



ALBERTA CHAMBER OF RESOURCES

P: 780.420.1030 F: 780.425.4623 | 800 SUN LIFE PLACE, 10123-99 ST. NW EDMONTON, AB T5J 3H1 | WWW.ACR-ALBERTA.COM

19 December, 2019

Global Tailings Review Expert Panel

Attention: Dr. B. Oberle, Chair

consultation@globaltailingsreview.org

Subject: Global Tailings Standard – Consultation Feedback

This letter provides comments from the review of the draft Global Tailings Standard by members of the Dam Integrity Advisory Committee (DIAC) of the Alberta Chamber of Resources (ACR) in Canada.

DIAC acknowledges and commends the effort and work completed by the Global Tailings Review (GTR) Expert Panel members to prepare this Standard. DIAC shares the objectives of the GTR co-conveners to achieve the safe and secure management of mine tailings facilities.

This has been a complex undertaking completed on a tight timeline; not surprisingly, the DIAC review has noted potential issues with integration of the Standard with existing regulatory and corporate governance systems, a few inconsistencies and a few ambiguities. The following comments and the attached details are intended to assist with evolving the draft Standard to better address the issues and resolve the ambiguities. Numbering of the commentary below corresponds to the attached tables.

1. Integration of the Standard with existing governance systems

Upon first reading, some requirements in the Standard do not appear to integrate well with existing corporate and regulatory governance systems. Integration challenges, real or perceived, may be a barrier to implementing the Standard.

DIAC is a standing committee of the Alberta Chamber of Resources. Encompassing all of Alberta's resource industry dams within its purview, it shares best practices and advises on current and emerging issues related to the responsible operation of resource sector dams in the province.

DIAC meets several times per year to advance the safety and integrity of dam systems in Alberta, for example:

- Maintaining a global watching brief on dam safety issues, incidents and trends
- Preparing white papers:
 - Alberta Dam Safety "System"
 - Key Roles & Accountabilities (e.g. Engineer of Record)
 - Thinking Clearly and Communicating Clearly About Risk
 - Leading vs. Lagging Indicators
- Facilitating discussions of mutual interest with regulators
- Encouraging the University of Alberta to offer dam safety related curriculum and short courses



For instance, requirements relating to recognizing and rewarding employees, and protecting whistleblowers are typically part of corporate governance; corporate management is typically resistant to customization requests from individual departments.

As one example, within Alberta some requirements in the Standard appear to conflict with existing governance systems, many aspects of which are widely regarded as leading practices - notably the Province of Alberta Water Act (and Water Ministerial Regulation), the Alberta Dam and Canal Safety Directive (regulated by the Alberta Energy Regulator (AER)), Canadian Dam Association (CDA) Dam Safety Guidelines, and the Mining Association of Canada (MAC) Towards Sustainable Mining (TSM) program. Specific examples include assigning the consequence category (starting at the default “extreme” category), establishing independent review boards and developing and testing emergency response plans (all mandated by the AER), plus reporting monitoring results quarterly (as opposed to annually in Alberta) and dam safety reviews every three years (as opposed to the minimum five year interval stated by CDA). Inflexibly imposing the Standard into an Alberta “system” comprising numerous regulators and developers of leading practices will pose significant regulatory and organizational challenges. Other jurisdictions will undoubtedly face the same challenges.

More generally, Table 2 (External Loading Criteria) in the Standard provides technical criteria which are, for the most part, appropriately addressed in local legislation or regulations throughout the world. Unless there is flexibility to defer to local regulations, technical guidelines and professional standards (which meet the intent of the Standard), what is the alternative – that all jurisdictions adopt Table 2? The solution is to have the Standard focus on principles and outcomes, allowing local flexibility in how the outcomes are achieved.

DIAC recommends that the GTR Expert Panel provide further evolution of the Standard to provide flexibility in maintaining existing local corporate and regulatory governance systems which demonstrably meet or exceed the principles outlined in the Standard. Where there is concern that a particular jurisdiction cannot demonstrate sufficient regulatory infrastructure, local technical expertise or corporate accountability there would of course be less flexibility.

