<table>
<thead>
<tr>
<th>Country</th>
<th>Location</th>
<th>Stakeholder Group</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Rehabilitation aspects could be strengthened &amp; in this context must be aligned with the ecological code.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Post closure monitoring requirements could be strengthened. Add clarity on whether the Standard applies to existing or just new. The requirements are for the quality management system for new tailings bu...</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Check that translations of lifecycle mean the same thing. Have them reviewed by native speaker.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Clarify the intent - Get rid of the phrase &quot;living a tribal way of life&quot;.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Seismic resistance is crucial in this area as we are in a level 8 event area. People want to have reliable system of storage because they live nearby and since the inhabitants work at the mines or other companies so the additional loading costs cannot be borne by the employees from their community.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>In order for this standard to be more qualitative, we would like to have more experts in the sphere of (B21 tailings dam) construction.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Important to the inhabitants that the standards benefit them.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>As an inhabitant and a representative, I want to know if the draft Standard will ensure that the dam is 100% reliable.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Tailings facility design must take seismicity and climate change into account.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>I am concerned that when the companies leave, what will happen to the pumping stations that are not working any more?</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>We are working with a company to take preventative measures. We experienced freezing followed by floods recently and due to strong cooperation, nothing has happened.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Exploitation of existing tailings is being conducted and the tailings facility was constructed during Soviet times so to manage the process is therefore impossible.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>For closure and post closure events if they are taking place - the law prevails - as a member of the soil committee, she heard with great pleasure about this project to rehab the environment.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>The community pays great attention to the realisation to the public hearings but also to the participation in development and design of regulatory documents. Similar to the standard, ecological code is being reconsidered today. Next year they will get the new one and they are expecting stricter requirements.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>In the draft standard is important to have an event with the communities and political authorities.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>3.1 - Question with regard to tribal people, if there are no tribes does this apply to local communities?</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Terminology in the introduction page 2 - topic 2 - should be the same in 3.1.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Did we understand right that this standard refers only to tailings and doesn't cover other mining dams?</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Does the standard refer to tailings in design or operational facilities?</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Applying standards to active tailings will be difficult because something that was constructed 20 years ago is difficult to change. To prevent catastrophic events it will be a challenge. Design, exploitation and monitoring - A, B and C - can we add D - depending on the failure and completion of the tailings, we need to take into consideration the height and protection of this dam and to take into consideration the quality of construction materials. If this is not considered, it can lead to difficult circumstances.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Need to take materials into consideration in the construction of tailings, if they don't use rocks that can prevent fatalities this is an issue.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Tailings lifecycle - more detailed technical state of tailings would be more understandable. What is the meaning of the lifecycle?</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Text of the Standard must be edited by a native Russian speaker. Some expressions do not correspond to what we use in our daily life.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>It looks like ISO 9001. Will the standard be adopted by organisations in the future - it will be very important when it comes to implementation that it considers the ecological code and local regulations etc.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Enterprises implement OMS, EMS etc, because this improves their public image and allows them to trade internationally more easily. If enterprises use the Global Tailings Standard, it would enhance their image.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Companies often sub-contract for transport and tailings. The provision of these contracted services should be done by professionals and should have relevant certification.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>The translation mentions &quot;tribes who live a tribal way of life&quot; so it is not clear that they still retain the rights. Don't have original and tribal people here. Can we use different terminologybecause it reads as though non-tribal living people wouldn't have the same rights protection.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Would like to pay attention to siting, soil condition and then depending on the completion of tailings, we need to take into consideration the height and thickness of the dam.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Another factor to take into consideration is the material used to increase the sizes of these dams. Maps are created and the populated settlements nearby are often concerned because when we do dust elimination, the settlements nearby can feel the measure.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>Project Affected People</td>
<td>Meaningful participation means different things to different people - Will this be supported by guidance notes like the EIT requirements?</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>Have you thought about how companies will report on standard implementation? External assessment?</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>Have you calculated how much it would cost to implement this standard because companies will ask this?</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>Motivation is very important. It was difficult to implement Publish What You Pay as some companies were not eager to follow good standards because it costs money. Both internal &amp; external motivations are important.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>Proposed the creation of a common working / action group where the owners of tailings facilities work with crisis management agencies and community representatives.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>Standard is to help the communities. Actions not policies are required and communication is vital. The Standard should clearly describe the hazards related to tailings and all stakeholders should understand what the hazards, vulnerabilities and the possible scenarios.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>Short and long term events require different levels and types of management. The Standard should insist on something like ISO13001 Risk management &amp; disaster reduction.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>Hopeful the standard will tell us what to do with old tailings and improve the environmental situation locally (scope issue as the standard focusses on safety).</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>There needs to be adequate motivation to implement.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Almaty</td>
<td>NGO</td>
<td>A few years after an event, people stop caring. People need to be kept aware of the problem. Linguistic issue - The use of &quot;Principle&quot; is confusing - suggests fundamentals/beliefs but they read like instructions/steps/actions.</td>
</tr>
</tbody>
</table>
Translation is not correct and there are many mistakes. Even the name of the standard doesn't sound right as it currently translates to "Governmental organisation for tailings".

Kazakhstan Almaty NGO

Principle 6 - Robust has been translated as "trustful" / "trustworthy".

Kazakhstan Almaty NGO

Provide more details on what ROBUST means in terms of the technical aspects.

Kazakhstan Almaty NGO

Provide more details on what knowledge base includes.

Kazakhstan Almaty NGO

There is no requirement to warn the public about hazardous situation to their health. Add after 3.1.

Appendix 2 - Classification - add one more annex to add information about types of tailings and the size of facilities as this is an indicator of risk.

Kazakhstan Almaty NGO

Some requirements mention the deadlines for reports etc - Req 8.2 and for others, the frequency is not specified - be consistent or remove and allow each country to determine aligned with their requirements.

Kazakhstan Almaty NGO

Req 6.1 - we should bring in some numbers here as this doesn't make the design criteria clear. Reformulate this by adding numbers or omit it. When you compare 7.1 with 6.4 - the weighting of the requirement is very different. Either add sub points to large requirements or at least balance them.

Kazakhstan Almaty NGO

Transboundary environmental issues regarding the location of tailings and their interaction with transboundary riverine systems should be mentioned.

Kazakhstan Almaty NGO

Reference to existing standards would be good to include inside the standard. Not necessary to clarify who will manage the standard and who will pay but do the audience does need to know how it will be implemented.

Kazakhstan Almaty NGO

How it will be implemented and assessed how governments will be involved etc needs to become an integral part of the standard.

Kazakhstan Almaty NGO

Add list of reference documents used in the development of the standard.

Kazakhstan Almaty NGO

Provide more details on what knowledge base includes.

Kazakhstan Almaty NGO

Provide more details on what ROBUST means in terms of the technical aspects.

Kazakhstan Almaty NGO

Doubts that the standard will be effectively implemented in countries with strong govt system such as former Soviet. If not mandated, it may not work.

Kazakhstan Almaty NGO

Government participation in the siting and other decisions should be mentioned in the standard. State participation is very important.

Kazakhstan Almaty NGO

Many governments do not have the financial capacity to manage legacy tailings issues.

Kazakhstan Almaty NGO

Put glossary at the start.

Kazakhstan Almaty NGO

Who are the affected communities? In their context, affected communities can be cross-regional.

Kazakhstan Almaty NGO

Disclosure - Transparency initiatives - EITI standard has been renewed this year and could be a strategic partnership for the Standard?

Kazakhstan Almaty NGO

How will compliance be reported? Annually?

Kazakhstan Almaty NGO

Operators have different financial capabilities and capacities so they will need to make theirs clear.

Kazakhstan Almaty NGO

Siting requirements should be more strenuous in mountainous regions for example.

Kazakhstan Almaty NGO

Principle 16.4 - Provide for the participation of project affected communities should be restricted to experts. If opened to all it would cause chaos.

