

Audits of Two P3 Projects in the Sea-to-Sky Corridor: **Britannia Mine Water Treatment Plant Project**

As at 27 February 2013

Released: [10 July 2012](#)

Self-assessment conducted by Crown Land Opportunities and Restoration Branch, Ministry of Forests, Lands and Natural Resource Operations

Self-assessment conducted by Land Remediation Branch, Ministry of Environment

RECOMMENDATION AND SUMMARY OF PROGRESS	SELF-ASSESSED STATUS
<p>Recommendation 1: The Ministry of Forests, Lands and Natural Resource Operations obtain periodic independent verifications of EPCOR Britannia Water Inc.'s water quality testing results over the remaining life of the project agreement.</p> <p>Actions taken, results and/or actions planned:</p> <p>“In consultation with the Province’s Britannia Mine Reclamation Project Management consultant, Golder Associates Incorporated, the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) initiated a staged audit approach to obtain periodic independent verifications of EPCOR’s water quality testing results over the remaining life of the project agreement.</p> <p>Our staged approach to verify the water quality testing results includes an initial assessment of the audit information needs, followed by completion of a detailed audit. The first stage includes a site visit, review of available data, submissions and calibration needs, an assessment of permit and project agreement requirements and a determination of what equipment is in use at the water treatment plant. This stage will outline how to conduct an appropriate detailed audit and identify what equipment may be necessary (e.g., supplemental, temporary flowmeters, sampling and analysis requirements, etc.). The second stage is the completion of the detailed audit itself based on the findings from the first stage.</p> <p>In November, 2012, MFLNRO contracted NovaTec Consultants Incorporated to complete the first stage of the audit process. The audit was completed in December and a draft report was submitted to the Province for review in January, 2013. The final report was issued in February, 2013. Following completion of the final report, MFLNRO intends to solicit the services required for the second stage detailed audit using BC Bid. We anticipate the second stage will be complete by the summer of 2013, with periodic audits to continue for the remaining life of the project agreement.”</p>	<p>Partially implemented</p>
<p>Recommendation 2: The Ministry of Forests, Lands and Natural Resource Operations and the Ministry of Environment each develop and implement a clear and concise method of maintaining a record of key decisions about, interpretations of and amendments to the Britannia Mine Water Treatment Plant Project agreement and permits, respectively.</p>	<p>Fully or substantially implemented</p>

All information has been provided by the organization and has not been audited.

Actions taken, results and/or actions planned

Ministry of Forests, Lands and Natural Resource Operations:

“In collaboration with EPCOR and with the Ministry of Environment, a shared Record of Agreed Interpretations and Key Decisions document has been developed for the Project Agreement and for Permit numbers PE-17469 and 17488. The Project Agreement document is shared between the EPCOR and MLFNRO only, and the permits document shared between MOE and MFLNRO only. Each document contains a historical record of agreed interpretations and key decisions and requires both parties to agree to the wording and interpretation before it is finalized. All future interpretations and decisions will be maintained in the same document so that it represents a chronological record available for future team members.”

Ministry of Environment:

“In collaboration with the Ministry of Forests Lands and Natural Resources Operations, a Record of Agreed Interpretations and Key Decisions has been developed within which all records of key decisions about, interpretations of and amendments to the Water Treatment Plant or Jane Basin Disposal permits will be documented along with summary descriptions of the issue and reasons.”

<p>Recommendation 3: The Ministry of Forests, Lands and Natural Resource Operations and the Ministry of Environment work to develop long-term plans and timelines for meeting their goal of closure of the contaminated site under the Environmental Management Act.</p>	<p>Partially implemented</p>
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Actions taken, results and/or actions planned

Ministry of Forests, Lands and Natural Resource Operations:

“Since 2001 the Province has made significant progress in remediating the former Britannia Mine site removing substantial copper and zinc contaminant loadings via a number of remedial systems, including mine water treatment, groundwater pump and treatment, and surface water diversions. The remedial works were initially guided by an Overall Remediation Plan developed in 2003 that provided broad remedial objectives and identified key contaminant source areas that if remediated, provided the largest risk-reduction to the environment relative to the costs expended.

By 2009 most of the broad remedial objectives had been achieved and with consultation from the Ministry of Environment, MFLNRO developed an Overall Closure Plan, which, once complete, would allow the site to be considered as having met the requirements of the Environmental Management Act (EMA). The OCP provides a framework, or path, to closure and is supplemented on an annual basis with work plans. The annual work plans summarize the past year’s progress and investigation and remediation to be undertaken over the next year.

The OCP framework document, and its associated annual workplans, facilitate closure of the site in a cost efficient and timely manner. Britannia is a large complex site where the decision to conduct any remedial work requires significant iterative investigations and assessments (contaminant, human health and ecological risk, engineering feasibility, social, etc.) in order to identify a remedial plan that will achieve success in a complex geological and marine environment. In essence, there are a number of specific remedial plans developed to address different parts of the mine and the particular environmental issues they present.

In January, 2013 MOE and MFLNRO met to further discuss improvements to the OCP reporting framework and have agreed to improve the current reporting structure to include better measurement of project achievements and documentation of project delays. MFLNRO will continue to work closely with MOE to develop long-term plans and timelines for meeting our objective of site closure and protection of human health and the environment under EMA.”

All information has been provided by the organization and has not been audited.

Ministry of Environment:

“We will continue to work with the Ministry of Forests Lands and Natural Resource Operations on the development of long-term remediation goals and timelines and monitoring progress towards site closure under EMA. The latest meeting for the project was held on January 9, 2013.

An Overall Closure Plan (OCP) has been in the development since 2009 and is guided by the input of the Technical Advisory Committee. The OCP framework sets out the objectives and these objectives are supported by the specific tasks covered by the annual workplans.

Management goals and assessment endpoints for the remediation and effectiveness monitoring of the site are being developed and will reflect “common” goals/endpoints used in ecological risk assessments, even if they may not be attainable.

Investigation and remediation of several units comprising this very large mine site are still underway and the work has been phased taking into consideration the priorities of the ministry and the other stakeholders involved in the project.

The outcome of remediation remains a work in progress and will to a degree be determined by the technical feasibilities of available remedial technologies, their likelihood of success, the level of environmental recovery achieved in response to implemented remedial actions, and costs.

To track the project’s effectiveness, the ministry implemented an environmental monitoring program that measures the changes resulting from the remediation work, including changes to Howe Sound’s intertidal life and water quality.

In collaboration with the Ministry of Forests Lands and Natural Resource Operations, changes to current reporting procedures will be implemented in 2013 to improve existing reporting on project achievements and activities against the OCP schedule and to document reasons for any delays in project timelines.

Since the project was implemented, there have been some clear indicators of improvement. For example, the Department of Fisheries and Oceans notes that pink salmon have returned to Britannia Creek.”