2. Scope of the Standard

DIAC recognizes the importance of the social, economic and environmental aspects, financial assurance, securing appropriate insurance, and long-term recovery requirements. However, they do not pertain to dam safety, i.e. avoidance of catastrophic consequences.

DIAC recommends relocating these requirements and addressing them in a separate document so that the Standard provides an immediate focus on dam safety, and that eventual implementation efforts are not delayed by tangential debates.

3. Definitions and Clarifications

DIAC recognizes that providing definitions which align with established leading practice can be challenging. Clear and consistent definitions are necessary for correct interpretation of the Principles and Requirements, and for demonstrating compliance to the Standard. For example, interpretation of the terms “minimize”, “qualified”, “conservative” and “unacceptable” are highly subjective, lacking in tangible criteria against which to evaluate and audit adherence to the Standard.

DIAC recommends that up-front effort be invested in identifying key terms and providing unequivocal, internally consistent definitions.

4. Implementation and Enforcement of the Standard

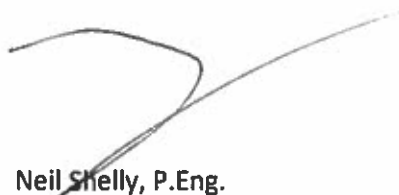
DIAC understands that the GTR Expert Panel will develop processes for implementation of the Standard after the document is approved by the co-convenors. Until the implementation process is understood, it will be difficult to assess the implications to current reporting and audit processes, and to evaluate the incremental effort to demonstrate adherence to the Standard (or appropriate local regulatory/technical guidance systems). DIAC respectfully suggests that the GTR Expert Panel outline as soon as feasible a process for developing the implementation plan, a process which includes the following elements:

- principles to guide flexible local implementation
- principles for evaluating compliance and non-compliance
- framework re: competency and independence of reviewers
- fulsome consultation with all stakeholders

Responsible development of natural resources is a central value of the Alberta Chamber of Resources and our member companies: we strongly support the objectives of improving tailings management practices globally. We trust that the comments provided by our experts on the Dam Integrity Advisory Committee will be helpful in developing and successfully implementing a global standard to guide responsible design and operation of resource-related dams. Please do not hesitate to contact me if clarification or additional information is needed.

We wish you, the Expert Panel members and your families a pleasant holiday season. ACR and DIAC are committed to achieving the safe and secure management of mine tailings facilities, and we look forward to continuing the discussion in 2020.

Respectfully,
ALBERTA CHAMBER OF RESOURCES



Neil Shelly, P.Eng.
Executive Director

Global Tailings Review
Expert Panel – Consultation
**Feedback from the
Dam Integrity Advisory Committee**
Alberta, Canada – December, 2019

The Alberta Chamber of Resources, Dam Integrity Advisory Committee (DIAC) acknowledges and commends the effort and work completed by the GTR Expert Panel members to prepare this Standard. DIAC shares the objectives of the GTR co-conveners to achieve the safe and secure management of mine tailings facilities.

DIAC foresees several potential issues with the implementation of the Standard, namely the integration of the Standard with existing regulatory and corporate governance systems, the relevance of some of the requirements to the scope of the Standard, inconsistent principles for risk management, and lack of clarity on some definitions.

1. Integration of the Standard with Existing Governance Systems

The principles and requirements in the Standard do not integrate well with existing corporate and regulatory governance systems, some of which are considered to be leading practices. It appears that the Standard infringes on corporate governance systems; it is recommended that Owners have the flexibility to adhere to existing governance frameworks where those meet the intent of the Standard. In addition, the organizational chart provided in Annex 3 may conflict with existing corporate organizational structures and would be difficult to implement. While it is valid that the Accountable Executive reports directly to the Board of Directors, the Owner should have flexibility in establishing the rest of its organizational structure, consistent with general principles for tailings dam safety management. For example, a common organizational structure is to have the Engineer of Record (EoR) report to the Dam Safety Manager (approximately equivalent to the RTFE) who in turn reports through to the Accountable Executive. Any requirements to modify organizational structures could be overly specific and prone to conflict with corporate mandates.

