DATA, BENCHMARKING AND RATIONALE – BC Hydro Service Plan 2022/23 to 2024/25

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

The 2022/23 – 2024/25 Service Plan has been developed to align with BC Hydro's Five-Year Strategy and has adopted the Five-Year Strategy's goals, performance measures and targets. In addition, a Service Plan goal addresses customer expectations around BC Hydro's core service delivery: "Deliver reliable power safely."

The 2022/23 – 2024/25 Service Plan goals are as follows:

- Goal 1: Deliver Reliable Power Safely
- Goal 2: Grow Our Load
- Goal 3: Control Our Costs
- Goal 4: Strength Our Resilience & Agility
- Goal 5: Advance Reconciliation with Indigenous Peoples

Goal 1: Deliver Reliable Power Safely

Objective 1.1: BC Hydro will safely and reliably meet the evolving expectations of our customers by prudently planning and investing in the system and improving our service.		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
1.a Zero Fatality and Serious Disabling Injury is a measure of electrical contact, fall from height, mechanical energy or transportation incidents that have resulted in a loss of life or an injury resulting in a permanent disability for which a disability pension has been received or is expected.	The measure of Zero Fatality and Serious Disabling Injury is unique to BC Hydro and is not benchmarked against other Canadian Electricity Association (CEA) member utilities. The CEA does not report on fatalities on an annual basis.	The data source for all safety performance metrics are incidents reported through the Incident Management System. To ensure accuracy and reliability of the data, each incident is reviewed to ensure the correct injury category and seriousness has been assigned. BC Hydro's safety performance measures do not include contractor or public safety injuries or fatalities.
1.b Lost Time Injury Frequency (LTIF) is an indicator of the likelihood of a full-time employee sustaining a time loss injury in a normal work year. Lost time injuries are those where the employee was absent from work beyond the day of injury.	Lost Time Injury Frequency (LTIF) is an internationally recognized metric. BC Hydro benchmarks our LTIF performance against available CEA composite results.	
1.c SAIDI is a utility standard measure of the total sustained outage duration (measured in hours) experienced by an average customer over the course of a year, excluding major events.	Annual targets are based on a number of factors including long-term historic reliability trending, current year performance, previous years' investments and future years' investment plans. Reliability targets are based on specific values; however, performance within 10 per cent is considered acceptable given the reliability projection modelling uncertainty, the wide range of variations in weather patterns and uncontrollable elements that can significantly disrupt the electrical system. The reliability targets are, therefore, based on data that excludes major events. BC Hydro reviews performance during major events and takes the performance into consideration in reliability improvement initiatives.	The data to measure our reliability performance measures is collected and validated in a process that starts with operational staff recording 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 a centralized database that allows outage records to be reviewed by managers regularly 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.

1.d SAIFI is a utility standard measure of the number of sustained interruptions (longer than one minute) an average customer will experience over the course of a year, excluding major events.	Annually, BC Hydro participates in the Distribution Service Continuity benchmarking survey conducted by the CEA and the Transmission & Distribution combined benchmarking study conducted by First Quartile Consulting.	Annually, circuits are benchmarked to prioritize investment for sustained reliability improvement on the worst performing circuits. The most significant outages are reviewed regularly to ensure accuracy of data, effectiveness of restoration actions, and to better understand vulnerabilities. As a second check for accuracy, trends in recent performance measures are compared against past results and forecast performance. The Reliability Improvement team reviews the monthly performance measures and acts when actual performance deviates from forecast.
1.e Key Generating Facility Forced Outage Factor measures the percentage of time key generating units are unavailable when they are needed due to internal unplanned causes. There are seven Key Generating Facilities, representing the plants operated by BC Hydro with installed capacity greater than 200 MW.	A forced outage occurs when a generating unit is unable to start generating or does not stay in service when needed. Forced Outage Factor is defined as the total forced outage time in a period relative to the total number of hours in the same period (usually one year) and is reported as a 60-month rolling average. Annually, the Forced Outage Factor can be relatively volatile, and applying the historical 60-month rolling average smooths the range to provide a more stable measure for which targets can be set.	BC Hydro has seven key generating facilities which are defined as BC Hydro operated plants with installed capacity greater than 200 MW. Together, they provide 90 per cent of the average annual electricity generated by BC Hydro's facilities. The objective is to keep the Forced Outage Factor below 1.80 percent of the total number of hours per year, which demonstrates the effectiveness of BC Hydro's maintenance and capital investment programs.
1.f Customer Satisfaction (CSAT) is an index that measures residential, commercial and key account customers' level of satisfaction in five areas: 1. Value for money; 2. Commitment to customer service; 3. Providing reliable electricity; 4. Acting in the best interest of British Columbians; and, 5. Efforts to communicate with customers and communities	BC Hydro maintains a minimum threshold target of 85 percent for CSAT to ensure we have strong customer support. This measure gauges the degree to which BC Hydro is meeting customers' electricity and service needs.	BC Hydro conducts monthly telephone surveys of residential and small and medium-sized commercial customers. Throughout the year, approximately 2,600 residential customers and 2,000 commercial customers are surveyed. In addition, BC Hydro collects approximately 200 responses from the annual survey of Key Account customers.