Kazakhstan Almaty NGO

What about the safety of workers involved with the tailings?

Kazakhstan Almaty NGO

Increase and strengthen requirements and to take into consideration the seismic considerations and legislative requirements.

Kazakhstan Almaty NGO

Increase recrudescence funds to take care of tailings post closure.

Kazakhstan Almaty NGO

Responsible approach to natural resources - should be added to the Standard. To increase requirements on responsible extraction including transparency.

Kazakhstan Almaty NGO

Teaching the local specialists - the local operators must use the potential of local specialists to take care of tailings.

Kazakhstan Almaty NGO

We must make sure that mines cease to be abandoned and not rehabilitated.

Kazakhstan Almaty NGO

Standard contains some very obvious things that one way or the other the mining companies are already doing during design or processing stage.

Kazakhstan Almaty NGO

Overarching principle could be 'safe by design'.

Kazakhstan Almaty NGO

Continuous improvement principle should be called out more as part of management systems.

Kazakhstan Almaty NGO

Must avoid a situation where operators can for example put $5k in an account and say they have provisions.

Kazakhstan Almaty NGO

How much should be in provisions? How do you calculate the cost of rehabilitating sub-surface operations?

Kazakhstan Almaty NGO

If we apply the standard it may mean the government requirements with regard to tailings are not met as some of these are stricter than in the EU.

Kazakhstan Almaty NGO

To what extent does the draft Standard integrate the recommendations of UNECE, MAC, Australia, RSA and former CCOP countries?

Kazakhstan Almaty Mining Industry

Knowledge base: Shortage of competent independent experts - clarify who these experts are.

Kazakhstan Almaty Mining Industry

2.6 - Rehab is already happening and is compulsory here. Concerned that insurance companies who would agree to insure the value of the max consequence of these facilities. Might be problem to get this insurance or the price would be "unbearable".

Kazakhstan Almaty Mining Industry

Potential language issue - Human Rights due diligence - 3.1 - this term was not understood - is this a formal contracted service or is it in-house? What are the compulsory criteria?

Kazakhstan Almaty Mining Industry

3.3 Physical & economical displacement - they do this with the government as it is a joint responsibility here.

Kazakhstan Almaty Mining Industry

3.3 Participants indicated they would need to investigate the standards that are referred to in the footnotes.

Kazakhstan Almaty Mining Industry

6.1 Design criteria haven't been quantified.

Kazakhstan Almaty Mining Industry

6.3 - Can we have more explanation on the mechanisms? Is it an instrumental follow up to monitor cracks, deformations etc. What are the specific requirements on the tools used for these? Could add "in accordance with design best practices" or something similar.

Kazakhstan Almaty Mining Industry

Hydrogeological or production processing experts are not called "tailings expert". Not sure there is a qualification for a tailings specialist and it would be difficult to find this person.

Kazakhstan Almaty Mining Industry

Most items are already covered by national legislation in Kazakhstan.

Kazakhstan Almaty Mining Industry

How will this be integrated with other standards or requirements?

Kazakhstan Almaty Mining Industry

Glossary - expand the definition of tailings as it is not that detailed or precise and also the definition of tailings facility.

Kazakhstan Almaty Mining Industry

12.4 Didn't understand the mention of Procurement. If we hire an EoR, the Procurement team are not involved. In Kaz, there are a list of rules around subsol, we need to use Procurement to outsource consultants so this not be aligned with legislation.

Kazakhstan Almaty Mining Industry

Question on representatives of State authorities with regard to emergency services and outsourcing - where does the financing come from? Between the operator and the legislation, there are always discussions about roles and responsibilities. With regard to the Requirements for emergency response, will this come from the state budget or operators budget?

Kazakhstan Almaty Mining Industry

The draft Standard does not recognise other standards like CDA and other international practices such as international standards of risk management.

Kazakhstan Almaty Mining Industry

Local legislation are quite old so it is not possible to compare these and analyse them as they currently are because they do not recognise international standards.

Kazakhstan Almaty Mining Industry

Difficult to assess the relationship between the draft standard and jurisdictional requirements.

Kazakhstan Almaty Mining Industry

Each country has its own regulations and the draft Standard captures important issues with the regulations. Some issues missed such as it requires someone to be responsible but it doesn't say that they need to know what they are talking about. The responsible person needs to know the issues.

Kazakhstan Almaty Mining Industry

Transboundary issues not addressed - how is this fed into the planning process and emergency response process.

Kazakhstan Almaty Mining Industry

The Standard doesn't have much detail on how to address important issues such as liquefaction. In Kaz, liquefaction is not part of the design requirements but it is something that should be added.
Global Tailings Review Public Consultation Feedback

What quality of data do you need to collect for the knowledge base?

Closure is important to be taken into account in the design phase but it should be explicitly mentioned.

Will your group tie all of the global information together?

What encouragement do you give to countries to sign up?

What are the costs?

What does the term "private entity mean"?

1.1 - Environmental, social and economic context must include ERP report.

Efficient water management - construction requirements, environmental and communities issues.

An analysis will need to be done of the standard against Chinese system to be able to explain it.

Where does the mission come from? I will need to know this before we can engage further with the Ministry.

What are the benefits?

Req. 2.2 - Translation suggests it refers to a Council.

Chemical stability programme has risk criteria for various types of tailings.

Audits on facilities can sometimes be visual only.

They are introducing a distinction between deposits based on size and the consequence classification.

Lots of issues in the standard have been considered as very important for the state of Chile.

Siting decisions are covered by legislation.

Competent people are very hard to find.

Why create a new Standard? Why didn't we adopt ICOLD or other globally accepted standards?

D248 is the mining code that is being reviewed and this will force a change in the closure regulations.

Monitoring the environmental impact is important.

Introduce run off and storage of water issues into the design aspects of the draft standard.

With regard to extreme consequences and the measure of 1 in 10,000 year event and risk levels etc. What about the availability of data? This doesn't exist in most places. We would be extrapolating a 10 year event from limited raw data.

Closure and how this affects communities is not adequately addressed in the draft Standard but is a very important aspect.

Maintenance and operational issues and how we guarantee and look after these. The original design is not the problem usually but rather the loss of intent over the life of the facility. How to maintain this continuity is not addressed sufficiently though it is a little.

The Standard could go further. I acknowledge that there is a need for a standard but it must be the right one.

Why create a new Standard? Why didn't we adopt ICOLD or other globally accepted standards?

2.2 There are some specialists and we could create an ITRB but not sure how to do this. With these people they could have created a new council but the concept of the ITRB is unclear.

Closure is important to be taken into account in the design phase but it should be explicitly mentioned.

UNEA global resolution on mineral resource governance including tailings and closure in particular. Who would pay if there is a failure?

Don't see the relation between the Standard and the safety guidelines. Should have a much clearer link and should not reinvent the wheel.

Concerns about whether disclosure would undermine safety efforts. Recommend defining more clearly to which aspects the concept of participation refers.

1.1 - Environmental, social and economic context must include ERP report.

Transboundary issues such as emergency response planning and prevention including information sharing and joint preventative measures.

If the standard aligns with legal instruments such as UN declarations, implementation would mean operators are also complying with these international requirements that already exist.

With regard to disclosure, some companies tend to keep quiet so the standard could help change the culture here.

Audits on facilities can sometimes be visual only.

Most all points regarding emergency response planning are covered by legislation.

Reg 2.2 - What kind of body is an ITRB?

Reg 2.2 - Translation suggests it refers to a Council.

Competent people are very hard to find.

The standard is mostly about safety but in China safety is managed by a separate ministry to the ministry for natural resources.

There will need to be modifications for each jurisdiction.

What does the term "private entity mean"?

An analysis will need to be done of the standard against Chinese system to be able to explain it.

What's the relationship with government and the standard in China? We need to clearly understand what a private standard is.