Some requirements in the Standard conflict with existing strong governance systems in Alberta and Canada, notably the Province of Alberta's Water Act (Water Ministerial Regulation), the Alberta Dam and Canal Safety Directive (regulated by the Alberta Energy Regulator (AER)), the Canadian Dam Association (CDA) Dam Safety Guidelines, and the Mining Association of Canada (MAC) Towards Sustainable Mining (TSM) program. Specifically, the requirements pertaining to the determination of the consequence classification, the use of independent review boards and the implementation and testing of emergency response plans are mandated by the AER. In addition, reporting results of monitoring programs on a quarterly basis (as opposed to annually in Alberta) and conducting dam safety reviews every three years (as opposed to the minimum five year interval as stated in CDA) are not aligned with the requirements stated in the Standard.

More discussion is needed on the consequence classification of tailings facilities. The Standard requires the adoption of an Extreme consequence classification unless it can be demonstrated that a lower consequence is appropriate. However, Requirement 4.1a states that there be "no potential for impactful

flow failures” - making it difficult, if not impossible, to assign a consequence rating lower than “Extreme”. This is inconsistent with the principles of risk management as currently applied by the global dam safety profession, as well as other industries that manage risks to people, the environment and third-party assets. The design basis for the tailings facility should be consistent with the level of hazard and the potential consequences of failure, and this can be selected on the basis of a rational review of the hazards and potential consequences. A presumption of any specific consequence is not required or beneficial. Baseline design standards and return periods for environmental loading events (earthquakes and floods) for low to moderate hazard dams should be consistent with accepted international standards for other types of low to moderate hazard facilities, or the International Building Code. A higher standard of care, including designs for more severe environmental loading conditions, should be applied for higher hazard or higher consequence facilities. This strategy will allocate human and financial resources to the greatest reduction in risk and yield the largest safety benefit to people who could be affected by tailings dam failures.

Therefore, the integration of the Standard with existing regulatory and industry frameworks requires additional focus. The Standard should be adequately specific to cater to the global mining industry, but at the same time be sufficiently general to avoid being onerous to companies operating in jurisdictions where strong governance systems are already in place. Striking a balance between the two is challenging, and upon first reading has not been achieved in the draft Standard.

DIAC encourages the GTR to provide further refinement of the Standard for better flexibility in maintaining existing corporate and regulatory governance systems while achieving the desired outcomes. Consideration should be given to providing Owners with the option of complying with existing governance systems which meet the principles in the Standard.

Table 1 provides more detailed comments for each of the Requirements where there is a potential for integration with existing governance frameworks.

Table 1. Feedback Related to the Integration of the Standard with Existing Governance Systems

Principle/Requirement	Comment
REQUIREMENT 4.1	<p>Adopting a presumed Extreme consequence classification is not consistent with CDA guidelines which are the adopted industry practice in Canada. It is also inconsistent with Table 1 which clearly specifies criteria for each consequence category.</p> <p>The presumption of Extreme consequence should be removed from the Standard. The design basis for the tailings facility should be consistent with the level of hazard and the potential consequences of failure, and this can be selected on the basis of a rational review of the hazards and potential consequences. The baseline design standards and return periods for environmental loading events (earthquakes and floods) for low to moderate hazard facilities should be consistent with accepted international standards for other types of hazardous facilities. A higher standard of care, including designs for more severe environmental loading conditions, should be applied for higher hazard or consequence facilities. The overall philosophy of risk management should be consistent with Appendix B of ICOLD Bulletin 154, which provides an overview of global practice in risk management as applied to dams and</p>