Goal 2: Grow our Load

Objective 2.1: BC Hydro will maintain and efficiently grow our load to keep our rates affordable and competitive for our customers and support achieving British Columbia's climate action targets.		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
2.a Load Growth Supporting CleanBC tracks the growth in load related to CleanBC (fuel switching and new clean industries) and the progress of BC Hydro's strategy to electrify British Columbia's growing economy.	The measure of Load Growth Supporting CleanBC is unique to BC Hydro and is not benchmarked against other Canadian Electricity Association (CEA) member utilities.	Annual load growth in gigawatt hour per year will be measured and estimated for the various sectors such as: • Electric vehicles • Residential and commercial buildings • Upstream gas and gas pipelines • Industry, including mining, LNG, district energy • New load on the CleanBC Industrial Electrification Rate
2.b New Connected Commercial and Industrial Load captures additional megawats from new or expanded commercial and industrial load.	This metric reflects BC Hydro's effort to support load growth beginning in 2020/21. There is overlap between the **Load Growth Supporting CleanBC** and **New Connected Commercial and Industrial Load** performance measures since many new loads will also support CleanBC by reducing or avoiding greenhouse gas emissions.	The following types of loads are measured in this performance metric: • New commercial and industrial connections; • Incremental load at existing sites that triggers a service upgrade or a change to the Electricity Supply Agreement; and • New load from a new type of operation at a brownfield site.
2.c GHG Emissions Reduction Electrification tracks greenhouse gas emissions reduction from fuel switching and new clean industries, where the use of clean electricity displaces the use of more carbon intensive fuels.	This metric reflects BC Hydro's contributions to meeting the Province's climate targets.	The greenhouse gas emissions reduced or avoided through electrification are calculated using project-specific estimates from BC Hydro program records where available or by applying average emission reduction factors to the load increase.

Objective 2.1: BC Hydro will maintain and efficiently grow our load to keep our rates affordable and competitive for our customers and support achieving British Columbia's climate action targets.		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
2.d GHG Emissions Reduction – BC Hydro Operations tracks BC Hydro's progress in reducing greenhouse gas emissions related to our own operations in the following areas: fleet; buildings; air travel; gas insulated equipment (sulfur hexafluoride); Non-Integrated Areas (diesel generation), thermal (natural gas), generation and Independent Power Producers.	The metric informs how BC Hydro is supporting and aligning the Province's climate goals to reduce the emissions related to our operations.	Annual emissions will be measured in million tCO2e (tonnes) of carbon dioxide equivalent.
2.e Clean Electricity Standard measures the percent of clean energy available to meet BC Hydro retail sales on the integrated grid over a fixed four-year period. It includes measurement of BC Hydro generated clean energy, procured clean energy and net clean energy deliveries to the integrated power system associated with Powerex.	This metric helps confirm BC Hydro's ability to support provincial greenhouse gas emission reduction targets and CleanBC objectives while securing the Province's competitive position when offering surplus hydro capabilities to customers in external jurisdictions.	This measure incorporates BC Hydro generated clean energy, procured clean energy and net energy deliveries to the integrated power system associated with Powerex. A fixed four-year period of January 1, 2021 to December 31, 2024 has been chosen to balance annual variations in load and hydrology and is similar to the renewable procurement requirements in other jurisdictions.
2.f Customer Interconnection Studies Completed On Time tracks BC Hydro's performance of meeting the overall timeline for the completion of interconnection studies required for customers to be connected to the BC Hydro system.	This metric measures BC Hydro's ability to complete customer interconnection studies to facilitate timely customer interconnections and support the ability to **Grow Our Load** and meet customer needs.	The target study delivery date for the various interconnection studies phases are compared to the actual completion dates to determine the percentage of customer interconnection studies completed on time.
2.g Demand Side Management Capacity reflects the annual new incremental associated capacity savings from the energy conservation portfolio including programs, codes and standards, and conservation rates that measure BC Hydro's performance against annual energy targets. This measure also includes the annual new incremental capacity savings from capacity-focused initiatives such as programs and time-varying rates.	This measure informs the estimated reduction in system peak as measured at the customer meter.	BC Hydro calculates annual associated capacity savings that are related to the BC Hydro energy conservation energy savings. The capacity saving targets measured in megawatts are derived from the Demand Side Management Plan and 2021 Integrated Resource Plan.

