

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
Responses should be as specific as possible, referring directly to the Comment/Recommendation.					
1	Chamber of Mines NWT & Nunavut: Tom Hoefer	NWT & Nunavut Chamber of Mines: please accept these additional comments from some members who did not submit directly	We are aware that various Members of the Chamber of Mines have submitted their comments on the Draft Guidelines for Aquatic Effects Monitoring Programs. We are providing the following additional comments from members who hve not been able to submit directly.	None	n/a
2	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	The Federal government is presently reviewing the aquatic effects monitoring requirements under the MMR's that I understand includes bringing the diamond mines and other non-metal mines under its wing. Would it not make sense to wait until the feds have completed their update in an effort to align the two reporting systems?	None	Since this comment was written the Metal and Diamond Mining Effluent Regulations (MDMER) have come into effect (June 1, 2018). Although the Board has acknowledged that harmonizing EEM and AEMP requirements to the extent practical is a preferred approach, it is important to note that the two programs have different overall objectives. For example, while the EEM is intended to gather information to ensure the national MDMER is working as intended, AEMPs are intended only to look at site-specific effects of individual projects. Therefore, it cannot be assumed that these two requirements would ever completely overlap for a given project. Furthermore, the Boards have already allowed metal mine proponents to harmonize their EEM requirements with AEMPs for existing projects in the NWT. As stated in section 1.3.4 of the Guidelines, the Boards expect proponents to propose how best to integrate monitoring requirements from other authorizations into the AEMP and the requests will be considered on a case-by-case basis.

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3	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	Suggesting that concentrations below CCME guidelines could be used as action levels is onerous. Using the CCME guidelines as appropriate for action levels is extremely onerous and leads to these becoming effluent targets. The CCME guidelines are set by the countries environment Ministers with safety factors and in several cases are well above natural background concentrations in the NWT, and which can be orders of magnitude below Metal Mining Effluent Regulation limits. Setting guidelines using CCME protocols is also onerous if you have to meet the minimum data requirements. Otherwise there would probably be a CCME limit. As CCME guidelines cannot be achieved “end of pipe” by modern technology, they are to be used to limit degradation, not prevent it. This appears to be a misuse of the CCME guidelines.	None	Section 3.2.2 of the last version of the Draft AEMP Guidelines (Draft 1) did reference CCME guidance materials but there was never a requirement that either Action Levels or effluent limits be set as equal to CCME guideline values or that CCME protocols must absolutely be followed. The description for how to set Action Levels in Draft 2 of the Guidelines has changed substantially from Draft 1; there are no longer references to the CCME guidelines or protocols in the Guidelines. In all cases, Action Levels will be set by the Board based on the evidence presented in each specific proceeding.
4	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	Suggest you highlight increasing regulatory burden in the Chamber’s submission	None	n/a
5	Chamber of Mines NWT & Nunavut: Tom Hoefer	General Pluses/Benefits:	-Assume most things prescriptive are good-this document provides a level of certainty for proponents.	None	n/a
6	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	-Good that there is a template provided for an AEMP Design Plan. The template is based on recent projects and recent Board requirements. Again, great for clarity and provides a level of certainty for proponents.	None	n/a
7	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	-Big plus is that these guidelines were developed by the Boards and the GNWT. Will avoid difficulties with different approaches between these organizations, disagreements/differences in experience levels. Improvement that this document is from all parties.	None	n/a
8	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	-Improvement that this is the document for ALL 4 of the MV boards. There have been previous documents by INAC, Wek’eezhii LWB, MVLWB etc. Much better to have a single document that will apply to all 4 boards.	None	n/a

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9	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	-Response Framework has been a requirement since 2010, but now this is included within this single AEMP document, which is an improvement as it is integrated and outlined in one updated document.	None	n/a
10	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	-Specifically says can harmonize the AEMP with MMER programs. Any proponent would definitely want to do that. Boards still have the decision as to whether AEMP meets their objectives though (e.g. they will not just assume an MMER program meets the objectives of the AEMP).	None	n/a
11	Chamber of Mines NWT & Nunavut: Tom Hoefer	One text change suggestion:	Section 1.1.3 Objective 1. This could be reworded, as the title does not necessarily reflect the text provided below the objective. The text indicates that this objective should also include spatial extent.	None	The reviewer points out the objective title speaks to temporal aspects, while the text itself speaks to both temporal and spatial effects. The objective title has been renamed to remove the temporal element and is now more inclusive. The objective title now reads as follows: "Determine the <del>short and long-term</del> effects of a project on the aquatic receiving environment."
12	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	Suggest rewording this objective to: Determine the temporal and spatial effects of a project on the aquatic receiving environment. (currently reads "Determine the short and long-term effects of a project on the aquatic receiving environment").	None	See comment Chamber of Mines NWT & Nunavut #11
13	Chamber of Mines NWT & Nunavut: Tom Hoefer	Potential Issues:	-The document does not address 'temporary closure'. It might be a good idea to include something, as required monitoring during temporary closure would not be the same as during closure or operations. It would be beneficial for proponents (and everyone) to have this phase specifically included, in order to save time/money/effort if a project does go in to temporary closure and would need to have separate conditions and plans created.	None	It is a good suggestion that proponents should plan for all possible activities they may envision during operation of their programs, including temporary closures. Temporary closures are, however, a specialized subset of closure which is already represented in the draft Guidelines. No additional directions are proposed in the document; no changes made.

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14	Chamber of Mines NWT & Nunavut: Tom Hoefer	None	-There is a very large onus on the proponent for engagement. This has maybe not changed, but has been documented and integrated into this AEMP document. The creation of a working group, and all documentation etc, is on the onus of the proponent. There is no shared responsibility for this...proponent is recommended to form their own working group and document all engagement activities.	None	Engagement is a requirement of preparing for any project that is subject to licensing; specific engagement is recommended for AEMPs since AEMP results are a very important way for stakeholders to understand impacts during the life of the project. The MVLWB and GNWT would be pleased to provide advice to proponents and assist in working-group meetings to discuss AEMP requirements. No change to the document.
1	De Beers Canada Inc - Gahcho Kue: Alexandra Hood	Appendix 1: AEMP template (pg 8)	It is noted in the overview of appendix 1 that the design plan must meet AEMP objectives and best professional standards for monitoring but does not provide clarity as to what these standards entail. This introduces ambiguity into the process.	De Beers suggests that the Board provide greater clarity surrounding what constitutes best professional standards for monitoring.	The Guidelines refers to best professional practices and standards in a general manner with respect to any field of knowledge involved in creating an AEMP, including engineering practices, environmental research, health and safety, ecology, wildlife biology, treatment technology, etc. It would be overly ambitious for the Guidelines to host the definitive guide to all best professional standards, and the Guidelines would have to be adapted frequently to keep up with evolving standards. Instead, the Guidelines highlight the need to achieve the current, accepted standards that should be known to professionals in their areas of expertise.
2	De Beers Canada Inc - Gahcho Kue: Alexandra Hood	Section 1.1.3	Section 1.1.3 states "By monitoring effects to water quality as well as fish food (i.e., plankton, benthic) and fish health, assumptions about the cumulative impact of the simultaneous increase in contaminant concentrations can be better understood." The section utilizes the plural of plankton but not benthos.	Replace benthic with benthos	Agreed, change to benthos made in document.

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3	De Beers Canada Inc - Gahcho Kue: Alexandra Hood	General	The Guidance document alternates between technical/detailed language (use of words such as commensurate; discussion related to adverse effects) and plain language throughout the report (referring to benthos as insects) making it difficult to ascertain the target audience.	Streamline language to address the desired audience and remain consistent throughout.	The Board received complaints that the previous guideline was very technical, inaccessible, and at times unwieldy. The draft Guidelines aim to be accessible to a wide audience with a special focus on non-technical individuals. However, as discussion on a particular topic becomes more granular, the Guidelines do progress into more technical language as the need dictates. We hope the use of both plain and technical language encourages more readers and practitioners to understand the importance of the AEMP and to design and deliver them in a format likely to be approved by the Board.
4	De Beers Canada Inc - Gahcho Kue: Alexandra Hood	Section 3.2.2	Section 3.2.2 states: "The Response Framework foresees at least three Action Levels (Low, Moderate and High) that correspond to increasing magnitude of change. It is not necessary to set numeric values for all three action levels in the initial AEMP Design Plan. At a minimum, the Response Framework does require a numeric Low Action Level for each indicator, and a conceptual approach to setting Moderate and High Action Levels. If a specific Low Action Level is met, the Response Plan is triggered as a response. However, the triggering of a Response Plan means that the proponent must develop numerical values for Moderate and High Action Levels." However not all action thresholds have a corresponding numerical action trigger (ie. actions related to the Fish tasting).	Note that in some cases, a moderate and high action level may not correspond to a numerical value.	Substantial changes have been made to Part 3 of the Draft Guidelines with respect to the requirements for the Response Framework and, in particular, the description for how and when to set all Action Levels. Please see Draft 2 of the Guidelines, Part 3.

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5	De Beers Canada Inc - Gahcho Kue: Alexandra Hood	Section 3.2.2	This section does not discuss the impact of reference area(s) for determining whether the observed effect is anthropogenic or "other" (regional).	Include a discussion on the role of reference areas in the action framework.	Agreed that the Guidelines do not discuss the very important aspect of properly selecting reference sites. The use of references sites is primarily a sub-topic of AEMP Design. Any design can be proposed by the proponent, and the Design Plan should be thoroughly tested by regulators and reviewers prior to proponents moving to detailed design. The Response Framework description in Draft 2 of the Guidelines has been considerably shortened from Draft 1; details such as the importance of reference sites in developing Action Levels are no longer included. No change made to the document.
6	De Beers Canada Inc - Gahcho Kue: Alexandra Hood	General	Environment Canada has released Canada Gazette 1 of the Mineral Mine effluent regulations to include diamond Mines. However, there is no discussion as to how this will impact AEMPs for metal mines and diamond mines.	Include a discussion as to how the AEMP will harmonize with MMER requirements.	See comment Chamber of Mines NWT & Nunavu #2
2	Dominion Diamond Ekati Corporation: Laura Pacholski	Definitions and Acronyms. Definition for Receiving Environment	<p>The term 'aquatic' is not included in the definition of receiving environment. Although it is included in the definition of this term in the Water &amp; Effluent Quality Management Policy Final Draft (MVLWB April 29 2010), but appears to have been removed by the 2011 issuance of this Policy. Additionally, although this term is not explicitly defined in the Guidelines for the Design and Implementation of Aquatic Effects Monitoring Programs for Development Projects in the Northwest Territories (INAC 2009) (which these Draft Guidelines (2017) will supersede), the term's use in that document consistently implies a receiving environment which is aquatic.</p> <p>Absence of the specification that the receiving environment defined for the purposes of AEMP development is aquatic complicates, and seems to conflict with, the use of the term in the text of the Draft Guidelines (2017). For example, in Section 2, first sentence: specific reference to an aquatic environment is implied by the context of the sentence, although only the term "receiving environment" is used.</p>	Revise the definition of Receiving Environment as follows: "The natural aquatic environment that, directly or indirectly, receives any deposit of waste (as defined in the Waters Act and the MVRMA) from a project."	The definition of "receiving environment" in the Ekati Water Licence does refer to the "natural aquatic environment", but other water licences have the definition proposed in the Guidelines. As a general term, "receiving environment" can refer to non-aquatic parts of the environment which is why it is defined without the term "aquatic" in water licences. In response to this comment, the Guidelines have been reviewed for every instance where the term is used and the word "aquatic" has been added where appropriate; however, the definition has not been changed. Since water licences are legally enforceable and Guidelines represent policy, Dominion should continue to rely on the definition of the term as in its Water Licence.

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3	Dominion Diamond Ekati Corporation: Laura Pacholski	Introduction; Section titled 'Purpose' through Section titled 'Application'	It is clearly stated that these Draft Guidelines (2017) supersede the INAC 2009 guidelines. However, a number of additional guidelines are referenced under the Section titled 'How These Guidelines Were Developed', but it is unclear which if any of these are also superseded by this document, or if not superseded, how differences in guidance should be addressed.	Clarify the intended relationship of this guidance document to those which preceded it.	The Board has not established a linear hierarchy of procedures, guidelines, directions, or policies which can be struck or superseded (unless specifically indicated) in the manner the reviewer seeks. Instead, these guidances should be used as required by Board staff and end-users as they see fit. Efforts have been made to avoid duplications and conflicts between guidance documents. Some minor editorial changes have been made in the Purpose section of the Guidelines to help clarify the relationship to the INAC Guidelines.
4	Dominion Diamond Ekati Corporation: Laura Pacholski	Introduction; Section titled 'Application', second paragraph.	Text states that "The guidelines will apply to all new applications and submissions made to the Board after the effective date. It may also apply to existing licences, depending on the submissions made in relation to those licences." This appears very broad, and a clarification of what is meant by 'submissions made' and 'depending on submissions made' would be helpful. It is noted that retro-active application of these Draft Guidelines (2017) to existing Aquatic Effects Monitoring Programs (AEMPs) could be difficult, sub-optimal (e.g., method changes), or impossible (e.g., for aspects related to project phases which have already passed such as Environmental Assessment [EA], permitting, construction).	With consideration of the potential for negative impacts of retro-active application (data loss, financial, and ability to conform to the Draft Guidelines (2017)), these guidelines should not apply to existing AEMPs.	There is no intention in the new Guidelines to cause harm to existing AEMPs via data loss or the ability to make future inferences. Instead the disclaimer "may apply to existing licences" means that AEMPs that are being modified for an existing licence should review the new Guidelines and make best efforts to meet their intent. Also, introduction of these Guidelines will not cause the AEMP conditions of existing water licences to change automatically. Proponents cannot be found in contravention of their licence by not following a guideline, but rather if conditions in their licence are not met.

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5	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1 – “Water licences for projects that require an AEMP will contain a series of conditions that, collectively, allow the Board to adaptively manage a project...” AND Section 1.2.3, Table 4 Review and Approval row "...will form part of the adaptive management of the project by the Boards..."	It is the proponent rather than the Board that implements adaptive management.	Suggest the statement on p. 1 read as follows: “Water licences for projects that require an AEMP will contain a series of conditions that, collectively, allow the Board to ensure that the proponent is adaptively managing a project...” The statement on p. 10 should be adjusted similarly.	Agree that the referenced statements are not clear. It is the Board's responsibility to adaptively manage the water licence as the project proceeds. In this sense, the AEMP results do help the Board to do this effectively by demonstrating if the combined action of the water licence conditions are keeping the environmental changes/effects within an acceptable range. If the AEMP results indicate trends away from an acceptable range, licence requirements can be changed as a result of recommendations from the proponent, stakeholders, or by the Board on its own motion. The referenced statements have been changed to say, in Section 1, that "Water licences for projects that require an AEMP will contain a series of conditions that, collectively, allow the Board to adaptively manage a project's water licence..." and also, in Table 3, to say that "The information presented in a Response Plan will form part of the adaptive management of the project's water licence requirements by the Boards..."
6	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.1, first sentence	Errata: remove 's' at end of licences in first sentence: "Water licences monitoring requirements reflect..."	Remove 's' at end of licences in first sentence: "Water licences monitoring requirements reflect..."	Agreed, change made.