Principle/Requirement	Comment
	other industrial facilities that have high potential consequences of failure.
REQUIREMENT 4.1(a)	The clause “including no potential for impactful flow failures” should be removed. If not removed, virtual all tailings facilities would remain in the Extreme category.
REQUIREMENT 4.1(b)	The focus on severe environmental loading criteria and their application to moderate risk structures does not address the actual causes of most of the recent tailings dam failures in the global mining industry; environmental loading events that exceeded the 1/2500 level have not been dominant causes of historical tailings dam failures. The objective of improving the safety of tailings dams would be better accomplished through addressing the qualifications of the design engineers, the design and analysis procedures, targets for the system reliability, checking and review processes, and corporate governance. Setting very onerous environmental loading criteria does not address the root cause of the failures, and may be cost prohibitive for some smaller facilities, while doing little to address the actual problems or reduce the risk.
REQUIREMENT 4.1 (c)	In Canada, the most frequent dam safety review (DSR) requirement is every five years, including review of the consequence classification - as compared to the three year interval required by the Standard. Prescribing review cycles and/or responses based on consequence to manage change and reporting is not preferable or required. The implementation of an effective Management of Change (MOC) process (already in place in many companies) could be more useful than the prescriptive requirements in the guide. It is recommended that Owners have the flexibility to adhere to existing governance frameworks.
REQUIREMENT 4.2	The Accountable Executive or Board of Directors cannot be expected to participate in technical evaluation roles. It may be better suited to require that material technical decisions be reported to the Accountable Executive for endorsement.
REQUIREMENT 4.3	If Requirements 4.1 and 4.2 trigger new design requirements, it will be difficult to retrofit existing structures to adhere to the Standard. Upgrading existing structures also has the potential to trigger failures and so the risk of leaving the structure as-is would need to be balanced against the risk of the upgrade. It is recommended that the Standard better integrate with existing governance frameworks.
REQUIREMENT 5.6	This is workable but also depends on the level of sophistication of the local regulatory and community engagement systems. For example, if there are no established criteria for release water quality, it will be difficult or impossible for a mine to progress closure activities if it cannot release treated mine water to natural drainage systems.
REQUIREMENT 7.3	Providing annual construction reports is a regulatory requirement in Alberta. The “or whenever there is any change” clause may be onerous

Principle/Requirement	Comment
	and should be qualified for practicality. This issue can be handled through an effective MOC process.
REQUIREMENT 10.4	Performance incentive programs are part of corporate governance, and is outside the purview of this Standard. This requirement should allow the flexibility of integrating with corporate governance.
REQUIREMENT 11.4	It is recommended that Owners have the flexibility to adhere to existing governance frameworks with respect to the review cycle. For an Extreme consequence classification structure, the DSR is completed every five years. A review cycle of three years is considered to be onerous and unnecessary in normal circumstances.
REQUIREMENT 13.5	Employee recognition and reward are part of corporate governance systems, and is outside the purview of this Standard. This requirement should allow the flexibility of integrating with corporate governance.
REQUIREMENTS 14.2 to 14.4	Providing a safe environment for raising issues is part of corporate governance, and is outside the purview of this Standard. This requirement should allow the flexibility of integrating with corporate governance.
Table 2	Table 2 provides technical requirements which are covered appropriately through dam safety guidance and regulations throughout the world. The Standard should require that all tailings management jurisdictions follow acceptable dam safety standards by ICOLD or one of its affiliate organizations (e.g. CDA, ANCOLD or others).
Annex 3	The proposed organizational chart is overly prescriptive and may conflict with corporate mandates - will be difficult to implement.

2. The Scope of the Standard

The Standard addresses the social, economic, environmental and financial (providing assurance for closure costs and securing insurance) aspects of managing tailings facilities. The Standard also covers requirements for long term recovery in the event of catastrophic dam failure. DIAC recognizes the importance of these aspects for the responsible management of tailings facilities; however they do not pertain directly to preventing dam failures. DIAC respectfully recommends removing these requirements so they do not detract from the immediate focus of this Standard. These requirements can be addressed in a separate document. The Mining Association of Canada Towards Sustainable Mining protocols provide a useful model for how these requirements can be addressed.

