



Technical Advisory Committee Guidelines Elk Valley Water Quality Plan

October 16, 2013

***Note: The companion document to this document is the
“Planning Framework for the Development of the
Elk Valley Water Quality Plan”***

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1 Introduction

Under Section 89 of the *Environmental Management Act* of British Columbia, the Minister of Environment issued [Ministerial Order No. M113](#) (the “Order”) in April 2013 requiring Teck Coal Limited (“Teck”) to prepare an Area Based Management Plan for the Elk Valley to remediate water quality effects of past coal mining activities and to guide future development (MOE, 2013). The area based management plan will be titled the “Elk Valley Water Quality Plan” (EVWQP) and will be referred to in this document as the “Plan”.

The Order was initiated as a result of evidence of increasing concentrations of selenium, cadmium, nitrate and sulphate in watercourses in the Elk Valley, as well as evidence of calcite formation in some of these watercourses. These issues are largely associated with historical and current mining activity, and in particular, leaching from waste rock dumps. By addressing water quality effects of mining activities, the Order intends to create a path forward for mining development in the area that ensures the protection of ecological and human health while taking into account socio-economic factors.

A requirement of the Order was for Teck to prepare a [Terms of Reference](#) (TOR) to outline the purpose, scope and process requirements for development of the Plan. This TOR was approved by the B.C. Ministry of Environment (MOE) on July 22, 2013. Teck must submit a Plan to the MOE on or before July 22, 2014.

A central process requirement in the Order is the establishment of a nine member Technical Advisory Committee (TAC) to provide science-based technical advice to Teck (author of the Plan) and to the public during the development of the Plan.

This document describes the role and activities of the TAC throughout the development of the Plan. A companion document to this document is the *Planning Framework for Development of the Elk Valley Water Quality Plan*. Both of these documents were prepared by the facilitator of the TAC process, Compass Resource Management, with input from Teck and MOE.

2 TAC Mandate

The Order mandated the formation of a Technical Advisory Committee to provide technical advice to Teck and to the public during development of the Plan. The TAC is an independent advisory body established by Teck under the Order. The TOR defines technical advice as science-based advice with respect to scientific and technical issues arising during development of the Plan.

3 TAC Members and Alternates

The TAC is composed of one representative (and one alternate) from each of the following:

- Teck;
- the Government of British Columbia, including
 - The Ministry of Environment;
 - the Ministry of Energy and Mines; and,
 - the Environmental Assessment Office;
- the Government of Canada represented by Environment Canada;
- the US Federal Government;
- Montana State Government;
- the Ktunaxa Nation Council; and,
- an independent third-party qualified professional scientist.

The role of TAC members is to provide science-based technical advice to Teck and the public during the development of the Plan. The general process for giving this advice and topic areas for advice are described in Section 7.

Alternates for TAC members may attend TAC meetings if the appointed TAC member is unable to attend a meeting. In this case, the Alternates' role will be the same as a TAC member. Alternatively, Alternates may attend meetings as observers in accordance with Section 5.7 of the TOR, which states that observers may observe and, upon invitation from the Chair, participate in the meeting.

4 TAC Chair

The Chair of the TAC is the representative from the Ministry of Environment.

The Chair has the following responsibilities:

- appoint an independent third-party facilitator for the TAC process;
- attend public, stakeholder and government consultation meetings and open houses to convey advice from the TAC with respect to the issues on the agenda;
- determine the date and location of TAC meetings considering availability of TAC members and key milestones of the process;
- invite experts with specialized, technical expertise relevant to the development of the Plan to analyze components of the Plan and present recommendations to the TAC;
- refer components of the TAC’s work to separate technical working groups of experts;
- respond to media enquiries;
- decide whether certain portions of a TAC meeting or meetings will be held “in camera” to protect confidential information; and,
- resolve disputes on procedural matters related to the TAC work.

