



# BACKGROUNDER

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# BRITANNIA WATER TREATMENT PLANT PARTNERSHIP HIGHLIGHTS

The Britannia Mine water treatment plant is part of the Province's larger clean-up efforts being managed by the Ministry of Agriculture and Lands. The treatment plant is the result of a partnership with, EPCOR Water Services Inc.

EPCOR was chosen from an initial field of six teams, through a fair, transparent, open and competitive selection process. The selection process began with a Request for Expressions of Interest in January 2004, and concluded when negotiations were completed in January 2005.

#### **Britannia Water Treatment Plant by the Numbers:**

Annually, the plant is designed to:

- Treat four billion litres of mine water.
- Remove approximately 600,000 kilograms of heavy metal contaminants such as aluminum, zinc and cadmium including enough copper to make 70 million pennies.
- Neutralize the acidity of the water entering Howe Sound, raising the pH from 3 to 3.5 (acidic) to between 6.5 to 9.5 (neutral to alkaline).
- Generate its own power from a micro-turbine driven by the mine water outflow.

#### **Benefits of the Project:**

The Province's approach maximizes value, minimizes cost and risk to taxpayers, and raises the bar on innovation and accountability:

- This project demonstrates value for money can be achieved with smaller scale partnerships. The net present value life cycle cost of the project is \$27.2 million, which is more than \$10 million less than the estimated cost of the Province completing the plant on its own.
- The project eliminates contaminated run-off from an abandoned mine site, providing environmental, economic and social benefits to the local community of Britannia Beach.
- The Province has successfully protected taxpayers from the risks such as construction cost and schedule and water treatment technology, by transferring these risks to EPCOR.

#### Key Terms of the Partnership

The Britannia Mine Water Treatment Plant Project involves the design, construction, financing and operation of a water treatment plant, over a 20 year period:

- EPCOR has designed and built the plant.
- EPCOR will operate the plant for 20 years.
- The Ministry of Agriculture and Lands provides performance-based payments to EPCOR, with the amount calculated based on the volume of water processed, and the ability of the plant to meet environmental regulations.
- EPCOR took on responsibility for much of the risk associated with designing, building and operating the plant, such as the risk of incurring financial penalties if the plant was not built and

in operation on time, or if the treatment of water did not comply with environmental regulations.

### **Benefits of a Partnership**

When compared to the Province delivering this project on its own, the partnership agreement with EPCOR:

- Reflects life cycle savings due to the long-term performance based contract with EPCOR.
- Provides process innovation that reduces costs by, for example, minimizing the amount of chemicals needed to treat the water, and reducing site electricity costs by developing a small hydro generation plant that will produce electricity from the contaminated water as it flows from the mine and into the water treatment plant,
- Ensures regulatory compliance by transferring the risk of financial penalties for noncompliance to EPCOR.

## **EPCOR** Water Services and project partners

- With more than 100 years of experience, EPCOR Water Services is a Canadian leader in delivering water and wastewater services.
- EPCOR provides water and/or wastewater services to one million people in more than 50 communities across Western Canada, including the Edmonton region, District of Port Hardy, District of Sooke, White Rock and the French Creek area on Vancouver Island.
- EPCOR is providing the Greater Vancouver Regional District (GVRD) its expertise in advanced water treatment systems to ensure GVRDs Seymour-Capilano water filtration plant operates efficiently and ensures increased levels of water quality.
- EPCOR designs, builds, operates and finances new infrastructure. The company's expertise includes advanced and highly automated water treatment systems, ultraviolet disinfection and remote systems monitoring for all sizes of facilities.

EPCOR engaged the expertise of Lockerbie Stanley Inc., Stantec Consulting Ltd. and BioteQ Environmental technologies Inc. in the design, engineering and construction of this project.

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