It's possible that the CMA could take the place of this entity in China as the intermediary between the government and the co-operators, for example.

Who are the Chinese representatives on PRI, ICOM and UNEP? We need to talk to those local entities. Are there Chinese banks associated with PRI?

With regard to existing regulations, will the draft standard overrule local legislation and who will maintain the draft Standards? How does it all fit together?

Does the standard cover dry tailings or just wet? Chinese companies have implemented dry stacking quite successfully.

Scope is to make wet tailings safe but it doesn't force companies to switch to dry. This is an important question in China as lots of discussions are currently ongoing with regard to dry tailings. Many dry tailings around the world but if your standard doesn't improve the situation on dry tailings it might be a wasted opportunity.

What encouragement do you give to countries to sign up?

What are the costs?

What are the benefits?

What is the relationship between this an the Equator Principles with regard to financing requirements as there seems to be some alignment?

What is the objective? It doesn't seem to be focussed on the environment. There are 6 topics but not focussed on the environment?

Will your group tie all of the global information together?

To make tailings safer, you have to start with why they collapsed but your report won't deal with that. The main reason dams fail is because they keep growing and get too big. There should be an emphasis on investigation data.

Your visit is timely not only because not only is the country undergoing a change but also Chile is in the middle of an amendment process on the legislation with regard to mining.

There are currently a number of duplications in terms of permitting and there is a clear understanding that tailings are more specific than other storage facilities.

Lots of issues in the standard have been considered as very important for the state of Chile.

The water authority is working with Sergeantine and there have been a number of resolutions from the private sector. They are planning a 1st draft in January after which they will enter a period of consultation.

There is a product development committee to deal with the duplications of processes within the department with a view to creating a one stop shop. Sergeantine are consulting with the water department on this issue.

In response to Brumadinho, Chile has been considering a lot of the aspects covered by the Draft Standard such as the expert review panel, Engineer of Record, a strengthening of internal controls and external certification, closure and new technologies.

They are introducing a distinction between deposits based on size and the consequence classification.

They are also introducing supplementary regulations which will improve closure aspects (closure legislation last updated in 2001).

D248 is the mining code that is being reviewed and this will force a change in the closure regulations.

Another work that is ongoing in Chile is the Programa Tranque which is a relationship between the public and private sectors as the government is working with Fundacion Chile.

Monitoring the environmental impact is important.

Efficient water management - construction requirements, environmental and communities issues.

Physical stability - the GTR standard must introduce clear seismic design criteria, consequence classifications and international standards in this respect.

Chemical stability programme has risk criteria for various types of tailings.

Introduce run off and storage of water issues into the design aspects of the draft standard.
It is very important to have these workshops because this is how we might implement the Standard through mandatory compliance for companies based on best practices.

We envisage a soft launch for new facilities but the challenge will be what can we learn here from the draft in terms of implementation. Environmental management methodology will be used and we will implement a system of means-based obligations rather than results-based on a gradual basis. The issue with current facilities compared with the principles and requirements required for new facilities will need to be addressed.

Two aspects are important: 1. what does it mean for the gradual / incremental application for existing facilities and 2. new facilities. There is an internal debate ongoing with regard to what to do in terms of the environmental qualification resolution. Chile is introducing new elements to the generic environmental assessments which were not in there before.

It is important for our industry to learn and for the State of Chile to make comments and suggestions. We are here to talk about problems with regard to chemical and physical stability when it comes to sludge and slurry. Concerned with protecting the lives of mine workers. There are requirements in the environmental liabilities legislation around mine engineering and environmental protection aspects. We must balance safety and the environmental protection with developing and fostering the groups of the mining industry.

How can we improve or update the mining regulations? We do this by engaging with other ministries and with industry.

Risk assessments is one way we add value through research, advising and assessing. We must balance safety and the environmental protection with developing and fostering the groups of the mining industry.

Suggestion that Consejo Minero could be an ambassador in Chile.

The knowledge base has one interesting aspect I would like to discuss and this is the topic of geochemistry. There is a big question about the geochemistry of deposits and studying their geochemical behaviour. The draft standard should focus on this more in terms of the differences between types of clays and heavy metals and how these interact with water. This is very relevant with regard to water balance.

Chile Santiago Government

Geochemical balance should be considered, materials/minerals should be considered and it is important to evaluate and quantify these risks. There are of course a number of aspects but this should be one. Risk is always present. Chile started dealing with closure risks in 2012. We must look at the deposit to be closed without interfering with the environment.

Sitting decisions should incorporate closure considerations. There are 3 different regulatory bodies looking at it from risk perspectives to certify for investment. The standard for monitoring physical and chemical stability - there is an opportunity to globalise some of this.

Quantifying the severity level / consequences that focuses on the environmental impact on fauna but not on flora. We have regulations on re-forestation but what about fauna?

Chile Santiago Government

Once launched, how can we help you implement it? What will the process be?

Chile Santiago Government

Suggestion that Consejo Minero could be an ambassador in Chile.
Chile Santiago Government

Are you considering meeting with communities as this is one of the most important and complicated issues in Chile?

Chile Santiago Project Affected People

Don't feel informed technically so don't know how effective the science is and how detrimental it could be living so close to the TSF. Here to learn more about tailings and in particular the health impacts.

Chile Santiago Project Affected People

The draft Standard is a more studious approach and very interesting to read. Interested to learn what could really happen to us and to learn more about the standard. We have heard general global information but we want specifics to take back to our communities with regard to floodable areas and more certainty about tailings in the neighbourhood.

Chile Santiago Project Affected People

Anything that contaminates the water is crucial and we are very concerned about the water. Social media tell us that operators are sucking up the ground water so we have a lot of fear.

Chile Santiago Project Affected People

We get accusing of taking the mining companies side when we engage with them and I worry that I am being misled by the company. It is difficult to make people understand as there is a lot of negative media. Why now? Why is this being done so quickly? Mining has been going on for so long with the same human needs, what's the hurry right now?

Chile Santiago Project Affected People

The mining industry will be more aware of the impacts on communities. That's why we are being called upon now to discuss this so that we can further educate ourselves.

Chile Santiago Project Affected People

The province is aware of the issues with tailings for over 12 years. The province has been informed, they know the concepts and the facilities.

Chile Santiago Project Affected People

I have browsed the document and the language is very careful and it doesn't feel honest or candid. "Minimize risk" suggests risk is a soft thing. To me tailings deposited in our communities are causing danger. The text doesn't talk about failure. Failure means there is a problem. All of this to me spells danger. None of the operators tells us that "every second you are in danger but we are working towards reducing this".

Chile Santiago Project Affected People

The soil is our livelihoods - "common house" we call it. Mining companies don't care about their footprint or surface area and this is never been confirmed despite me asking. From above, it looks like a lake. Catastrophic failure means we die. I don't accept this. We need a way to protect human life from imminent danger. Use of the word risk doesn't confer this severity.

Chile Santiago Project Affected People

Visual, environmental, contamination impacts - the companies are aware. Do companies equate the money they give us for projects with the value of human life? There is a problem with language limitations - I like when I hear people (being honest and) saying they are afraid.

Chile Santiago Project Affected People

Everyday I take pictures at different times of the day. 9 years ago, it was a white dot - now it is huge and I have watched it grow over the years. This is how people feel. We need information.

Chile Santiago Project Affected People

We are the privileged ones who get to attend these types of meetings and we are responsible to relate this information to our communities. Maybe it is necessary in your position to start to develop education and training programmes. We have 12 years of education in schools - this is education for life. Companies should teach people that they are neighbours and provide education.

Chile Santiago Project Affected People

I have read the standard and with regard to tailings that have been lying there for years - will this standard apply to these as they don't comply now? If they are here and non-compliant then something is missing and something hasn't worked. We Chilenos are used to disasters so it would be good to educate people that we are in constant danger and if so, what chances do we have?