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7	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.1.1	The final paragraph of the Guidelines, Section 1.1.1, specifies: "Note that an AEMP may be required even for projects that have mandatory monitoring requirements required by other regulators (e.g., under the Metal Mining Effluent Regulations [MMER]). In these cases, it may be possible to integrate monitoring requirements to minimize duplication of effort." Although additional information is provided in Section 1.3.4, it would be encouraging to the reader to provide information in Section 1.1.1 regarding integration of monitoring requirements from other organizations.	Recommend change in text to read "In these cases, a Proponent can apply to integrate monitoring requirements to minimize duplication of effort and the responsible Board will make every reasonable effort to minimize duplication through the alignment of AEMPS with other regulations to which the proponent is subject."	Please see response to Chamber of Mines NWT & Nunavut comment #2

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8	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.1.2 – “Are project-related environmental effects currently within acceptable limits as defined by the regulatory process?”	Proponents are held accountable with respect to the impacts described in the Environmental Assessment (EA) process.	For projects that have undergone EA, it is imperative that the statement refer to the EA, specifically, rather than the “regulatory process.” Same is true for p. 3 Section 2) “Test predictions from the regulatory process regarding the impacts of a project...” See also the next comment re. use of the term “impacts.”	With respect to wording, note that the Boards consider the EA process to be part of the "regulatory process"; the Land and Water Board's have authority in the licensing part of the overall regulatory process. Notwithstanding the definitions, while predictions of environmental effects/changes are always provided in an EA process, it is not always the case that clear definitions of "acceptable limits" are given in the final EA decision. EAs can and often do reach a reasonable conclusion of no significant adverse effects without ever specifically defining the magnitude of those effects (i.e., the acceptable limit). In those cases, the Boards have to define those limits during the water licensing phase in order to have a benchmark against which to evaluate monitoring results. The alternative would be to rely on the EA predictions - but it isn't always the case that exceeding a prediction is equal to a significant adverse impact; instead, it may just reflect the inherent uncertainty of any prediction. For these reasons, it may be necessary to define acceptable limits and/or generate new predictions during the water licensing phase of a project. No changes made to the document.
9	Dominion Diamond Ekati Corporation: Laura Pacholski	General – Interchangeable use of “impacts” and “effects” (e.g., Sections 1, 2, 3, and 4).	Impacts are defined through the EA process. There may be effects in the receiving environment without associated impacts.	Avoid using the term “impact” unless referring to impacts as defined through the EA. Page 4, bullet 4, is a poignant example of where reference to impacts, not effects, could drastically change the interpretation of the section.	Agree that "significant adverse impact" is a term from the environmental assessment process and that the last version of the Draft Guidelines did not always use the term appropriately. The Draft Guidelines have been reviewed and edited to ensure that the words "impact" and "effect" are used properly and consistently.

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10	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.1.3, Item 3)	<p>It is reasonable that "The Boards may require proponents to utilize testing methods or testing parameters that are optimal for use in regional cumulative effects studies and that allow for meaningful comparisons of AEMP results from different Projects". However, it is requested that the Boards give due consideration to the impacts of doing so. If method changes are introduced to standardize methods with another project, it could be at the cost of any comparability to historical data (including baseline data) or to other aspects of a projects AEMP program. Additionally, in some circumstances methods applied at one site are impractical, or impossible, to appropriately apply at another site due to differences in site conditions.</p> <p>In certain circumstances, sampling and analytical methods, with analytical detection limits, etc. need not align precisely for programs to be comparable. For example, there are statistical analyses available for addressing differences in detection limits, and this must be considered before making impactful decisions to change methods.</p>	<p>In making decisions on the alignment of programs, the Boards must duely consider any negative project-specific impacts that required methodological standardizations may have. These include the loss of comparable baseline comparisons, historical data for trend assessment, reference location comparisons, and/or other incomparabilities between different aspects of an AEMP program, as well as implementation of methods poorly suited to the environment.</p>	<p>Agreed. This is a very good demonstration of the kinds of argument that would be presented in a Design Plan to argue for or against a change. No change in the document.</p>

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11	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.1.3, Item 4	Through the EA process, a project may be approved despite predictions that some level of environmental change will result. The Draft Guidelines (2017) indicate that the AEMP is to be designed to evaluate the accuracy of these predictions, as well as the water licenece's ability to ensure the Boards' Policy objectives of protecting water uses and minimizing waste are met. It is further indicated that "Additional mitigations may also be imposed in the water licence if AEMP results indicate that the Boards' Policy objectives are not being met." As there may be circumstances in which a project may have received regulatory approval despite predicted localized or temporary impacts to water uses, the latter citation should be qualified to situations in which EA predictions have also been exceeded so that changes are not made to the water licence that would effectively circumvent the EA process and approval.	Revise to "Additional mitigations may also be imposed in the water licence if AEMP results indicate that the Boards' Policy objectives are not being met and are outside of environmental effects predictions."	As per section 130(5) of the MVRMA, the Boards must act "in conformity with the decision" rendered by an EA process, but there is no requirement for the Boards to allow proponents to pollute or cause impacts up to the levels predicted in that EA. As described in the Boards' Policy, the waste produced by an undertaking must be treated and disposed of in a manner that is appropriate for the maintenance of water or effluent standards that are deemed appropriate by the Boards. As for any administrative tribunal, the Boards must make reasonable decisions based on the evidence submitted in a given proceeding. A text box has been added to section 3.2.2 to clarify the Boards' and the GNWT's view of the relationship between effect predictions and action levels.
12	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.1.3 – "Additional mitigations may also be imposed in the water licence if AEMP results indicate that the Boards' Policy objectives of minimizing waste deposits and meeting water quality objectives are not being met."	Suggesting that mitigations would be included in the Licence seems out of place for an AEMP guidance document. In addition, mitigation measures are generally implemented through the Aquatic Response Framework (ARF) and associated Response Plans. This allows the proponent, regulators, and stakeholders to be agile to changing circumstances, new mitigations options, etc. The administration of mitigation measures should remain in the ARF and Response Plans.	The administration of mitigation measures should remain in the ARF and Response Plans. This statement does not need to be in the AEMP guidance document and should either be removed or revised.	It is important to note that the objectives in section 1.1.3 are not new; they are in most water licences that have AEMP requirements. The quoted sentence was meant to add clarity about the objective. The Response Framework is a part of the AEMP and so the objective and the quoted statement are reasonable here.

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13	Dominion Diamond Ekati Corporation: Laura Pacholski	Sections 1.2 (Figure 1 and associated text), 2.2.3, 2.3, etc.	There is no need to presume that AEMP reports must be on an annual cycle. There may be good reason to reduce the frequency of reporting if trends are stable and no additional effects are anticipated because the stressor has ceased for a time or if there are sampling effects that are causing more harm than good. The same is true for the re-evaluation cycle. Three years may make sense for some projects, but not for others and not for different times in the life of a project. All of these reports require a great deal of effort and the frequency should be set according to need.	Remove "Annual" and "Once per year" from implementation and adapt sections. Remove "three-year" re-evaluation from adapt section. Remove reference to annual or three-year timelines throughout subsequent sections of text in the document.	The Guidelines as written reference the need for an Annual Report because, in the normal course, there is a need to report annually on those components that were monitored in any calendar year. However, frequency of reporting will be prescribed in the conditions of the individual water licences; proponents must, in all cases, comply with their water licence conditions.  With respect to the AEMP Re-Evaluation Report, three years is acknowledged as the usual timeline but, again, frequency of reporting will be prescribed in the licence. The text in Table 4 already indicates that the submission date is "usually" set for three years.
No changes made to the document.					
14	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.2.1, Table 1, row 'Timing', second paragraph	In this location and in other places in the Draft Guidelines (2017), it is stated that the final AEMP Design Plan is to be submitted after water licence issuance and must be approved prior to deposit of any waste. A final AEMP Design Plan can be submitted during the licencing phase, which has appropriate detail and engagement (including technical workshop review), and approved with licence issuance (whether with or without changes). See example from the Jay Project, Type A Water Licence Amendment, Section 6.11 (link below). This could have significant benefits for project timelines and process efficiency for both the proponent and affected parties.  <a href="http://registry.mvlwb.ca/Documents/W2012L2-0001/W2012L2-0001%20-%20Ekati%20-%20Water%20Licence%20-%20Amendment%20-%20Jay%20Development%20-%20RFD%20and%20Recommendation%20to%20Minister%20-%20May%2029_17.pdf">http://registry.mvlwb.ca/Documents/W2012L2-0001/W2012L2-0001%20-%20Ekati%20-%20Water%20Licence%20-%20Amendment%20-%20Jay%20Development%20-%20RFD%20and%20Recommendation%20to%20Minister%20-%20May%2029_17.pdf</a>	Clarify in these Draft Guidelines (2017) that a final AEMP Design Plan can be approved on licence issuance and which activities would need to take place prior to water licence issuance to maximize the likelihood of concurrent approval.	The GNWT/Board staff agrees there are very good examples of project efficiencies such as the reviewer describes. However, these cases are infrequent and so not part of the normal AEMP process that the Guidelines are attempting to explain. Not mentioning it in the Guidelines does not preclude proponents from requesting such an action in future. No changes made to the document.

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15	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.2.2, first paragraph	Revise first sentence to specify that implementation of the AEMP Design Plan would begin once waste deposition is initiated (e.g., some projects may have a delay between water licence issuance and project commencement, which may last days or years).	Revise first sentence to specify that implementation of the AEMP Design Plan would begin once waste deposition is initiated (e.g., some projects may have a delay between water licence issuance and project commencement, which may last days or years).	The first sentence of the paragraph states: " Once approved, an AEMP Design Plan is implemented during the term of the water licence." This sentence is broad enough to mean it can be implemented at any time within the term of the licence. No changes made.
16	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.3 AEMP Team & Accountability	Section 1.3, requires that an AEMP include an organizational chart of important internal and external organizational relationships and specific responsibilities associated with the AEMP, and include any consultants working on behalf of the proponent and their reporting relationships. This is an operational decision made by the proponent and not something that should be regulated by the Board (and included in a Board-approved plan).	Remove requirements outlined in Section 1.3.	The Boards do not "regulate" a company's reporting relationships; in this case, the template is only asking for a description of those relationships. The proponent is welcome to withhold information it does not consider appropriate such as affiliation, salary, names, etc. This section of the AEMP Design Plan helps all parties to understand what positions in the company are responsible for different aspects of the AEMP, and what other consultants are involved. The reviewer should be aware the Board interacts with a variety of clients and it must assure itself that proponents can demonstrate accountability. A further clarification has been added to the Appendix, Section 1.3.

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17	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 1.3.1, 1.3.2 first paragraph, Section 2, and Figure 2	The Guidelines "strongly recommend that the proponent bring together an AEMP Working Group made up of invited representatives of all potentially affected parties, including Board staff, all levels of government (federal, territorial, indigenous), and any other organization that may be affected by the project." It is certainly agreed that proponents should include engagement in the development of an AEMP design Plan. However, the Draft Guidelines (2017) appear to be cumulatively recommending about 8 engagement sessions with an AEMP Working group prior to the submission of a final AEMP Design Plan. As the AEMP Working Group is to consist of attendees from all affected parties, including the Board, all levels of government and any potentially affected organization, this is a significant demand on resources for all involved. Dominion has and will continue to actively engage with all parties; however, that engagement should respect the agreements with communities on how and when engagement should occur and on the content of engagement.	Remove the AEMP Working Group meeting recommendations (specifically those outlined to occur to the point of final AEMP Design Plan submission).	The Board feels strongly that an AEMP planned, designed, and developed with input from affected parties will lead to greater certainty for proponents during AEMP approval. However, the Guidelines does not compel any party to participate or the proponent to create a working group. If proponents and communities have pre-existing engagement agreements and protocols, these should also be followed. No changes made.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
18	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 2.1	<p>The order in which AEMP development is laid out needs additional consideration. Often baseline data has been collected well before a Project approaches the regulatory phase (and has formed an AEMP working group), sometimes decades before. Regardless of how early baseline data collection begins, collection methodologies and study design would ideally consider ultimate potential project effects as well as the likely AEMP 'questions' which may later be important to promote comparability (alignment) between baseline data that are generated by a future AEMP.</p> <p>Section 2.1.3 suggests that background information be compared with the 'issues' and 'key connections' to identify data gaps and prepare and execute a baseline data collection plan. This is all before any consideration has been made to the 'questions' that should/will be asked by the AEMP. However, consideration of these 'questions' is an integral part of determining the baseline data collection methods and needs to ensure comparability to samples collected under the AEMP Program that will be implemented post water licence approval. If these AEMP 'questions' are not anticipated and considered right from the start, it is very likely that there could be gaps in monitored aspects (i.e., aspects not measured during baseline years that will be measured during AFMP years to answer specific AFMP</p>	<p>Re-order description of how baseline programs are to be developed to ensure that any baseline data collected will be as useful as possible for future AEMP comparison.</p>	<p>GNWT/Board staff are suggesting that discussions on monitoring with stakeholders should occur as early as possible. At an early stage, when proponents plan to collect baseline information for future use, they may use expert advice, hire professionals to collect and analyze this information, and secure basic licences to conduct the monitoring. Proponents should consider advice provided in the AEMP Guidelines but note that it specifically states, in section 2.1, that "the design process activities are not necessarily meant to be carried out in a linear fashion". No changes made.</p>
19	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 2.1.3	<p>In the second paragraph of Section 2.1.3, baseline data is discussed and reference is made to project delays should the Boards deem additional baseline data needs to be collected. No reference is provided to direct the reader to where they can determine how adequate baseline data is assessed.</p>	<p>Recommend addition of reference to where reader may review baseline data requirements and determination of baseline data adequacy.</p>	<p>Baseline data requirements remain a matter of best professional practice, and adequacy is formally tested when plans are reviewed by the Board. However, by following the process outlined in the guideline the likelihood of data gaps and delays will be reduced. No changes made.</p>
20	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 2.1, second sentence	<p>Errata: text cites 'five key activities, outlined in figure 3.'" However, only 4 activities are outlined in Figure 3.</p>	<p>Reconcile text and Figure 3.</p>	<p>Changes made to text.</p>



ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
21	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 2.1.1	Significant impacts are defined through the EA process. Although additional concerns may be raised through permitting, AEMP Design Plans must reflect issues and impact levels set through the EA.	It should be clear in this section that impacts are defined through the EA and that AEMPs should be designed to address these potential impacts (see last bullet on page 14, which suggests that impacts may be defined later in the process). This section may be useful for projects that do not go through EA, but the guidance document should distinguish between the two cases.	For new projects, the "Define the issues" phase of AEMP development will likely occur prior to the conclusion of an EA process; this is the step where these questions and ideas about impacts are still forming. No changes made.
22	Dominion Diamond Ekati Corporation: Laura Pacholski	Sections 2.1.2 and 2.1.3	See above. This process—including assessment endpoints—is carried forward from the EA.	It should be clear in this section that impacts are defined through the EA and that AEMP should be designed to address these potential impacts (and associated assessment endpoints). This section may be useful for projects that do not go through EA, but the guidance document should distinguish between the two cases.	The guideline should be of interest to proponents the moment they realize there is potential for aquatic effects and a need to track these; this realization should occur in the Pre-Regulatory Phase whether a project goes through an EA process or simply a Preliminary Screening. No changes made to text.
23	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 2.1.3	The first bullet under the heading Engagement Recommendations refers to "corporate memory". No explanation of this term is provided.	Recommend providing an explanation of the term "corporate memory".	The term "corporate memory" was replaced with the word "knowledge" for ease of interpretation.