Goal 3: Control our Costs

Objective 3.1: BC Hydro will manage costs to provide affordable and competitive rates.		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
3.a Affordable Bills - Residential measures BC Hydro's residential customers' median consumption level compared to the equivalent power consumption subcategory from the annual Hydro Quebec report, *Comparison of Electricity Rates in Major North American Cities*.	Pursuant to Rate Comparison Regulation under the Clean Energy Act, Ministerial Act No. 167, issued on June 28, 2011, BC Hydro provides an Electricity Rate Comparison Annual Report to the Minister of Energy, Mines and Low Carbon Innovation.	The Affordable Bills measures are based on BC Hydro's rankings in the residential, commercial and transmission service rate categories in the annual Hydro Quebec report, *Comparison of Electricity Prices in Major North American Cities*. The report is used as a benchmark to demonstrate that our bills are affordable compared to other major North American utilities. The methodology for calculating these performance measures uses the median consumption level for the residential and commercial performance measures and the largest consumption level for the industrial performance measure. Median consumption level provides a better representation of the central tendency than average and the largest consumption level provides the best indication of BC Hydro's performance regarding rate competitiveness for large industrial customers.
3.b Affordable Bills – Commercial measures BC Hydro's commercial customers' median consumption level compared to the equivalent power consumption subcategory from the annual Hydro Quebec report, *Comparison of Electricity Rates in Major North American Cities*.		
3.c Affordable Bills – Industrial measures BC Hydro's industrial customers' power consumption based on the largest consumption level from the annual Hydro Quebec report, *Comparison of Electricity Rates in Major North American Cities*.		

Objective 3.1: BC Hydro will manage costs to provide affordable and competitive rates.		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
3.d Project Budget to Actual Cost compares actual project costs at completion to the original approved full scope implementation budgets, not including project reserve amounts, for capital projects that were put into service during the five-year rolling period.	BC Hydro regards Project Budget to Actual Costs as an important measure for evaluating our performance in delivering capital projects and compares actual costs to full scope implementation budgets (excluding project reserve funds).	Project Budget to Actual Costs is measured using a five-year rolling data set of actual costs compared to original approved full scope implementation budgets in aggregate, excluding project reserve funds, for capital projects that were put into service during the period. The data set includes Dam Safety, Generation, Transmission Line, Substation and large Distribution projects managed by BC Hydro Capital Infrastructure Project Delivery and Properties over the last five years. The +/- 5 per cent target is the same over the plan period, as it is the objective to have the entire project portfolio in-service within this actual cost range.
3.e Site C - Cost: measures how we are progressing against our cost objectives for the Site C Project.	Site C is the biggest capital project at BC Hydro; therefore, the outcome of this measurement can inform how well BC Hydro is able to estimate and scope major capital projects, and how well we can keep project variables within budget and schedule.	The output from the Cost Risk Analysis and Schedule Risk Analysis is identified and compared to the approved budget of $16 billion and the approved first power date of December 2024.
3.f Site C - Schedule: measures how we are progressing against our schedule objectives for the Site C Project.		

Goal 4: Strengthen our Resilience and Agility

Objective 4.1: BC Hydro will enhance preparedness for threats like cybersecurity attacks, impacts of climate change, natural disasters and global pandemics to increase our strength and resilience to challenging conditions.		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
4.a Employee Engagement Index measures the extent to which employees are motivated to contribute to business success and are willing to apply discretionary effort to accomplishing tasks important to the achievement of business goals.	An engaged workforce can have a significant effect on financial and operational results. Businesses with highly engaged employees see higher customer satisfaction, have lower turnover rates and outperform businesses with lower levels of employee engagement. This is a confidential biennial survey, administered by PwC, with survey items being ranked on a five- point scale.	All data is collected and generated from the biennial PwC survey. Results are presented based on Percent Favourable score (Tend to agree and Agree). BC Hydro then compares our results to benchmarks of global utilities provided by PwC.
4.b Workforce Diversity is a measure of BC Hydro's workforce in the representation of women, visible minorities, Indigenous people, and people with disabilities. This metric helps measure inclusivity within the organization.	The targets are based on available B.C. workforce in the subset of the labour market in the occupations BC Hydro hires, as derived from the current census.	Employees respond to an optional survey request to self-identify their ethnicity when they join BC Hydro. The survey is administered and maintained by BC Stats on behalf of BC Hydro. BC Hydro measures the participation of the four designated groups by their representation as compared to the available workforce in B.C.
4.c Inclusion and Diversity Leadership Training is a measure that assesses progress against people leaders completing Bias and Diversity, Safety and Inclusion and Supporting Mental Health leadership training modules. This measurement will inform how supported the people leaders are to create an inclusive environment.	The Inclusion and Diversity Leadership Training measure informs how supported BC Hydro's leaders are to create an inclusive environment and could inform what other training or tools are required.	Results are determined by tracking participation of BC Hydro people leaders in the LEAD-133VT – Inclusive Leadership course at BC Hydro.
4.d Operations Training Hours is a measure of the hours of annual training completed by Operations technical employees, incremental to safety and regulatory training and represents an investment in workforce capability and resiliency.	This metric represents an investment in workforce capability and resiliency. Technical and leadership training is vital to support safe, reliable and efficient operations by crews.	Results are measured by tracking employee time using two different object work types – one for tracking safety training and one for tracking other training.