Chile Santiago Project Affected People

Will the standard replace our policies here? Companies part of ICMM - are they going to adopt this? Are our operators members?

Chile Santiago Project Affected People

Maybe we should just throw the incentive because voluntary stuff doesn't happen here as we like laws. What is the advantage of the Standard?

Chile Santiago Project Affected People

On the issue of water, we are very concerned. I've heard that in the 20 years the water will be polluted and that the underground water is contaminated - it already tastes funny. If it is contaminated, what do we drink?

Chile Santiago Project Affected People

Concerned about water but mostly about the amount of water companies use. Why not use sea water?

Chile Santiago Project Affected People

Also concerned about air quality and the fact that the hills are turning black. What about our kids' futures? Chile is a seismic country and we have the worst earthquakes in the world. We have attended a seminar during which an expert employed by one of the operators was asked what kind of an earthquake would be needed to make the dam fail. The response was that it would need to be a 10 on the scale. We are more likely than any other country to have a quake measuring 10. Chile has different construction systems and are doing better than Brazil for example.

Chile Santiago Project Affected People

What has happened on one time has shown that preventing upstream dams is a good measure.

Chile Santiago Project Affected People

With regard to consequence descriptors, when constructing we must take consequences into account. 5 categories aligned to Chilean regulations with regard to extreme consequences for example. Information needs to be made public. Does the standard apply on any conditions on public disclosure of studies or assessments?

Chile Santiago Project Affected People

What about when a project is presented to the community and project decisions have to be made. At what stage does engagement start? Pre-project or project?

Chile Santiago Project Affected People

Consider summarising everything that needs to be reported & when engagements have to happen.

Chile Santiago Project Affected People

Why set up a TSF so close to where communities are if there are so many risks? Why aren't they sited far away? 20 years ago they just built it, they asked no-one, someone sold up their property and they just set it up. Why set up a TSF so close to where communities are if there are so many risks? Why aren't they sited far away? 20 years ago they just built it, they asked no-one, someone sold up their property and they just set it up. The regulator currently provides an opinion on the plans and we do have situations with old TSF where the law wasn't applied but all the regulations are clear now.

Chile Santiago Project Affected People

Why this site? We asked the operator and their answer was that the space met the requirements they need. Why not somewhere else?

Chile Santiago Project Affected People

It's like a basin. It met their requirements in terms of footprint and they thought the distance was ok. We don't really understand the kind of work that's going to be done. When the standard talks about knowledge base, I think that everything that happened us was not here. This would have been so useful to us when they were building the dams.

Chile Santiago Project Affected People

Suggest you be more practical and didactic.

Chile Santiago Project Affected People

Knowledge base (1.3) - Credible hypothetical failure including estimates and 1.4 - I approve of these and they should have been in place before. What can we do to get this in place? 2.2 states "engage an ITRB...", I believe this ITRB should consider civil society. The standard is only considering senior technical reviewers and the technical focus should be expanded as we don't trust the expert panel.

Chile Santiago Project Affected People

Whenever the ITRB are there, the community should be the ITRB do not consider other's perspectives. 3.3 - Good Faith - can you talk about that please?

Chile Santiago Project Affected People

Can you explain the intent of 3.3?

Chile Santiago Project Affected People

Is there a requirement to mark off safe or unsafe areas?

Chile Santiago Project Affected People

What do you think you would like to see in dam construction? You are talking about tailings but really the problem is water. Downstream project affected communities are concerned about earthquakes etc which we will know about but we will not necessarily know about water seepage.

Chile Santiago Project Affected People

People think the craziest things - they see a toxic cloud and they related it to the tailings. People think they are connected. Why don't the companies come out and say it's not true? We need to hear from the companies that these connections that the public are making are not true.
What we need goes further and we need more actually. When there is extra rainfall for example, I don't know if the standard asks the companies to inform the communities about the technical aspects of the TF. We need more information about mining so that we know what's going on.

I suggest that we need to build and install capacity in the local community. They only do specific things when we ask for them.

Part of the responsibility of those involved to participate in this engagement but how are we supposed to be meaningfully engaged if we don't get the standard?

When I realised how many pros are involved in this project, I realised there were only 4 human interest people involved. Out of all the people involved, how many people understand what we need?

Can you be more specific about "good faith"? How will I know if a dam is about to collapse? Do I have to wait for the EoR and ITRB to write their reports? How can I trust that the EoR won't prioritise the company?

How will I know if a dam is about to collapse? Do I have to wait for the EoR and ITRB to write their reports?

What about whistleblowers?

I have talked with people in the community and they say maybe they would be more at ease if we had an evacuation route and a muster point etc.

We need an alarm system. Something to give us enough time to escape and we need signage everywhere. If you have 15/20 minutes in the event of a breach or earthquake, at least let everyone know they only have 20 minutes. There are no hills that we can climb up to safety.

Signage should be a minimum. Does the standard require this?

When there are issues with tsunami in the north, you can calculate how many minutes it would take. You need adequate signage. We have done many drills but initially, it did not work. They told us not to drive but others did drive so lots of education is required.

When preparing an ERP, it should be prepared by the technical people with civil society.

Here, we do not have engagement with ERPs. We don't impact these plans but communities need to be involved in these plans.

Technical plans are well engineered and they are trained in it but we would trust them more if a community member was involved.

We feel fear but since 2010, we can't sleep at night. We should join the efforts to find a solution. We have agreed that discussion was preferable to protesting.

If ICMM companies are trying to sell their products abroad - ICMM Principle 9 is how we should push them.

We cannot take care of ourselves when we don't have the information.

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Consider local regulations to be basic so we started banging on their door with regard to ICMM principles.

We shouldn't fall prey to being the protagonists - other civil society organisations need to be involved.

Thanks for trying to provide information. We are afraid but it's good to know we are not alone.

Interested to know if it includes construction material (in Topic 3).

(liquefaction or other reason) - not the same meaning.

What about failure modes other than liquefaction? Maybe a translation issue. In English, "flow failure"

difference is in terms of the frequency of the update. What is the intent for the frequency of 1.3?

1.3 Potential liquefactions - updating the inundation study - Chilean law requires this study but maybe the Brazil copied MAC guidelines, translated them quickly and put them in place as a temporary law.

It would be a guideline like ICOLD which is not law.

We should focus on weak links both in terms of management and technology.

Educating companies too about us (social leaders). The new generation rising in the ranks to educate and train them so that they don't go through what we did.

Tough to go up against large companies. Small communities are more intimate and you can't hide.

(Being a social leader) is like being in a small town circus - you have to wear many different hats. Civil society are empowered but some people don't like to put their neck on the line.

I expected to have the state to be an "insurance company" to protect us on these environmental issues.

This issue has almost destroyed families. We are not on an equal platform so how can we engage with government.

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Tough to go up against large companies. Small communities are more intimate and you can't hide.

(Being a social leader) is like being in a small town circus - you have to wear many different hats. Civil society are empowered but some people don't like to put their neck on the line.

We are very glad that you speak Spanish. It makes it easier because we can understand you. It is nice when visitors speak our language.

Sergeonanmi's responsibility to collect the information and this is why they are developing the observatory.

The company has to inform the State and once an emergency is declared it is up to Onami to respond and it would take at least 3 hours. During this time the EoR is contacted and writes a report. They want to the hear from the State via the EoR at which point it is too late to respond. The response needs to be more specific.

Unfortunately, the company doesn't have the authority to respond but they want us to raise the alarm.

We are very glad that you speak Spanish. It makes it easier because we can understand you. It is nice when visitors speak our language.

I would like to see more cutting edge technology and more experts. Mining isn't going away and neither are tailings. We need to involve more participants and we need to know more about what's going on.

We are demanding that things are done well because we have so many tall, large walls dividing countries.

We have to hear from the people living nearby, not just the professionals. The response needs to be more specific.

Company doesn't have the authority to respond but they want us to raise the alarm.

It would be a guideline like ICOLD which is not law.

