio to exceed 80:20. As part of the 10 Year Plan, the Government has announced that the dividend will be reduced over five years starting in F2018 and then be restricted if the dividend would result in a debt to equity ratio exceeding 40:40.

### **COST INFLUENCES**

BC Hydro's costs are driven by capital investment costs, cost of energy, recovery of its regulatory account balances, and costs required to operate and maintain its utility business.

- Capital investment costs relate to costs associated with capital expenditures and additions including amortization, finance charges, and return on equity. Many large capital projects to refurbish and maintain the system to ensure ongoing reliability of our assets and to build new assets to meet growing demand are planned or underway, with annual expenditures of approximately \$2.0 billion (excluding Site C) over the next several years. An average of approximately 40 per cent of BC Hydro's total cost structure over the fiscal 2015 to fiscal 2017 period relates to capital investment costs.
- Cost of energy includes water rental charges, purchase costs from Independent Power Producers (IPPs), market electricity purchases and purchases of gas for thermal generation. New sources of energy supply are more expensive than

<sup>&</sup>lt;sup>1</sup> The Financial Outlook excludes the construction costs related to the Site C project which will require an environmental certification, other regulatory approvals and permits, as well as a final decision before it can proceed to construction. If Site C construction costs and corresponding debt were included the dividend would average \$100 million per year lower over the F2015 to F2017 period due to the debt:equity cap described above.

heritage resources and the supply volume of contracted energy from IPPs is expected to increase from 20 per cent to 25 per cent of BC Hydro's domestic needs over the next several years. An average of approximately 30 per cent of BC Hydro's total cost structure over the fiscal 2015 to fiscal 2017 period relates to cost of energy.

- The costs required to operate and maintain its utility business average approximately 14 per cent of BC Hydro's total cost structure over the fiscal 2015 to fiscal 2017 period. BC Hydro is continuing with its cost savings and efficiency programs and has already made significant reductions to its base operating costs. Operating costs are forecast to increase at less than the rate of inflation over the F2015 to F2017 period.
- Over the last several years, BC Hydro has deferred costs and expenditures through the use of regulatory and deferral accounts in order to match expenditures to the customer benefit and to mitigate rate increases. This is similar to capital expenditures, where the cost of the expenditures is recovered in rates over the life of the benefit period of the asset. The recovery of these deferred expenditures is forecast to average approximately 10 per cent of BC Hydro's total cost structure over the fiscal 2015 to fiscal 2017 period.

#### **REGULATORY ACCOUNTS**

The use of regulatory accounts is common amongst regulated utility industries throughout North America. Regulatory accounts are used to capture differences between how items are recovered in rates and how they would be treated under accounting rules. They reflect costs BC Hydro has not yet recovered from ratepayers and also amounts that will be returned to ratepayers in future revenue requirement applications. BC Hydro uses various regulatory accounts, in compliance with BCUC orders, in order to:

- 1. Better match costs and benefits for different generations of customers.
- 2. Smooth out the rate impact of large non-recurring costs.
- 3. Defer to future period differences between forecast and actual costs or revenues.

Of the \$4.4 billion balance in regulatory accounts at the end of F2013, BC Hydro is already collecting in its rates 19 of the 27 regulatory accounts representing account balances of \$3.5 billion, or 80 per cent of the total balance. The remainder of the regulatory accounts will begin to be collected in rates starting in F2015 with the exception of the accounts related to loss provisions (which will be recovered in rates when actual expenditures are made) and Site C (which will begin recovery once the asset is in service).

#### FINANCING STRATEGY

As a provincial Crown corporation, BC Hydro borrows all funds through the Province, and all of BC Hydro's debt is either held or guaranteed by the Province, resulting in the same credit rating on BC Hydro's long-term debt as the Province's own rating of Aaa by Moody's and AAA by Standard and Poors.

BC Hydro forecasts its overall borrowing requirement to be approximately \$2.4 billion in fiscal 2014, \$710 million of which will be used to refinance retired debt for a net requirement of \$1.7 billion. This borrowing is required to finance BC Hydro's \$2.0 billion capital expenditure program in fiscal 2014. BC Hydro expects to borrow \$1.2 billion through long-term debt, with the balance through short term and revolving borrowings. BC Hydro forecasts debt net of sinking funds, as of March 31, 2014, to be \$15.6 billion, increasing to \$18.4 billion at the end of fiscal 2017.

BC Hydro's capital expenditure program results in increasing debt levels and, along with higher interest rates, contribute to the increase in finance charges. BC Hydro forecasts finance charges to be approximately \$597 million in fiscal 2014 and \$838 million in fiscal 2017.

#### FINANCIAL PROJECTIONS

BC Hydro's operations are subject to a range of risks and uncertainties. As a result, actual financial results may differ materially from those described in this Service Plan.

BC Hydro prepared the following financial projections for revenues and expenses through fiscal 2017 which were approved by the Board and submitted to the Ministry of Finance in January 2014. These financial projections are consistent with the 10 Year Plan.

The financial information presented below is prepared based on prescribed accounting standards in accordance with a Directive issued by Treasury Board pursuant to section 23.1 of the *Budget Transparency and Accountability Act* and section 9(1) of the *Financial Administration Act*. The prescribed accounting standards reflect International Financial Reporting Standards (IFRS) and apply United States Financial Accounting Standards Board Accounting Standards Codification 980 (Regulated Operations).

CONSOLIDATED STATEMENT OF OPERATIONS <sup>1</sup> (\$ MILLIONS)	ACTUAL F2013	FORECAST F2014	FORECAST F2015	FORECAST F2016	FORECAST F2017
REVENUES					
Domestic	4,038	4,283	4,830	5,060	5,446
Trade	860	920	999	956	1,014
	4,898	5,203	5,829	6,016	6,460
EXPENSES					
Operating Costs					
Cost of energy	1,806	1,968	2,283	2,208	2,462
Other operating expenses					
Personnel expenses, materials & external services <sup>2</sup>	840	851	867	904	966
Amortization	953	1,002	1,204	1,241	1,217
Finance charges	540	597	633	751	838
Grants and taxes	196	205	214	224	238
Other	54	34	46	37	37
	4,389	4,657	5,246	5,364	5,759
NET INCOME	509	545	582	652	701
Net Debt <sup>3</sup>	13,962	15,560	16,772	17,543	18,383
Equity	3,500	3,890	4,193	4,386	4,596
Capital Expenditures	1,929	1,995	2,262	1,949	1,821

Notes:

<sup>1</sup> Table may not add due to minor rounding.

<sup>2</sup> These amounts are net of capitalized overhead and consist of the following:

	F2013	F2014	F2015	F2016	F2017
Domestic Base Operating Costs	705	699	706	713	730
Other	135	152	161	190	236
	840	851	867	904	966

Other largely consists of Powerex & Powertech operating costs, operating costs related to energy purchase agreements accounted for as capital leases, and the transitioning of IFRS-ineligible capital overhead into operating costs over a 10-year period.

<sup>3</sup> Debt figures are net of sinking funds and cash and cash equivalents.

