

2nd Floor Exchequer Court 33 St Mary Axe London EC3A 8AA United Kingdom Telephone: +44 20 3206 5200 Fax: +44 20 3206 5440

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Adam Matthews
Director of Ethics and Engagement
Church of England Pension Fund
29 Great Smith St.
Westminster
London SW1P 3PS

Tom Butler
Chief Executive
International Council on Mining & Metals
35/38 Portman Square
London W1H 6LR

Subject: Global Tailings Standard Commentary

ERM is pleased to respond to your request for feedback on the draft standard released in November 2019. We are committed to shaping a sustainable future with the world's leading organizations. Safe mine waste management and broader control of catastrophic risk are key elements in ERM's "The Mine We Want to See"; a model for sustainable mining we have developed over the last two years through consultation with industry and stakeholders. We hope ERM's input on the draft will be of value to the development team. Our view is that the situation demands the industry continue to do, and be seen as doing, more.

Firstly, we wish to express ERM's full support for the recent initiatives triggered by the Church of England Pension Fund and the United Nations Environment Program (UNEP), the Principles for Responsible Investment (PRI), and the International Council on Mining & Metals (ICMM). We particularly welcome the drive for transparency and improved control of risk, and that this standard strives "towards the ultimate goal of zero harm to people and the environment, and zero tolerance for human fatality." It is important to set a baseline from which a continual improvement process can be used to advance our knowledge and industry practice.

In our review of the draft standard specifics in its current form, our feedback is that it clearly has a highly capable team assembled to address the issues. However, we do find the draft to be in early stage development; the structure and content require further work and the strategy needs stronger articulation.

We support a number of items within the draft:

- The intent of the six themes and the seventeen principles;
- Principles 4 and 9 which drive attention to and accountability for high risk tailings management facilities (TMFs);
- Principles 10 and 13 which drive changes in organizations' decision mechanisms and operating culture with a low tolerance for TMF risk; and



 Principles 3 and 15 which drive greater respect for the concerns and rights of people living downstream.

In addition, we offer the following observations to the standard development team:

Strategy:

- Although the six themes appear systematic, it would be valuable to provide a meta-analysis of failure root causes from the last ten years of TMF incidents. It is unclear what root causes of TMF failure the development team has identified as being vital to solve; and how the standard is structured around a strategy to achieve resolution of such root causes.
- The draft has a tactical focus on short-term operational aspects with little insight into the macro business and multi-decade dimensions of the challenge the industry faces. There is an inescapable incompatibility between the endurance of TMFs (>100 years) and the economic drivers for mining companies (<10 years) to streamline their balance sheets of provisions, their profit and losses of unproductive cost, and their risk registers of exposures from legacy operations. In addition, few mining companies survive the full life cycle of the tailings dam with the continual change of ownership, corporate structures, leadership, and investors.</p>
- Human Performance: TMF integrity management is treated predominantly as an engineering challenge, with disciplines of engineering design and engineering inspection regarded by most companies as the mainstay of stability assurance. Historic performance has proven this philosophy is insufficient. The industry has been slow to follow other high-hazard sectors in the application of human performance, risk management and critical control disciplines to all aspects of TMF management that include as-built v as-designed, as-operated v standard operating procedures, and as-maintained v specification. TMFs are complex, non-homogeneous dynamic structures where operational practices and loading conditions shift and vary from week to week. Teams of operators, maintainers, and contractors carry out their work at times without a comprehension of how their actions contribute to or detract from critical controls of major TMF risks. While organizational and accountability factors are referred to in the draft, the stability challenge is primarily characterized as the domain of engineering. We believe this could be a flaw in the current approach and see an opportunity for the team to re-formulate the importance of risk management and human performance to sustain the safe operation of TMFs.
- The draft standard is heavily weighted to historic TMF approaches ("best practices") rather than motivating innovation and advances in mine waste management technologies and practices and embracing lessons learned and acted on in other sectors that have experienced catastrophic events. Whilst the need to tighten-up and formalize the execution of established aspects of TMF management is well articulated, we think there is an opportunity to widen the approach. Principal 6 and Requirement 6.1 refer to design but provide no challenge to the decision to adopt a wet tailings containment solution in the first instance, and miss the opportunity to prompt lower-risk waste management approaches. There is little direction for mines in development to inform, modernize, and de-risk their mine waste management strategies.

Structure:

- The draft standard does not yet have the clarity that one would expect in an industry standard. For example, some of the "Principles" are not worded as principles, a number of the expectations are worded loosely, and some of the detailed information in the footnotes warrants higher profile in the document.
- For a standard to be capable of delivering value, its development should be integrated with the assurance mechanisms that will be employed to manage implementation. There is little coverage of assurance and there are many aspects of the draft that would be impractical to assure in their current form (even when the intent appears well meant).

At this time, ERM has not provided detailed comments on the content, but we would be happy to provide input on content and/or comment on a later draft. We appreciate the opportunity to provide feedback on the draft standard and reaffirm ERM's full support for the recent initiatives the Church of England Pension Fund and ICMM, UNEP, and PRI have triggered. You may make our submission public in the Consultation Report.

Yours sincerely,

C. Louise Pearce

Global Sector Lead, Mining