Big companies are ok as they are already following their sustainability practices so this is not a problem but what about the others?

Brazil copied MAC guidelines, translated them quickly and put them in place as a temporary law.

3 Potential liquefactions - updating the inundation study - Chilean law requires this study but maybe the difference is in terms of the frequency of the update. What is the intent for the frequency of 1.3?

What about failure modes other than liquefaction? Maybe a translation issue. In English, "flow failure"

Interested to know if it includes construction material (in Topic 3).
Flood area - the estimate of the inundation area could be done on a number of calculation methodologies which will be dependent on the company doing the work as there are not any regulations or rules for this. There may be a variation of the consequences of a flow failure in terms of environment or communities. The principles are too broad. We shouldn't have one methodology or another specifically but we need more prescription.

Usually classification is done for the end state of its life when it is at its height. The standard requires every 3 years for the inundation study - if you consider the current deposit, this will change at the end of 40 years. The consequences will be different for the first 5-10 years. The standard should refer to this.

The tailings community needs to look at hazard and risk communities. Excellent practice from all over the world so we must look at other jurisdictions. 

Calculating probabilities and if not possible then use deterministic approach - take a scenario approach. Parameters change - this is connected with knowledge base - risk is powerful.

Emergency preparedness and response needs to go hand in hand with the change in circumstances and when concentrator department for example. Organisation structure and operating model are key. You can't have emergency services reporting to the tailings treatment, there are three different types - Thickened, paste and filtered deposits. Ideally from a risk and water recovery perspective, filtered is best. Usually the most ideal is the most costly.

The size of the operators and the volume of treatment is a cost factor (e.g. equipment is huge and the number of pieces of kit required is high). The best solution includes the involvement of OEMs. Have you taken into consideration the comments of the technical companies developing the equipment? It is important to know what they are seeing and how they plan to develop.

4.1 with regard to extreme consequences, Chilean legislation already stipulates this for maximum flood and earthquake. If we consider them to be extreme, how can that be reflected in the design? What degree of care will have to be taken? If you are designing to high, you should have a risk assessment to cover all failure modes but no other extreme safety conditions are covered in the standard. Make it clearer across the board what actions are required for extreme consequences outside of the design.

5.2. Emphasize water. The process engineers work upstream but the behaviour of the dam depends on what is happening in the concentrator which impacts the chemical and physical stability of the tailings (Mine to mill and mine to tailings). It makes a difference which reagents are used.

Sometimes there is a lack of communication so can we be more explicit on the link between production and tailings? For the whole operation, it would change how it works together.

Topic 4 / Footnote 1 - It is not clear enough that the owner is totally responsible. Talks about Board of Directors as operator but it doesn't make crystal clear that it is the owner who is responsible. The owner is represented by the BoD who delegate accountability for management. The owner is ultimately responsible - we need to clarify the wording.

Risk management doesn't mention risk analysis at all stages and for all failure modes.

Minimum compliance vs best practice? Is the standard aiming for minimum compliance. It is an important point. We shouldn't have one methodology or another specifically but we need more prescription.

Topic 4 / Footnote 1 - It is not clear enough that the owner is totally responsible. Talks about Board of Directors as operator but it doesn't make crystal clear that it is the owner who is responsible. The owner is represented by the BoD who delegate accountability for management. The owner is ultimately responsible - we need to clarify the wording.

With regard to the role of the ITRB, common practice in Chile for some time, as is the EoR which has become a key role within many companies but there is too much responsibility with the EoR when you consider the resources at their disposal. It is important to define the roles of the players - ITRB, STR with no conflicts of interest. What happens if ITRB members have actually been involved in the design?

Chile issue that is not well regulated is the issue of settlement of communities close to tailings facilities. You talk about project affected communities but these change. Many restrictions with regard to where sites can be located but they are not strong enough and don't cover in-migration.

Some issues - be clearer about the responsibility of owner and that regulators & enforcers to do the job they are supposed to do.

With regard to the role of the state and the role of the operator, for the communities, the draft Standard should need to clarify the wording. With regard to extreme consequences, Chilean legislation already stipulates this for maximum flood and earthquake. If we consider them to be extreme, how can that be reflected in the design? What degree of care will have to be taken? If you are designing to high, you should have a risk assessment to cover all failure modes but no other extreme safety conditions are covered in the standard. Make it clearer across the board what actions are required for extreme consequences outside of the design.

Topic 5 - In house activities - if you separate ops from maintenance for example, the same activities end up in circumstances only and justified but don't agree with it now (in terms of independence).

Employee with expertise puts the same value on their independence. Could add that in exceptional issues. Society should not be paying the full cost of failures. Cost-benefit analysis is always used so maybe the prescription.

With regard to extreme consequences, Chilean legislation already stipulates this for maximum flood and earthquake. If we consider them to be extreme, how can that be reflected in the design? What degree of care will have to be taken? If you are designing to high, you should have a risk assessment to cover all failure modes but no other extreme safety conditions are covered in the standard. Make it clearer across the board what actions are required for extreme consequences outside of the design.

Topic 5 in house activities - if you separate ops from maintenance for example, the same activities end up in circumstances only and justified but don't agree with it now (in terms of independence).

Economics and cost has come up across all 3 themes so far. Standard could be stronger on the fact that it is no longer appropriate to talk about not having these things in place and it's not appropriate to cut costs on these issues. Society should not be paying the full cost of failures. Cost-benefit analysis is always used so maybe the standard should nudge it somewhere that the costs can't be the only driver. Empirically, it is not possible then use deterministic approach - take a scenario approach. Dynamic risk model (hazard, vulnerabilities, resilience & recovery).

Emergency preparedness and response needs to go hand in hand with the change in circumstances and when parameters change - this is connected with knowledge base - risk is powerful.

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Emergency preparedness and response needs to go hand in hand with the change in circumstances and when parameters change - this is connected with knowledge base - risk is powerful.
Commitment to repair and recover will involve a lot of costs. This could be made more robust as it seems voluntary.

Principle 16 - in terms of Brumadinho - this is very general "evaluate the impact" - no recommendation on what the standards should be but could include international best practices in emergency response planning.

Issues with the GTR communications with NGOs in Chile & response rates were low. The responsibility sits with the owner. Human rights due diligence is generally not applied in Chile.

Topic III - where is closure? You mentioned the process will take 5 years, is this correct? Who is ensuring enforcement? The standard is a resource for the community to engage with the companies. How can we help companies improve the standards of tailings management? Wish this standard could involve more powerful actors. International standards should apply everywhere.

Table 2 - Acronym - MCS - doesn't match - Sismo Max. Cred. The damage is forever. If a community has to agree a decision, the engagement should be full. What happens with tailings that exist before the implementation of the standard? What's the position of the standard with regard to ocean tailings disposal? Projects create a lot of noise at impact assessment time but then it goes quiet. Why is there no chance this standard could be integrated in law?

Employment offices set up to recruit in areas with no economic opportunities so they accept any employment conditions. Impacts on the territories are not identified in time. How to measure the impact of Samacaro for example and incorporate that into the standard? Projects create a lot of noise at impact assessment time but then it goes quiet. International standards should apply everywhere.

Lack of guarantee the government gives to their communities is a very important aspect of this issue. Who is ensuring enforcement? The damage is forever. If a community has to agree a decision, the engagement should be full. For example, companies have dried out an area for flamingos which has impacted the mating season yet the project was allowed to get this water. Thanks for sharing but a global protocol is very complicated and I suggest adding another aspect to allow for the interaction with natural regulations to allow flexibility.

Crazy that it is 2019 and we are only now getting a standard like this in Chile. This standard should be the bare minimum and it should be included in our legislation. Human rights due diligence is generally not applied in Chile. EIA system includes identification of communities which includes human development and HR due diligence. Each one of these requirements appear in various pieces of legislation. You talk about trust - The challenge is that it needs to be reliable. Chile has a very bad record and this would likely be applied to monitoring rather than to design. The challenge will be to find the correct institution to implement this and to gain this trust.