### **KEY ASSUMPTIONS**

BC Hydro used the following key assumptions in preparing these financial projections:

KEY ASSUMPTIONS	ACTUAL F2013	FORECAST F2014	FORECAST F2015	FORECAST F2016	FORECAST F2017
GROWTH AND LOAD:					
B.C. Real Gross Domestic Product Growth (%) <sup>1</sup>	1.5	1.4	2.0	2.3	2.5
Domestic Sales Load Growth [%] <sup>2,3</sup>	9.22	(5.44)	5.52	(1.20)	2.83
Residential Sales Load Growth (%) <sup>2</sup>	(3.76)	3.40	2.73	(0.33)	(1.01)
Light Industrial and Commercial Sales Load Growth (%) <sup>2</sup>	2.10	(0.15)	(0.43)	0.38	0.91
Large Industrial Sales Load Growth (%) <sup>2</sup>	(0.10)	0.37	6.54	4.08	2.99
Domestic Load (GWh):					
Domestic Sales Volume (GWh) <sup>3</sup>	57,012	53,913	56,886	56,205	57,795
Line Loss and System Use (GWh)	5,515	5,134	4,849	4,743	4,845
Total Domestic Load (GWh)	62,527	59,047	61,735	60,948	62,640
ENERGY GENERATION:					
Total System Water Inflows (% of average)	109	98	100	100	100
Sources of Supply to Meet Domestic Load:					
Net Hydro Generation (GWh)	51,260	46,504	46,749	46,958	47,014
Market Electricity Purchases (GWh)	359	877	1,224	1,553	1,676
Independent Power Producers and					
Long-term Purchases (GWh)	10,673	11,263	13,339	12,002	13,509
Thermal Generation (GWh)	235	403	423	435	442
Sources of Supply for Domestic Load (GWh)	62,527	59,047	61,735	60,948	62,640
Average Mid-C Price (U.S.\$/MWh)	21.45	32.28	31.85	33.61	35.42
Average Natural Gas Price at Sumas (U.S.\$/MMBTU)	2.95	3.68	3.90	3.94	4.00
FINANCIAL:					
Canadian Short-Term Interest Rates [%]4	1.30	1.09	1.28	2.23	3.23
Canadian Long-Term Interest Rates (%) <sup>4</sup>	2.23	3.40	4.05	5.00	6.00
Foreign Exchange Rate (U.S.\$:Cdn\$) <sup>4</sup>	1.0037	0.9639	0.9547	0.9532	0.9394
i oreign Exchange Nate (0.3.4.00114)	1.0007	0.7007	0.7547	0.7552	0.7074

Notes:

<sup>1</sup> Economic assumptions, based on calendar year, from Ministry of Finance October 2013.

 $^{\rm 2}\,$  Includes the impact of Demand-Side Management programs.

<sup>3</sup> Includes surplus sales volume.

<sup>4</sup> Fiscal 2013 from Bloomberg; three months rates for short term and 10 years for long term. Fiscal 2014 to fiscal 2017, financial assumptions from Ministry of Finance, October 2013.

#### SENSITIVITY ANALYSIS

The following table shows the effect on earnings based on changes in some key variables. The analysis is based on business conditions and production volumes forecast for fiscal 2015. Each separate item in the sensitivity analysis assumes the others are held constant. While these sensitivities are applicable to the period and magnitude of changes on which they are based, they may not be applicable in other periods, under other economic circumstances or greater magnitude of changes.

The volatility between BC Hydro's plan and actual results are mostly mitigated through the use of BCUC-approved regulatory accounts.

Factor	Change	Approximate change in earnings before regulatory account transfers (in \$millions)
Hydroelectric Generation (GWh) <sup>1</sup>	+/- 1%	15
Electricity trade margins	+/- 10%	20
Interest rates	+/- 1%	50
Exchange rates (US/ CDN)	\$0.01	5
Weather	1°C change in average temperature	20

<sup>1</sup> Assumes a change in hydroelectric generation is offset by corresponding change in energy imports. (i.e. increase in hydroelectric generation is offset by decrease in energy imports.)

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

## CAPITAL EXPENDITURES

BC Hydro is investing in its heritage assets to ensure system reliability and it's undertaking new projects to meet future electricity demand in B.C. These projects span the entire system, and provide economic and business development opportunities in different communities and regions across the province.

BC Hydro's forecast capital expenditures are developed using a risk-based Enterprise-Wide Capital Prioritization Framework, with consideration given to economic benefits, cost effectiveness and efficient project implementation. BC Hydro classifies capital expenditures as either sustaining capital or growth capital:

- Many of BC Hydro's assets were built before 1970—over 40 years ago. Investments in these aging assets are required to meet targeted levels of customer and supply reliability. Sustaining capital includes expenditures to ensure the continued availability and reliability of generation, transmission and distribution facilities. It also includes expenditures to support the business, such as vehicles and information technology. Large sustaining capital projects include the John Hart Generating Station Replacement and Ruskin Dam and Powerhouse Upgrade projects.
- Growth capital is required to meet customer load growth and other business investments. B.C.'s electricity demand is expected to increase significantly over the next 20 years due to economic expansion, population growth and the increased use of, or conversion to, electricity. Growth capital expenditures relate to the expansion of existing generation assets as well as expansion and reinforcement of the transmission and distribution system. Projects include the Northwest Transmission Line, the Interior to Lower Mainland Transmission Project, and the addition of generating capacity by adding a fifth and sixth unit at Mica.

CAPITAL EXPENDITURES <sup>1</sup> (\$ MILLIONS)	ACTUAL F2013	FORECAST F2014	FORECAST F2015	FORECAST F2016	FORECAST F2017
Sustaining	1,009	981	1,170	1,194	1,224
Growth	920	1,014	1,091	754	597
TOTAL CAPITAL PLAN	1,929	1,995	2,262	1,949	1,821
Generation	421	491	633	607	602
Transmission and Distribution	1,325	1,288	1,391	1,101	965
Properties, Technology and Other	183	216	238	241	254
TOTAL BC HYDRO CAPITAL FORECAST	1,929	1,995	2,262	1,949	1,821

<sup>1</sup> Table may not add due to minor rounding.

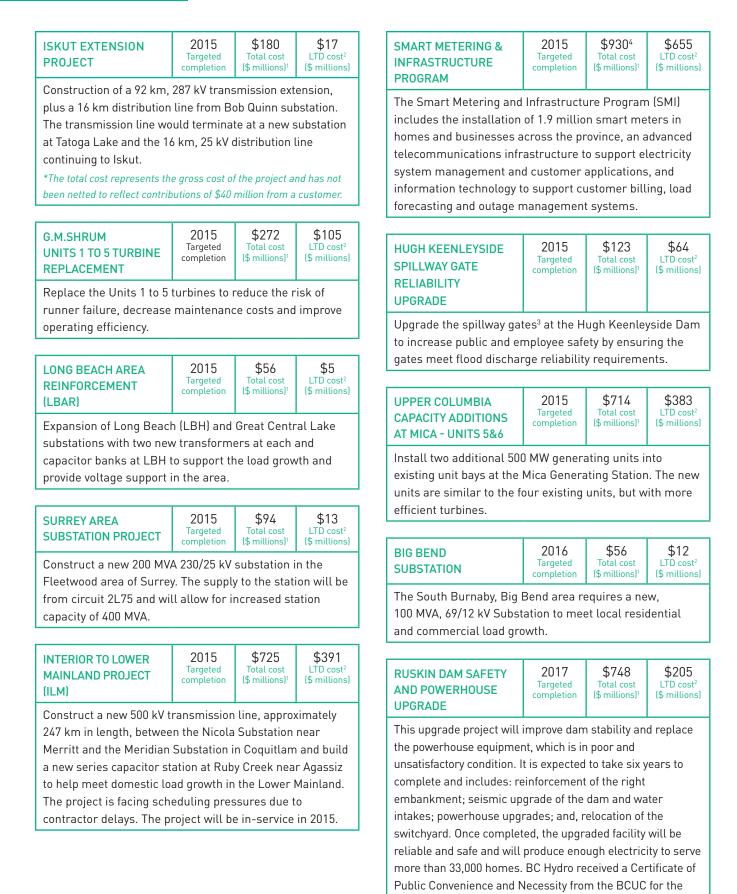
Capital expenditures in the above table do not include construction costs related to the Site C project. Site C is undergoing a cooperative environmental assessment process by federal and provincial regulatory agencies and is currently in the joint review panel stage. The Site C project will require an environmental certification, other regulatory approvals and permits, as well as a final decision from the Province before it can proceed to construction. In addition, the Crown has a duty to consult and, where appropriate, accommodate Aboriginal groups. The completion of the environmental assessment process is expected to be in the fall of 2014. Construction costs of \$1,365 million are expected for the F2015 to F2017 period assuming the project proceeds to construction. The estimate is subject to change as planning and implementation of procurement for Site C progresses. Site C costs prior to construction are captured within the Site C Regulatory Account.