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
24	Dominion Diamond Ekati Corporation: Laura Pacholski	Sections 2.2.2 and 2.2.3 – Engagement Recommendations	Annual meetings to present the results of the AEMP are not necessary unless rapid change is occurring and such meetings would require a great deal of effort. Proponents work with communities to understand how best to engage with them, including the frequency, timing, and content of engagement. It is not appropriate to prescribe engagement in guidance documents.	Replace text to reflect that proponents should work with communities to understand the best way to engage on AEMP results, including the timing, frequency, and content of engagement.	There is no specific requirement for annual meetings to present the results of the AEMP in the Guidelines. Agree that proponents should work with communities to understand the best way to engage on results. An additional bullet has been added to the recommendations in section 2.2.3.
25	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 2.3 – "In all cases, the goal of any adaptive management actions is to ensure that project-related effects remain within acceptable limits."; other sections that refer to "acceptable limits" (e.g., Section 3).	Acceptable limits must refer to the impacts that have been defined through the EA process. Projects that do not go through EA have already been deemed to have little risk of significant impacts and, consequently, acceptable levels of potential environmental change so this statement is not relevant to projects that have not gone through EA.	"...acceptable limits." should be replaced with terms relevant to the outcomes of EA.	See response to Dominion #8. No changes made.
26	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 2.3.1 – "For projects that undergo an environmental assessment, it would be helpful to clarify what the limits of acceptable change for the project's receiving environment are."	These are defined through the EA process.	Text should be revised to reflect the relationship between "...limits of acceptable change..." and the significant impact endpoints determined through the EA process.	The Board leaves it to proponents to design and engage on their AEMP proposal using limits of acceptable change, endpoints, or any other parameter they choose and should be prepared to demonstrate they have heard and considered stakeholder points of view, and present their analysis and justification. No changes made.

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
27	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 3.2 – "The term "significance threshold" is used to describe the threshold where an environmental change or effect would be considered to be significantly adverse and therefore unacceptable. The definition of significance threshold is meant to relate predictions and determinations made	duri This is also Dominion's understanding of the relationship between the AEMP, ARF, and EA. However, many sections of the document do not reflect this important relationship, as described in some of Dominion's other comments on the AEMP Guidance document.	The guidance document should be carefully reviewed and revised to reflect the relationship between the AEMP, ARF, and the EA process and outcomes.	Substantial changes have been made to Part 3 of the Draft Guidelines with respect to the requirements for the Response Framework. Revisions have been made in other sections of the Guidelines to ensure consistency. The reviewer should review Draft 2 of the Guidelines to see if their concerns have been addressed.
28	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 3.2.1, first sentence	Errata: the definition of significance threshold is defined in quotes, however it differs slightly from the definition provided in the glossary.	Reconcile glossary with text.	Added the word "likely" in the quoted text.
29	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 3.2.2, Subsection "Benchmark Concentrations and Biological Effects"	The guidance document states that "Benchmarks of contaminant concentrations are levels above which biological effects could potentially be manifested in sensitive organisms." and goes on to say that the CCME water quality guidelines are intended to represent that level, however, the CCME water quality guideline concentration for the protection of aquatic life relate to concentrations protective of the most sensitive forms of aquatic life rather than concentrations above which effects could occur. In fact, many CCME guidelines include safety factors that place these guidelines up to 10 times lower than a level at which effects have been observed in the most sensitive organisms and life stages. Therefore, a benchmark, as defined in the Draft Guidelines (2017), is more accurately equivalent to a CCME guideline without the safety factor.	Remove the implication that benchmarks are essentially directly equivalent to CCME water quality guidelines.	As a result of the major changes made to Part 3 of the Draft Guidelines, the references to benchmarks and CCME guidelines have been removed.

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30	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 3.2.2	In the third paragraph of Section 3.2.2, the Guidelines specify that the Response Framework does require "a numeric Low Action Level for each indicator". A numeric Low Action Level is applicable to many indicators but not necessarily to biological indicators e.g., community composition. This section also specifies that numerical values be set for Moderate and High Action Levels following triggering of a response plan.	Recommendation that text be altered to account for indicators for which a numeric Action Level may not be appropriate.	As a result of the major changes made to Part 3 of the Draft Guidelines, the specific need for numeric values for Action Levels is no longer referenced.
31	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 3.2.2	The Guidelines specify in Section 3.2.2, that "In these cases, benchmarks from other jurisdictions may be utilized, or appropriate benchmarks may be developed based on literature". Supplementary toxicity testing can also be used in the derivation of benchmarks.	Recommend sentence be revised to read; "In these cases, benchmarks from other jurisdictions may be utilized, or appropriate benchmarks may be developed based on literature and/or additional toxicity testing."	As a result of the major changes made to Part 3 of the Draft Guidelines, the references to benchmarks and CCME guidelines have been removed.
32	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 3.2.2, Subsection "High Action Level and Response", first sentence	Errata: some edits are needed for interpretability.	Revise to "...are measured at, or increasing outside of, the range of ...."	As a result of the major changes made to Part 3 of the Draft Guidelines, the suggested edits are no longer necessary.
33	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 3.2.2 Action Levels and Responses	Section 3.2.2, final bullet point, suggests that "at a minimum, Action Levels should be set for: any other requirements such as those to be monitored and assessed under other regulatory agencies." In some cases (e.g., MMER) the regulations require that a suite of parameters that are not relevant to all mines be monitored and evaluated. There should be no need to align MVRMA-approved AEMP Design Plans to those guidelines, legislation, or regulations; the goal should be to ensure that there is not unnecessary duplication of effort (which does not mean duplicaton of a requirement).	Remove requirement to set Action Levels for any other requirements.	Agreed. Reviewer suggestion implemented in text; however, proponents would be well advised to present to the Board levels and responses prescribed by other regulators so the Board can consider a possible duplication and remedy. The Board can only consider evidence presented to it and could be unaware of a regulatory duplication of effort.

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34	Dominion Diamond Ekati Corporation: Laura Pacholski	Section 3.4	In Section 3.4, the Guidelines specify that revisions to approved Action Levels may be proposed as part of the AEMP Re-Evaluation process or other requests to revise the AEMP Design Plan. It would be useful for the reader to know that revisions to Action Levels can be proposed as part of Response Plans.	Recommend addition of text in Section 3.4 to communicate to the reader that revisions to Action Levels can be proposed as part of Response Plans.	Agreed. Reviewer suggestion implemented in text.
35	Dominion Diamond Ekati Corporation: Laura Pacholski	Appendix 1, Template for AEMP Design Plan – “The boards are willing to consider different formats for each AEMP Design Plan if the proponent provides a clear rationale for the change or deviation.”	Proponents should not be required to follow a template. Instead, the AEMP Design Plan should fit the project and incorporate the results of engagement undertaken by a proponent. As long as the AEMP Design Plan meets the basic requirements, the form of the AEMP Design Plan should be determined by the proponent.	Do not require proponents to follow a template.	Proponents are encouraged to follow a template but are not required to do so. This is already indicated in the introductory text to Appendix 1. No changes to document.
36	Dominion Diamond Ekati Corporation: Laura Pacholski	Throughout	Guidance indicates on multiple occasions that any response to action level exceedances only be undertaken following development, submission, and receipt of board approval of a related Response Plan. This imposes a significant time lag on proponent response that, in many circumstances may be unnecessary or risky. For example, if results show an unanticipated action level exceedance with a substantial increase in concentration of a given water quality parameter, an initial mitigation measure may be to immediately cease discharge to determine the cause. Delaying this response until a response plan is developed and approved would not have any benefit and may result in harm.	Ensure language does not prevent a Licencee from initiating responses to action level exceedances in a timely manner.	Agreed. The requirements for the Response Framework have been changed such that a list of "minimum actions" for each Action Level exceedance will be approved in the AEMP Design Document. Proponents will be required to implement those minimum actions as soon as they detect an Action Level exceedance. Although a Response Plan will no longer be necessary for a Low Action Level exceedance, Response Plans for Moderate and High Action Levels may still identify actions, above the minimum actions approved in the Response Framework, that the proponent will need to implement after approval of the Response Plan. Overall though, the Response Framework should not be interpreted as changing the responsibility of licensees from dealing with an emergency. In addition, response in the Guidelines is not meant to be confused with a response from a Surveillance Network Program where a discharge exceedance is detected and a cessation of discharge is initiated by the proponent.

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
37	Dominion Diamond Ekati Corporation: Laura Pacholski	Throughout	Errata: in a number of instances acronyms (e.g., AEMP) are repeatedly defined, sometimes more than once in a given section (e.g., Section 1).	Standardize manner/frequency in which acronyms are defined.	Efforts have been made to delete repetitions.
2	Environment and Climate Change Canada: Melissa Pinto	Definitions - Adaptive Management page iv (pdf page 4)	The definition of 'Adaptive Management' as worded is too narrow - it misses aspects of iteration, taking action in response to monitoring results, and that adaptive management is used to manage uncertainty.	ECCC recommends broadening the definition of 'Adaptive Management' to include aspects of iteration, taking action in response to monitoring results, and the use of adaptive management to address uncertainty.	There are many definitions of adaptive management in the literature. This particular definition one was chosen as it highlights the elements that the Boards and GNWT wish to implement: systematic, rigorous, deliberate, intended to improve practice or policy. These elements arguably incorporate the suggestions made by ECCC already. Section 1 expands on and gives specific examples of what is meant by adaptive management in the context of water licensing and AEMPs. No changes made.
3	Environment and Climate Change Canada: Melissa Pinto	Section 1.1.3, Section 4 first paragraph Page 4 (pdf page 12)	The statement is made: "If the mitigations are not working as intended and unacceptable environmental effects are measured in an AEMP, then ..." This statement should be qualified to include the situation where a trend towards unacceptable effects is seen - mitigation would be triggered in advance of actual effects occurring.	ECCC recommends broadening the wording for when additional mitigations would be needed to include situations where a trend towards unacceptable effects is observed so that mitigation measures are triggered in advance of actual effects occurring.	Edits implemented, removed the following from the sentence " <del>and unacceptable environmental effects are measured in an AEMP</del> "
4	Environment and Climate Change Canada: Melissa Pinto	Table 2 Regulatory Requirements for an AEMP Annual Report Page 6-7 (pdf pages 14- 15)	The AEMP Annual Report is submitted concurrently with the Water Licence Annual Report which includes other monitoring data such as the Surveillance Network Program (SNP) data. It is often useful to draw linkages between the effluent data in the SNP and the receiving environment monitoring results.	ECCC recommends that the AEMP Annual Report include relevant data from the SNP (such as linkages between SNP and receiving environment monitoring results), or links to access that data.	AEMP results normally include relevant SNP results where point source discharge information is required; however, this could be decided on a case-by-case basis. No change to document.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
5	Environment and Climate Change Canada: Melissa Pinto	Section 1.3.1 Last paragraph Page 10 (pdf page 18)	This section states that "...proponents should have completed minimum baseline assessments." As more would be better, this can be qualified by saying "at least minimum".	ECCC recommends broadening the wording for baseline assessment to ensure that adequate baseline data is collected, by adding the following bold text "...proponents should have completed at least minimum baseline assessments."	The Board wishes to avoid being too prescriptive in the Guidelines and leaves details to be implemented on a case-by-case basis.
6	Environment and Climate Change Canada: Melissa Pinto	Section 1.3.3 Use Best Practices Page 11 (pdf page 19)	This section states that "Board staff and the GNWT can assist proponents in identifying current best practices." This might limit the identification of best practices; suggest rewording to leave room for the proponent to research these	ECCC suggests that text could be added to encourage the Proponent to research best practices - "The Proponent could also research best practices, which can be found in academia, board and regulatory specialists, and technical guidance documents such as Environment and Climate Change Canada's Metal Mining Technical Guidance for Environmental Effects Monitoring, 2012."	Agreed, added "other technical guidance" and removed " <del>Board staff and the GNWT can assist proponents in identifying current best practices</del> "

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
7	Environment and Climate Change Canada: Melissa Pinto	Figure 3 Summary of Activities During AEMP Design Page 13 (pdf page 21) Section 2.1.2 Identify Key Connections third paragraph Page 15 (pdf page 23)	The middle box in the Key Connections row states "What are all the possible ways in which waste from the project may affect..." In addition to waste, this should include physical disturbances - for example, effects of runoff over disturbed land areas, or of dustfall can occur but wouldn't be defined as wastes. Similarly, Section 2.1.2 could be broadened from just waste streams to include project activities.	ECCC recommends broadening the wording for ways the project can affect the receiving environment to include project activities (such as land clearing activities and dustfall).	As defined in Section 2 of the Waters Act, "waste" is a very broad term that already includes all of the examples ECCC has provided. Providing a list of project activities or types of waste would in fact be more limiting than relying on the use of the defined term "waste". No changes made.
8	Environment and Climate Change Canada: Melissa Pinto	Section 2.1.3 Gather Existing Information Page 16 (pdf page 24)	The first paragraph states: "The proponent should also gather information on past projects, state of knowledge reports, and industry reviews, and use this information to conduct a literature review." It should be noted that historical baseline data will have to be evaluated for comparability (e.g. changing lab detection limits) and screened appropriately.	ECCC recommends that the instructions to gather data from other sources include the caveat that older sources of data will need to be evaluated for comparability and screened appropriately.	Awareness of different data accuracies, units, and methods is a standard professional requirement. No change in the document.
9	Environment and Climate Change Canada: Melissa Pinto	2.1.5 Make a Plan first section Page 18 (pdf page 26)	The first section states: "The proponent must produce a written document which includes the AEMP sampling design, the analysis and sampling plan, the quality assurance plan, data quality objectives, and the field health and safety plan. ...Proponents should consult the AEMP Design Plan template provided in Appendix A..." The wording "study design" should be included, with mention of the statistical approach that will be used. Also note that it is "Appendix 1" rather than "A".	ECCC recommends the addition of the requirement to include the study design with the proposed statistical approach in the AEMP sample design. ECCC recommends correcting Appendix A to Appendix 1 for this section.	Change made to Appendix name (i.e., 1 vs A). More details of Study Design are already included in the template section 5.
10	Environment and Climate Change Canada: Melissa Pinto	2.1.5 Make a Plan (middle bullet) Page 18 (pdf page 26)	This bullet states: "Prepare a conceptual AEMP Design Plan prior to applying for a water licence and share it with the AEMP Working Group. Comments on the plan should be used by the proponent to identify any potential gaps in baseline data/information ..." The onus is on the proponent to identify gaps in data, and as worded this provides an "out" for the proponent if no one picks up on the data gaps at this stage.	ECCC recommends rewording this section along the lines of: "Comments on the plan may be useful to the proponent as it works to identify any potential gaps in baseline data/information ..."	Agreed. Reviewer suggestion implemented in text.



