

Elk Valley Water Quality Plan

2019 Implementation Plan Adjustment

Annex A: Summary of Feedback Received

July 2019



Teck

Table A-1 Summary of Feedback Received from EMPR, ENV and KNC Prior to the August 2018 Submission of the Implementation Plan Adjustment

Feedback Received ^(a)	Topic	Report Comment Addressed In	Section
Request that Teck include context that the EVO mine plan may change as a result of the SDM process, and how this could influence water quality. Describe process and the linkages between the IPA process and the Harmer SDM process in the IPA submission.	Linkages to Other Water Initiatives	2019 IPA Main Document	Section 1.4
Source Prioritization for Mitigation - include additional details in the 2019 IPA submission on selenium and nitrate loads, water quantity, and rationale for sources considered but excluded.	Source Prioritization for Treatment	2019 IPA Main Document Annex E	Section 2.1 Section 2
Provide a description of the linkage between the Tributary Management Plan (TMP) and the IPA in the final documentation for the IPA, acknowledging that the TMP may result in an adjustment to the IPA, consistent with the Adaptive Management Plan (AMP).	Linkages to Other Water Initiatives	2019 IPA Main Document	Section 1.4
Include projected influent concentrations for each plant as part of the submission and requested that Teck review the selenium effluent assumption of 30 µg/L to ensure conservatism is maintained.	Results	Annex F 2019 IPA Main Document Annex C	Section 4 Section 2.4 Section 2
Teck to include reference to <i>Mines Act</i> (C-Permits) requirement for updating the Implementation Plan.	Background and Regulatory Context	2019 IPA Main Document	Section 1.1, Table 1-1
<ul style="list-style-type: none"> • Include a linkage to Research and Development (R&D) and reference to the Adaptive Management section where this topic will be discussed in greater detail. • Include more detail on the Elkview Harmer Structured Decision Making (SDM) process specific to the allocation of waste rock between EVO Dry Creek and Erickson Creek. • A broader explanation of the application of learnings from the LCO Nitrate Compliance Action Plan to other sites.^(b) 	Linkages to Other Water Initiatives	2019 IPA Main Document	Section 1.4 Section 3.4 See Note (a)
Teck to clearly articulate the objectives, and targets, of the 2019 IPA at the front of the IPA Report.	Approach	2019 IPA Main Document	Section 1
Teck to use figures wherever possible to better illustrate differences between Scenario 1 (Planned Development) and Scenario 2 (Permitted Development).	Updates to the RWQM and Site Conditions	2019 IPA Main Document	Section 2.2
Teck to clearly explain the decisions made with respect to source (stream) prioritization, treatment facility sizes and diversions in the 2019 IPA report.	Source Prioritization for Treatment	2019 IPA Main Document Annex E Annex D	Section 2.1 Annex E (full document) Annex D (full document)
Clarity regarding the operability of the AWTFs with and without diversions. For example: Could a diversion be added into one of the tributaries contributing to an AWTF and the plant still operate within the design criteria, if the initial design was developed with diversions excluded?	Clean Water Diversions	Annex D	Annex D (full document)

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Teck to include hydrographs and load treated plots.	Results	Annex F	Section 4 (appendices) Loads treated plots not provided; load removed summarized in table format
Teck to include a list of diversions that are included in existing permits (C-Permits) and Environmental Assessment Certificates.	Clean Water Diversions	Annex D	Section 1
Teck to provide explanation of how the diversions are being considered.	Clean Water Diversions	2019 IPA Main Document Annex D	Section 2.3.4 Section 3.3 Annex D (full document)
Teck to include best practices associated with mine planning and mining practices and how these are being advanced / followed.	Changes in Mine Planning and Mining Practices	During the regulatory review period, EMPR requested that this information not be included in the 2019 IPA, but that it be provided through other means of communication such as in the AMP.	
Changes to the 2017 RWQM through the review process will be captured in this document. This will include discussion on the effects of the modifications to the calibration period and future projections.	Updates to the RWQM and Site Conditions	2019 IPA Main Document Annex B	Section 2.1 Annex B (full document)
Selenium Bioaccumulation Model: To be completed with final IPA scenario. Explicitly address the k_d and concentration relationship for the Kooconusa Reservoir, including a discussion about essential levels of selenium in aquatic biota.	Selenium Bioaccumulation	2019 IPA Main Document Annex G	Section 2.3.3 Annex G (full document)
Include rationale to support effluent assumptions.	Mitigation Measures in the 2019 IPA / Mitigation Strategy	Annex C	Section 2
Include examples of types of measures required to achieve higher capture (water availability). <i>Superseded by request following June 21 IPA meeting.</i>	Water Availability	Annex H	Section 3
Include volume and timing for each SRF in the 2019 IPA documentation.	SRFs	Annex J	Section 3.3.1
General comments that attaining 95% of a total watershed yield perspective is very high. Expectation that the 2019 IPA documentation will include a description of how Teck's monitoring programs will be adjusted in order to gather the data required to support future water management decisions and infrastructure design to meet these capture targets.	Water Availability	Annex H	Section 3
Request that additional context be included in the future projections discussion in the 2019 IPA documentation where the results look different between flow scenarios (ex. explain why the high flows at LCO Compliance Point look different between 2026 and 2037).	Results	Annex F	Section 2 Section 3