## PLANNED PROJECTS OVER \$50 MILLION

BC Hydro has planned for the following projects, each with capital costs expected to exceed \$50 million, listed according to targeted completion date. These projects have been approved by the Board of Directors.

SEYMOUR ARM SERIES CAPACITOR STATION (SASC)	2013 In-Service	\$48 Total cost (\$ millions) <sup>1</sup>	\$44 LTD cost² (\$ millions)	TRAN	RITT AREA NSMISSION JECT (MAT)	2014 Targeted completion	\$65 Total cost (\$ millions) <sup>1</sup>	\$14 LTD cost <sup>2</sup> (\$ millions)	
Construct a 500 kV series the existing transmission run between Mica Genera Substation near Merritt. the transmission capacity	lines 5L71 a ating Station The capacito	and 5L72, w and the Nic r station wil	hich cola ll increase	Merr Subs	Construct a new 138-kilovolt transmission line between the Merritt and Highland substations, expand the Merritt Substation and add new equipment at the Highland Substation to meet the increased demand for power in the Merritt area.				
Generating Station to sec with the new generating	-		ion output	СІТҮ	COUVER CENTRAL NSMISSION (VCCT)	2014 Targeted completion	\$201 Total cost (\$ millions)1	\$160 LTD cost <sup>2</sup> (\$ millions)	
MICA SF₄ GAS INSULATED SWITCHGEAR (GIS) REPLACEMENT PROJECT	2014 Targeted completion	\$199 Total cost (\$ millions) <sup>1</sup>	\$155 LTD cost <sup>2</sup> (\$ millions)	Pleas 230 k to the	d an enclosed 230/12 sant area of Vancou V transmission line e existing transmiss s in the Mt. Pleasant	ver and two s connectin sion network	new underg g the new su a to serve gr	round ubstation owing	
Replace the switchgear system at the Mica Generating Station to ensure the reliability of this key generating station and reduce SF6 (a greenhouse gas) leakage. The switchgear system, energized at 500 kV conducts energy from the Mica underground powerhouse to the surface, where it transitions to transmission lines.				DAW	ble supply of electric SON CREEK/ TWYND AREA NSMISSION (DCAT)	2015 Targeted completion	areas of Va \$296 Total cost (\$ millions)	\$59 LTD cost <sup>2</sup> (\$ millions)	
NORTHWEST TRANSMISSION LINE PROJECT (NTL)	2014 Targeted completion	\$746 Total cost (\$ millions) <sup>1</sup>	\$563 LTD cost <sup>2</sup> (\$ millions)	trans to su inclu	project will expand t smission system to t pply the high area lo de the construction son Creek and Bear	the Dawson bad growth. of new 2304	Creek-Chet The solution V lines betw	wynd Area n will veen	
Construct an approximately 340 km, 287 kV transmission line between Skeena Substation near Terrace and a new substation to be built near Bob Quinn Lake to ensure a reliable supply of clean power to potential industrial developments in the area; provide a secure interconnection point for clean generation projects; and potentially help certain northwest communities access their power from				to a r 19 kr refle mate the E provi	new station called S m east of Chetwynd. cts increase in cost grials and additional BCUC. The total cost ded in the project's th 2012.	undance, loo Change fro estimates fo project con estimate is	cated appro: m F2014 Se or labour an sultation re within the r	ximately rvice Plan d quested by range	
the electricity grid rather than diesel generators. *Total cost represents the gross cost of the project and has not been netted for contributions, which total \$220 million from the Federal Government and a customer prior to the in-service date. An additional \$90 million will be received from a customer as annual payments over 20 years after the in-service date. The LTD cost has not been netted for \$107 million in contributions to date from the Federal Government.									

#### CAPITAL EXPENDITURES



project in March 2012.

JOHN HART	2019	\$1,093	\$95
GENERATING STATION	Targeted completion	Total cost (\$ millions) <sup>1</sup>	LTD cost <sup>2</sup> (\$ millions)
REPLACEMENT			

Replace the existing six-unit 126 MW generating station (in operation since 1947) and add integrated emergency bypass capability to ensure reliable long-term generation and to mitigate earthquake risk and environmental risk to fish and fish habitat. In February 2013, BC Hydro received a Certificate of Public Convenience and Necessity from the BCUC for the project. The Total Cost is within the range outlined in the F2014 Service Plan.

Site C is a proposed third dam and 1,100 megawatt hydroelectric generating station on the Peace River approximately seven kilometres southwest of Fort St. John. It would be capable of producing approximately 5,100 gigawatt-hours of electricity annually and would deliver firm electricity with a high degree of flexibility. The Site C project is currently undergoing a cooperative federal-provincial environmental assessment, including a Joint Review Panel process. Subject to approvals, Site C would provide clean, reliable power to B.C. for more than 100 years.

\*Planned in-service date for all units. This timeline reflects the project's current regulatory schedule and is subject to change based on a review of the construction schedule.

<sup>1</sup> The capital expenditure amounts do not include dismantling or asset retirement costs.

- <sup>2</sup> Life to date (LTD) costs to December 31, 2013.
- <sup>3</sup> Spillway gates control the amount of water that can be discharged from the reservoir. They are generally used in times of flood to pass high inflows.
- <sup>4</sup> Smart Metering & Infrastructure Program amount includes both capital costs and operating expenditures subject to regulatory deferral.

## CONTEMPLATED PROJECTS OVER \$50 MILLION

BC Hydro is contemplating the following projects over \$50 million commencing during Fiscal 2015–Fiscal 2017, listed in alphabetical order. These projects are in the initial project phases; scope, final cost and benefit assessment, and completion dates are still to be determined. These projects have not yet been approved by the Board of Directors.

#### **BRIDGE RIVER 2 UNITS 5 AND 6 REHABILITATION**

Restore Bridge River 2 Units 5 and 6 (commissioned over 60 years ago) to "as new condition." This would address known major component deficiencies and enable the units to run at full capacity (currently derated from 70 MW to 60 MW).