5 Facilitator

Compass Resource Management (Compass) is providing independent and neutral facilitation of the TAC process and is serving as the TAC Secretariat to provide general administrative support to the TAC. Compass is responsible for implementing a process that is responsive to input from TAC members while respecting overall process schedules and budgets. Compass is responsible to and reports to the TAC, and defers to the TAC Chair on matters for which the Chair has discretion.

For the TAC process, the Facilitator will:

- draft a process to support the purpose of the TAC process;
- provide impartial facilitation of all TAC meetings and teleconferences;
- organize and provide notice of TAC meetings;
- prepare TAC agendas for approval by the TAC chair;

- administer the TAC public reporting website and the TAC Internal SharePoint site (see Section 14 and 15);
- produce a record of the process (meeting notes and reports) that will summarize TAC discussions, including areas of agreement and disagreement among TAC members, and clearly document technical advice given by TAC members;
- circulate process records for approval by all members of the TAC before being posted on the TAC public reporting website; and,
- receive and distribute meeting information to TAC members, including technical background information and work packages via the TAC Internal SharePoint site.

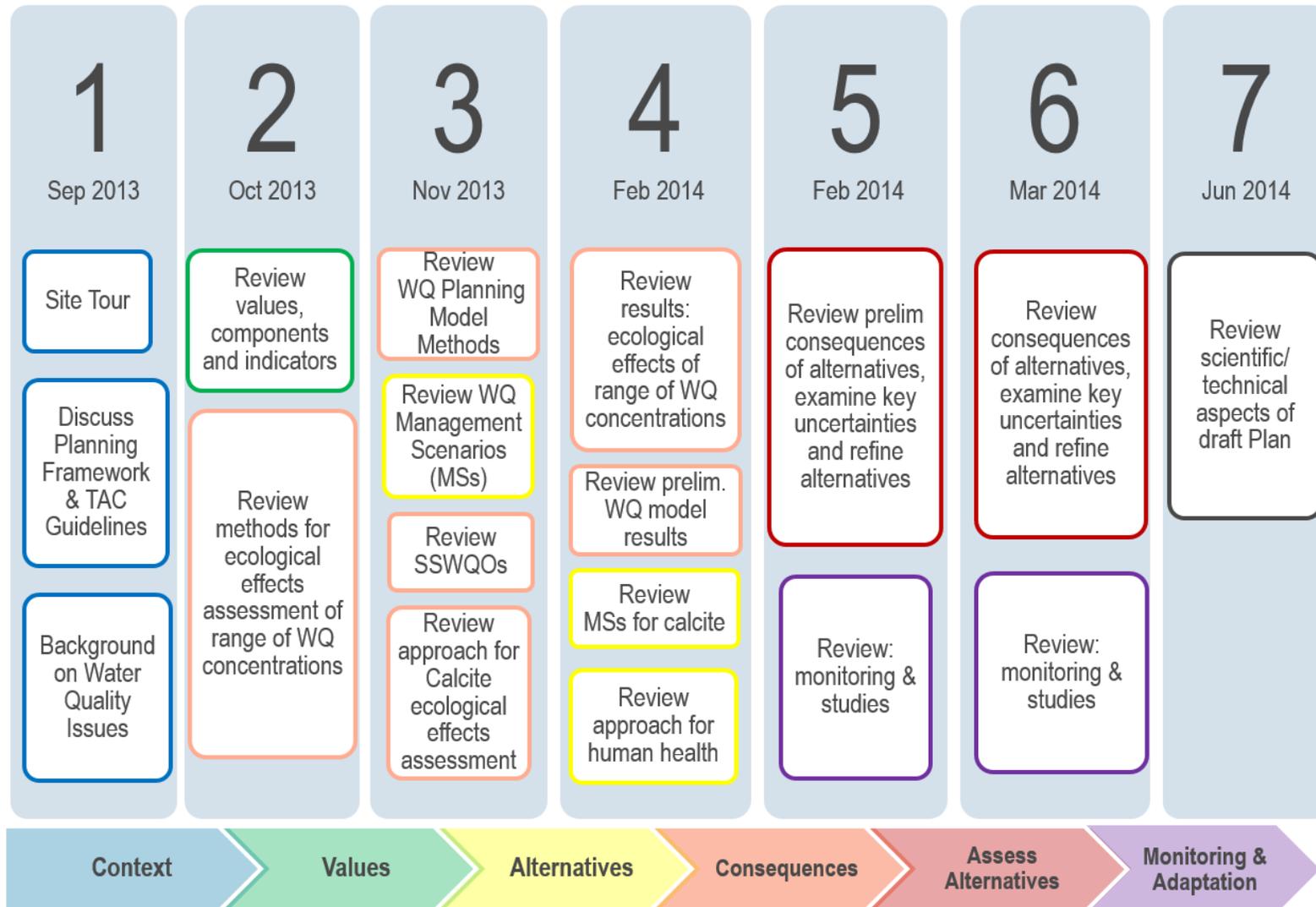
6 TAC Meeting Timeline & Agenda Overview