<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
11	Environment and Climate Change Canada: Melissa Pinto	2.2 Monitoring Program Implementation - last paragraphPage 18 (pdf page 26)	This section states that: "AEMPs are implemented only after approval of the water licence and subsequent approval of a final AEMP Design Plan by the Boards." The AEMPs are being implemented prior to approvals; most projects are actively collecting receiving environment data in the years just prior to licencing. Ceratin aspects of the AEMP's are being implemented.	ECCC recommends adding 'formally' to this section to read: "AEMPs are formally implemented..."	Prior to project construction, the proponent would be collecting baseline data as there would be no project-related effects yet. No changes made to document.
12	Environment and Climate Change Canada: Melissa Pinto	3.2.2. Action Levels and Responses Page 24 (pdf page 32)	The bullets describe what parameters Action Levels should be set for. As worded, the parameters are somewhat limited. For example, in the first bullet it is not clear that "all measured indicators of a Valued Ecosystem Component" includes plankton, or sediment quality parameters. In the second bullet, by limiting the parameters to only contaminants which are regulated in the water licence, this will miss monitored parameters which aren't routinely regulated but which can have effects on aquatic ecosystems if they increase (e.g. chloride).	ECCC recommends broadening the description of the minimum parameters to include all aspects of a Valued Ecosystem Compenent (including plankton and sediment quality) that the action level will be set for. ECCC recommends expanding the parameters to include those which are not routinely regulated and may have a negative impact on aquatic ecosystems.	This would be assessed by the Board on a case-by-case basis. Text related to the reviewer's concerns has been altered in Draft 2 of the Guidelines.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
13	Environment and Climate Change Canada: Melissa Pinto	3.2.2. Action Levels and Responses Figure 5 Page 25 (pdf page 33)	<p>The Low Action Monitoring Result text should clarify that a set action level threshold has been exceeded, i.e. specify that the trend away from background is either exceeding a statistically significant level, or a numerical threshold (some pre-defined trigger).</p> <p>The Potential Action column could include further monitoring to validate the results for all levels.</p>	<p>ECCC recommends specifying that the magnitude of the trend from background which triggers the Low Monitoring Result text is pre-defined.</p> <p>ECCC also recommends including monitoring in the Potential Action section for all 3 action levels.</p>	<p>The description of considerations for setting Action Levels has been significantly reduced in Draft 2 of the Guidelines. The reason is that it was not possible to address all possible scenarios of different project types operating in different receiving environments. See Table 5 in Section 3.2.2 for the more generic description of what actions are appropriate for each type of Action Level exceedance. With these definitions, monitoring would very likely be appropriate for all levels but the Boards/GNWT prefer to leave it open and approve actions on a case-by-case basis.</p>
14	Environment and Climate Change Canada: Melissa Pinto	3.2.2. Action Levels and ResponsesBenchmark Concentrations and Biological EffectsPage 28 (pdf page 36) First & second paragraphs	<p>The first paragraph states that "benchmarks from other jurisdictions may be utilized, or appropriate benchmarks may be developed based on literature". ECCC notes that benchmarks may also be developed based on new toxicity testing in conjunction with literature. The second paragraph ends with the statement "However, benchmarks may be defined in terms of degree of change from a suitable reference area value<sup>15</sup>." This should be broadened by adding "or baseline condition" after the footnote.</p>	<p>ECCC recommends broadening this first statement (see bold) to say appropriate benchmarks may be developed based on literature and conducting bioassay tests (new toxicity tests): "benchmarks from other jurisdictions may be utilized, or appropriate benchmarks may be developed based on literature and conducting bioassay tests" ECCC also recommends broadening the suggestion (see bold) in the second paragraph to define benchmarks by degree of change to include baseline as well as reference values: "However, benchmarks may be defined in terms of degree of change</p>	<p>As a result of the substantial changes to Part 3 of the Draft Guidelines, benchmarks are not longer referenced.</p>

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
1	GNWT - ENR: Central Email GNWT	Topic 1: General Comment	The draft Guidelines are generally well written and well thought out.	None	n/a
2	GNWT - ENR: Central Email GNWT	Topic 2: Definitions and Acronyms, Page iv	This is a general comment to improve clarity throughout the Guidelines.	<p>1) Definitions for the following phrases should be added to this section:</p> <ul style="list-style-type: none"> <li>• Affected parties</li> <li>• Design plan</li> <li>• Significant adverse effect</li> </ul>	<p>A definition for "Affected Parties" was added. The need for a definition for "Design Plan" was not clear and so was not added.</p> <p>A definition for "significant adverse effect" was considered but given that such a definition does not exist in the MVRMA or in any MVEIRB literature, the decision was taken not to attempt a definition here. The entire document was, however, reviewed to ensure there was a consistent use of the term significant adverse impact and effect.</p>
3	GNWT - ENR: Central Email GNWT	Topic 3: Section 1, Page 1, 2nd Paragraph	The second paragraph on page 1 is repetitive from page viii.	1) It is recommended to delete the second paragraph on page 1.	Agreed - paragraph removed in document.
4	GNWT - ENR: Central Email GNWT	Topic 4: Section 1.1.1, Page 1	Further detail needs to be added regarding what types of projects will require, or will likely require, an AEMP. Beyond mining/milling and oil/gas production requiring a Type A Water Licence there is a lot ambiguity, including why only these two types of projects are highlighted. This is particularly important as the majority of the instructions in this Guide assume that work on an AEMP will begin before the submission of the Water Licence application. By not clearly defining what types of project or what aspects of projects would lead to the requirement of an AEMP, it possible that the requirement of an AEMP is not stated until the Water Licence application has been submitted, leading to substantial delays.	1) Instead of stating what types of projects will require an AEMP, state what aspects of a project would necessitate one. For example, if a project is going to be discharging a set amount of effluent or a set amount of aquatic environment will be displaced by the project footprint, such as a hydro-dam or conversion of a lake into a lagoon or wastewater retention facility. This would allow the proponent to self-evaluate their project and have a better understating if an AEMP is required.	In the Application section, it states that "AEMPs will be required for mining/milling and oil/gas production undertakings that require a Type "A" water licence...AEMPs may also be required for other undertakings based on the specific project activities." Section 1.1.1, repeats that assertion and further describes the general reasons why a project would require an AEMP, such as when there is direct or indirect waste discharge to water and/or when project-related effects to the aquatic environment can be reasonably expected. Given the wide variety of projects requiring water licences, it is not possible to produce an exhaustive list of circumstances for when AEMPs would be required outside of mining/milling and oil/gas operations requiring a Type "A" licence. If the Guidelines were to present a non-exhaustive list, proponents might believe that if their specific circumstances were not on the list then it automatically doesn't require one when, in fact, the Boards need to decide on a case-by-case basis.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
5	GNWT - ENR: Central Email GNWT	None	None	2) NWT CIMP, ENR recommends that a proponent seek guidance from the Land and Water Boards before submitting a Water Licence application.	Agreed. No change to document
6	GNWT - ENR: Central Email GNWT	Topic 5: Section 1.1.3, Page 3, Last Paragraph, 1st Sentence	NWT CIMP, ENR has adopted the Canadian Council of Ministers of the Environment definition of cumulative impacts as a change in the environment caused by multiple interactions among human activities and natural processes that accumulate across space and time. Consideration of cumulative impacts during the regulatory process should not be limited to only the impacts from 'other developments' as currently stated in the first paragraph for Objective 3. This approach risks attributing change to a proponent when in fact it could be due to natural disturbance.	1) NWT CIMP, ENR recommends that when considering the impacts of cumulative effects, that all potential contributing factors, both from human development and natural processes, are included. As such, the sentence could read "...is the impact of cumulative effects of a project in combination with other developments and natural processes."	This suggestion of broadening the definition of cumulative effects for regulatory purposes (CE of other developments AND "natural processes") is not well aligned with the MVRMA (see definition below). For this reason, the suggestion has not been incorporated into the text of the Guidelines.  The MVRMA 117 (2) states: "(2) Every environmental assessment and environmental impact review of a proposal for a development shall include a consideration of  (a) the impact of the development on the environment, including the impact of malfunctions or accidents that may occur in connection with the development and any cumulative impact that is likely to result from the development in combination with other developments;"

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7	GNWT - ENR: Central Email GNWT	Topic 6: Section 1.1.3, Page 3, Last paragraph, 2nd Sentence	The AEMP should not be limited to only collecting data necessary to test for predictions of cumulative effects made during the EA. Possible changes to the environment, either from anthropogenic activities or natural processes, could result in previously unpredicted cumulative effects that also need to be considered when designing/evaluating the AEMP.	1) To accommodate the possibility of changes to the environment during the life of the project the sentence could read "...any predictions of cumulative effects that were made during the environmental assessment, or predictions made in response to changes in the aquatic environment, either from anthropogenic activities or natural processes."	Agreed. Changes made to text of Section 1.1.3.
8	GNWT - ENR: Central Email GNWT	Topic 7: Section 1.1.3, Page 3, Last Paragraph, Last Sentence	NWT CIMP, ENR is very supportive of the use of testing methods and parameters to support regional cumulative effects studies. Additionally, specific sample sites that will inform Board decisions should be considered. When designing the AEMP, the design should be flexible to allow for additional sampling sites to be added when it is likely to have two or more effects converging from anthropogenic activities and/or natural processes (e.g. fire, slumps). Monitoring in these locations can demonstrate that impacts may be driven by natural processes in addition to developments. Data from these locations may provide greater clarity as to the extent and magnitude of development and natural process related effects.	1) When designing the AEMP, locations that are likely to have two or more effects converging from anthropogenic activities and/or natural processes, need to be monitored. NWT CIMP, ENR recommends that the last sentence should include sample sites. The sentence could read "...require proponents to utilize testing methods, testing parameters and sampling locations that are optimal for..."	Agreed. Changes made to text of Section 1.1.3.

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9	GNWT - ENR: Central Email GNWT	Topic 8: Section 1.2.2, Pages 7-8, Table 2, "Content" Section	Information on the quality of lakes and rivers in the NWT that is collected on a regular basis by industry, as part of their various monitoring programs, represents a large source of knowledge. This knowledge could inform decision makers about trends and natural variation in environmental quality in the territory, as well as the cumulative effects from multiple use activities within an area or region. However, in order to use this information to understand environmental quality conditions in the NWT, the information must first be available in an accessible format.	1) NWT CIMP, ENR recommends that the Guidelines state the requirement that proponents submit raw data to the public registry in an accessible format (e.g., csv or spreadsheet file).	This is already mentioned in Table 2. No additional changes made to the document.
10	GNWT - ENR: Central Email GNWT	Topic 9: Section 1.2.2, Pages 7-8, Table 2, "Content" Section	In addition to the submission of raw data in an electronic format, the use of standardized data templates will further assist with independent analyses of data, including comparisons between AEMPs, regional cumulative effects assessments, spatial and temporal trends, etc.	1) It is recommended that the Boards develop, and require, the use of standard data templates in association with the AEMP Guidelines.	Specific recommendation may be considered in future revisions/additions to these Guidelines.
11	GNWT - ENR: Central Email GNWT	Topic 10: Section 2.1.1, Page 14, 1st Paragraph	Issues defined should include considering cumulative impacts from anthropogenic activities and natural processes to the aquatic ecosystem. Giving consideration to these cumulative impacts may provide greater clarity as to the extent and magnitude of development-related and natural process – related effects.	1) Include an additional sentence, prior to the last sentence in the paragraph that is similar to: "Issues considered should include cumulative impacts from anthropogenic activities and natural processes to the aquatic ecosystem."	This step in the process will likely uncover the potential cumulative impacts. No changes to text.

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12	GNWT - ENR: Central Email GNWT	Topic 11: Section 2.1.2, Page 15, 1st Paragraph of the Section	When providing guidance to proponents on identifying key connections in the environment, reiterate the importance of including cumulative effects as part of the considerations.	1) Include an additional sentence, after the second sentence in the paragraph that is similar to: "To consider cumulative effects in the aquatic ecosystem, all stressors and drivers, including the proposed development, should be considered, and pathways explored."	The requirement to examine cumulative effects has been outlined already. No changes to text.
13	GNWT - ENR: Central Email GNWT	Topic 12: Section 2.1.3, Page 16	This is a general comment that the human disturbance layer within the Inventory of Landscape Change web viewer (ILC) is a very useful tool for proponents and regulators to determine what information already exists. The link is included in the recommendation.	1) Proponents should be directed to access the human disturbance layer in the Inventory of Landscape Change when planning their AEMP. The Inventory of Landscape Changes is available at <a href="http://www.nwtcimp.ca">www.nwtcimp.ca</a> .	Reference added to the text

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14	GNWT - ENR: Central Email GNWT	Topic 13: Section 2.2.3, Page 19	Results should be publicly available through the Public Registries; this could include shape files and/or CAD files for spatial data (e.g. bathymetry), as well as Excel files for numeric data. Standardized templates would make independent analysis much more efficient.	1) Include a fourth bullet in the list of Engagement Recommendations for this section which identifies that AEMP reports and data should be made publicly available through the Public Registries. Boards should support the use of standardized data templates or submission standards (e.g. GIS submission standards), this can be highlighted here.	See GNWT - ENR: Central Email GNWT Comment #9
15	GNWT - ENR: Central Email GNWT	Topic 14: Section 3.2	Sampling sites outside of localized impacts that are likely to be impacted by the proposed development and other anthropogenic activities and/or natural processes (e.g. fires, slumps) should have Action Levels identified that are within the natural range of variation. This is consistent with the GNWT's Water Stewardship Strategy, The Tlicho Final Land Claim Agreement and the Mackenzie River Basin Bilateral Agreement.	1) Include in the guidelines the requirement for Action Levels to be set for sites that are likely to be impacted by the proposed development and other anthropogenic activities and/or natural processes (e.g. fires, slumps). These Action Levels should be within the natural range of variation.	See response to ECCC Comment #12
1	Golder Associates: Tasha Hall	Significance of Effects	Page 7. Define what "significance of effects" is - statistical vs ecological.	As per comment	The Board will consider evidence presented on a case-by-case basis



<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
2	Golder Associates: Tasha Hall	Temporal Scope of AEMP Design Plan	Construction, operations, closure and post-closure phases of a project entail different types of activity and effects, and the AEMP re-evaluation provides the vehicle to adjust the AEMP design to “fit” the Project activity and anticipated effects. How far ahead is a sampling design required to be developed in an initial AEMP Design Plan?	Provide further guidance on timing	There is no way to provide sufficient guidance for every individual case. This could be discussed with affected parties or an AEMP Working Group. No changes made.
3	Golder Associates: Tasha Hall	Direction of Effects	Clarify whether the AEMP is only for significant adverse effects. For example, should action levels be set around minor positive effects (i.e., increased fish growth)? The guidance is unclear on the weighting of the EA prediction vs the hypothesis.	Clarify whether the guidance for AEMPs is only to evaluate significant adverse effects (i.e., effects in the negative direction)	In the example given, what might be considered a positive effect for one group (i.e., increased fish growth) may be considered as negative for another group (e.g., if they see any change as a bad thing). So this must be decided with affected parties. No changes made.
4	Golder Associates: Tasha Hall	Terminology	“Problem formulation” and “normal range” are important concepts in an AEMP design plan, and need to be explained before their first occurrence in the template in Appendix 1. The normal range is an important and useful concept for use in AEMP Response Frameworks and should be incorporated in the guidance separate from the Appendix. “Benthics” is a colloquial word and inappropriate in a regulatory guidance document.	Adjust and further explain terminology	The guideline refers to best professional practices and standards on a case-by-case basis to define such terms as "problem formulation" and "normal range". No changes made.  The word benthics was replaced with invertebrates in the text.