A well-developed emergency response plan that is reviewed and tested on a regular basis is critical to the responsible management of tailings facilities. While the Owner should not be responsible for training public sector agencies, first responders and at-risk communities, participation by these groups in EPP/ERP mock exercises is essential. DIAC believes this meets the intent of understanding roles, responsibilities, and expectations should a catastrophic dam failure event occur.

DIAC understands that the Standard is intended to be a governance document providing broad recommendations and principles; it is not meant to be prescriptive. However, Table 2 in Annex 2 of the Standard provides External Loading Criteria which is a detailed technical requirement which has the appearance of being prescriptive. Specific technical elements should not be included in the Standard. The Standard should instead defer to existing technical guidance from organizations such as CDA, ICOLD, etc.

Table 2 provides more detailed comments for each of the Requirements relating to the scope of the Standard.

Table 2. Feedback Related to the Scope of the Standard

Principle/Requirement	Comment
REQUIREMENT 7.8	The ESMS is comprised of high level principles and should be reviewed on a schedule dictated by the complexity of the mine and tailings facilities. It is not clear who the stakeholders are.
REQUIREMENTS 10.1 to 10.3	The Standard should recognize that the Tailings Management System can be wholly imbedded into an existing mine-site wide or companywide management system. For a large mining, oil sands mining or integrated oil company, tailings is only one risk area and operations integrity is managed as a whole for every aspect of the business. The Alberta regulatory agencies have accepted this approach, and it should be recognized in this Standard.
REQUIREMENT 14.1	Permit violations are addressed with the overall mine and not specifically to the tailings facility. This requirement should allow the flexibility of integrating with corporate governance.
REQUIREMENT 15.4	The Owner does not have the mandate or resources to provide training of public sector agencies, first responders and at-risk communities. An analogue can be made in an urban context; it is not the responsibility of the owner of a high-rise building to train a search and rescue team that might be required after an earthquake. However, participation by these groups in EPP/ERP mock exercises is essential. This meets the intent of well-understood roles, responsibilities, and expectations in case of failure.
PRINCIPLE 16	The inclusion of requirements for long term recovery in the event of catastrophic failure is contrary to the “failure prevention” intent of the Standard. DIAC recommends that the requirements falling under Principle 16 be addressed in a separate document.
REQUIREMENTS 17.1 to 17.3	The disclosure requirements are unnecessarily broad and unlikely to meaningfully improve stakeholder understanding or the safety of the structure. For example, would a geology model of the site be considered “details and information”? It is recommended that the Standard refer to those practices where applicable, or provide clear definitions of “details and information” to be publicly disclosed. There are potential liability issues related to identifying end users and for what purpose the information may be used.

Principle/Requirement	Comment
TABLE 2	(Apparently) prescriptive design criteria are not aligned with the general guidance intent of this Standard. DIAC recommends that the Standard defer to local regulations or other technical guidance (e.g. MAC or ICOLD).
ANNEX 2	<p>Reducing the likelihood of losses to negligible: The term “negligible” is defined as “so small or unimportant as to be not worth considering.” In reality, wherever a major hazard is present, the likelihood of loss cannot be considered as negligible. This is true of building collapse under severe earthquake loading, aviation accidents, and other major hazard risks to which society is exposed. It would be more appropriate to state as the target to reduce the risk from tailings dam failure to or below levels that are considered broadly tolerable for other societal risks, or As Low As Reasonably Practical (ALARP). Annex 2 should be re-written with consideration to Appendix B of ICOLD Bulletin 154 which defines the current state-of-practice for consideration of tolerable risks in dam safety.</p> <p>Criteria Set for ‘Low’ or ‘Significant’ Consequence Classifications: The comment “it is noted that the criteria set out in Table 2 for ‘Low’ or ‘Significant’ Consequence Classifications also involve designing to withstand flood and earthquakes very much greater than any known previous flood or earthquake in the region of the tailings facility” is not necessarily correct, since there would be a 4% chance of the design basis 1/2,500 Annual Exceedance Probability event having been exceeded in the past 100 years. Overall, Annex 2 provides an overly simplistic perspective on risk management and should be reframed to draw on the large body of literature that addresses a variety of major hazards and risks borne by society.</p>