Teck's proposed analytical process for the development of the Plan follows a 6-step Structured Decision Making (SDM) approach, which is described in more detail in Section 2.2 of Teck's *Planning Framework*:

1. Set Planning Context
2. Define 'What Matters': Values, Components, and Indicators
3. Develop Alternatives
4. Estimate Consequences
5. Assess Alternatives and Decide
6. Define Implementation, Monitoring and Adaptation

While these steps appear linear, in practice, they are often not carried out sequentially. In planning processes, this one included, multiple steps are often worked on concurrently to facilitate scheduling constraints and to benefit from the learning that occurs in each step. For instance, in this process, methods for estimating consequences of alternatives (related to step 4) is front-ended in the schedule to allow time to generate results.

A tentative schedule of focus areas for the seven TAC meetings has been developed in line with the schedule for this analytical process and in line with submitting the Plan to the Minister of Environment by July 22, 2014. The schedule is summarized in Figure 1 followed by a description of each meeting. This schedule may be adapted as necessary as the process unfolds.

Figure 1: Focus Areas for Technical Advisory Committee Meetings


TAC Meeting #1 will tour Teck's coal mining operations in the Elk Valley, provide background information on current water quality conditions, discuss the overall process leading to submission of the Plan in July 2014, and have a discussion on the TAC role and responsibilities in the plan development process.

TAC meetings #2 will focus on Teck's methods for estimating the ecological effects under a range of water quality concentrations of selenium, cadmium, nitrate, and sulphate, which will include a review of the values, components and indicators for the ecological effects assessment.

TAC meeting #3 will focus on reviewing Teck's methods for the water quality planning model, Teck's management scenarios to mitigate the water quality concentration of constituents, and Teck's approach for assessing the ecological effects of calcite and establishing calcite targets. This meeting will also include a review of the calculation of site-specific water quality objectives.

TAC meeting #4 will focus on reviewing Teck's approach for the selection of candidate water quality targets from a review of two sets of results (1) the range of water quality concentrations of selenium, cadmium, sulphate and nitrate from representative management scenarios simulated by the Water Quality Planning Model (2) estimated ecological effects of a range of water quality concentrations of selenium, cadmium, sulphate and nitrate. As well, management scenarios for the control and remediation of calcite formation will be reviewed.

TAC meetings #5 and #6 will bring together the work of the previous meetings to examine the consequences of each alternative management scenario on each value and component. The TAC will be asked for their science-based technical advice in refining and improving the alternatives, and in the characterization of the consequences of these alternatives. Such advice will be used to inform decision makers, the public and First Nations of the trade-offs involved with different alternatives. As well, at meeting #6, a draft overview of the Plan will be ready for TAC review.

TAC meeting #7 will be dedicated to a review and discussion of Teck's draft Plan, which will include Teck's preferred alternative and their response to the advice given by the TAC throughout the process.