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It is important that the rationale for plant timing and order be supported in the 2019 IPA documentation.	Mitigation Strategy	2019 IPA Main Document	Section 2.1 Section 2.4.2
Documentation of what the measured data on the Koocanusa Reservoir selenium projection plots represent (average of the results for the four monitoring locations in the Koocanusa Reservoir down to the Canada/US border).	Measured data in Koocanusa	2019 IPA Main Document Annex B Annex F	Section 2.4.2 Section 2.2 and Appendix B Section 2 Section 3
Inclusion of permitting time-lines for SRFs in the IPA documentation.	SRFs	Note (c)	Note (c)
Teck to provide next steps to proving out SRF technology.	SRFs	Annex J	Section 3.3.1
On 22 June 2018, ENV and EMPR expressed concern about the water availability assumptions, and requested that Teck: provide an assessment of the percentage of total runoff at surface in tributaries targeted for treatment to support the assumed water availability, taking into account relevant monitoring data and local groundwater studies. <ul style="list-style-type: none"> identify follow-up activities, where warranted, that will be undertaken to better characterize and understand sub-surface flows in tributaries targeted for treatment. discuss feasible engineering measures that could be employed to collect surface and shallow groundwater flow to achieve the assumed surface water availability, where relevant. 	Water Availability	Annex H	Annex H (full document)

(a) This table contains feedback and inputs received from EMPR, ENV and KNC between January and July 2018 to inform the content of the initial (Aug 2018) submission of the IPA.

(b) The nitrate source control work under the AMP will consider the findings of the LCO Nitrate Compliance Action Plan.

(c) SRFs are discussed in detail in Annex J of the 2019 Implementation Plan Adjustment; time-lines for permitting were not presented in this document and will be determined through consultation with regulators.

µg/L = microgram per litre; AMP = Adaptive Management Plan; AWTF = active water treatment facility; EMPR = British Columbia Ministry of Energy, Mines and Petroleum Resources; ENV = British Columbia Ministry of Environment and Climate Change Strategy; EVO = Elkview Operations; IPA = Implementation Plan Adjustment; LCO = Line Creek Operations; R&D = Research and Development; RWQM = Regional Water Quality Model; SDM = Structured Decision Making; SRF = saturated rock fills; TMP = Tributary Management Plan; US = United States of America