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5	Golder Associates: Tasha Hall	Action Levels	<p>Although the descriptions of Action Levels (Figure 5 and associated text) follow previous guidance, they do not match current practice and are potentially unrealistic. Specific comments are provided below:</p> <p>Low Action Level:</p> <ul style="list-style-type: none"> <li>- It is assumed that “trends away from background” refers to chemistry variables, as no biological effect is allowed for. It is not clear whether the “trends away from background” should be based on statistical trend analysis, which would be limited by number of years of data during the first few years on an AEMP, visual assessment, or on comparison to background ranges quantified as the normal range. Would an increasing trend within the normal range be considered a low Action Level trigger?</li> <li>- The guidance of “No biological effect measured” is unrealistic and is not followed in approved Response Frameworks for ongoing AEMPs. The primary aquatic effect of some operations is localized nutrient enrichment, whereby even small increases in the concentration of the limiting nutrient result in biological changes in the direction of increased primary productivity. These effects are as predicted and are not adverse. Allowing for no biological effect in the Action Level 1 criteria would result in numerous unnecessary triggers and associated response plans, for effects that are predicted and not of concern. Some Response Frameworks currently in effect allow for low level</li> </ul>	Revise guidance on low and medium action levels	The description of considerations for setting Action Levels has been significantly reduced in Draft 2 of the Guidelines. The reviewer is correct that the previous descriptions did not reflect current practice. The Guidelines simply cannot address all possible scenarios of different project types operating in different receiving environments. See Table 5 in Section 3.2.2 for the more generic description of what actions are appropriate for each type of Action Level exceedance. Proponents will have to define Action Levels that meet the actions defined in Table 5. The Boards will approve Action Levels based on evidence provided on a case-by-case basis.

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6	Golder Associates: Tasha Hall	Action Levels	Page 26. "Adaptive management actions on reaching the moderate action level are based on the response options identified as part of the low action level response. At this stage, for example, a mitigation option will be selected, detailed plans will be prepared for the specific mitigative action(s) that are selected, the plans will be reviewed by the Boards, and, if approved, will be implemented." This sentence is non-intuitive and is likely not applicable to every low action level. It is likely oversensitive that, at a medium action level, the proponent is required to implement management and mitigation options, rather than completing checks, monitoring, and investigations. The guidance does not align with the MMER where biological changes require confirmations, re-checks, quantifying spatial extent, etc. and not mitigations.	Re-evaluate the requirements from the proponent should a moderate action level is reached.	As noted in Golder Comment #5, the Boards and GNWT recognize that it is not possible to address every possible scenario within the Guidelines. Therefore, the level of detail quoted by the reviewer has been deleted. Instead, proponents are required to put forward a list of minimum actions that they believe are relevant to an exceedance of their project-specific Action Levels.
7	Golder Associates: Tasha Hall	Timing of Reporting and Follow-up	Pg. 28. Section 3.3 should clarify what the process and timing is for reporting exceedances. The guidance suggests the Board be notified "shortly" after the exceedance. In some cases, an exceedance is identified quickly (e.g., within a few weeks of collecting a sample and receiving the results from a laboratory); in other cases, the exceedance is not known until after further evaluation (e.g., temporal trend analysis) is completed. Both reporting durations may be acceptable.	Provide timing for reporting on action level exceedances	Response Framework requirements have been changed to allow proponents to propose the timing for reporting on Action Level exceedances that are most appropriate for their specific project. The Guidelines are incorporating this flexibility in recognition of the fact that different timelines may be appropriate for different parameters.
8	Golder Associates: Tasha Hall	Setting Action Level triggers	The Guidance should make it clear that several options are available as the basis of Action Levels: statistical significance and magnitude of change relative to baseline/reference condition, status relative to normal range, status relative to benchmark, status relative to effect prediction and spatial extent. In some cases, these may be more reliable to set the Action Levels than trends extrapolated beyond the range of the monitoring data.	Revise guidance to consider other options for action level triggers	See response to Golder Comment #5.

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9	Golder Associates: Tasha Hall	Benchmark Development	Benchmark exceedances, if based on CCME guidelines, do not necessarily indicate the potential for a high level biological effect. CCME guidelines are not effect thresholds, but rather intended to protect to the most sensitive aquatic organisms.	Refinement of benchmarks or development of site-specific benchmarks before triggering mitigation would be a useful addition to the guidance document.	As a result of the substantive changes to Part 3, Draft 2 of the Guidelines, there is no longer a reference to benchmarks.
10	Golder Associates: Tasha Hall	Types of Effects	The guidance provided does not differentiate between the three major effect types (nutrient enrichment, toxicity, habitat alteration) encountered during AEMPs. These may require different monitoring approaches and Response Framework considerations. For example, effects related to nutrient enrichment may not be adverse and can occur on a larger spatial scale before requiring mitigation, whereas a localized toxicological effect would require immediate attention. This suggests that Action Levels should be developed separately for these different effect types, and should be based on different variables and scaled differently.	The guidance should differentiate and/or offer the flexibility to differentiate between the three major effect types (nutrient enrichment, toxicity, habitat alteration)	There is no restriction in the Guidelines regarding setting Action Levels based on <del>for</del> different types of effects; therefore, the suggested flexibility is already there. No changes suggested.
11	Golder Associates: Tasha Hall	Response Framework	The language in the guidance is about "ensuring" environmental changes are minimized. The Response Framework itself does not minimize the effects, it offers a framework to identify, plan, act, mitigate (i.e., Adaptive Management).	Adjust language to indicate the Framework/Guidance is a mechanism; it does not itself minimize environmental effects.	Language adjusted as suggested.
12	Golder Associates: Tasha Hall	Sensitivity of Action Levels	The intention of a low action level is early warning, to trigger before ecological changes are observed. Provide guidance on repeated triggering of a low action level (i.e., staying in the low for numerous monitoring cycles but not progressing to a medium action level). There is a tendency for proponents to re-set the low action level out of fear of repeat triggering. Related to this, there may a tendency to set the low action level too high, to avoid repeated triggering. Continued monitoring and investigation may be a valid and appropriate response.	Provide guidance on repeated triggering of a low action level (i.e., staying in the low for numerous monitoring cycles but not progressing to a medium action level) such that low action levels are not effective as early warning.	Based on experiences, such as those raised by the reviewer in this comment, substantive changes have been made to the requirements and description of the Response Framework. Repeated triggering of the Low Action Level, as well as the associated regulatory burden of reporting and follow-up, has lead to suggested revisions of the Response Framework including removing a requirement to submit a formal Response Plan for Low Action Level exceedances.

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13	Golder Associates: Tasha Hall	Low Action Levels	Figure 5, page 25. The low action level in the figure is biased to a water quality component. The guidance should define "no biological effect", and reconsider whether that statement is appropriate for other components. If this is the case, no low action levels need be set for biological components, which is counterintuitive. Further on pg. 25, the moderate and high action levels must be numerical. Please clarify, and this too seems biased to water and not other components.	Clarify application of guidance in Section 3.2.2 for components other than water quality.	See response to Golder Comment #5.
1	Gwich'in Renewable Resources Board: Staff Gwichin Renewable Resource Board	GRRB Response Guidelines for Aquatic Effects Monitoring	Thank you for providing the GRRB with the opportunity to review and provide comment on the DRAFT Guidelines for Aquatic Effects Monitoring Programs. Technical staff of the GRRB have reviewed the draft Guidelines as they relate to our mandate. We offer the following comments.	Please refer to the GRRB response letter attached.	see specific comments below
2	Gwich'in Renewable Resources Board: Staff Gwichin Renewable Resource Board	GRRB Response Guidelines for Aquatic Effects Monitoring	Section 1.1.3: 1) Determine the short and long-term effects of a project on the aquatic receiving environment; 2) Test predictions from the regulatory process regarding the impacts of a project on the receiving environment; 3) Provide data that can be used to assess cumulative impact predictions Comment: It is good to see the clear reference to the importance of cumulative effects in 1.1.3, despite the current lack of understanding of how to model these effects at this time. Hopefully as research continues in this area, we will have a better understanding of the additive, multiplicative, and other interactive effects of multiple stressors on aquatic life to use in determining Action Levels. Similarly, it is good to see the requirement that the proponent collect environmental baseline data with the explicit purpose of informing the design and use of the AEMP, including traditional knowledge.	Recommendation: It is important that these data are made freely available to management bodies, other researchers, and to the public both for transparency and to reduce duplication of effort when other studies require similar data.	See GNWT - ENR: Central Email GNWT comment # 9

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3	Gwich'in Renewable Resources Board: Staff Gwichin Renewable Resource Board	GRRB Response Guidelines for Aquatic Effects Monitoring	Section 2.3.3: Consider Revisions to the AEMP Design Plan Comment: As noted in 2.3.3, methodological changes to a long-term monitoring plan can mean that, in effect, no long-term monitoring is being done (because then any changes that are detected could be attributed to methodological changes, rather than to real environmental changes). This highlights the importance of good planning during the design phase of AEMP development.	Recommendation: If changes to monitoring plans are considered, emphasis should be placed on additional data collection, rather than stopping and starting monitoring at particular locations, or using different methods. For example, if SNP station A was established and collecting data under the AEMP, and later it is decided that more data is needed from location B, then the best approach is to establish an additional SNP station B while also continuing to collect data from SNP station A, rather than decommissioning SNP A and replacing it with B.	See Dominion Diamond Ekati Corporation comment #4
4	Gwich'in Renewable Resources Board: Staff Gwichin Renewable Resource Board	GRRB Response Guidelines for Aquatic Effects Monitoring	Section 3.1 Summary of Response Framework Figure 4: Activities for the Response Framework during Different AEMP Phases. Comment: Figure 4 needs to be clarified. In the draft Figure it appears that AEMP Response Plans are not designed and submitted until after an exceedance has taken place, which conflicts with the explanation in the text. According to the text, Response Plans are submitted for approval in the Design Phase, not the Adapt Phase. In addition, taking actions after an exceedance should be shown as part of the Implementation Phase, not the Adapt Phase.	Recommendation: The Adapt Phase should instead include making changes to AEMP design or methods based on results so far, and other items as described in Section 2.3	Figure 4 and associated text in Section 3.1 have been extensively changed to clarify some of the issues raised by the reviewer. The text in Section 2.3 has also been changed and clarified.

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5	Gwich'in Renewable Resources Board: Staff Gwichin Renewable Resource Board	GRRB Response Guidelines for Aquatic Effects Monitoring	Section 3.2.2 Action Levels and Responses Figure 5: Summary of How Low, Moderate and High Action Levels Link Monitoring Results and Potential Actions Comment: In Figure 5, there was no "Monitoring Result" option that includes "above significant threshold". The text states that "reaching the significance threshold is a circumstance that should not occur" but effects in some cases can happen swiftly and unexpectedly.	Recommendation: Predictions made during AEMP development will not be perfect, so even if the "Potential Action" is the same as for the "High" Action Level exceedance that seems like a more thorough way of describing all the possible outcomes of monitoring.	In recognition of the fact that environmental changes could occur "swiftly and unexpectedly", the Response Framework requirements have been changed to require proponents to set Moderate and High Action Levels early on (i.e., not wait until a Low Action Level is exceeded). A list of minimum actions, to be implemented immediately upon an Action Level exceedance, is also now required in the Response Framework. Hopefully changes such as these will help alleviate the reviewer's concerns.
6	Gwich'in Renewable Resources Board: Staff Gwichin Renewable Resource Board	GRRB Response Guidelines for Aquatic Effects Monitoring	Section 3.4 Revisions to the Response Framework Comment: There is a need to set up clear decision rules in advance of any exceedances or other triggers. Section 3.4 states that "after implementation, proponents and affected parties may discover that the Action Levels are too sensitive and are being triggered at a frequency that is not commensurate with the ecological implications of the measured changes. In those cases, changes to the Action Levels may be warranted." However, changing the Action Levels simply because they are being triggered frequently could result in not responding to problems effectively. For Action Levels to be a meaningful trigger for action, they cannot be subject to change simply because they are being triggered frequently. Such changes to Action Levels after exceedance thresholds have been established may undermine the seriousness of the commitment to take action when particular outcomes occur.	Recommendation: Proponents and affected parties should think carefully about Action Levels and what effects are acceptable in advance, with the understanding that their decisions about Action Levels are meaningful and will have real consequences.	Agreed that changes to Action Levels should not be taken lightly. That is why they are subject to a review and approval process by the Board. No changes suggested.
1	Imperial Oil Resources: James Guthrie	Draft Guidelines for Aquatic Effects Monitoring Programs	Please see attached letter for comments.	Please see attached letter for recommendations.	see specific responses below

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
1	Paramount Resources Ltd.: Terence Hughes	1.1.1 What kind of Projects Need an AEMP	Clear concise criteria need to be established to provide certainty to project proponents entering the regulatory system. As worded at the "discretion of the Boards" provides no certainty or clarity. Regulatory timeframes need to be clearly defined so that proponents can properly plan their projects.	Develop clear criteria for which projects require an AEMP and which projects do not.	In the Application section, it states that "AEMPs will be required for mining/milling and oil/gas production undertakings that require a Type "A" water licence...AEMPs may also be required for other undertakings based on the specific project activities." Section 1.1.1, repeats that assertion and further describes the general reasons why a project would require an AEMP, such as when there is direct or indirect waste discharge to water and/or when project-related effects to the aquatic environment can be reasonably expected. Given the wide variety of projects requiring water licences, it is not possible to produce an exhaustive list of circumstances for when AEMPs would be required outside of mining/milling and oil/gas operations requiring a Type "A" licence. If the Guidelines were to present a non-exhaustive list, proponents might believe that if their specific circumstances were not on the list then it automatically doesn't require one when, in fact, the Boards need to decide on a case-by-case basis.
2	Paramount Resources Ltd.: Terence Hughes	1.1.2 Additional Studies and Actions	It is stated that the outcomes of the AEMP could lead to additional studies, additional mitigation measures and/or actions. This reads as it allows the Board(s) to continually add additional regulatory requirements (and thus costs) to approved Projects.	A range of possible outcomes should be provided to inform proponents of potential outcomes and their potential costs and regulatory timelines should be included.	This section describes how monitoring is used to inform adaptive management. Adaptive management may require additional studies or other requirements based on the evidence provided on a case-by-case basis and with a focus on reducing or preventing harm. The Waters Act allows the Board to make changes to a water licence on its own motion if necessary and warranted by the evidence. No changes made.
3	Paramount Resources Ltd.: Terence Hughes	1.1.3 3) cumulative impact predictions	Regional cumulative effects monitoring is the responsibility of Government. Proponents should be expected (and have in the NWT) to provide project specific information into the system that the Government creates and maintain.	The methods and testing parameters required should be made available so that proponents are aware of the costs to their projects.	Proponents are responsible for confirming through monitoring the impact predictions made during an environmental assessment. The methods and parameters chosen are presented by the proponent and such operational costs are best estimated by the proponent. On a case-by-case basis, recommendations may be made to align proponent monitoring with regional monitoring for mutual benefit.