7 Technical Advice

The Order mandates:

The role of the Committee is to provide technical advice to Teck and to the public during the development of the Plan. Teck must consider all advice provided by the Committee. All advice provided by the Committee must be documented in the Plan along with an explanation of how that advice has been used.

The Terms of Reference further specifies that:

The TAC will provide advice to the public during development of the Plan through: (a) TAC meeting notes posted on a website that provides information with respect to the development of the Plan. Meeting notes will be prepared by the TAC and will be reviewed and discussed with the TAC prior to posting on the website; (b) attendance by the Chair of the TAC at meetings and open housesTeck must consider all advice provided by the TAC as summarized in the TAC meeting notes described in subsection (a) above. That advice will be documented in the Plan together with an explanation of how that advice was used.

The general method by which the TAC will provide advice is through reviewing and advising on work packages and draft sections of the Plan provided by Teck. "Work packages" relate to the analytical process that Teck is undertaking to inform decisions around the selection of water quality targets, management scenarios and any additional monitoring and studies that will be included in the Plan. "Draft sections of the Plan" refer to written sections of the draft Plan that the TAC will be asked to review and provide science-based technical advice.

The work packages and draft sections of the Plan for TAC review are focused on the estimation and characterization of ecological effects, and the evaluation of the approach for maintaining the protection of human health. While the TAC will be informed of the social and economic effects assessment, they are not expected to review the methods and characterization of this assessment.

An initial list of work packages for the analytical process is included in Table 1, and a description of plan components for TAC review is included in Table 2. Additional work packages and draft sections of the Plan for TAC review may be identified as the process progresses.

The process for documenting TAC advice is described in Section 8.

Table 1: Technical Advisory Committee Work Packages for Analytical Process

#	Topic	Work Package Title	TAC Meeting #
1	Planning Framework	Draft Planning Framework for Development of the Elk Valley Water Quality Plan	1
2	Ecological Effects Assessment for Selenium, Cadmium, Sulphate and Nitrate	2a – Methods for the Assessment of Ecological Effects under a Range of Water Quality Concentrations	2
		2b – Results for the Assessment of Ecological Effects under a Range of Water Quality Concentrations	4
3	Site-specific Water Quality Objectives	3 – Calculation of Site-specific Water Quality Objectives	3
4	Calcite	4a – Narrative Objective for Calcite	3
		4b – Approach for Assessing the Ecological Effects of Calcite and Establishing Targets	3
		4c – Management Scenarios for the Control and Remediation of Calcite Formation	4
5	Management Scenarios	5 – Management Scenarios to Mitigate Water Quality Concentration of Constituents	3
6	Water Quality Planning Model	6a – Water Quality Planning Model Methods	3
		6b – Preliminary Results from Water Quality Planning Model	4

#	Topic	Work Package Title	TAC Meeting #
7	Protection of Human Health	7 – Approach for Maintaining the Protection of Human Health	4
8	Monitoring & Studies	8a – Overview of Teck’s Current Aquatic Ecosystem Monitoring Program. 8b – Additional Monitoring & Studies for the Plan (to verify that management actions are achieving targets and to address any data gaps identified)	5 & 6
<i>Note: Work packages may be added or modified as process progresses.</i>			