All over the country there are many instances of tailings facilities in very close proximity to communities. Might be better to have a more practical standard. Companies only get minimal fines when there is an event. How do you certify compliance? If this is outside the regulations and companies are trying to certify with these standards the frequency of verifications may drop. Is there the possibility to involve actors other than those involved in developing this standard? Were are states and communities in this enforcement?

With regard to verification protocols and the involvement of assurance. How the communities engage in assurance is by being asked to verify data or information obtained by the assessor to check it's true. If the company doesn't comply with the standard, they can still operate. We have lots of legislation but there is so little trust. There is a history of industry failing the states here in Chile. Why is there no chance this standard could be integrated in law? Chilean president has ignored reports on human rights violations right now. This is a specific challenge here that doesn't happen elsewhere.

Wish this standard could involve more powerful actors. What's the position of the standard with regard to ocean tailings disposal? Topic III - where is closure? What happens with tailings that exist before the implementation of the standard? Concerned about the disappearance of operators (we have anecdotal evidence of operators disappearing).

1.1 - Knowledge base with regard to urban centres. Do you consider land or soil quality in the knowledge base? No soil quality in the legislation currently. Soil is not usually considered in EIA but it is very important at the end of the facility's life to measure contamination, including that caused by wind.

Topic 6 - Just published an article on tailings pipelines that rupture and leak into rivers. Most of the time, companies deny it. How can the standard make a change by applying this topic because in Chile, companies do not supply transparent information? The Standard could help improving this by involving other agents to enforce what the standard says. Chilean standards are higher than in other south American countries. We can't trust that they won't do negative things but the standard could push for improvements.

We strongly recommend you get an implementation partner. (8.1 or 8.4) Who is going to manage the information of the standard? How will they manage the information the company provides? We are currently looking for solutions right now in Chile to our existing problem with regard to the inequality of information.

We have a role to show them they can use this as a tool to ask "why are you not complying with international standards?" We have a programme of "adopt a tailings" and for example, the standard could be trialed within this programme.

You mentioned the process will take 5 years, is this correct? Regarding implementation, did I hear correctly that the chair will provide guidelines or recommendations on how to implement the standard? Where will this fit into your process? The implementation is my concern. Many of these guidelines fail to be applied in certain jurisdictions and this would be my concern. I imagine many large companies would apply the standard but countries may decide not to apply this standard which would make it difficult for companies to implement it. It will be difficult to convince the states to implement this.
Implementation in different countries will be different and I have noted this in a number of items in the document itself. A couple of other technical issues that will be different from country to country. For example, the EoR, this is a different set of responsibilities in different countries. In Chile, they will not be the one who is accountable, the operator will be accountable. This document makes sense when I read it in Canada, but it doesn't make sense in Chile. EoR can never take accountability as there is no such certification for EoR.

Chile Santiago Mining Industry
By creating a position such as this internally, you can create accountability under criminal law so prosecution can still happen. Technically here in that the EoR is external. In Canada even though the EoR is external, they are accountable. In Chile the EoR is external but the company remains accountable. Are there requirements that cover what these exceptions are? Chile is changing it's D248 so moving towards this. The 6 Topics put a lot of responsibility on the operator but there is nothing that defines the role of the State. You could start a TSF in a new area, the state can still issue a permit to extract water downstream after the construction or they may give a permit to establish a new community. How will you educate the community divides. In this case there will be the possibility to have split certification within that company. How would this be managed? Gap opens the possibility to have to deal with many players who are not necessarily influential today but who could become more influential. In order to get certification we would need to reach agreements with these new communities to maintain the certification.

Chile Santiago Mining Industry
You should only focus on an English version of the document as it is distracting to compare the translated versions to check the meaning. Concerns that might apply to several of the principles and requirements. The objective of the standard is to prevent catastrophic failures. There is a need to reinforce this as a lot of the requirements can lead to distractions or even counter the objective of preventing catastrophic failure so for example some environmental aspects don't necessarily relate to catastrophic failures. When we talk about human rights etc. there need to be related to the consequences of failures. If it is too broad, it will distract from ensuring safety - there are a lot of other inputs that come into the process that could lead to distractions or prevent the achievement of the objectives. It needs to have some sort of focus. Safety and environmental aspects in particular.

Chile Santiago Mining Industry
We will submit detailed feedback so should we focus on big issues today as we want to focus on good conversations. Principles 9 & 10, I think this is a great project and you are doing it very well together. I recommend you take further advice from a corporate lawyer as I don't think the corporate governance aspects are right just yet through they are going the right direction. There is a delicate balance to be met between moving accountability up but the board and management are different. Management need more competence on tailings. JV references don't strike the right balance. In some instances the JV would be non-operated which has specific governance. Definition of roles are different in JVs. Talks about a delegated system of corporate governance but get it right. This is a highly technical matter and the more you go into the conversation it becomes more general the higher you go up. It appears in several aspects including organisational design. I would recommend discussing with larger organisations about how to organise the first and second lines of defence. You want independence but you also want the local knowledge. The wish for autonomy is too prescriptive in how you have presented it. Best way would be to separate it between 1st and 2nd lines of defence. Reflect more on the governance and the org design issues. There are many experts out there who have a lot of experience in this matter.

Chile Santiago Mining Industry
You don't move managerial functions into the board. Management is a function of organisational design. When you have large organisations, if you have complete autonomy it comes at a cost as you don't have the knowledge. This deserves more thinking and discussion in the interests of finding the best solution. 16.4 - Environmental - maybe in the last part of this requirement in particular. The standard is to restore to the status quo. This is particularly valuable to people who have been impacted significantly for hundreds of years potentially. If you have an incident, you cannot be indifferent for issues yet restorable. You need to go back to the situation before the incident. The way it's written is that the standard is pushing more into the domain of policy which is full of complexity. Maybe you could stay away from entering the area of policy. Might be easier to avoid this. You could have the government as liable for this, there are several solutions.

Chile Santiago Mining Industry
Public disclosure - for consideration. The concern is that the requirements for disclosure could become very onerous in some jurisdictions more than others and because they could lead to additional requests or reviews that could hamper operations. We agree that it is important to be transparent but the reactions that the media creates could affect the normal operations without real public interest. There is still a risk that there will be no information. EoR could become more influential. In order to get certification we would need to reach agreements with these new communities to maintain the certification. For example, the obligation to get an agreement with the communities in the situation where the government is interested in keeping big business operating. This is a contract between the certification body and the organisation. There is a gap in between which will lead to a market whereby the company will have to make agreements with the communities and to make investments to keep the certification. For example, the obstacle to get an agreement with the communities is where the government is not the same. In this case there will be the possibility to have split certification within that company. How would this be managed? Gap opens the possibility to have to deal with many players who are not necessarily influential today but who could become more influential. In order to get certification we would need to reach agreements with these new communities to maintain the certification.

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We will submit detailed feedback so should we focus on big issues today as we want to focus on good conversations. Principles 9 & 10, I think this is a great project and you are doing it very well together. I recommend you take further advice from a corporate lawyer as I don't think the corporate governance aspects are right just yet through they are going the right direction. There is a delicate balance to be met between moving accountability up but the board and management are different. Management need more competence on tailings. JV references don't strike the right balance. In some instances the JV would be non-operated which has specific governance. Definition of roles are different in JVs. Talks about a delegated system of corporate governance but get it right. This is a highly technical matter and the more you go into the conversation it becomes more general the higher you go up. It appears in several aspects including organisational design. I would recommend discussing with larger organisations about how to organise the first and second lines of defence. You want independence but you also want the local knowledge. The wish for autonomy is too prescriptive in how you have presented it. Best way would be to separate it between 1st and 2nd lines of defence. Reflect more on the governance and the org design issues. There are many experts out there who have a lot of experience in this matter.