#### CHEAKAMUS UNIT 1 AND UNIT 2 GENERATOR REPLACEMENT

Replace the two generators at Cheakamus generating station (commissioned over 50 years ago) to address the poor condition and known deficiencies. Replacing the generators will increase the capacity of each unit from 70 MW to 90 MW.

#### DOWNTOWN VANCOUVER REDEVELOPMENT PROGRAM

Upgrade and expand the transmission and distribution network serving downtown Vancouver over the next 20 to 30 years to improve reliability and seismic resiliency. The project includes the addition of a new transmission cable coming into the downtown core, the construction of new substations, and the refurbishment and/ or replacement of the existing substations. The project also includes converting the existing distribution system from a 12 kV dual radial system to a 25 kV open-loop system to feed off the new transmission system.

#### G.M. SHRUM G1-G10 CONTROL SYSTEM UPGRADE

The condition of the legacy controls for GMS generating units, which were originally installed in the 1960s and 1970s, is of growing concern due to increasing maintenance requirements, lack of spare parts availability and decreasing reliability. The controls are well beyond their expected life, cause operating problems and increase the risk of damage to major equipment.

#### HORNE PAYNE SUBSTATION UPGRADE

Expand the Horne Payne Substation with the addition of two 230/25kV, 150MVA transformers; three 25kV 50MVA indoor gas-insulated (GIS) feeder sections; and a new control building. This project will increase the firm capacity of the substation, add needed feeder positions, facilitate the gradual conversion of the area supply voltage from 12kV to 25kV, and allow for the implementation of an open-loop distribution topology. Conversion to 25kV will also eliminate the existing issue of high fault current on the distribution bus at Horne Payne and reduce distribution losses.

#### JOHN HART DAM SEISMIC UPGRADE

Upgrade the John Hart Dam to reliably withstand moderate to severe earthquake loadings and meet normal operations criteria post-earthquake.

#### LADORE UPGRADE DAM SPILLWAY GATES

Reduce the risk of failure of the spillway gates and hoist structure due to a seismic event. Improve post-seismic operability in order to prevent the subsequent uncontrolled release of water into the downstream John Hart Reservoir and maintain reservoir control in the system.

#### METRO NORTH TRANSMISSION STUDY

A new 230 kilovolt (kV) transmission line(s) is proposed between Coquitlam and Vancouver to address load growth in the Metro Vancouver area and to strengthen the reliability of the network.

#### PEACE REGION ELECTRIC SUPPLY

Increase transmission capacity to the South Peace area by providing a second 230 kV supply to Dawson Creek in response to the significant load growth in the area, mainly from the gas production industry.

#### PRINCE GEORGE TERRACE CAPACITY UPGRADE

The Prince George to Terrace Capacitors project will increase the capacity of the 500kV circuit supplying the north coast areas. This will increase the transfer capacity by up to approximately 60 per cent through the addition of reactive compensation. This additional capacity is required to provide capacity for industrial loads expected to interconnect to in the Northwest. The timing of the PGTC project is linked to the interconnection of Shell's LNG Canada Liquefied Natural Gas plant that is scheduled for early 2019.

#### **REVELSTOKE UNIT 6 INSTALLATION**

Supply and install an approximately 500 MW unit in the existing empty Unit 6 bay at Revelstoke Generating station to add capacity to the BC Hydro system. Revelstoke Unit 6 is identified as a contingency resource in BC Hydro's 2013 Integrated Resource Plan, a 20-year plan, accepted by the Provincial Government that describes how BC Hydro proposes to meet future growth in demand for electricity.

#### **TERRACE - KITIMAT TRANSMISSION PROJECT**

Replace the existing transmission lines serving the Kitimat area that has reached the end of its serviceable life. This project would replace the 60km transmission line -2L99- that runs between Skeena and Minette substations and the 3km transmission line -2L103- that runs between Minette and Kitimat substations with new 287kV lines on a new right of way. Both of these lines have been de-rated due to defects and deficiencies, and cannot supply current and forecast load demands.

#### W.A.C. BENNETT DAM RIP-RAP UPGRADE

The W.A.C. Bennett Dam Rip-rap has degraded since its completion in 1968. The project will rebuild the upstream slope to ensure there is adequate protection and shielding to the embankment dam from the wind generated waves.

## CORPORATE GOVERNANCE

## **GOVERNANCE PRACTICES**

BC Hydro is committed to best practices in corporate governance. Strong corporate governance practices provide for greater public accountability and transparency.

BC Hydro's practices, policies and the activities of its Board are in accordance with the Best Practices Guidelines Governance and Disclosure Guidelines for Governing Boards of B.C. Public Sector Organizations, issued by the B.C. Provincial Government in February 2005. These guidelines can be found at: www.fin.gov.bc.ca/brdo/governance

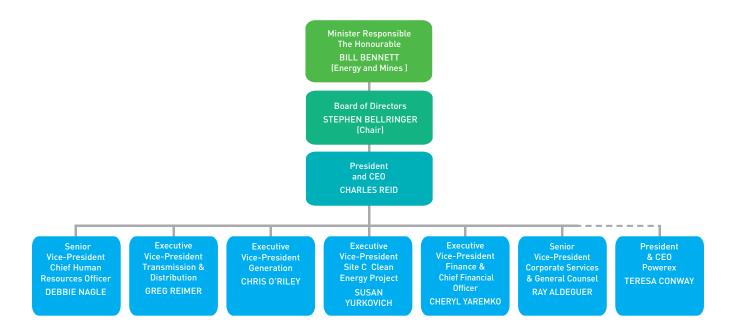
The governance framework is reviewed regularly to ensure it meets BC Hydro's ongoing business needs, while being consistent with the government's guidelines.

In addition, BC Hydro Directors and employees are bound by BC Hydro's Corporate Code of Conduct, which can be found at: www.bchydro.com/about/who\_we\_are/corporate\_citizenship/code\_of\_conduct/corporate\_governance.html

## EXECUTIVE OF BC HYDRO

BC Hydro's organizational structure is designed to ensure we deliver on our strategic objectives, and facilitate coordination among business functions. BC Hydro regularly reviews and updates the governance framework to ensure business needs are met.

The following chart shows the current organizational structure of the Executive Team and its line of accountability.



#### BC HYDRO BOARD OF DIRECTORS

The BC Hydro Board of Directors oversees the conduct of business and supervises management, which in turn is responsible for the day-to-day operations of BC Hydro. Directors are appointed by the B.C. Cabinet to bring special skills and experience to the Board's deliberations.

#### **CHAIR: Stephen Bellringer**

MEMBERS: Bill Adsit\*\*, Kim Baird, Brad Bennett, Larry Blain, James Brown, James Hatton, John Knappett, Tracey McVicar, Janine North, John Ritchie

The Board's broad set of responsibilities includes:

- Ensuring there is an appropriate strategic and business planning process, and then reviewing, validating and endorsing a strategy for the Corporation and monitoring its implementation.
- Ensuring that effective controls and appropriate governance are in place as part of its oversight of management.
- Having a continuing understanding of the principal risks associated with the Corporation's business and ensuring that the appropriate processes and systems are in place to mitigate that risk.