Table A-2 Summary of Engagement Outreach with Communities of Interest

Organization	Engagement Activity	Date	Summary of Comments Received
BC Environmental Assessment Office (EAO)	Phone	February 28, 2018	Teck informed EAO about the IPA process and asked how EAO would like to be engaged going forward. EAO thanked Teck for the discussion and indicated they did not require to be involved in the details of the IPA process and that Teck should touch base later into the process. EAO also noted that EMPR had been keeping EAO informed about the IPA.
	Email with IPA Summary and phone follow-up	February 20, 2019 and July 25, 2019	Teck provided the February 2019 IPA Summary to EAO; no written comments were provided. Through a follow-up discussion with EAO on July 25, 2019, EAO confirmed that they had no specific comments on the IPA Summary document; EAO noted that the IPA did not include Teck's Coal Mountain Phase 2 Project (on hold in the EAO system as of Q1 2016).
Interior Health Authority (IHA)	Emails	April 24, 2018 and February 21, 2019	Teck reached out with email on April 24, 2018 to indicate Teck would like to discuss the IPA, but unable to set up a meeting time. The February 2019 IPA Summary was provided to IHA on February 21, 2019 via email and no questions were raised.
Shuswap Indian Band (SIB)	Email and Meeting	March 7, 2018 and July 19, 2018	An email was sent to SIB from Teck asking how they would like to be engaged. Teck met with Chief and Counsel and provided an update on the IPA and an update on anticipated submission date. Questions were addressed in the meeting, and no follow-up required.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to SIB. No comments or questions were received.
Environmental Monitoring Committee (EMC)	Meetings	February 2018 to March 2019	The EMC was informed that Teck was undertaking an update to the Initial Implementation Plan of the Elk Valley Water Quality Plan (EVWQP). Through regularly scheduled EMC meetings, the IPA was referenced for context during general water quality and Adaptive Management Plan discussions.
	Email with IPA Summary	February 21, 2019	Teck provided the February 2019 IPA Summary to the EMC Facilitation Team for information purposes. No comments were received.
Montana State Department of Environmental Quality (DEQ)	Email, phone call, presentation in-person, information during conference call	In-person discussion September 26 2018; in-person presentation at Koocanusa Reservoir Monitoring and Research Working Group meeting October 29/30 2018; IPA Summary provided via email (including website link) February 21 2019; follow-up phone conversation March 7 2019.	<p>Montana DEQ had clarifying questions about the IPA including:</p> <ul style="list-style-type: none"> • specific changes from the Initial Implementation Plan • Impacts to water quality in Koocanusa Reservoir based on modeling completed for the IPA • Request to receive the final IPA once complete <p>These questions were responded to through conference calls and in-person meetings.</p>

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Montana Legislature	Phone	February 2018	Teck spoke with an elected official (Senator) to share information and build awareness of Teck's progress and performance on the Elk Valley Water Quality Plan, including progress on the development of the IPA. Questions were addressed in the meeting.
	In-person meetings	April 16-17, 2018	Teck met with elected officials at various locations (Libby, Kalispell, Eureka) to share information and build awareness of Teck's progress and performance on the Elk Valley Water Quality Plan, including progress on the development of the IPA. Questions were addressed in the meeting; no follow-up required in relation to the IPA.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to Montana representatives. No comments or questions were received.
	In-person meetings	May 22, 2019	Teck met with elected officials (Senator, Lincoln Conservation District, Commissioner, Libby Mayor and Councillor) to share information and build awareness of Teck's progress and performance on the Elk Valley Water Quality Plan, including progress on the development of the IPA. Questions were addressed in the meeting; no follow-up required in relation to the IPA. Teck also met with other groups (Linehan Outfitting, Kootenai River Network, Weyerhaeuser) during this visit to Montana to share information and build awareness of Teck's progress and performance on the Elk Valley Water Quality Plan.
US Environmental Protection Agency (EPA)	Discussion	In-person discussion September 26, 2018; in-person presentation at Koochanusa Reservoir Monitoring and Research Working Group meeting October 29/30, 2018; IPA Summary provided via email (including website link) February 21, 2019; follow-up phone conversation March 2019.	<p>EPA had questions about the IPA and its development throughout the process. A summary of concerns included:</p> <ul style="list-style-type: none"> • How the EPA could provide input to the process • How water quality in the reservoir will be impacted by changes to the initial implementation plan • The change in volume of water from the initial plan to the IPA • How monitoring will inform adaptive management under the IPA • Request to receive a final copy of the IPA once submitted and finalized • The EPA provided Teck with a copy of an EPA letter that was sent to the BC Ministry of Environment and Climate Change dated July 22, 2019. The letter outlined EPA's concern that it will be difficult for Teck to successfully implement the IPA and meet water quality objectives into the future and that the IPA does not consider the US portion of the Koochanusa Reservoir. <p>Teck responded to these comments by way of email and phone conference. Teck committed to continued engagement with EPA and to share the 2019 IPA once it is submitted and finalized.</p>