Objective 4.1: BC Hydro will enhance preparedness for threats like cybersecurity attacks, impacts of climate change, natural disasters and global pandemics to increase our strength and resilience to challenging conditions		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
4.e Mandatory Reliability Standards Non-Compliance is a measure that shows the percentage of decrease in non-compliance incidents reportable to the Western Electricity Coordinating Council relative to 2020/21.	This measure indicates continual improvement made in managing reliability standards compliance risks.	The data source for all reliability standards compliance performance metrics and incidents is based on information provided by BC Hydro business groups. Reliability Standards incidents are reported to the Reliability Standards Assurance team and investigated to determine if the incident is reportable to Western Electricity Coordinating Council.

Goal 5: Advance Reconciliation with Indigenous Peoples

Objective 5.1: BC Hydro will advance reconciliation by continuing to invest in and build mutually beneficial and stronger relationships with Indigenous communities.		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
5.a Indigenous Procurement is a measure of the total cumulative dollar value of procurement at BC Hydro done with Indigenous Nations beginning in 2014/15. It represents opportunities for Indigenous Nations to share in the benefits of the work that BC Hydro does to build, operate, and maintain the system.	This measure demonstrates BC Hydro's support for the long-term economic interests of Indigenous peoples in British Columbia by committing to directed procurement opportunities for the benefit of Indigenous communities in support of BC Hydro's relationship agreements, impact benefit agreements and other arrangements with Indigenous groups.	The performance measurement is calculated based on the total cumulative dollar value of procurement done with Indigenous Nations from 2014/15 to 2025/26. The data source for the performance measure is a report generated by BC Hydro's Supply Chain team that includes the value of direct and indirect procurement, contracts issued and contract spend.
5.b Indigenous Employment supports efforts to increase the percentage of BC Hydro employees representing the Indigenous population of B.C.	This measure helps advance BC Hydro's Inclusion and Diversity strategy and supports the Truth and Reconciliation Commission's Calls to Action, and BC Hydro's Statement of Indigenous Principles. The targets have been set in order to achieve BC Hydro's goal of increasing Indigenous employment by 25 per cent from 2020/21 levels (from 4 per cent to 5 per cent), by 2025/26.	Employees respond to an optional survey request to self-identify their ethnicity when they join BC Hydro. The survey is administered by BC Stats on behalf of BC Hydro, and BC Stats maintains our diversity database. Data on our workforce diversity and available workforce are calculated and stored with BC Stats.
5.c Indigenous Awareness Training evaluates BC Hydro's workforce awareness of Indigenous culture and supports BC Hydro's goal of advancing reconciliation by increasing the number of employees who understand their role in reconciliation.	The Indigenous Awareness Training measure assesses progress towards having 80 per cent of all BC Hydro employees completing INDIG-101 and/or 201 training over a five-year time period starting in 2021/22. This will help improve diversity and reconciliation, specifically around providing cultural awareness training and tools to our managers enabling reconciliation, as well as employee retention and recruitment.	Course completion will be measured by tracking the course participation in INDIG-101 and/or INDIG-201.

Objective 5.1: BC Hydro will advance reconciliation by continuing to invest in and build mutually beneficial and stronger relationships with Indigenous communities.		
Description of Performance Measure	Rationale/Benchmarking Activities	Measurement
5.d Progressive Aboriginal Relations (PAR) Designation is a certification from the Canadian Council for Aboriginal Business designed to help Canadian businesses benchmark, improve and signal their commitment to progressive relationships with Indigenous communities, businesses and people.	The Progressive Aboriginal Relations certification process assesses performance in leadership actions, community relations, employment and business development. Committing to the PAR program helps companies assess and improve their Indigenous relations policies, strategies and actions and signals to communities that they are committed to prosperity in Indigenous communities. The level of certification (gold, silver or bronze) is supported by an independent, third party verification and is determined by a jury comprised of Aboriginal businesspeople. Certification is for a three-year period.	BC Hydro prepares a submission once every three years outlining our approach, programs and results, examples and testimonials, and other supporting information in each of the defined categories. This involves answering 59 questions outlined by the PAR certification program overseen by the Canadian Counsel for Aboriginal Business. The PAR certification is the only program of its type in Canada.