The links below provide further information about BC Hydro's Board of Directors and its committees:

www.bchydro.com/about/who\_we\_are/board\_of\_directors.html
www.bchydro.com/about/who\_we\_are/committees.html

AUDIT AND FINANCE COMMITTEE* CHAIR: Tracey McVicar MEMBERS: Larry Blain, Jamie Brown	<b>Purpose:</b> The Audit and Finance Committee assists the Board in fulfilling its obligations and oversight responsibilities relating to the audit process, financial reporting, treasury, information technology and telecommunications, the system of corporate controls and governance of the Corporation's pension plans. The Committee is also responsible for ensuring that principal risks associated with these issues are appropriately identified, monitored and managed.
CAPITAL PROJECTS COMMITTEE* CHAIR: John Ritchie MEMBERS: Brad Bennett, James Hatton, John Knappett	<b>Purpose:</b> The Capital Projects Committee assists the Board of Directors in fulfilling its obligations and oversight responsibilities relating to the Corporation's long-term capital plans, capital budgets and capital projects, including dam safety, aboriginal relations and negotiations, and transmission projects. The Committee is also responsible for ensuring that principal risks associated with these issues are appropriately identified, monitored and managed.
CONSERVATION AND CLIMATE ACTION COMMITTEE* CHAIR: Janine North MEMBERS: Kim Baird, James Hatton Tracey McVicar	<b>Purpose:</b> The Conservation and Climate Action Committee assists the Board by monitoring and directing the environmental performance of the Corporation and monitoring and supporting the implementation of an energy conservation strategy as described in the BC Energy Plan. The Committee also provides guidance and direction to management and makes recommendations to the Board regarding initiatives and programs related to meeting the Corporation's environmental goals. The Committee is also responsible for ensuring that principal risks associated with these issues are appropriately identified, monitored and managed.
CORPORATE GOVERNANCE COMMITTEE CHAIR: Brad Bennett MEMBERS: All Directors	<b>Purpose:</b> The Corporate Governance Committee is structured as a Committee of the Whole. This means that its membership includes all Directors. Nonetheless, the Committee has independent Terms of Reference and is responsible for ensuring that BC Hydro and its Board 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. The Committee is also responsible for ensuring that principal risks associated with these issues are appropriately identified, monitored and managed.
EXECUTIVE COMMITTEE CHAIR: Stephen Bellringer MEMBERS: Kim Baird, Brad Bennett, Larry Blain, Janine North, Tracey McVicar, John Ritchie	<b>Purpose:</b> The Executive Committee only meets in special circumstances. It has the full powers of the Board to act in situations when, for timing reasons, a Board meeting cannot be scheduled.
ENERGY PLANNING AND PROCUREMENT COMMITTEE* CHAIR: Larry Blain MEMBERS: Brad Bennett, Janine North John Ritchie	<b>Purpose:</b> The Energy Planning and Procurement Committee provides advice and direction to the Corporation on both its strategic direction relating to resource planning, export strategy, economic development and energy procurement activities, and its execution of related initiatives. In addition, the Committee provides advice and support to the Board Chair in his or her dealings with government pertaining to these issues. The Committee is also responsible for ensuring that principal risks associated with these issues are appropriately identified, monitored and managed.
HUMAN RESOURCES AND SAFETY COMMITTEE CHAIR: Kim Baird MEMBERS: Janine North, Stephen Bellringer	<b>Purpose:</b> The Human Resources and Safety Committee assists the Board in fulfilling its obligations relating to human resources and compensation issues, related specifically to senior management and generally to the Corporation. The Committee also monitors safety performance. The Committee is also responsible for ensuring that principal risks associated with these issues are appropriately identified, monitored and managed.
SHAREHOLDER RELATIONS COMMITTEE CHAIR: Stephen Bellringer MEMBERS: Brad Bennett, Janine North	<b>Purpose:</b> The Shareholder Relations Committee assists the Board by ensuring that the Corporation's strategies and operating plans are in alignment with Shareholder expectations. The Committee is also responsible for ensuring that principal risks associated with these issues are appropriately identified, monitored and managed.

\*The Board Chair is an ex-officio member of all committees.

\*\* Bill Adsit was added to the Board on November 25, 2013. His committee assignments will be determined in early 2014.

## BC HYDRO SUBSIDIARIES

### POWEREX CORPORATION

Powerex Corp. is a wholly-owned subsidiary of BC Hydro and a key participant in energy markets across North America, buying and supplying wholesale power, renewable energy, natural gas, ancillary services, and financial energy products and services. Established in 1988, its export, marketing and trade activities help manage BC Hydro's electric system resources and provide significant economic benefits to British Columbia.

Powerex supports BC Hydro's electric system requirements through importing and exporting energy as required in addition to meeting its own trade commitments. Powerex also markets, on behalf of the Province, the Canadian Entitlement to the Downstream Benefits of the Columbia River Treaty.

The Chief Executive Officer (CEO) of Powerex reports directly to the Board of Directors of Powerex through the Chair of Powerex and works closely with the President & CEO of BC Hydro as a member of the Executive Team. The Chair of the Powerex Board, the Powerex CEO and BC Hydro's Chief Executive Officer, ensure the Board of BC Hydro is informed of Powerex's key strategies and business activities. Powerex's Directors are Larry Blain (Chair), Stephen Bellringer, James Brown, and James Hatton.

Powerex operates in complex and volatile energy markets, which can cause net income in any given year to vary significantly. Market and economic conditions, reduced BC Hydro system flexibility, income timing differences and the strength of the Canadian dollar can materially impact Powerex net income. Over the previous five years, Powerex income has ranged from \$8 to \$244 million (fiscal 2009 to fiscal 2013). The Service Plan includes annual net income from Powerex of approximately \$115 million for fiscal 2015 to fiscal 2017. For more information, visit **powerex.com**.

## POWERTECH LABS INC.

Powertech Labs has operated as a wholly-owned subsidiary of BC Hydro since its inception in 1979. It provides research and development, standards and certifications, and technical services to the international energy community including BC Hydro. Powertech is internationally recognized as holding expertise in various fields of operation.

Powertech's Directors are John Knappett (Chair), Brenda Eaton, and Nancy Olewiler.

Powertech's revenue in fiscal 2013 was \$29 million with a net income of \$2.8 million. The forecasted revenue for fiscal 2014 is \$30 million with a net income of \$3.8 million. The Service Plan includes annual net income from Powertech ranging from \$4 million for fiscal 2015 to \$7 million for fiscal 2017. For more information, visit **powertechlabs.com**.

## OTHER SUBSIDIARIES

BC Hydro has created or retained a number of other subsidiaries to serve various purposes, including holding licences in other jurisdictions, managing real estate holdings and managing risks of various sorts. These subsidiaries do not carry on active operations and all their staff and management needs are fulfilled by BC Hydro employees, who perform these duties without additional remuneration.

## APPENDIX A: PERFORMANCE MEASURES

BC Hydro relies on various data sources for relevant and accurate reporting of its Performance Measures. This includes, but is not limited to, internal financial records, external research findings, and association indexes. The Performance Measures listed in this Appendix have unique requirements for source data and accompanying considerations.

Changes since the 2013/2014 Service Plan include replacing the Fostering Economic Development performance measure and removing the Debt to Equity Ratio measure. Rationale for these changes is provided in the Strategic Objectives (Page 14 and 15).