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4	Paramount Resources Ltd.: Terence Hughes	1.2.1 Timing	"Proponents should begin the development of a conceptual AEMP Design Plan well in advance of applying for a water license;"	Develop clear criteria for which projects require an AEMP and which projects do not so proponents can enter the regulatory system prepared.	See Paramount Resources Ltd. comment #1
5	Paramount Resources Ltd.: Terence Hughes	AEMP Annual Report	Reads that an AEMP will need to be a stand alone report	Could the AEMP report not be a section of a Water Licence annual report. Multiple reports on the same project are inefficient and costly.	The exact reporting requirements will be provided in each specific water licence. No changes made.
6	Paramount Resources Ltd.: Terence Hughes	AEMP Re-Evaluation Report	Reads as a stand alone report due every three years	Could the AEMP reevaluation report not be a section of a Water Licence annual report to be included every 3rd year. Multiple reports on the same project are inefficient and costly.	See Paramount Resources Ltd. comment #5

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7	Paramount Resources Ltd.: Terence Hughes	1.3.1 Start Early	Leaving the AEMP development and Implementation outside of the Water Licence process gives a distorted timelines of the Regulatory costs and timelines of the Board(s).	It would appear the baseline work and consultation required for a AEMP will add months if not years to a projects regulatory timeline. This needs to be communicated clearly by the Board(s) and the GNWT to proponents prior to investment decisions being made. Estimates on costs and timelines for an AEMP for various project types should be published and provided to current proponents and should be included with any potential mineral tenure sales in the GNWT.	The Board recommends that acquiring baseline information should occur in tandem with other information acquisition by proponents to avoid delays. The Guidelines are not proposing a new requirement but simply informing proponents of the need in advance. No changes to document.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
1	Sahtu Renewable Resource Board: Colin Macdonald	General Report	The report does a reasonable good job in outlining the requirements and features of an AEMP to determine the impacts of a project on a receiving environment. It should be viewed as a requirement in addition to the SNP, particularly for larger projects. More technical details are required before the document can be considered strong guidance for useful programs.	If followed by proponents and monitored by the Boards, these guidelines would be a significant improvement over the current programs. It should be made clearer that, if proponents do not establish a strong AEMP, then Water Licences may be withheld by the Boards. It is unlikely that Proponents will be willing to conduct the research and monitoring necessary to unequivocally establish an impact, so Action Levels need to be easy to attain.	The Guidelines attempt to strike a balance between providing useful guidance and fettering future Board decisions that must be made based on evidence provided and on a case-by-case basis. No changes made.
2	Sahtu Renewable Resource Board: Colin Macdonald	Pg vii	“The Guidelines apply to all new applications and submissions made to a Board after the effective date. It may also apply to existing licences, depending on submissions made in relation to those licences.”	The conditions under which the AEMP guidelines apply should be clearly laid out so that industry, Boards, NGOs and the public are aware of which projects, including those already in place, need to develop site-specific AEMPs.	With respect to new applications, please see the response to GNWT-ENR General Comment #4. With respect to existing licences, the disclaimer "may apply to existing licences" means that AEMPs that are being modified for an existing licence should review the new Guidelines and make best efforts to meet their intent. Also, introduction of these Guidelines will not cause the AEMP conditions of existing water licences to change automatically. Proponents cannot be found in contravention of their licence by not following a guideline, but rather if conditions in their licence are not met.

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3	Sahtu Renewable Resource Board: Colin Macdonald	Pg vii	“Mechanisms will be required to monitor and measure performance and to evaluate the effectiveness of the Guidelines. In accordance with the principles of a management systems approach (e.g., plan-do-check-act), the Boards and the GNWT will develop a performance measurement framework.”	This is a critical component of the AEMP. The framework needs to be rigorous and proscriptive in its requirements. Specific performance standards and responsibilities for who monitors the project-specific AEMP performance needs to be clear.	This requirement is for the Boards and GNWT to monitor effectiveness of the Guidelines. No changes to document.
4	Sahtu Renewable Resource Board: Colin Macdonald	Pg 2	“environmental effects”	The term should be clearly defined. Examples could include the exceedance of a CCME guideline or the loss of fish habitat or benthic community. Each of these has difference levels of analysis and uncertainty in their measurement.	See De Beers Canada Inc - Gahcho Kue comment #1

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5	Sahtu Renewable Resource Board: Colin Macdonald	Pg 5	“Evidence to support the AEMP design, such as baseline data, statistical analyses, statistical power, research, engagement results, etc., must also be provided in the Design Plan.”	The AEMP must set standards that proponents follow in the design of their AEMP. Levels of significance, acceptable statistical power (e.g., the ability to detect a change of 10% from baseline conditions...), frequency of testing and background research required (e.g., identify specific toxic component in a mixed effluent) need to be clearly indicated for proponents. The conditions under which proponents can rely on “background variation” to explain changes in the receiving environment need to be indicated prior to the project commencing.	These suggestions are provided in some detail in Appendix 1 and as well as by referencing the 2009 guidelines. Further specific guidance could be provided in technical bulletins as resources and need allows.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
6	Sahtu Renewable Resource Board: Colin Macdonald	Pg 6	"Timing"	Some guidance should be provided on the need for baseline studies of the aquatic environment well in advance of an AEMP design. The Boards need to determine if the baseline information is suitable to detect changes in conditions later. Boards might consider allowing significant baseline characterization of the aquatic environment as part of the Exploration Licence or as part of the early Water Licences.	The majority of exploration projects never make it to the stage of a mine or a producing oil/gas operation; this fact makes it challenging to be too prescriptive on what monitoring a proponent should do in those early phases. Instead, the Guidelines attempts to clarify the need for adequate baseline and the consequences of not acquiring it. Proponents have the responsibility to figure out how best to meet the eventual requirements for an AEMP. No changes made.
7	Sahtu Renewable Resource Board: Colin Macdonald	Pg 6	"The Boards and the GNWT strongly recommend that the proponent bring together an AEMP Working Group made up of invited representatives of all potentially affected parties, including Board staff, all levels of government (federal, territorial, indigenous),"	Good idea, but the proponents need to be prepared to implement projects proposed by stakeholders (e.g., collections of fish and chemical analysis to ensure that fish and safe to eat.)	The decision to implement a recommendation by a stakeholder is made by the proponent. The Board reviews and approves the AEMP based on evidence submitted. No changes made.

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
8	Sahtu Renewable Resource Board: Colin Macdonald	Pg 15	“Although the proponent will likely have employed or retained experts in the field of aquatic monitoring, it is important to recognize that members of the AEMP Working Group or other local and traditional knowledge holders will have unique and useful perspectives and information on how the project may affect the receiving environment.”	The Boards need to make sure they have access to qualified reviewers to ensure the physical, chemical and biological concerns are addressed adequately. Understanding of the necessary chemical analysis, with QA/QC and statistical analysis is critical.	The Boards routinely conduct technical analysis of any evidence received and retain external expertise as needed. No changes to the guideline suggested.
9	Sahtu Renewable Resource Board: Colin Macdonald	Page 17 – Ask the Right Questions	The questions outlined in the three bullet points would be extremely difficult to establish in an AEMP. Reproduction or growth of an insect, or “relative” abundance of a fish would be very difficult to determine without dedicated, intensive sampling programs. Setting these kinds of objectives make determinations of successful outcomes very difficult.	It is important to set goals that are achievable with a reasonable use of resources and expense.	The bulleted questions were meant only as illustrative examples. Specific goals/questions must be appropriate for specific projects and environments with stakeholder input. No changes made.
2	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	Document should describe a clear assessment process that identifies if a project requires an AEMP.	Clarification regarding a self assessment process would add value to the document.	See response to Paramount Resources Comment # 1.
3	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	The documents' title does not align with objectives/purpose described within the text.	Identify objectives of document as a 1) guideline or 2) framework.	It is unclear what is meant by the reviewer. The Guidelines are for Aquatic Effects Monitoring Programs which include a Response Framework. More specific recommendations are welcome in future revisions of the guideline
4	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	The document lacks cohesive flow for the reader.	The document would benefit from a reorganization of figures and flow charts; to appear immediately after the information is first introduced in the text.	Attempts have been made to edit the document both for content and flow. Specific recommendations are welcome on Draft 2 of the Guidelines.

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
5	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	The document does not clearly describe the regulatory framework driving the aquatic effects assessment process.	Identify appropriate territorial and federal regulatory drivers, and expand on potential harmonization with CEAA.	The drivers, needs, and harmonization of aquatic monitoring for all regulators was beyond the scope of these Guidelines. Rather the Board seeks to clarify its requirements for water licences with respect to AEMPs. Also note that CEAA does not apply in the Mackenzie Valley.
6	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	Types of undertakings that a water license may fall under as per Water Regulations is not appropriately defined.	Consider integrating the following: Type of Undertaking that may require a water license: Industrial, Mining and Milling undertakings, Municipal undertakings, Power, Agriculture, Conservation, Recreational and Miscellaneous Undertakings placer, quartz, municipal, power, agriculture, conservation, recreational and miscellaneous; Water Use: obtain water, cross a watercourse, modify bed or bank of a watercourse, flood control, divert water, alter the flow of, or store water.	Types of undertakings are described in the Waters Regulations. It is not clear why the reviewer thinks they need to be redefined in these Guidelines.
7	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	Key indicators to measure aquatic effects are not referenced in the document.	Included, but not limited to: fish and benthic communities, water quality and quantity, fish habitat, sediment quality and groundwater.	These Guidelines were intended to streamline processes, enhance predicatability, and help increase the quality of AEMPs. These Guidelines are not intended to be a comprehensive technical bulletin. No changes made.



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8	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	Discussion of cumulative effects is vague.	The identification of appropriate key indicators (previous comment) should provide guidance regarding a comprehensive discussion of cumulative effects. Scientific research has developed, applied, and tested models to predict cumulative effects. Risk assessment is another tool commonly used to predict cumulative effects.	These Guidelines are not meant to give the level of technical details suggested by the reviewer. Specific recommendations are welcome in future revisions of the Guidelines.
9	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	Document needs to address project phase; pre-construction, construction, post construction, operations and closure	None	It is acknowledged that the AEMP Design may change in different project phases. There are mechanisms to make those changes as the project progresses. No changes made.
10	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	No reference to enhancement options	None	It is not clear what the reviewer means by enhancement options. Specific recommendations are welcome in future revisions of the Guidelines.
11	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	Ecological and Human Health Risk Assessments are a tool that can be used to determine thresholds and action levels.	Some discussion on the utility of Ecological and Human Health Risk Assessment would benefit the guideline.	These Guidelines are not meant to give the level of technical details suggested by the reviewer. Specific recommendations are welcome in future revisions of the Guidelines.
12	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	The document makes general recommendations regarding engagement with affected parties, potentially including: local experts, land users, elders, TK holders, community members and government experts, but does not require a formal communication record to be presented as part of the plan development or in the report step	Clarify the reporting requirements regarding engagement with "affected parties"	The Board has a separate guideline on engagement. <a href="https://mvlwb.com/resources/policy-and-guidelines">https://mvlwb.com/resources/policy-and-guidelines</a>

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13	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	Section 1.1 - The importance of scale is over emphasized.	The scale and SCOPE of a project should dictate monitoring requirements; as a small but intensive project could have similar potential environmental effects as a large but low key project.	Suggestion implemented in the text.
14	SLR Consulting (Canada) Ltd.: Megan Lloyst	General Comments and Recommendations	The document states that "An important consideration in the regulatory process is the impact of cumulative effects of a project in combination with other developments. The AEMP should be designed to collect the data necessary to test any predictions of cumulative effects that were made during the environmental assessment. The Boards may require proponents to utilize testing methods or testing parameters that are optimal for use in regional cumulative effects studies and that allow for meaningful comparisons of AEMP results from different projects".	Additional guidance is required regarding how regional cumulative effects monitoring and management should be treated in an AEMP, particularly in cases where the project is "first in" a region and where there are past or ongoing projects that contribute to cumulative effects.	The suggestion for additional guidance specific to cumulative effects will be taken into consideration for future work. No changes made.
15	SLR Consulting (Canada) Ltd.: Megan Lloyst	Editorial	Reference to "Guidelines for Designing and Implementing Aquatic Effects Monitoring Programs for Development Projects in the Northwest Territories: Overview Report, 2009" is referenced throughout the document. However, the intent of the AEMP is to replace this document.	Reference to the former Guidelines should be eliminated. All pertinent information should be included in this new document.	These Draft Guidelines supersede the 2009 guideline but were not intended to eliminate or prevent the use of the 2009 guidance. There is an abundance of very useful technical guidance in the 2009 documents that should be used by practitioners. Some clarifications have been made in the Purpose section of the document.
16	SLR Consulting (Canada) Ltd.: Megan Lloyst	Editorial	Improper and inconsistent use of Acronyms	None	Specific recommendations are welcome in future revisions of the Guidelines.
17	SLR Consulting (Canada) Ltd.: Megan Lloyst	Editorial	The terms: Response, Framework, Plan, Response Framework are used inconsistently throughout the document.	Review the document with a clear definition of each term applied in the correct context.	The document has been reviewed to ensure consistency.
18	SLR Consulting (Canada) Ltd.: Megan Lloyst	Editorial	Section headers are inconsistent with "Summary of Key Activities during AEMP Design," Figure 3.	Revise Section header 2.1.3 to "Acquire Information"	Text in Figure 3 was revised for consistency.

