

Terms of Reference for the Scientific Peer Review of RAMP

Prior to the selection of the panel to undertake a scientific review of RAMP, a brief Terms of Reference (ToR), including the scope of work and review process, was established (see Appendix 1). During the initial kick-off meeting with the peer review panel, refinements to the original ToR and review process were made in consultation with the panel and the peer review coordinator. The following summary documents the changes or additions made to the original ToR and peer review process.

Scope of Work

During the kick-off meeting with the reviewers on July 15, 2010 the scope of work for the reviewers was defined as an evaluation of whether the current RAMP program is meeting the following objectives (outlined in the RAMP Design and Rationale document):

1. Monitor aquatic environments in the oil sands region to detect and assess cumulative effects and regional trends.
2. Collect baseline data to characterize variability in the oil sands area.
3. Collect and compare data against which predictions contained in Environmental Impact Assessments (EIAs) can be assessed.
4. Continuously review and adjust the program to incorporate monitoring results, technological advances and community concerns, and new or changed approval conditions.
5. Conduct a periodic peer review of the program's objectives against its results, and recommend adjustments necessary for the program's success.

In addition to the evaluation of the above objectives, the reviewers were asked to determine whether the current RAMP program was able to answer the following questions:

1. Can the present program detect changes if they occur?
2. Can the source of any potential change(s) be identified by the present program?
3. Are the appropriate questions being asked by the program and the appropriate criteria being monitored to answer those questions?

Each reviewer was asked to undertake a general review of the program as a whole and a detailed review of the RAMP component specific to their area of expertise.

Acid-Sensitive Lakes Component

The acid-sensitive lakes component of RAMP largely focuses on water quality, emphasizing variables specific to buffering capacity and acidification of regional lakes. Accordingly, the original plan was to have the two water quality reviewers also review the acid-sensitive lakes

component. This plan was discussed at the kick-off meeting with the reviewers and it was decided that it would be appropriate to engage another scientist with specific expertise in this field. The reviewers recommended potential candidates that could be added to the peer review panel and from that list, Shaun Watmough was selected as a reviewer for this component.

Schedule and Deliverables

The Peer Review process and the associated deadlines were defined during the kick-off meeting and included the following steps:

The Peer Reviewers will submit their draft findings to the Peer Review Coordinator.

1. The Peer Review Coordinator will synthesize the findings into a summary report. The summary report will be reviewed by the Peer Reviewers to ensure there is common agreement on the summary. The synthesis and nine individual reports will be compiled into a Draft Peer Review Document.
2. The Draft Peer Review Document will be sent to the RAMP Peer Review Task Group to check for errors and inaccuracies.
3. The Peer Reviewers will attend RAMP Tech meeting on October 27th to discuss the Peer Review recommendations.
4. The Steering Committee/Peer Review Task Group will develop a high level response to communicate how RAMP will respond to each of the recommendations outlined by the Peer Reviewers.
5. The Final Peer Review Document will be made publically available by the end of November, 2010.
6. A Detailed Response Document outlining how RAMP will respond to the each recommendation, and the rationale for this, will be submitted to the Peer Reviewers for comment and input in January 2011. This will be released to the public following the review by the Peer Reviewers.

During the RAMP Technical Meeting on October 27, 2010, the peer reviewers expressed an interest in having a meeting to review their individual recommendations and establish overarching recommendations across components. The RAMP Peer Review Task Group decided to extend the peer review process by having a meeting on December 13, 2010 for the reviewers to jointly discuss their recommendations and to develop a synthesis report based on their individual reviews. This meeting was held for just the reviewers and was independent from RAMP.

With the addition of the December 13, 2010 meeting, the RAMP Steering Committee decided to extend the deadline of the Peer Review process from the end of December 2010 to the end of January 2011 to allow time for the peer reviewers to complete and approve the final report before it was released to the public.

Appendix 1 Terms of Reference and Scope of Work for the Scientific Peer Review of RAMP

BACKGROUND

The Regional Aquatics Monitoring Program (RAMP) is a science-based and a results-focused environmental monitoring program. The program strives to achieve a holistic understanding of potential effects of developments in the Athabasca Oil Sands Region including the oil sands so that long-term trends can be identified, cumulative effects can be assessed and potential impacts can be addressed. The RAMP Steering committee is composed of representatives from municipal, provincial and federal governments including the Energy Resources Conservation Board and Alberta Environment, First Nations, forest industries and oil and gas companies.

The RAMP Steering Committee has requested that a review be undertaken of the existing aquatic monitoring program to assess and update the existing program. Alberta Innovates – Technologies Futures has been asked to coordinate the review and to assemble a team of experts to conduct the review.

SCOPE OF WORK

The scope of the review includes the following:

- Conduct thorough review of one of the four main components of the existing study as identified below:
 - water quality - Dr. Monique Dube, Dr. George Dixon
 - fish populations – Dr. John Post, Dr. Bill Fanzin
 - hydrology and climate – Dr. John Gibson, Dr. Donald Burn
 - benthos and sediment quality - Dr. Kelly Munkittrick, Dr. Joseph Flotemersch
 - acid-sensitive lakes – Dr. Shaun Watmough, Dr. George Dixon, Dr. John Gibson
- Each team of two individuals are to provide one document summarizing the results of the component review with an emphasis on providing consensus on the review issues discussed within their submission.
- Each reviewer is to provide written comments for the program as a whole regarding suggestions for improvement.
- Attend a meeting on October 27th in Edmonton (location to be confirmed) at which the results of the review will be presented by the review coordinator to both the reviewers and the RAMP Technical Subcommittee. It is anticipated that the reviewers will have an opportunity to clarify the review findings, answer questions and provide suggestions for future direction.

TIMELINE AND DELIVERABLE

The study has the following timeline and associated deliverables:

- Peer Review Kick-Off Meeting: July 15, 2010, Vancouver
- Completion of all work by Subcontractor by November 30, 2010

COST ESTIMATE

The review is based on the following assumptions for time and involvement:

- 40 hours required for the review will be charged to the study.
- Travel time to and from the kick-off meeting in Vancouver on July 15th, 2010 and the time spent at the meeting and associated travel, accommodation and food costs will be charged to the study if attended.
- Travel to and from the oil sands tour in Fort McMurray on July 16th, 2010 including associated travel, accommodation and food costs will be charged to the study if attended.
- Travel to and from the October 27th, 2010 meeting in Edmonton including associated travel, accommodation and food costs will be charged to the study if attended.

Based on previous correspondence, it is understood that you will charging out at the following rate:

\$X/day plus disbursements