## SAFELY KEEP THE LIGHTS ON

SAFETY MEASURES: The data source for the Zero Fatality and Serious Injury, Severity and All Injury Frequency safety performance measures are incident details as reported through the Incident Management System. To ensure accuracy and reliability of the data, each incident is reviewed to ensure that it meets the CEA reporting criteria, the correct level and type has been assigned and the appropriate calendar days lost have been assigned to lost time injuries. This approach does exclude a small number of accepted WorkSafeBC claims that do not meet the CEA reporting criteria.

The data source for the Safety Taskforce Recommendations Implementation metric is a manual count of recommendations that have transitioned to sustainment (as signed off by the Senior Safety Leadership Team).

DESCRIPTION OF PERFORMANCE MEASURES	RATIONALE/BENCHMARKING ACTIVITIES
ZERO FATALITY AND SERIOUS INJURY a "Level 1 injury incident" is one where there has either been a loss of life or the injury has resulted in a permanent disability (for which a disability pension has been received or is expected).	To underscore our commitment to ensuring no serious incidents occur, BC Hydro established the zero fatality or serious injury target. Both <b>Severity</b> and <b>AIF</b> metrics, as defined in the CEA Standard, are generally harmonized with the U.S. Occupational Safety and Health Administration Standards for safety statistics.
SEVERITY is a standard Canadian Electricity Association (CEA) measure and is defined as the number of calendar days lost due to injury per 200,000 hours worked. The Severity metric does not include data on fatal incidents. One or two injuries can have a major impact on severity.	BC Hydro benchmarks its safety performance against available Canadian Electricity Association (CEA) composite AIF and Severity results.
ALL INJURY FREQUENCY (AIF) is a standard CEA measure and is defined as the total number of employee Medical Aid and Lost Time injuries per 200,000 hours worked. 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. Lost Time injuries are those where the employee is absent beyond the day of injury.	
SAFETY TASKFORCE RECOMMENDATIONS IMPLEMENTATION is the number of recommendations fully implemented and in sustainment (out of 21 total recommendations).	BC Hydro continues to experience serious incidents, primarily when work is being conducted in high hazard work environments. In 2010 it formed a taskforce comprised of operational managers and front-line employees to uncover why these serious incidents were occurring and to develop lasting solutions so that no employee experiences a serious work related injury. The taskforce's 21 recommendations, combined with safety programs already underway, are intended to improve and sustain our safety performance.
	This metric is unique to BC Hydro and cannot be benchmarked against other organizations.

## SAFELY KEEP THE LIGHTS ON (CONTINUED)

**RELIABILITY MEASURES:** The data gathered to measure our three reliability measures—CAIDI, SAIFI & CEMI-4—is collected and validated in a process that starts with operational staff who record the start and end time of each power outage as well as the cause. Based on the location of the outage, the number of customers impacted is calculated automatically. This information is collected in databases that allows outage records to be reviewed by managers each day to ensure accuracy. Outages that impact a significant number of customers or involve lengthy repair times require a formal outage report to be written by an engineer and approved by management. As BC Hydro completes the implementation of the Smart Metering Program, outage data will be collected from the new meters that will help with the accuracy of the outage time and will enable faster outage response. The data for Winter Generation Availability Factor is gathered from our heritage asset units.

DESCRIPTION OF PERFORMANCE MEASURES	RATIONALE/BENCHMARKING ACTIVITIES
CAIDI is the average interruption in hours per interrupted customer. SAIFI is a measure of how many sustained interruptions (longer than one minute) an average customer will experience over the course of a year. CEMI-4 is the percentage of customers experiencing four or more outages over the course of a fiscal year.	<ul> <li>BC Hydro's targets are set against normalized results, which exclude major uncontrollable events.</li> <li>Annually, BC Hydro participates in Transmission and Distribution benchmarking surveys conducted by the First Quartile Consulting and the Distribution Service Continuity survey conducted by the Canadian Electricity Association.</li> <li>In fiscal 2013, BC Hydro's reliability performance was ranked in the fourth quartile for both normalized CAIDI and SAIFI using IEEE 2.5 Beta method and in second and third quartiles for actual CAIDI and SAIFI respectively. CEMI is not benchmarked externally as utilities are at varying stages in their development of this metric.</li> <li>Reliability is a challenge given the size of the service area, predominantly overhead distribution system, abundance of trees and rough terrain. BC Hydro has two to three times as many trees per overhead pole kilometre as the North American average, and trees, together with adverse weather, account for half of the annual lost customer hours. These constraints significantly affect our ability to achieve higher levels of reliability while balancing the objective to remain as one of the lowest cost service providers in North America.</li> </ul>
WINTER GENERATION AVAILABILITY FACTOR (WGAF) is the percentage of Heritage Asset units in the system greater than 20 MW and available to generate electricity (total hours available for service/ total hours) excluding certain planned capital and maintenance outages, during the critical peak-load period of November 15 to February 15.	BC Hydro focuses on <b>WGAF</b> to manage the availability of generation during the critical winter period when customer loads are most likely to reach their annual peaks, and to ensure all BC Hydro generating units will remain in-service barring a forced outage or urgent maintenance. BC Hydro is not aware of any external benchmarks suitable for comparison with the WGAF, and instead uses historical trend information to track performance.

## SUCCEED THROUGH RELATIONSHIPS

SUCCEED THROUGH RELATIONSHIPS MEASURES: The data source for the Billing Accuracy measure reflects the percentage of bills that do not receive an adjustment or reversal. BC Hydro utilizes a post call customer survey conducted by a leading North American call center industry research firm to measure First Call Resolution (FCR). The accuracy of our FCR results could be influenced by customer sentiment, since a customer may associate call resolution with arriving at their desired end result, as opposed to the accurate result. And the Progressive Aboriginal Relations (PAR) program is an externally validated certification program.

DESCRIPTION OF PERFORMANCE MEASURES	RATIONALE/BENCHMARKING ACTIVITIES
CUSTOMER SATISFACTION (CSAT) is the percentage of customers— residential, small and medium-sized businesses and key accounts—who are satisfied or very satisfied with BC Hydro (as measured on a four-point verbal scale) in five equally weighted areas: • Providing reliable electricity; • Value for money; • Commitment to customer service; • Acting in the best interests of British Columbians; and, • Efforts to communicate with customers and communities.	BC Hydro maintains a minimum threshold target of 85 per cent for <b>CSAT</b> to ensure it has strong customer support. BC Hydro benchmarks against leading regional service providers and other electric utilities in an effort to better understand our performance relative to customer perceptions and understand what is needed to be a leader in industry and the province. Benchmarking results to date demonstrate BC Hydro compares well against both non-electric utility service providers and other electric utilities.
<b>BILLING ACCURACY</b> is the percentage of invoices that are accurately calculated based on the customer's consumption and do not require adjustment or rebilling.	This is a core expectation of customers. BC Hydro has therefore set targets to deliver consistently high performance. <b>Billing accuracy</b> is affected by items such as incorrect meter reads and various adjustments such as correction to rate applied.
<b>FIRST CALL RESOLUTION</b> is the percentage of customer calls that are resolved during the first contact with a call centre agent, without the need for additional investigation or follow-up.	This is a measure that assesses customer service operations as a whole in terms of accurate and timely information flow, agent capability and quality, and a satisfying customer experience at a transaction level.
The Canadian Council for Aboriginal Relations' <b>PROGRESSIVE ABORIGINAL</b> <b>RELATIONS (PAR)</b> program is an externally verified certification program that measures an organization's success in the areas of Aboriginal employment, business development, capacity development and community engagement. The gold-level standard is an indication of sustained excellence in all four areas.	BC Hydro attained a gold-level designation in 2012. BC Hydro must maintain excellence in Aboriginal relations over the next three years in order to attain a gold-level designation in the next certification scheduled for 2015.