Table 2: Draft Sections of the Plan for Technical Advisory Committee Review

#	Draft Section of the Plan	Anticipated Tasks	Date of Review
1	Characterization of the existing water quality baseline information	<p>As described in Section 3.4 of the TOR, the Plan will use available data to provide an evaluation of baseline water quality conditions that will identify all substances that currently exceed provincial Water Quality Guidelines related to the protection of the environment and/or human health in water, sediment, or biota (e.g. fish tissue) and related variables.</p> <p>The TAC will be asked to review the characterization of existing water quality baseline information and provide advice on the interpretation of the data in Teck's Draft Plan.</p>	TBD
2	Scientific evaluation of ecological effects to support the selection of water quality concentration and calcite targets and timelines	<p>As described in Section 3.10 of the TOR, the Plan will rigorously and scientifically evaluate environmental effects to support the selection of water quality concentration and calcite targets and timelines as described in Section 3.11 of the TOR.</p> <p>The TAC will be asked to review and provide advice on the scientific evaluation of the environmental effects of the water quality concentration and calcite targets and timelines in Teck's Draft Plan. The information for this scientific evaluation comes from Teck's ecological effects assessment of a range of water quality concentrations, which the TAC will review and provide advice on through a work package listed in Table 1.</p>	TBD
<p><i>Note: Other draft sections of the Plan for TAC review will be added as planning process progresses.</i></p>			

8 Documentation of TAC Technical Advice

As facilitator, Compass will be responsible for documenting all TAC advice. At appropriate points during TAC meetings, once TAC members have had sufficient time to review and discuss an issue or question, the TAC will be formally asked to document its advice by the facilitator. To facilitate the documentation of advice and reaching consensus, the facilitator may draft advice for approval and input by the TAC. The formal documentation of TAC advice will be appended to TAC meeting notes.

The TAC will strive to provide Teck with consensus advice. If consensus cannot be reached, the meeting record will describe the areas of disagreement and the reasons behind the dissenting views.

Advice from TAC members may also come as written submissions during the review period for a work package or draft section of the Plan (which will typically be two weeks before and two weeks after a TAC meeting). Written submissions will also be included in the TAC advice that is appended to the TAC meeting notes.

9 Principles for TAC Participation

Success of the TAC and its committee process will require a collective commitment from all participants to the following set of core principles.

Recognition of multiple values

Consistent with the sustainable development paradigm, the development of the Elk Valley Water Quality Plan will balance or integrate environmental, economic and social values.

Respect for mandate, scope and decision-making authority

The TAC is mandated to give science-based technical advice on the development of the Elk Valley Water Quality Plan, and thus does not have decision-making authority in regards to the Plan. The TAC recognizes that their technical advice is to be within the scope of the Plan as outlined in the Order and TOR.

Strive for consensus

The process to provide science-based technical advice on the development of the Plan will strive for consensus among participants. Every effort will be made to explore, understand and accommodate the interests of dissenting

viewpoints. If consensus is not achieved, differences in opinion amongst TAC members will be noted.

Respect for the process timeline

The timeline for plan development is prescribed in the Order and is non-negotiable. The TAC will respect the process timeline and give advice in a timely manner.

Use the best available information from all sources

The best available information will be applied to support the advice of the TAC. Budget, resource and schedule constraints (along with process design considerations) may limit the opportunity for new information gathering activities.

10 Code of Conduct

All participants in the TAC will:

- Support a fair, transparent and collaborative process;
- Treat others with courtesy and respect, let opposing views co-exist;
- Listen attentively with an aim to understand;
- Be concise in making your point;
- Speak in terms of interests instead of positions (Note: Interests are defined as the needs, wants and concerns that are connected to an issue. Positions are defined as a predetermined solution to a problem without consideration for the interests of others);
- Avoid disruption of meetings (e.g., cell phones, caucusing at the table, etc.);
- Use the “parking lot” for issues that fall outside the meeting agendas;
- Aim to achieve consensus on issues being addressed.

11 Procedures in the Event of Disagreement

The following steps will be used as a tool for resolving key issues that stall the process:

- Define the issue;
- Identify interests;
- Brainstorm options;
- Evaluate options;
- Recommend an option.

If the TAC is unable to reach consensus on an issue, further follow-up may be assigned to a sub-committee or task group. The sub-committee or task group will attempt to resolve the issue and report its recommendations back to the TAC. Alternatively, and when appropriate, external resources may be engaged to provide independent technical advice. In the event of failure to reach consensus, the Facilitator will make a recommendation that reflects his or her unbiased professional judgment about the course of action that will best enable the process to move forward.