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19	SLR Consulting (Canada) Ltd.: Megan Lloyst	Editorial	This document has a significant number of tense, punctuation and grammar issues located throughout the document	This document would benefit from a review by a professional editor	Thank you for the suggestion; this will be done for the final version.
20	SLR Consulting (Canada) Ltd.: Megan Lloyst	Editorial	Figures have inconsistent formatting and style	All figures should be created using the same style, font and Figure captions should be located below the Figure itself.	Thank you for the suggestion; this will be done for the final version.
21	SLR Consulting (Canada) Ltd.: Megan Lloyst	Editorial	Figure 3 - Wouldn't the identification of the Right Question facilitate the Acquisition of Information?	The "Ask the Right Question" should appear before "Acquire Information". Additionally, arrows moving through the Define, Identify, Ask the Right Question and Acquire Information would be useful.	The first sentence after figure 3 says: "Note that the design process activities are not necessarily meant to be carried out in a linear fashion. Each of the activities may need to be carried out more than once during the development...". No changes made.
22	SLR Consulting (Canada) Ltd.: Megan Lloyst	Editorial	None	None	n/a
23	SLR Consulting (Canada) Ltd.: Megan Lloyst	Appendix I	Information contained within Appendix I clearly organizes the design plan as part of an AEMP. However, if the intent of the document is to outline a "guideline" Appendix I should be the fundamental component of the document.	None	The appendix 1 template is provided to help proponents turn the guidance document into a fill-in-the-blanks format. Deviations from the template may be acceptable; the Board wished to balance flexibility with clarity.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
24	SLR Consulting (Canada) Ltd.: Megan Lloyst	Water Licenses Application Harmonization	Water license application form does not align with Draft Guidelines.	Suggest modifying the water license application form to align with AEMP Guidelines and include the form as an Appendix in the guidelines. Clearly define Type A and B Licenses: NWB authorization, a Type B license, or a Type A license is required. Generally speaking, according to Schedule 2: -activities using less than 50 m3 water per day require NWB authorization; -activities using between 50 m3 and 300 m3 water per day require a Type B license; and -activities using 300 m3 or more water per day require a Type A license.	The water licence application form is part of the Water Regulations and cannot be changed by the Board; GNWT is working on revisions to the Waters Act and Regulations though and issues with the form have already been identified. No changes made.
25	SLR Consulting (Canada) Ltd.: Megan Lloyst	Water Licenses Application Harmonization	Water license application form does not align with Draft Guidelines.	<i>Generally speaking</i> Modify water license application form and include as an appendix	see SLR Consulting (Canada) Ltd. comment #24
26	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	Application of Guidelines	Once the Guidelines for AEMPs come into effect, they will apply to all new applications and submissions made to the respective Board. The draft Guidelines also state they may apply to existing licenses.	Recommendation: The Guidelines should include more information about the conditions under which they will apply to existing licences, and what the potential implications of this may be.	see Dominion Diamond Ekati Corporation comment #4

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
27	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	AEMPs designed for closure.			n/a
28	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	Cumulative effects predictions	EMAB's view is that the Guidelines are not clear how AEMP design can incorporate and test cumulative effects predictions if these were not made during a project's Environmental Assessment.	Recommendation: The Guidelines should include a discussion on how a project could incorporate and monitor cumulative effects within their AEMP design if it did not make cumulative effects predictions during the Environmental Assessment phase.	See SLR Consulting (Canada) Ltd. comment #14
29	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	Response Plans	EMAB's view is that the Development of a Response Framework for Aquatic Effects Monitoring described in Section 3 of the Guidelines is an acceptable way to determine project related effects and respond to those changes. However, in several places throughout the Guidelines document, it is noted that the exceedance of an Action Level, or aquatic benchmark, may be considered acceptable if the benchmark at the time of the Environmental Assessment is higher than the current benchmark.	Recommendation: The Guidelines should clarify if conditions in an Environmental Assessment can override AEMP conditions and the Action Levels designed to protect aquatic health.	Licences and permits issued by the Board must be consistent with findings from an environmental assessment. Specific conditions will be examined by the Board on a case-by-case basis. No changes made to document.
30	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	General Comments	EMAB suggests the Guidelines include a References section.	The title of Indigenous and Northern Affairs Canada Technical Guidelines for AEMPs is used inconsistently throughout the Guidelines document. Please ensure consistent use of document titles.	Edits were made to ensure that the documents are consistently referenced.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
31	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	Section 1.1.3: 1) Determine the short and long-term effects of a project on the aquatic receiving environment; 2) Test predictions from the regulatory process regarding the impacts of a project on the receiving environment; 3) Provide data that can be used to assess cumulative impact predictions.	Comment: It is good to see the clear reference to the importance of cumulative effects in 1.1.3, despite the current lack of understanding of how to model these effects at this time. Hopefully as research continues in this area, we will have a better understanding of the additive, multiplicative, and other interactive effects of multiple stressors on aquatic life to use in determining Action Levels. Similarly, it is good to see the requirement that the proponent collect environmental baseline data with the explicit purpose of informing the design and use of the AEMP, including traditional knowledge.	Recommendation: It is important that these data are made freely available to management bodies, other researchers, and to the public both for transparency and to reduce duplication of effort when other studies require similar data.	Table 2, row entitled "Content" provides the following note: "Note that proponents will be required to submit raw monitoring data in electronic format so that data analyses can be independently verified." No changes made to document.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
32	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	Section 2.3.3: Consider Revisions to the AEMP Design Plan	Comment: As noted in 2.3.3, methodological changes to a long-term monitoring plan can mean that, in effect, no long-term monitoring is being done (because then any changes that are detected could be attributed to methodological changes, rather than to real environmental changes). This highlights the importance of good planning during the design phase of AEMP development.	Recommendation: If changes to monitoring plans are considered, emphasis should be placed on additional data collection, rather than stopping and starting monitoring at particular locations, or using different methods. For example, if SNP station A was established and collecting data under the AEMP, and later it is decided that more data is needed from location B, then the best approach is to establish an additional SNP station B while also continuing to collect data from SNP station A, rather than decommissioning SNP A and replacing it with B.	Revisions to AEMP design are carefully considered by the Board after a public review and comment period. The Board also encourages submission by parties on a case-by-case basis. No changes made to document.
33	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	Section 3.1 Summary of Response Framework Figure 4: Activities for the Response Framework during Different AEMP Phases.	Comment: Figure 4 needs to be clarified. In the draft Figure it appears that AEMP Response Plans are not designed and submitted until after an exceedance has taken place, which conflicts with the explanation in the text. According to the text, Response Plans are submitted for approval in the Design Phase, not the Adapt Phase. In addition, taking actions after an exceedance should be shown as part of the Implementation Phase, not the Adapt Phase.	Recommendation: The Adapt Phase should instead include making changes to AEMP design or methods based on results so far, and other items as described in Section 2.3.	See response to GRRB Comment #4. Also, the implementation phase has been changed to include the submission of a Response Plan. The adapt phase is, in the Boards' and GNWT's view, the time to take adaptive management actions that include both changes to the AEMP Design and aspects of project operations as appropriate.

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
34	Environmental Monitoring Advisory Board (EMAB), Napoleon Mackenzie, Chair	Section 3.2.2 Action Levels and Responses Figure 5: Summary of How Low, Moderate and High Action Levels Link Monitoring Results and Potential Actions	Comment: In Figure 5, there was no “Monitoring Result” option that includes “above significant threshold”. The text states that “reaching the significance threshold is a circumstance that should not occur” but effects in some cases can happen swiftly and unexpectedly.	Recommendation: Predictions made during AEMP development will not be perfect, so even if the “Potential Action” is the same as for the “High” Action Level exceedance that seems like a more thorough way of describing all the possible outcomes of monitoring.	See response to GRRB Comment #5.
35	Gwich’in Renewable Resources Board Janet Boxwell	Section 3.4 Revisions to the Response Framework	Comment: There is a need to set up clear decision rules in advance of any exceedances or other triggers. Section 3.4 states that “after implementation, proponents and affected parties may discover that the Action Levels are too sensitive and are being triggered at a frequency that is not commensurate with the ecological implications of the measured changes. In those cases, changes to the Action Levels may be warranted.” However, changing the Action Levels simply because they are being triggered frequently could result in not responding to problems effectively. For Action Levels to be a meaningful trigger for action, they cannot be subject to change simply because they are being triggered frequently. Such changes to Action Levels after exceedance thresholds have been established may undermine the seriousness of the commitment to take action when particular outcomes occur.	Recommendation: Proponents and affected parties should think carefully about Action Levels and what effects are acceptable in advance, with the understanding that their decisions about Action Levels are meaningful and will have real consequences.	See response to GRRB Comment #6. The Board encourages submission by parties on a case-by-case basis. No changes made to document.
36	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>• There is vague language (p. vii) that these Guidelines may be retroactively applied to existing water licences. Existing operations should not be subjected to these new requirements; imposition of new requirements should only be applied to new applications.</li> </ul>		See Dominion Diamond Ekati Corporation comment #4



ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
37	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>It is not clear why AEMP requirements will be automatically applied to ALL Type A water licences for mining and milling projects (p. 2); and may also be applied to Type B licences for exploration projects. Should not the true need for an AEMP versus other options (e.g. Surveillance Network, Action Items/Terms in the Management Plan(s), etc.) be given impartial consideration on a case-by-case basis by the Regulators and Minister? We believe that decisions on how to monitor a project's impacts should be science-based decisions, not biased assumptions that all licenced projects are automatically unable to mitigate their impacts.</li> </ul>		<p>based on experience, all current Type "A" water licences issued by the Boards for mining/milling and oil/gas production in the NWT have been required, to have an AEMP or similar monitoring program. Although there can be exceptions based on evidence for a specific project, the LWB staff /ENR believe those exceptions will be rare. In the vein of wanting the Guidelines to present the "normal" process for AEMPs, LWB staff/ENR propose to leave these statements as they are now. The risk with presenting alternative possibilities in the Guidelines is that proponents may not anticipate needing an AEMP and may not do the baseline or other work necessary to design an AEMP prior to submitting their water licence application, resulting ultimately in project delays.</p>
38	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>Throughout these Draft Guidelines there is the biased assumption that all Type A Water Licences must be multi-year efforts and must go through an Environmental Impact Review (p. 10, 16, 23, 24, 25, and others). That is not true. If an applicant for a Water Licence can demonstrate that the impacts from their project can be fully mitigated, then Preliminary Screening (and subsequent decision making) may be completed without further environmental review. This bias in the Guidelines is disturbing and emphasizes the increasing regulatory burden faced by projects in the NWT.</li> </ul>		<p>Many type A water licence applications proceed through an environmental assessment process, but exceptions are possible as the reviewer indicates. The Board is drafting Guidelines to help in the design of AEMPs whether an EA process is required or not.</p>

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
39	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>• We believe that the logic used in these Guidelines, which assumes that ALL water uses have aquatic impacts, is flawed logic. Projects with zero discharge, water “use” that is exclusively non-contact use, some water diversions, as well as projects that withdraw from groundwater sources and return treated water to that same source, are all examples of projects that are likely to have miniscule to zero impact upon aquatic communities. Yet, according to these guidelines, such projects would be required to undertake an onerous AEMP process if they “used” &gt; 300 m3 /day of water. Projects with de minimis aquatic impacts should not be subject to the AEMP requirements.</li> </ul>		The Board bases its assessment of potential effects on the information and predictions provided by the proponent. From these predictions an AEMP may or may not be required to measure actual project-related effects. The need for an AEMP is made on a case-by-case basis. No changes made to document.
40	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>• “Recommendations” become “Requirements” once the ink is dry on these types of documents. And we believe that many of the recommendations are onerous. For example, the effectiveness of mitigation measures (per p. 4) can be assessed as part of a Management Plan or Surveillance Network Program; AEMP’s are not the only option for monitoring aquatic species. We believe the same is true of Adaptive Management Actions. As written, these Guidelines prescribe intensive and widespread chemical and biological monitoring throughout the life of every mining and milling project and advanced exploration programs without consideration of context, site conditions, location, etc.</li> </ul>		The Board bases its assessment of potential effects on the information and predictions provided by the proponent. From these predictions an AEMP may or may not be required to measure actual project-related effects. The need for an AEMP is made on a case-by-case basis. No changes made to document.
41	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>• There does not seem to be an end date for AEMP Reporting (p. 9). As written, monitoring could be required in perpetuity for all projects. That is onerous and may defeat the purpose of encouraging project proponents to be vigilant about environmental protection and impact mitigation. Monitoring requirements associated with a Water Licence should expire when the Licence expires.</li> </ul>		Requirements for monitoring may extend into the closure and reclamation stage of a project depending on a proponent's closure plan. No changes made to document.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
42	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>• Unnecessary and unpredictable costs are built into these Guidelines as written. For example, consideration of “Cumulative Impacts” (p. 3) seems to require that project proponents provide “blank checks” for undefined and unlimited research studies related to “Regional Cumulative Effects”. This is not reasonable. Another example is the slippery slope of requiring proponents to use the latest modern technologies as part of the “Best Practices” for monitoring (p. 11). If results meet data quality objectives, does it really matter how they were obtained? (For example, does a proponent have to use the latest modern pH meter, which can cost thousands of dollars, when an older \$100 model can produce reliable results as demonstrated by QA/QC protocols?) The imposition of costly, and unnecessary monitoring requirements is troublesome.</li> </ul>		Specific recommendations are welcome in future revisions of the Guidelines.
43	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>• Engagement is already a requirement to obtain a Water Licence. In fact, current engagement and consultation policies require life-of-the-licence engagement. Therefore, the highly prescriptive engagement “recommendations” written into these Draft Guidelines are unnecessary (because monitoring must be covered as part of the larger engagement program for the licence), and will likely lead to confusion and engagement fatigue with Affected Parties and local communities. Why must an AEMP Working Group be formed (p. 14, 15, etc.) if, during early engagement on the water licence, some Affected Parties have indicated a preference to be engaged in a different way? The Proponent and Affected Parties should have the flexibility to engage in a manner that works best for them.</li> </ul>		See Chamber of Mines NWT & Nunavut comment #14

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44	Pine Point Mining Limited Judith L. Dudley, PhD		<ul style="list-style-type: none"> <li>The de facto establishment of “conservative” action levels (p. 28) will likely result in an unnecessarily expensive and time-consuming process whereby all parties have to work to revise the AEMP documents to establish realistic and reasonable action levels. Why not start with reasonable, science-based levels?</li> </ul>		<p>Note that there have been substantive changes to the Response Framework requirements and descriptions. The reviewer should review Draft 2 of the Guidelines and provide additional specific comments if necessary. Note that proponents can choose to propose science-based action levels in their draft AEMP. Action Levels will be evaluated on a case-by-case basis depending on the evidence provided to the Board.</p>
45	Imperial Oil Resources: James Guthrie	Page vi:	<p>We agree that the focus of aquatic effects monitoring should be to “directly measure the type and extent of project related effects”. Monitoring should first be focused where impacts are expected. For example, if effluent is released to water, then water chemistry should be the first type of monitoring considered.</p>	<p>We agree that the focus of aquatic effects monitoring should be to “directly measure the type and extent of project related effects”. Monitoring should first be focused where impacts are expected. For example, if effluent is released to water, then water chemistry should be the first type of monitoring considered.</p>	No changes requested
46	Imperial Oil Resources: James Guthrie	Page vii:	<p>As noted, the 2009 Indigenous and Northern Affairs Canada Guidelines are referenced throughout the document. We suggest that you provide relevant content to facilitate easier review for all users of this document.</p>	<p>As noted, the 2009 Indigenous and Northern Affairs Canada Guidelines are referenced throughout the document. We suggest that you provide relevant content to facilitate easier review for all users of this document.</p>	<p>Including the level of technical detail from the 2009 document into the current Guidelines would make the document too long and unwieldy. Shortening the Guidelines and focusing more on process were recommended by multiple parties when the last Guidelines were published.</p>

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
47	Imperial Oil Resources: James Guthrie	Pages 1, 2:	<p>The three basic types of monitoring required by Board water licenses are described as management plans, surveillance network programs (SNPs) and AEMPs. AEMPs are useful and protective in cases where there is reasonable potential for “significant risks” to occur. However, requiring AEMPs for all Type A and some Type B licenses where “a change” is expected is not necessary. In some cases the use of SNP monitoring and management plans may be appropriate as monitoring tools without the use of AEMPs. Monitoring in the “wider environment” is complex and introduces a multitude of other factors and effects that can be difficult and resource-intensive to understand. SNP monitoring is at or very close to the source: it looks first at the where we would expect potential impacts. Management plans typically describe mitigation which either minimizes “source” or blocks the “pathway” preventing impacts from reaching “receptors”. If SNP monitoring does not suggest concern, and mitigation is in place and satisfactory, it should not be unnecessary to require an AEMP. Further, if an AEMP shows no concern after a period of monitoring, it should be adjusted to reduce sampling intensity or even discontinued such that community, Board and proponent resources are not wasted.</p>	<p>The three basic types of monitoring required by Board water licenses are described as management plans, surveillance network programs (SNPs) and AEMPs. AEMPs are useful and protective in cases where there is reasonable potential for “significant risks” to occur. However, requiring AEMPs for all Type A and some Type B licenses where “a change” is expected is not necessary. In some cases the use of SNP monitoring and management plans may be appropriate as monitoring tools without the use of AEMPs. Monitoring in the “wider environment” is complex and introduces</p> <p>We disagree that the purpose of an AEMP is to determine the accuracy of assessment predictions. The purpose of an AEMP is to monitor potentially significant impacts from projects if SNPs or management plans suggest potential concerns.</p>	<p>It is not possible, within these Guidelines, to specify all the nuances of when an AEMP would be required or not. Therefore, the Guidelines are written on the basis of addressing the most frequently encountered situation. Note that the Boards will make determinations of what projects require AEMPs on a case-by-case basis based on the evidence provided in a given proceeding.</p> <p>AEMPs are regularly considered as “follow-up” conditions for environmental assessments to ensure that predictions are accurate. The need for an AEMP is determined based on evidence presented during the regulatory process. Proponents can make the case to the Board in their application that an AEMP is not required.</p>
48	Imperial Oil Resources: James Guthrie	Page 2, 1st bullet; page 3, 1st objective; and throughout:	<p>We disagree that the purpose of an AEMP is to determine the accuracy of assessment predictions. The purpose of an AEMP is to monitor potentially significant impacts from projects if SNPs or management plans suggest potential concerns.</p>	<p>We disagree that the purpose of an AEMP is to determine the accuracy of assessment predictions. The purpose of an AEMP is to monitor potentially significant impacts from projects if SNPs or management plans suggest potential concerns.</p>	<p>AEMPs are regularly considered as “follow-up” conditions for environmental assessments to ensure that predictions are accurate. The need for an AEMP is determined based on evidence presented during the regulatory process. Proponents can make the case to the Board in their application that an AEMP is not required.</p>