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Environment Canada and Climate Change (ECCC)	Phone, in-person meetings and emails	January 2018 to July 2019	The framework of the IPA was discussed with ECCC and the link to the February 2019 IPA Summary shared with several divisions within ECCC including the Pacific Regional Office. No specific technical questions were received.
Kootenai Tribe of Idaho (KTOI)	Teleconference	April 19, 2018	Teleconference held on April 19, 2018. Part of this teleconference addressed the IPA – there were questions on nitrate increase and how we treat nitrates and questions on how the Advanced Oxidation Process (AOP) system works; questions were answered in the meeting by Teck, no follow-up actions committed to and questions on the IPA itself.
	Email with IPA Summary	February 14 2018	Teck provided the February 2019 IPA Summary to KTOI. No comments or questions were received.
Confederated Salish, and Kootenai Tribes (CSKT)	Emails	April 19, May 5 and June 11 2018	Teck reached out to CSKT on April 19, 2018. The initial response was that an internal CKST dialogue was required. There has been no direct contact, though Teck has sent follow-up emails on May 5 and June 11, 2018.
	Email	February 14, 2018	Teck provided the February 2019 IPA Summary to CSKT. No comments or questions were received.
	Meeting	June 25, 2019	Teck met with Tribal Counsel in Whitefish, MT. Questions were addressed in the meeting; no follow-up was necessary.
Wildsight	Meeting	January 2018	Teck met with the Wildsight Executive Director, and discussed the October 31, 2017 Regional Water Quality Model (RWQM) and that future water quality projections indicate changes to initial implementation plan were required; IPA development and timing was discussed.
	Phone	November 29, 2018	Wildsight asked about public engagement in advance of the 2019 IPA report being finalized. Teck informed it would be published in the new year, and was with the KNC and regulators for review. Wildsight asked whether the Regional Water Quality Model (RWQM) includes mine life extension projects. Teck responded that the RWQM update modelled in-stream future concentrations and indicated an adjustment was required using our adaptive management process. Wildsight indicated it was looking forward to the receiving the IPA Summary and the publication of the full IPA report.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to Wildsight. No comments or questions were received directly by Teck. Teck acknowledged media articles from Wildsight in relation to the IPA.

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Montana Headwaters	Phone	December 13, 2018	Teck provided details indicating that KNC and provincial regulators are in the process of a technical review of the IPA and indicated once final, the IPA would be made available more broadly. No comments or questions were put forward. Montana Headwaters was grateful for the update and looks forward to the 2019 IPA report when finalized.
Elk River Alliance	Conversation	Early 2018	On March 24, 2018, Teck spoke with ERA to inform them about the purpose and development process for the IPA.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to Elk River Alliance. No questions or concerns were received.
District of Sparwood	Email with Letter	March 2018	Teck sent a letter in March 2018 to the District of Sparwood to inform on the purpose and process for developing the IPA. No questions or concerns were received.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to the District of Sparwood. The email was acknowledged with no further questions.
District of Elkford	Email with Letter	March 2018	Teck sent a letter in March 2018 to the District of Elkford to inform on the purpose and process for developing the IPA. No questions or concerns were received.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to the District of Elkford. No questions or concerns were received.
City of Fernie	Email with Letter	March 2018	Teck sent a letter in March 2018 to the City of Fernie to inform on the purpose and process for developing the IPA. No questions or concerns were received.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to the City of Fernie. No questions or concerns were received.
Municipality of Crowsnest Pass	Email with Letter	March 2018	Teck sent a letter in March 2018 to the Municipality of Crowsnest Pass to inform on the purpose and process for developing the IPA. No questions or concerns were received.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to Crowsnest Pass. No questions or concerns were received.

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Regional District of East Kootenay (RDEK) Area A	Email with Letter	March 2018	Teck sent a letter in March 2018 to the RDEK Area A to inform on the purpose and process for developing the IPA. No questions or concerns were received.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to the RDEK Area A. No questions or concerns were received.
Centermount Coal	Email with Letter	March 2018	Teck sent a letter in March 2018 to the Centermount Coal to inform on the purpose and process for developing the IPA. No questions or concerns were received.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to Centermount Coal. No comments or questions received.
North Coal	Email with Letter	March 2018	Teck sent a letter in March 2018 to the North Coal to inform on the purpose and process for developing the IPA. No questions or concerns were received.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to North Coal. No comments or questions were received.
Jameson Resources	Email with Letter	March 2018	Teck sent a letter in March 2018 to the Jameson Resources to inform on the purpose and process for developing the IPA. No questions or concerns were received.
	Email with IPA Summary	February 14, 2019	Teck provided the February 2019 IPA Summary to Jameson Resources. No comments or questions were received.
Elk Valley residents and General Public	Emails IPA Summary posted to Teck website	February 14, 2019 March 6, 2019	February 2019 IPA Summary was provided to interested Elk Valley residents. Teck posted the February 2019 IPA Summary to our website for public access: https://www.teck.com/media/2019IPA_Summary.pdf