12 Meeting Records

The record of the meeting will be in the form of meeting notes taken by the facilitator, which will be distributed as draft meeting notes to all TAC members for comment before final meeting notes are issued. TAC meetings will not have video or audio recording.

13 Observers at TAC Meetings

Observers for each of the members of the TAC may attend TAC meetings to the extent that the observer participation does not impede the activities and function of the Committee. Observers may observe and, upon invitation from the Chair, participate in TAC meetings. Observers must be members or employees of the governments and organizations represented on the TAC. People other than those associated with TAC member organizations will not be permitted as observers.

The TOR states that observers to TAC meetings must give at least 48 hours prior written notice to the TAC Secretariat (Compass). However, to assist in reserving meeting rooms of the appropriate size and catering, observers are asked to confirm their attendance with the TAC Secretariat three weeks prior to a TAC meeting.

Observers will be provided with refreshments and lunch along with TAC members and/or alternates if they confirm their attendance with the TAC Secretariat three weeks prior to the meeting.

14 Technical Working Groups

The Chair may, at the request of a member of the TAC or on her own discretion, refer components of the TAC's work to separate technical working groups of experts. Membership of these technical working groups is not limited to TAC members and alternates. Technical working groups will be mandated

to undertake discrete analytical tasks as determined by consensus of TAC members.

15 TAC Internal SharePoint Site

The TAC Secretariat will administer an internal [SharePoint](#) site for TAC members and alternates. This SharePoint will include the following documents:

- Meeting agendas
- Preparatory meeting documents (work packages, draft sections of the Plan)
- Draft and Final Meeting Notes
- Background material (annotated bibliography, monitoring data)

16 TAC Public Reporting Website

A TAC public reporting website will be set up to post regular updates of TAC meetings and any other documentation related to the TAC. The TAC Secretariat will own this website and will be the sole party who has rights to administer the website. The website will be linked to Teck's public website for the Plan: <http://www.teck.com/elkvalley>, which will contain general information on the planning process.

17 Media Protocol for the TAC process

Section 5.6 of the Terms of Reference for the Elk Valley Water Quality Plan states:

"All media and public enquiries concerning the Technical Advisory Committee will be referred to the Chair of the Technical Advisory Committee for a response on behalf of the Technical Advisory Committee."

As such, the Chair of the TAC, or the appropriate media contact provided by the Chair of the TAC, is to provide all comments to the media or public on behalf of the TAC. This includes comment on:

- TAC activities and meetings;
- Guidance or input provided by the TAC on the Elk Valley Water Quality Plan;
- any other aspect of the TAC's involvement in the Elk Valley Water Quality Plan.

All media or public requests for comment from the TAC, or for a member organization to comment in their capacity as a member of the TAC, should be directed to the appropriate media contact as provided by the Chair of the TAC.

Teck and TAC member organizations can provide any materials (reports, publications, etc.) publicly available on the TAC public reporting website to media or the public if requested. Requests for additional comment or discussion of those materials with the media should be directed to the appropriate media contact provided by the Chair of the TAC.

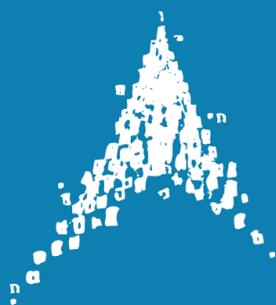
Media or public questions related to Teck's development of the Elk Valley Water Quality Plan, including public consultation, water quality monitoring, or other technical work, should be directed to the Teck media contact: Chris Stannell (chris.stannell@teck.com, [+1.604.699.4368](tel:+16046994368)).

18 Travel and Accommodation Costs

TAC members, alternates, and observers are responsible for their own travel and accommodation costs to attend TAC meetings. This includes the costs of meals not provided at the meeting.

19 Amendment

These guidelines may be amended at any point upon request from a TAC member and approval of the TAC Chair.



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