Transboundary Partner Dialogue

On June 1, 2018, representatives from the British Columbia (B.C.) Ministries of Environment and Climate Change Strategy (ENV) and Energy, Mines and Petroleum Resources (EMPR) participated in a Transboundary Partner Dialogue Workshop in Juneau, Alaska. B.C. representatives provided updates on mining projects in the transboundary watershed area, mining regulation and oversight, and current priorities and initiatives. During this meeting, B.C. also received a few questions to which they committed to follow-up with further information. This information is provided below.

Red Chris Mine South Dam Tailings Storage Facility (TSF)

This section provides information regarding the sequencing of permit approvals for Imperial Metals' Red Chris Mine South Dam TSF relative to the new TSF provisions in the Health, Safety and Reclamation Code for Mines in B.C. (the Code[1]), effective July 2016. Current authorizations for the Red Chris Mine can be found at the following link: http://mines.nrs.gov.bc.ca/p/red-chris/authorizations.

- ENV and EMPR conducted a robust evaluation of the Red Chris South Dam TSF permit applications from April 2016 through August 2016. Decisions on the applications were made on the following dates:
    - *Mines Act* permit approving construction of South Reclaim Dam – July 13, 2016 (EMPR)
    - *Mines Act* permit approving South Dam construction – August 19, 2016 (EMPR)
    - *Environmental Management Act* permit approving use of the South Dam – October 26, 2016 (ENV)
- In July 2016, EMPR released the revised Section 10 of the Code,[2] which includes new TSF provisions in response to the recommendations made by the Independent Expert Engineering Panel (IEEP) and the Chief Inspector following their investigations into the Mount Polley Tailings Facility Breach.
- The Code review leading up to the new TSF provisions began in September of 2015. As such, EMPR ensured that the Red Chris South Dam application review was carried out with the new TSF provisions in mind.
- Pursuant to the new TSF provisions, Imperial Metals was required to submit for review an "Options Analysis" for the Red Chris South Dam design that considered the recommendations of the IEEP, along with a written rationale for the chosen design (see Section 10.1.2 – 10.1.3 of the Code, a *Mines Act* requirement for applications that include one or more tailings storage facilities). The Options Analysis included commentary on water balance, risk assessment, and long-term planning (see Section 10.4.2 of the Code), as well as the need for integrated management and the creation of a tailings manager position (see Section 10.4.2 of the Code) to oversee all aspects of tailings management.

[1] The Health, Safety and Reclamation Code for Mines in B.C. can be found at the following location https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/health_safety_and_reclamation_code_2017_rev.pdf

[2] A guidance document explaining the new TSF provisions in the Code can be found at the following location https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/part_10_guidance_doc_10_20july_2016.pdf

- Designs for the South Dam were reviewed by the Independent Engineering Review Panel (IERP) established by Imperial Metals for the Red Chris Mine (note: independent tailings review boards are now a Code requirement per Section 10.4.2). Imperial Metals provided responses, additional analysis, and made changes to the design of their TSF to address the IERP's concerns.
- EMPR also hired an independent consultant to conduct a review of the hydrogeological aspects of the proposed TSF for Red Chris. The results of this review were factored into the Province's assessment and decision of the proposed TSF design.

TSF for Seabridge Gold's proposed Kerr-Sulphurets-Mitchell (KSM) Project

This section provides information regarding the proposed TSF for the KSM project, including existing approvals and further regulatory requirements.

- Seabridge received an Environmental Assessment Certificate (EAC) for the KSM Project in July 2014. The EAC provided initial approval for the project's current TSF design.
- Before Seabridge is authorized to fully construct and operate the KSM Project, they must apply for and be granted applicable permits. The permit applications are subject to rigorous review through the major mines permitting process managed by the Major Mines Permitting Office. The review is conducted by technical staff from provincial permitting agencies including EMPR, ENV, and the Ministry of Forest, Lands, Natural Resource Operations and Rural Development. The review assesses the mine components, plans, and designs (including tailings facilities), and water quality modelling and treatment for the life of the mine.
- Pursuant to the new Code requirements, Seabridge will be required to submit an alternatives assessment for the design of the project TSF as part of the *Mines Act* permit application. This alternatives assessment must assess best available technologies, accounting for the site-specific technologies and techniques that most effectively reduce the risks associated with tailings storage during all stages of operation and closure.
- Due to potential implications to transboundary watersheds, Alaska will be invited to participate in the major mines permitting review for KSM once it commences.
- More information on the environmental assessment and current TSF design is available on the B.C. Environmental Assessment Office and Seabridge's websites:
    - EAO - https://www.projects.eao.gov.bc.ca/p/ksm
    - Seabridge - https://seabridgegold.net/ksm.php

Water Quality Objectives and Salmon Habitats

This section provides an overview of the extent to which salmon-bearing streams and the protection of salmon habitat is considered by B.C. in establishing water quality objectives.

- ENV has approved site-specific water quality benchmarks for operating or proposed mines in the B.C.-AK Transboundary Rivers (e.g. Taku, Stikine, Usuk, and Alsek). These benchmarks consider local

species and water quality conditions, and are used to develop permit limits that are protective of the environment.

- The Brucejack mine is currently operating and does not discharge directly into salmon-bearing streams and systems. Effluent discharge limits can be found in Effluent Permit PE-107835, publicly accessible through the "Other Documents" section of the BC Mines Database: (http://mines.nrs.gov.bc.ca/p/brucejack/docs).
- KSM holds Effluent Permits PE-106824 and PE-108155, which authorize discharges in support of Seabridge's activities. Both are also accessible by searching in the public database: (https://j200.gov.bc.ca/pub/ams/Default.aspx?PossePresentation=DocumentSearch&PosseMenuName=MM_Main).
- The water quality monitoring program undertaken by the Technical Working Group on Monitoring includes fish tissue sampling to further monitor the health of fish-bearing waterbodies. Please see: https://ltgov.alaska.gov/wp-content/uploads/sites/6/2017/05/170405_Preliminary-Program-Description-Two-Year-WP.pdf

Canadian Environmental Assessment Process Contact

During the meeting, questions were raised regarding the Canadian Environmental Assessment (EA) process, including Canada's proposed new impact assessment system.

For further information about the federal EA process, please contact **Natalie Deschamps** at Natalie.Deschamps@ceaa.gc.ca. Natalie is the federal – provincial liaison and senior policy analyst at the Canadian Environmental Assessment Agency and will be happy to assist with any requests.