3. Definitions and Clarifications

DIAC recognizes that providing definitions which align with established leading practices can be challenging. Clear and consistent definitions are necessary for correct interpretation of the Principles and Requirements, and for demonstrating compliance to the Standard. For example, interpretation of the terms “minimize”, “qualified”, “conservative” and “unacceptable” can be highly subjective, leading to a lack of tangible criteria against which to evaluate and audit adherence to the Standard. Unequivocal and internally consistent definitions for key terms is a foundational building block for the Standard, and should be addressed as early in the process as possible.

This Standard appears to focus primarily on tailings facilities that are ponds and have dams. It is not clear if the Standard is applicable to facilities without ponds and dams, for example underground paste facilities, dry stacks, and pond facilities that have had the dams decommissioned and are primarily a landfill.

Table 3 provides more detailed comments for each of the Requirements where clearer definitions and additional clarifications are required.

Table 3. Feedback Related to the Definitions and Clarifications

Principle/Requirement	Comment
General	Timeline of applicability of the Standard – clarity is required for the applicability of the Standard; would it still apply 100 years after the facility has been decommissioned and certified by the regulator? Will regulators have to comply with this standard in perpetuity?
REQUIREMENT 1.4	Inundation area vs impacted area – clarification is required for distinguishing between the two. While DIAC agrees with the intent of the requirement, the definition of impacted area may significantly expand the extent of consultation required. Definition is also needed to articulate targets for demonstrating compliance to the Standard.
REQUIREMENT 2.3	It is unclear how Owners can demonstrate “meaningful engagement” to an auditor. Mining project approvals are typically provided with conditions which result from consultations with Project Affected People, government and interested stakeholders. These are incorporated in how the project is executed. It is unclear if this process is sufficient for demonstrating “meaningful engagement”. While DIAC considers engagement necessary and valuable, there is a risk that the lack of clarity may lead to onerous engagement processes because there is no “goal line” marked on the field.
REQUIREMENTS 4.2 and 4.3	Clarification is required for the role of IRBs to provide input to the decisions made by the Accountable Executive or Board of Directors. IRBs are set up to provide independent observations and advice only.
REQUIREMENT 6.3	The use of the term “conservative” needs to be clarified. This appears to encroach into detailed design criteria which is not aligned with the general guidance intent of this Standard.
REQUIREMENT 8.4	The intent of this requirement needs clarification. It encroaches on existing regulatory requirements in Alberta where reporting occurs once a year. Submissions to the government are publicly available. DIAC recommends that the Standard defer to existing reporting requirements.
REQUIREMENT 9.1	The intent of this requirement needs clarification in regard to minimizing risk as opposed to minimizing consequences (reducing the potential consequences is one approach but not the only approach to reducing risk). See comment for Requirement 3.3. In addition, the concept of As Low as Reasonably Practical (ALARP) could be considered instead of the term “minimize”: ALARP is already incorporated in leading practices.
REQUIREMENT 17.3	Need to define “credible”. Who would be the end users of the information?

4. Implementation and Enforcement of the Standard

DIAC understands that the GTR Expert Panel will develop processes for the implementation of the Standard after the document is approved by the co-convenors. Until the implementation process is understood, it will be difficult to assess the implications to current reporting and audit processes, and to evaluate incremental effort required to demonstrate adherence to the Standard.

“The devil is in the details” is an old adage which sums up the trepidation of the mining industry and dam safety professionals as they await the implementation plan. GTR Expert Panel can allay some of these concerns by early publication of the principles which will underpin the implementation plan by an early commitment to fulsome consultation with all stakeholders to avoid unintended consequences.

Successful implementation of the Standard will, from the viewpoint of DIAC, hinge on flexibility to maintain existing local corporate and regulatory governance systems as effective and proven vehicles to achieve the principles and outcomes outlined in the Standard.