

BC Hydro facilities and employees prepared for seismic event

The threat of a major earthquake in British Columbia is real. In fact, we experience thousands of minor earthquakes annually as British Columbia is located in a seismically active region.

At BC Hydro, public and worker safety is our number one priority in the event of an earthquake. We have a rigorous safety program in place that encompasses our dams, generation facilities and transmission and distribution infrastructure and the employees who work at the facilities. This includes regular site inspections, upgrading our existing facilities and investing in new capital projects.

In fact, these seismic upgrades and new capital projects fall into BC Hydro's plans to invest \$6 billion over the next three years to renew or replace aging facilities.

BC Hydro also puts a priority on emergency preparedness for its employees and regularly participates in simulations and drills to ensure everyone is ready for emergencies and coordinated with key safety and security stakeholders around the province.

Transmission and Distribution

BC Hydro's electrical transmission system is British Columbia's electricity highway, covering 18,500 kilometers. BC Hydro is also responsible for approximately 57,000 kilometers of distribution lines located throughout the province that bring power directly to neighbourhoods and businesses. The following are examples of seismic upgrades in place or being made to the transmission and distribution systems that help to ensure a safe and reliable energy supply for British Columbians:

Transmission

- At \$201 million, the Vancouver City Central Transmission (VCCT) Project is the most significant investment that BC Hydro has made in central Vancouver's electrical system in almost 30 years.
 - The VCCT transmission system ducts and cable vaults will be installed at a depth where the ground is not prone to liquefaction/ground deformation during seismic events.
 - The VCCT Project's new \$87 million Mount Pleasant electrical substation facility is being built strong enough to continue its function without interruption following an earthquake and to serve as a post-disaster facility.
- Currently, all high-voltage transmission lines in downtown Vancouver are located underground to minimize risk.
- BC's electrical infrastructure has been built to withstand even a severe seismic event, such as a one in a 2,475 year event.
- The Fraser Valley Operations Centre is a state-of-the-art system control centre that is BC Hydro's central hub, serving as an "air traffic control centre" for electricity across the province. An additional facility in the Okanagan is also available to ensure BC Hydro can instantly transfer control should anything happen to the primary centre. This improves the grid's reliability and the ability to withstand a major seismic event in the lower mainland.

Distribution

- BC Hydro is currently in the third year of a five-year, \$50 million program to put pole top transformers located in the downtown core in the city of Vancouver underground. This program, to be completed by 2014, will see 84 blocks of over-head electrical distribution currently strung overhead on H-frame power poles located in back-alleys become buried underground.

Dam Safety

BC Hydro has a rigorous dam safety program that encompasses more than 70 dams at 42 sites across the province. This includes:

- weekly site inspections by trained inspectors;
- semi-annual inspections by a dam safety engineer and a dam safety technologist; and,
- Dam safety review inspections by an independent dam safety consulting engineer every five to 10 years.
- BC Hydro continually compares the condition and designs of our dams against current national and international best practices and we continually upgrade the dams on this basis.
- Each year, BC Hydro spends approximately \$25-30 million on seismic upgrading of dams and over the past two years alone, BC Hydro has invested more than \$90 million on seismic upgrades.

Examples of seismic projects currently under way or recently completed to upgrade dam safety:

- Ruskin Dam, Mission, B.C. – currently upgrading the upper part of the concrete dam and the right abutment. This includes the replacement of the upper portion of the dam with five new spillway bays.
- Strathcona Dam, Comox, B.C. – In Fall 2010, the upgrade of the intake tower to improve its seismic withstand was completed. This work consisted of the installation of passive anchors and upgrades to the superstructure.
- John Hart Dam, Campbell River – In summer 2011, construction on the North Earthfill Dam (left abutment of the Spillway) will begin. This upgrade will improve the performance of the dam so that a timely drawdown can be carried out following an earthquake.
- La Joie Dam, Lillooet, B.C. – currently in a feasibility design process to determine best options to upgrade the dam to current seismic standards.

For more information, please contact:

BC Hydro Media Relations

Direct: 604 928 6468

Web: www.bchydro.com/media