Chile Santiago Mining Industry
You don't move managerial functions into the board. Management is a function of organisational design. When you have large organisations, if you have complete autonomy it comes at a cost as you don't have the knowledge. This deserves more thinking and discussion in the interests of finding the best solution. 16.4 - Environmental - maybe in the last part of this requirement in particular. The standard is to restore to the status quo. This is particularly valuable to people who have been impacted significantly for hundreds of years potentially. If you have an incident, you cannot be indifferent for issues yet restorable. You need to go back to the situation before the incident. The way it's written is that the standard is pushing more into the domain of policy which is full of complexity. Maybe you could stay away from entering the area of policy. Might be easier to avoid this. You could have the government as liable for this, there are several solutions.

Chile Santiago Mining Industry
Public disclosure - for consideration. The concern is that the requirements for disclosure could become very onerous in some jurisdictions more than others and because they could lead to additional requests or reviews that could hamper operations. We agree that it is important to be transparent but the reactions that the media creates could affect the normal operations without real public interest. There is still a risk that there will be no information. EoR could become more influential. In order to get certification we would need to reach agreements with these new communities to maintain the certification. For example, the obligation to get an agreement with the communities in the situation where the government is interested in keeping big business operating. This is a contract between the certification body and the organisation. There is a gap in between which will lead to a market whereby the company will have to make agreements with the communities and to make investments to keep the certification. For example, the obstacle to get an agreement with the communities is where the government is not the same. In this case there will be the possibility to have split certification within that company. How would this be managed? Gap opens the possibility to have to deal with many players who are not necessarily influential today but who could become more influential. In order to get certification we would need to reach agreements with these new communities to maintain the certification.

Chile Santiago Mining Industry
You should only focus on an English version of the document as it is distracting to compare the translated versions to check the meaning. Concerns that might apply to several of the principles and requirements. The objective of the standard is to prevent catastrophic failures. There is a need to reinforce this as a lot of the requirements can lead to distractions or even counter the objective of preventing catastrophic failure so for example some environmental aspects don't necessarily relate to catastrophic failures. When we talk about human rights etc. there need to be related to the consequences of failures. If it is too broad, it will distract from ensuring safety - there are a lot of other inputs that come into the process that could lead to distractions or prevent the achievement of the objectives. It needs to have some sort of focus. Safety and environmental aspects in particular.
Global Tailings Review Public Consultation Feedback

We thought the original intent was referring to management measures that addressed the issue of catastrophic failures. You could address other failures in a different way. Not necessarily analysing those types of failures. E.g. if you don't comply with this standard on some aspects of the standard that are not relevant to catastrophic failures.

Maybe the concern is around the amount of information we should provide to the communities. The earlier point with regard to the amount of technical information and internal information that, if issued externally, could be handled by unsupportive people could cause a safety issue on site.

Concern with access to information because it is too much information that could create stress or tension in a community that is not very well informed. We would suggest that it is aligned with the taxonomy so that you could have a baseline of information available about the day to day operations that would increase as the severity increases. We can inform on a regular basis and not just bad news only but on all things at all times. It's not good for communities to have a lot of information that they don't understand. We work with community specialists who speak to them to provide the information they need which is not the scientific information. The standard requirements on disclosure should focus on the disclosure of information in a reasonable manner in a format that is applicable.

We are concerned that new tailings deposits and older tailings seem to be treated in a similar way. For example the capture of information is not always possible for existing facilities. Today it is very difficult to try to establish what was there before. In Chile we have a lot of older facilities and the standard should be clearer that there are differences.

There are TSFs in poorer areas so it can be complex or sensitive to have a relationship with communities in this situation. Consider this as part of the standard.

Ghana Accra Industry

Ghana Accra Industry

Ghana Accra Industry

Ghana Accra Government

Minister of Environment instructed the Tailings Committee (comprised of representatives from EPA, Minerals Commission, Chamber of Mines, University of Mines and Technology, et al) to convene, review the draft and provide written feedback.

One of the things we discussed among us is the glossary term ‘significant participation’. It doesn't consider that there are communities that don't want to engage, what happens then? How can an operator prove they have significant participation when they can't do it? Consider adding something about implications. Best practice in this issue is to keep a register to demonstrate that you are making best efforts and that they refuse. It is important to everyone who reads the standard that it is meant for communities who want to engage with you.

Resettlement reference in 3.3 - it's one of the measures that you can take but it is not the only one. One of our comments was to eliminate this requirement OR mention other actions you can take. Human rights due diligence - when we do this, if it course includes the tailings dam. Should this be just for the dam or is included as part of our overall HRDD process? The dam is part of my whole operation. Clarify in the standard that we don't need to do an entire separate process.

Footnote 11 - when we talk about minimising impacts - we think that maybe it would be better to say future remedies rather than "allow future compensations".

We understand that there will be information that will be disclosed to communities so they can understand and know the risks so it wouldn't be good to see how that information could be delivered so that it is understood.

Ghana Accra Industry

With regard to implementation will this be voluntary or compulsory? How does it relate to local regulation?

Ghana Accra Industry

In the future it will become compulsory even if it starts as a voluntary initiative

Ghana Accra Industry

How long would it take to get certified? How long does the certification last for?

Ghana Accra Industry

How is it different to ICOLD, ANCOLD and MAC guidelines? What does it add?

Ghana Accra Industry

With regard to audit and Implementation, often such initiatives create work for foreign auditors and don't really make a difference.

Ghana Accra Industry

Req. 3.3 - Too general and does not consider local regulation. It suggests there are only two options: relocate or compensate. The company has already put measures in place, following local regulation, and if cases are reopened because of such a general requirement, there is a risk of conflict - many people would just move downstream and claim compensation.

Classification is based on consequences of failure which defeats the purpose of "re-engineering" a dam.

Ghana Accra Industry

The focus should be on preventing catastrophic failure, not general management.

Ghana Accra Industry

What are the critical controls to prevent failure? I didn't see that clearly stated in the document. Who puts stronger measures to prevent failure? How? How do we prevent the failure is the driving force. Too general at times. Use of words like "specific" and "reasonable" - who determines what is reasonable?

Ghana Accra Industry

What is the point of reference?

Ghana Accra Industry

Shortage of specialists - not enough good technical experts. Need to build capacity both in government and private sector.

Ghana Accra Industry

Many good technical/civil engineers in Ghana (e.g. qualified geotechnical engineers in Golder Associates, Ghana) with over 10 years of experience. What is required is an assessment of the schools of engineering and capacity (e.g. ICMM could do an assessment).

Ghana Accra Industry

Good to see that the governance of the tailings structure has now expanded to include other stakeholder. This would minimize risk.

Ghana Accra Industry

The governance chapter is the "innovation" and step change; it is what is needed as most of the tailings issues come from poor management.

Ghana Accra Industry

You need to clearly differentiate between upstream and downstream.

Ghana Accra Industry

Don't see how this global Standard can influence permitting. Some companies are ISO and ICMM certified and still don't get permits in country. A step change would be compliance with this Standard ensures "easier" permitting process.

Ghana Accra Industry

TSFs are generally managed well in Ghana, perhaps thanks to good national regulation. It is important to be able to rely on national legislation and to reference back to it.

Certain statements in the Standard can’t be implemented in Ghana: e.g. Req 15.1: In Ghana there are operations in very remote areas where government services (hospitals) are sometimes far away or where support clinics are many kilometres away. Does that mean that the company need to set up a hospital there?

Ghana Accra Industry

Principle 15 puts a lot of burden on industry requiring to build hospitals where government hasn't built one.

Ghana Accra Industry

Emergency response - close the loop by engaging closely with government so responsibility is shared. Public disclosure: good for the public to know the risks; important for companies to communicate risks so stakeholders are informed.