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
49	Imperial Oil Resources: James Guthrie	Page 2:	The draft is written assuming AEMPs are only developed for new, greenfield projects. It would be helpful to clarify how the document will apply to existing projects that are renewing water licenses, and end-of-life projects.	The draft is written assuming AEMPs are only developed for new, greenfield projects. It would be helpful to clarify how the document will apply to existing projects that are renewing water licenses, and end-of-life projects.	The Guidelines are written to help support new and existing licensees. No changes made.
50	Imperial Oil Resources: James Guthrie	Page 4, 5th objective; page 6 “timing”:	We support the tiered and triggered response framework proposed. However, we caution that the development of “tiered action levels” can require extensive data collection including regional monitoring data that is not always available in the NWT. This can be effectively and protectively handled by allowing use criteria from other jurisdictions (e.g., Canadian Council of Ministers of the Environment), criteria from literature and allowing “background” comparables which can be developed in parallel with the initial AEMP.	We support the tiered and triggered response framework proposed. However, we caution that the development of “tiered action levels” can require extensive data collection including regional monitoring data that is not always available in the NWT. This can be effectively and protectively handled by allowing use criteria from other jurisdictions (e.g., Canadian Council of Ministers of the Environment), criteria from literature and allowing “background” comparables which can be developed in parallel with the initial AEMP.	No changes requested.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
51	Imperial Oil Resources: James Guthrie	Page 5, figure 1:	To make the best use of Board, community and proponent resources, we suggest that there be some flexibility with regard to timing of AEMP Re-evaluation Reports, such that higher risk AEMP's are evaluated more frequently and lower risk ones less frequently. Sufficient statistical power may not be in place within the first three years of a smaller program to allow for meaningful re-evaluation.	To make the best use of Board, community and proponent resources, we suggest that there be some flexibility with regard to timing of AEMP Re-evaluation Reports, such that higher risk AEMP's are evaluated more frequently and lower risk ones less frequently. Sufficient statistical power may not be in place within the first three years of a smaller program to allow for meaningful re-evaluation.	The Guidelines only say that AEMP Re-Evaluation Reports are required "generally" every three years. Annual Reports are most common (and, therefore, the focus of these Guidelines), but proponents can make the case for other requirements on a case-by-case basis. Annual AEMP reports and re-evaluations will be driven by the information requirements in the licence. No changes required.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
52	Imperial Oil Resources: James Guthrie	Page 6 "timing":	<p>It is noted that development of a conceptual AEMP should begin as early as possible. Further, it is noted here and repeatedly throughout the document that if baseline data is not available, projects may need to be delayed until it can be collected. This is not reasonable, creates regulatory uncertainty and will result in projects being deferred, or, worse, not being proposed at all given the need for significant pre-investment prior to regulatory decision-making. Baseline is not a static number. It can take many years to determine what amount of change in a system is normal, and to understand long-term climate cycles and trends. As is the case in many jurisdictions, in the absence of baseline, other similar sites can be used to provide acceptable background data.</p>	<p>It is noted that development of a conceptual AEMP should begin as early as possible. Further, it is noted here and repeatedly throughout the document that if baseline data is not available, projects may need to be delayed until it can be collected. This is not reasonable, creates regulatory uncertainty and will result in projects being deferred, or, worse, not being proposed at all given the need for significant pre-investment prior to regulatory decision-making. Baseline is not a static number. It can take many years to determine what amount of change in a system is normal and to</p>	<p>Proponents can use and present to the Board any relevant information that could constitute baseline; from other projects, government or community information, or site-specific. The requirement for baseline data is not new. No changes made to document.</p>



ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
53	Imperial Oil Resources: James Guthrie	Page 7, “review and approval”:	To improve efficiency and reduce resource demands for all parties, we respectfully suggest that AEMP Annual Reports not be “reviewed and approved” by the Board, but rather be “deemed complete” by staff provided they meet the data reporting requirements specified out in the AEMP. Periodic Re-Evaluations, and any changes to programs requested, should continue to require Board approval. All Reports and Re-Evaluations should continue to be available for public review and comment. Further, the draft guidelines contemplates a number of different reports. We suggest that the Board allow flexibility to consolidate some of these reports to make it easier for readers to develop a “big picture” understanding of the AEMP as a whole. A multitude of reports can make this difficult.	To improve efficiency and reduce resource demands for all parties, we respectfully suggest that AEMP Annual Reports not be “reviewed and approved” by the Board, but rather be “deemed complete” by staff provided they meet the data reporting requirements specified out in the AEMP. Periodic Re-Evaluations, and any changes to programs requested, should continue to require Board approval. All Reports and Re-Evaluations should continue to be available for public review and comment. Further, the draft guidelines contemplates a number of different reports. We suggest that the Board	Individual proponents may propose to assemble AEMP reports in different ways and make their case to the Board. AEMP reporting requirements, as well as requirements for Board approval of certain plans, are ultimately defined in licence conditions. No changes made.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
54	Imperial Oil Resources: James Guthrie	Page 11, section 1.3.3:	We suggest the Board include a summary of the “established best practices” mentioned in this section to guide users. Further, we also request that the Board continue to be mindful of the costs, reliability, safety, access to spare parts and service, and proven track record of monitoring technologies. The selection of technology and equipment being used must be flexible, so as to allow a consideration of local context and specific program needs.	We suggest the Board include a summary of the “established best practices” mentioned in this section to guide users. Further, we also request that the Board continue to be mindful of the costs, reliability, safety, access to spare parts and service, and proven track record of monitoring technologies. The selection of technology and equipment being used must be flexible, so as to allow a consideration of local context and specific program needs.	See De Beers Canada Inc - Gahcho Kue comment #1
55	Imperial Oil Resources: James Guthrie	Page 12:	We are pleased that the Board and GNWT are open to harmonization of AEMP requirements with those of other regulators and authorizations. Such efficiency is welcome.	We are pleased that the Board and GNWT are open to harmonization of AEMP requirements with those of other regulators and authorizations. Such efficiency is welcome.	n/a

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
56	Imperial Oil Resources: James Guthrie	Page 15, section 2.1.2:	We agree with the notion that AEMPs need to understand how components of the environment are connected. We suggest using a disciplined “stressor-pathway-receptor” model to map potential connections. We have found this type of mapping to be a very useful, visual tool when assessing potential risk, identifying possible mitigation, and identifying appropriate monitoring indicators and sample locations.	We agree with the notion that AEMPs need to understand how components of the environment are connected. We suggest using a disciplined “stressor-pathway-receptor” model to map potential connections. We have found this type of mapping to be a very useful, visual tool when assessing potential risk, identifying possible mitigation, and identifying appropriate monitoring indicators and sample locations.	Proponents can present the connections between environmental components however they see fit and guided by their engagement process.
57	Imperial Oil Resources: James Guthrie	Page 24, text box:	The Response Framework should be designed to minimize and manage significant adverse effects, not all changes.	The Response Framework should be designed to minimize and manage significant adverse effects, not all changes.	The Guidelines don't suggest that the Response Framework is meant to manage "all changes" to the environment. Rather, the Response Framework is meant to avoid significant adverse effects by monitoring all changes.
58	Imperial Oil Resources: James Guthrie	Page 25, figure 5:	The potential actions for the low action level should include “confirm extent and magnitude”, “investigation of cause”, and “investigation of impact significance”.	The potential actions for the low action level should include “confirm extent and magnitude”, “investigation of cause”, and “investigation of impact significance”.	The reviewer is using terms from the MMER Environmental Effects Programs. That program has a national scope and is collecting data for the purpose of adaptively monitoring the MMER regulations. The AEMP/Response Framework is at a project specific level and meant to be pre-emptive rather than looking at things after the fact. The current terminology helps reduce confusion between the two programs.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
59	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Definitions table: Definition of significance threshold	Significant adverse impact is a term used in Part 5 of the MVRMA and in environmental assessment decisions made by the Mackenzie Valley Environmental Impact Review Board (the Review Board). The Review Board's Report of Environmental Assessment for the proposed Prairie Creek All Season Road includes several measures that reference Appendix B, which sets out the adaptive management requirements for the mitigation measures the Board has recommended to the Minister. The appendix states that: "all action levels (e.g., low, medium, and high) must be below the threshold of a significant adverse impact." The associated footnote reads, "An important requirement for adaptive management is defining, quantitatively or qualitatively, what is meant by 'significant adverse impact'. This will be informed by the Review Board's significance determination and may be refined during licensing, permitting, and other regulatory processes." This is consistent with the text of section 3.2 of the AEMP Guidelines.	(1) Consider including an explanatory note in the definition of significance threshold. (2) Review the definitions table in comparison to in-text definitions in section 3.2 to ensure that table entries related to significance are clear and accurate.	Edits have been made to try to ensure consistency in terminology both with the environmental assessment process and within the Guidelines document itself. The reviewer is encouraged to review Draft 2 of the Guidelines to see if there are any additional concerns.

ID	Reviewer	Topic	Comment	Recommendation	Response from Board and GNWT-ENR staff
59	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Text under item 4 on PDF page 12.	The guidelines state: "If the mitigations are not working as intended and unacceptable environmental effects are measured in an AEMP, then additional mitigation measures will need to be identified and implemented by the proponent during the term of the water licence." In environmental assessment, "unacceptable" can be used as a synonym for "significant adverse". As we understand it, the response framework for aquatic effects is supposed to provide an early warning system that informs management actions BEFORE unacceptable environmental effects happen or "are measured".	Suggest removing or rewording the phrase "...and unacceptable effects are measured in an AEMP". Also, suggest revised wording for the first sentence, such as "During a regulatory process, mitigation measures may be imposed to prevent significant adverse impacts and minimize other impacts." Also, consider the language and wording in comparison to the definitions table and the text in section 3.2.	Agreed, the following text was removed and now reads as follows: " If the mitigations are not working as intended <del>and unacceptable environmental effects are measured in an AEMP</del> , then additional mitigation measures will need to be identified and implemented by the proponent during the term of the water licence. "  Also, the first sentence was -edited and now reads: "During a regulatory process, mitigation measures may be imposed to prevent significant adverse impacts and minimize other effects."
60	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Table 2: Regulatory Requirements for an AEMP Annual Report (Content, bullet 4, PDF page 15)	The 4th bullet in the Content section of the table states: "an interpretation of the results, including an evaluation of any identified environmental effects that occurred as a result of the project and the significance of those effects". One benefit of the Response Framework is that the predefined action levels have a relationship to a significance threshold, so the Framework helps with interpretation of monitoring results and their significance.	Consider whether "and the significance of those effects" is necessary, given that the subsequent bullet refers to a comparison of monitoring results to Action Levels in a Response Framework.	In this case, "significance" is meant in the general sense of the word. This is verbatim text from many existing water licences and there has not been confusion on this to date. It is a reminder that discussing the significance of a results is important, whether in reference to the significance determination in the EA, or significance in a more generic way (ie. how does the result matter). No changes made to text.

<b>ID</b>	<b>Reviewer</b>	<b>Topic</b>	<b>Comment</b>	<b>Recommendation</b>	<b>Response from Board and GNWT-ENR staff</b>
60	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Figure 1 and section 1.2.3	Why doesn't the figure and section 1.2.3 (text or examples) mention the Response Framework? (Section 2.3.1 is more clear on how the Response Framework fits in).	Integrate or at least mention the Response Framework in Figure 1 and section 1.2.3 (text and examples). Also, consider including an example of adjusting mitigation or other management action in the examples box (unless that type of adaptive management is deliberately downplayed/excluded from the box... perhaps because it is left to the section on the Response Framework).	Figure 1 is a simplified diagram showing the three phases of an AEMP. A Response Plan, designed by following the Response Framework, is mentioned in a few simplified words in the IMPLEMENTATION and ADAPT stage. Some changes have been made to the Figure 1 and the associated text in Draft 2 of the Guidelines.
61	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Section 2.1.2, first paragraph	The text refers to "site models". In environmental assessment, particularly during the scoping phase, we refer to conceptual models as a tool for describing and facilitating discussion of ways that the project may interact with the environment. Subsequent paragraphs in the draft AEMP guidelines refer to a "preliminary conceptual model" and PDF page 39 of the AEMP guideline refers to "conceptual site models".	For consistency, use language such as "conceptual model" or "conceptual site model" rather than simply "site model".	Agreed, one change made from "site model" to "conceptual site model"
62	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Section 2.1.2, references to Traditional Knowledge	It is important that Traditional Knowledge not be taken or used out of context. Aboriginal organizations and communities have established Traditional Knowledge practices and protocols that must be respected and adhered to - including considerations such as: ownership of and access to knowledge, peer review, QA/QC, and the use of knowledge interpreters.	Clarify that proponents must respect and adhere to applicable Traditional Knowledge protocols.	Agreed, note inserted in the TK definitions table.

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61	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Section 2.3.1 PDF page 28, last bullet	The bullet text begins with "For projects that undergo an environmental assessment." Is this talking about significance thresholds?	Use consistent language. (Also see comments on the definition of significance threshold and the text in section 3.2).	This bullet does not necessarily refer to significance threshold in an EA that were approved by the MVEIRB, but rather the limits to change that individual affected parties wish to communicate to the proponent to help design the various low, medium, and high action levels. No changes to text.
	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Section 3.2	Section 3.2 is an introduction to sections 3.2.1 and 3.2.2. It is a bit repetitive, for example: significance threshold is defined twice in the text, only a few sentences apart.	Consider shortening section 3.2 and avoiding duplication between sections 3.2 and 3.2.1.	Agreed, section 3.2 was shortened by half.
64	Mackenzie Valley Environmental Impact Review Board (MVEIRB) ; Brett Wheler	Box titled "Relationship of Effect Predictions to Significance Thresholds" (pdf page 32)	Final sentence states that "In all cases, the Response Framework is designed to ensure that environmental changes and/or effects are minimized".	It is already stated elsewhere, but for greater certainty, this sentence could be changed to "... that significant adverse impacts are prevented and other environmental changes and/or effects are minimized."	Agreed, change made.