

The Cascade Heritage Power Project

Reliable Renewable Energy

Project Layout



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The Cascade Heritage Power Project is a 28 megawatt environmentally benign, non-storage, hydroelectric project that will be located near the original site of a historic, abandoned power station on the Kettle River at Christina Lake, British Columbia in traditional territory of the Okanagan Nation. In August 2006, the Cascade Heritage Power Project received permitting approval from the provincial government.

Benefits

- Enough clean sustainable energy to satisfy the needs of 10,000 people
- Employment opportunities for the Okanagan Region
- Minimal effect on the environment (ie. no flooding, protects fish habitats, and no harmful atmospheric emissions associated with coal, gas and biomass projects.)
- Use of pre-existing transmission system means lower environmental footprint
- Maintains scenic beauty of the local area



Cascade Falls

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Linking the Past, Present and Future

The Past

The Cascade site played an important role in the development of the electric power industry in the world. It was one of the very first locations where 3-phase 60-cycle alternating current generators were pioneered, including the longest and highest-voltage transmission lines in use up to that time. The Cascade project settled a rivalry between Thomas Edison, who promoted the use of direct current, and Nikola Tesla of Westinghouse who promoted the new technology of alternating current. The plant was purchased by West Kootenay Power and Light in 1907 and operated until 1919 when the power it generated was replaced by power from their Kootenay River Dams.

The Present

Today, Powerhouse Developments Inc. proposes to recreate the generation of renewable energy at the Cascade site. Owing to increasing population and accompanying increases in electricity consumption, BC Hydro is currently importing some 12% of the power needed to meet the domestic demand. Unfortunately, much of this purchased power is generated by coal burning thermal plants with resultant greenhouse gas emissions. Renewable, non-polluting small hydro projects will help to meet this shortfall and keep British Columbia self-sufficient with clean electrical energy supply.

The Future

The beauty of the Cascade Canyon and the falls will be maintained and the community of Christina Lake will experience economic benefits when the Cascade Heritage Power Project becomes a reality.

How will the project differ from the original site?

The current proposal incorporates the following improvements to meet current environmental and aesthetic requirements:

A new weir incorporating a rubber dam will be constructed at the site of the former weir. While the 1897 - 1919 weir raised the water level some 6.5 meters the proposed new weir will raise the water level only 1.2 meters and its effect will extend only 350 meters upstream. No private land will be flooded. A low intake structure will be built along the shoreline immediately upstream of the weir.



Existing view



New Weir - Rubber dam simulation

A new 800 meter long tunnel will convey water from the intake directly to the powerhouse with no disturbance along the Cascade Canyon or the Trans Canada Trail.

The powerhouse will be built adjacent to the original site which collapsed under heavy snow in 1997. It will house turbines and generators with a capacity of 28 megawatts. Water will be returned to the river through a tailrace.

A transmission line extension from the powerhouse using an existing right-of-way and tying in to Fortis BC's existing 69-kilovolt transmission lines, 300 metres north of the powerhouse.



Powerhouse Developments Inc.
A wholly owned subsidiary of Sea Breeze Power Corp.