## MIND OUR FOOTPRINT

MIND OUR FOOTPRINT MEASURES: For the Demand Side Management measure, BC Hydro undertakes a comprehensive approach to estimating DSM electricity savings. Depending on the DSM initiative, there can be up to four distinct areas of activity that ultimately contribute to the confirmation of DSM savings estimates: technical reviews of programs and energy conservation projects; site inspections on a sample of projects; measurement and verification of project performance; and evaluation of programs, conservation rates, building codes and product standards.

GHG emissions from BC Hydro-owned generating stations and fugitive SF6 releases are calculated using methods required under the B.C. Reporting Regulation for the Electricity Production GHG Emissions performance measure. The reported emissions are subject to mandatory third-party verification by an accredited verifier. GHG emissions from IPPs are estimated based on information supplied by the IPPs.

Carbon Neutral Program emissions are calculated using the Province's SMARTTool, based on BC Hydro's reported fuel, electricity and paper use. Small sources of emissions such as boats, snowmobiles and all-terrain vehicles, estimated to comprise one per cent or less of total Carbon Neutral Program Emissions, are excluded from reporting in accordance with provincial guidelines. All public sector organizations are required to certify and confirm the accuracy and completeness of the data submitted into SMARTTool by completing self-certification. In addition, a representative sample of public sector organizations is selected for independent verification of their GHG emissions reporting procedures.

The Clean Energy % uses actual historical generation data obtained from BC Hydro and IPPs. The generation data is reviewed and verified internally at BC Hydro for reliability, consistency and data integrity.

DESCRIPTION OF PERFORMANCE MEASURES	RATIONALE/BENCHMARKING ACTIVITIES
<b>DEMAND-SIDE MANAGEMENT (DSM)</b> reflects the cumulative rate of annual electricity savings resulting from DSM activities including programs, codes and standards and rate structures. The new programs and reported savings began in fiscal 2008, following the 2007 BC Energy Plan.	BC Hydro develops its annual cumulative <b>DSM</b> targets as part of long-term DSM and Integrated Resource Planning. The Integrated Resource Plan recommends maintaining DSM at current levels in the near term while preserving the ability to meet the long-term savings target.
The <b>ELECTRICITY PRODUCTION GHG EMISSIONS</b> measure includes carbon dioxide equivalent $(CO_2e)$ emissions from stationary combustion for electricity generation (owned natural gas plants on the integrated grid, purchased electricity from natural gas and biomass IPPs, and diesel generation in the non-integrated areas) and fugitive SF <sub>6</sub> losses.	<ul> <li>Electricity Production GHG Emissions are reported by calendar year rather than fiscal year to ensure consistency with GHG emissions reports filed under the <i>Canadian Environmental Protection Act, 1999</i> and the B.C. Reporting Regulation.</li> <li>The Electricity Production GHG Emissions targets are based on the forecasted need to run the generating stations, taking into account hydrology, reliability, system needs and market conditions, including the expected price of carbon emissions.</li> <li>BC Hydro compares its Electricity Production GHG Emissions performance against published emission data from other Canadian hydroelectric utilities and from the Canadian Electricity Association (CEA).</li> </ul>
The <b>CARBON NEUTRAL PROGRAM EMISSIONS</b> measure includes carbon dioxide equivalent (CO <sub>2</sub> e) emissions from BC Hydro's vehicle fleet, buildings (heating and cooling, and lighting) and paper use, in accordance with the Province's guidelines for public sector organizations.	<b>Carbon Neutral Program Emissions</b> are reported by calendar year rather than fiscal year to ensure consistency with GHG emissions reports filed under the <i>B.C. Carbon Neutral Government Regulation.</i> The Carbon Neutral Program Emissions targets are based on a forecast of emissions, taking into account emission reduction initiatives that are planned or underway. Under the <i>B.C. Carbon Neutral Government Regulation</i> , public sector organizations are required to report their emissions to the Province. BC Hydro compares its results for Carbon Neutral Program Emissions against other public sector organizations.
The <b>CLEAN ENERGY</b> measure represents a minimum threshold generation target in accordance with the B.C. Government's requirement that at least 93 per cent of electricity generation in the province be from clean or renewable resources (i.e. from biogas, biomass, energy recovery generation, geothermal, hydro, solar, tidal, wave, wind or other potential clean or renewable electricity sources recognized by the B.C. Government.) Consistent with B.C. regulation, this measure does not include electricity to serve demand from facilities that liquefy natural gas for export by ship.	The <b>Clean Energy</b> target aligns with the objectives set forth in the 2010 <i>Clean Energy Act</i> . BC Hydro does not compare its results for this performance measure against other utilities.

## MAINTAIN COMPETITIVE RATES

MAINTAIN COMPETITIVE RATES MEASURES: Our competitive rates measure is based on survey information taken from the Hydro Québec report, Comparison of Electricity Prices in Major North American Cities, which compiles monthly bill and average prices for 12 Canadian utilities and 10 U.S. utilities.

BC Hydro bases net income targets on the latest financial forecast. BC Hydro ensures the integrity of its financial data by maintaining robust systems of financial internal controls. The financial statements are also audited annually by an independent external accounting firm.

DESCRIPTION OF PERFORMANCE MEASURES	RATIONALE/BENCHMARKING ACTIVITIES
<ul> <li>COMPETITIVE RATES measures BC Hydro's rates against other utilities across North America for three types of power classes:</li> <li>A typical residential customer with an estimated monthly consumption of 1,000 kWh.</li> <li>A medium customer with an estimated monthly consumption of 400,000 kWh.</li> <li>A large customer with an estimated monthly consumption of 30,600 MWh.</li> </ul>	Pursuant to Rate Comparison Regulation under the <i>Clean Energy Act</i> , issued on June 28, 2011, BC Hydro provides an Electricity Rate Comparison Annual Report to the Minister of Energy and Mines and to the BCUC.
<b>NET INCOME</b> equals net income as reported in BC Hydro's financial statements.	<b>Net Income</b> targets reflect expected rate increases required to enable BC Hydro to cover costs and earn its allowed return on equity.

## ENGAGE A SAFE AND EMPOWERED TEAM

**ENGAGE A SAFE AND EMPOWERED TEAM MEASURE:** The Employee Sustainable Engagement Score is BC Hydro's annual measure of employee engagement through an all-employee survey. The new sustainable engagement score indicates the level to which employees connect with the organization, whether or not they feel the company provides the tools and resources to work effectively, and whether or not they feel that the company cares about their personal well-being.

DESCRIPTION OF PERFORMANCE MEASURES	RATIONALE/BENCHMARKING ACTIVITIES
The <b>EMPLOYEE SUSTAINABLE ENGAGEMENT SCORE</b> is BC Hydro's annual measure of employee engagement through an all-employee survey. In fiscal 2013, BC Hydro and its external survey provider, Towers Watson, updated the survey tool to provide an efficient process that could be administered annually based on leading practice. New baseline measures and targets were set in anticipation of the fiscal 2014 survey.	The sustainable engagement score indicates the level to which employees connect with the organization, whether or not they feel the company provides the tools and resources to work effectively, and whether or not they feel that the company cares about their personal well-being. BC Hydro's results are benchmarked against Towers Watson Global Utilities Norm. BC Hydro's target is to meet or exceed the Sustainable Engagement Score of Towers Watson's Global Utilities Index in the current year. For example, if the current year yields a score of 80%, our target is 80% or higher.

## APPENDIX B: SERVICE PLAN DIRECTIVES AND ACTION RESPONSES—FISCAL 2015

The B.C. Government's Letter of Expectations (GLE) describes the relationship between BC Hydro and the Province, and sets out objectives that the Province wishes BC Hydro to achieve. In accordance with the Crown Corporation Service Plan Guidelines, Appendix B outlines the direction for fiscal 2014 and BC Hydro's action responses as outlined in the Specific Corporate Accountability section of the GLE.

The strategies laid out on pages 8 to 16 provide detail on how BC Hydro plans to meet our mandate and the directives laid out below. Below is a summary of these strategies.

DIRECTIVE	ACTION
Work to implement the revised Integrated Resource Plan if approved by the Government.	BC Hydro's Integrated Resource Plan (IRP) was approved by the Province in November 2013. The IRP is a flexible long-term strategic plan to meet B.C.'s growth in electricity demand over the next 20 years. It focuses on making prudent investments in conservation and clean energy, and on keeping future electricity supply options available. BC Hydro is implementing the recommendations outlined in the plan, with a review of the plan scheduled for the fall of 2015.
Continue to develop the Site C project and support it through the environmental assessment process.	BC Hydro will continue to support the development of the Site C Clean Energy Project (Site C), a proposed third dam and hydroelectric generating station on the Peace River. BC Hydro will continue to be fully engaged in the cooperative federal- provincial environmental assessment process through to its completion.
Deliver value and maintain competitive rates by efficiently and responsibly managing the business.	BC Hydro will implement the 10 year plan as laid out by the Province in November 2013. The 10 year plan will keep electricity rates as low as possible while BC Hydro makes investments in aging assets and new infrastructure to support British Columbia's growing population and economy.
Minimize rate increases to consumers and industry while continuing to replace and build hydroelectric and transmission infrastructure, including: installation of the Mica Generating Station Unit 5 and Unit 6, Dawson Creek/ Chetwynd Area Transmission (DCAT) Project, Interior to Lower Mainland Transmission Project, and the Hugh Keenleyside Dam Spillway Gate Improvements; all projects with 2014-15 target completion dates.	BC Hydro will continue to implement demand side management measures recognizing that conservation is the first and best choice to meet future demand growth. In addition, BC Hydro will support the infrastructure investments outlined in the capital plan and the Integrated Resource Plan.
Work with Columbia Power Corporation to report to Government on the progress of the Columbia Power Corporation/ BC Hydro Joint Development Committee including providing timetables and a budget of proposed activities.	BC Hydro will continue to participate in the Joint Development Committee.

## APPENDIX C: RISKS AND OPPORTUNITIES

BC Hydro is exposed to numerous risks, which can be broadly classified as either "operating" or "strategic" in nature. Operating risks arise from the construction, ownership, operation and decommissioning of the Company's assets. The consequences of operating risks include safety, environmental, financial, reliability, and reputational impacts and can range in scale from minor to catastrophic. Significant strategic risks include both long term and short term load/resource balances, exposure to commodity and financial market prices, stakeholder relationships and access to adequate funding. The potential consequences of these risks are similar to those of operating risks and can vary from minor to significant. BC Hydro strives to manage all the risks it faces on a cost effective basis, taking into account the potential benefit to be gained in return for acceptance of the risk.

Examples of major risks and opportunities highlighted in the Service Plan and strategies we are taking to address these risks and opportunities are summarized below:

	TO MINIMIZE THE RISK, BC HYDRO WILL	
RISKS AND OPPORTUNITIES	SAMPLE STRATEGIES	COMPLETE SERVICE PLAN STRATEGIES
SAFELY KEEP THE LIGHTS ON		
BC Hydro may not be able to reliably meet the demand for electricity.	Through our asset management principles, prudently invest in our assets to extend their operating lives, enhance capability, manage risk and increase efficiency.	Strategies on page 9 and 10
	BC Hydro's IRP outlines how BC Hydro will meet British Columbia's increasing energy and capacity needs over the long-term.	
BC Hydro may not be able to prevent all employee and contractor injuries.	Continue to implement the recommendations of the Safety Taskforce Systematically identify, and, where possible, reduce the number of hazards through work-planning activities and work procedure development.	Strategies on page 9 and 10
BC Hydro may not be able to mitigate and respond to outages from events such as natural disasters including storms, floods and earthquakes.	Support the continual enhancement of BC Hydro's disaster preparedness, aligning, as appropriate, to industry best practices. Through our asset management principles, prudently invest in our assets to improve seismic resilience.	Strategies on page 9 and 10
SUCCEED THROUGH RELATIONSHIPS		
BC Hydro may not be able to build the necessary relationships with First Nations.	Increase project and operational certainty by continuing to build collaborative and enduring relationships with First Nations.	Strategies on page 11
BC Hydro can build relationships with local governments, customers and suppliers.	BC Hydro will partner with external organizations, communities, and suppliers to advance shared goals.	Strategies on page 11
MIND OUR FOOTPRINT		
BC Hydro operations may adversely impact the environment.	Ensure appropriate policies, supporting procedures, resources, training and tools are in place at BC Hydro's facilities and throughout our operations to identify risks and minimize environmental impacts.	Strategies on page 12 and 13
BC Hydro can foster an energy conservation and efficiency culture.	Implement the Demand Side Management Plan, including Power Smart programs and conservation rate structures, supporting new energy efficiency regulations, and maintaining an energy conservation and efficiency culture.	Strategies on page 12 and 13

	TO MINIMIZE THE RISK, BC HYDRO WILL	
RISKS AND OPPORTUNITIES	SAMPLE STRATEGIES	COMPLETE SERVICE PLAN STRATEGIES
BC Hydro may not be able to deliver on economic development opportunities.	Integrate economic development principles into decision- making tools, procurement practices, business cases and corporate policies.	Strategies on page 14
MAINTAIN COMPETITIVE RATES		
BC Hydro may not be able to both deliver the capital plan and keep electricity rates predictable.	Continue to focus on management and control of our cost structure in order to realize cost-savings and efficiencies.	Strategies on page 15
ENGAGE A SAFE AND EMPOWERED TEAM		
BC Hydro may not be able to ensure the optimal complement of new recruits; skilled, experienced and high-performing employees; and contracted or outsourced service providers.	Continue to implement programs to close the gap between our need for professional employees and the supply of them.	Strategies on page 16

## OUR CAPACITY TO ACHIEVE RESULTS

BC Hydro requires highly qualified technical, trade and degreed professionals to meet its operational goals and objectives. While BC Hydro continues to focus on managing overall staffing levels, we also recognize the need to balance staffing with the ability to meet our goals and objectives. BC Hydro believes it can meet its current performance targets with the current staffing levels, and continues to look for additional opportunities to find efficiencies that will not directly impact the execution of our strategies.

## HOW TO CONTACT BC HYDRO:

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