Ghana Accra Industry

Public disclosure - importance of explaining the information to avoid communities using the information as leverage to jeopardise the project.
We should be complying with these things but we don't have the money to do this. Industry's mindset has to really change with regard to the scale of impact. Inundation maps - we usually do one now and for final. We don't do it on a continual basis. I don't disagree with anything in the standard and as a consultant I would love to comply. Most of the tailings requirements are already legislated in Ghana - government regulation: L 2182 - MinCom. For the technical construction of the dam, we need more detail. We need the "how" and detail proceedings, not general requirements. General management and governance of a tailings facility is not well captured; need more guidance. What is needed is best practice on design and construction and technical detail and parameters so it can be compared to practices in Ghana. Importance of creating a special unit designated to tailings management, with specific focus (many companies manage tailings under "Environment" units). "Mainstreaming" affected people in all the discussions down the value chain; should not be left to technocrats who have limited knowledge; respect the right of the citizen to explain. Construction stage is the problem, because do not follow engineering design and requirements - due to poor execution, then contaminate the environment. If constructing tailings facilities without liners in protected forest we need government oversight and sanctions. Companies choose cheaper options to save money. Need a shorter recertification cycle to have the standard contribute to assurance. Include specific reference to credibility for the investors to have more up to date information. Good regulation but poor implementation and enforcement. There are also contradictions between Minerals Commission (COM) as it has requirements but also promotes mining and EPA (which has higher requirements but not followed). Communities do not know whether the land will be productive after closure. Perception that tailings will be removed and bringings removed at closure to restore the land to what it was before. If EPA's requirement for liners is met, will the land be restored (liner removed)? No transparency or involvement in closure decisions, even though the land belongs to the communities. There should be involvement of communities. Communities should be involved at the stage of sifting the tailings facilities. Communities being involved can be a problem. Operators are limited to their concession. They don't have a lot of choices as they can't put it on mine or minerals, so often need to locate the tailings facilities near communities. Need transparency all along the value chain. Communities can be in the same catchment as the tailings facility and have no idea what is going on there or at the mine. Communities aren't even told about the hazards. Being informed about the hazards they are exposed to is the most important aspect. Communities need to know about technical standards as they have to play an oversight role to ensure that the dam is being built as specified (implies no one else is doing it). How can the community know if this is being done right, if contractor is not using standard material etc, if they aren't trained. Engagement with communities cannot just be with employees from communities. Should do monitoring with communities so that they can trust the results. Communities should be told the safety factor for the dams. In Ghana communities have the right to hire an independent inspector but don't know that. Concerns about the idea of having a different bonus structure for those who work on the tailings facility. How do you make theirs separate from that of others who have safety in their bonus structure? There are different opinions. You could separate bonuses for team responsible for the tailings facility stability. Some companies have strong safety culture and report bad news and anonymous reporters tend to be protected. It has been observed that people don't report incidents so that bonuses are not affected. Safety of the tailings facility is based on design and construction, so if those are done wrong, can you penalize the people later who have to try to manage it? (relative to linking bonuses to performance on stability). ERPs are not shared with communities or with workers. As a worker, they will have extensive training in Cyanide exposure and risks but nothing related to tailings risks or hazards. Workers have no idea of how to respond to incidents or failures. The communities have even less information. Noting again difference in treatment between cyanide and tailings. So many things influence tailings, speaking as a metallurgist, but the right people are not involved in tailings management and they don't have all the needed skills involved, including a knowledge of reagents. This document is open for public consultation but the accompanying report is going to be extremely important. Is there any opportunity for consultation on the accompanying report? I understand the urgency in getting the standard out and the motivation to get it out there soon but doesn't defeat the point if we have to compromise on the extent of the consultation? Especially for the recommendations report, this will contain detail that will impact on how well the standard will be adopted? Shouldn't this be open for consultation even if it means a delay to the publication of the standard? I've heard you mentioning certification which is not something I remember reading in the standard itself. Can you elaborate on this please? Currently, we already undertake the majority of these aspects. It adequately covers and is realistic in terms of effectively managing companies especially when companies change hands. We should be complying with these things but we don't have the money to do this. With regard to retrospective application, how would we do this with smaller companies? We would automatically have to revert to extreme consequences if we were to comply with the standard which would mean money and time. It's an industry wide problem with no straightforward solution but I would be interested to see how this would be rolled out in RSA. It's an industry wide problem with no straightforward solution but I would be interested to see how this would be rolled out in RSA. I don't disagree with anything in the standard and as a consultant I would love to comply. Seismic stuff is not monitored and there is limited information. To update your risk level it's quite difficult. In some countries you have to get information from the USA in order to for example get the design criteria. Also there are gaps with data on rainfall. Inundation maps - we usually do one now and for final. We don't do it on a continual basis. Do you actually use your inundation study if you see changes to the community? Not that I know of. I wonder if the companies think about impact zones. They are inclined to focus on immediate surroundings. If we have a failure, no community will be directly affected so we are inclined to sit back and think there is time. But if you look at the extent of your impact zone, this can be considerably larger. It's an industry wide problem with no straightforward solution but I would be interested to see how this as we have seen climate change and rain fall changes. 4 Tropical cyclones brewing in the south Indian ocean which could affect us. Industry's mindset has to really change with regard to the scale of impact. In the UK and the USA, there are databases on geology etc. In RSA, there is no database, all studies are privately owned and information is not shared. Excavations etc, a database where this is summarised would be very helpful and we need to work together which would help with the design and monitoring of tailings facilities.
South Africa Johannesburg Mining Industry
Is ICMM sharing information between companies on stuff like this?

South Africa Johannesburg Mining Industry
What is critical is that the conversation is happening. If you look at recent failure in Brazil, the response has been focused on structural safety but we didn’t update the zone of influence and the potential consequences. When you look at gold for example, most mines are approaching closure or are changing hands. The costs of these MUST be included in the costs of closure. It should be a deal breaker to know what would happen in terms of potential take overs etc.

South Africa Johannesburg Mining Industry
If you look at social protocols, we do require the operation to update their information on a regular basis e.g. new settlements. The information is there but we must make it specific link it to tailings and to the operational management generally. We don't need to add anything else, just to connect it together.

South Africa Johannesburg Mining Industry
You also have other challenges with communities legal settlements, what happens with a mine that has been around for 30 years, at some point you cannot move that because of legal entitlement. Could we include something in the standard about how to deal with this situation?

South Africa Johannesburg Mining Industry
On the same topic if you think about it, I would imagine that if a tailings facility were to breach and do harm to an informal community who have settled there, even if that community arrived decades after a facility was established, the reputational impact would be huge. The operators carry a moral obligation regardless.

South Africa Johannesburg Mining Industry
Should the standard not at least recommend some open discussion or transparency with such a community who have moved in.

South Africa Johannesburg Mining Industry
Thinking about it practically, we manage a large facility which if failed would take out thousand people, how do you begin to start that conversation? What is meaningful? How do I disseminate that information that should there be 1,000mm rain, the meaningful that I put it out your life is at risk and an interesting website and interested people will go look for it. These are some of the real challenges for us. We don't want to harm the industry by creating hype around a failure risk that is very low. How do we educate people about this risk? How do this responsibly is a challenge.

South Africa Johannesburg Mining Industry
Is it something that each operation does or does the government or other organisation bring it into the public discourse?

South Africa Johannesburg Mining Industry
The EIA consultations that we do includes this (engagement with communities).

South Africa Johannesburg Mining Industry
Knowing that they are at risk will increase expectations.

South Africa Johannesburg Mining Industry
The most difficult conversations facing mining currently is tailings and closure. We have been saying no to transparency but we need to get them to a level where we can communicate this without causing distress.

South Africa Johannesburg Mining Industry
Government has to come to the table to support the standard and their involvement in this standard is critical as it will be scratching something well they don't want to scratch at all. How you package very technical information in a way that is understandable is key. What does it look like when a dam falls down? They need to know this so that they can conceptualise it and prepare.

South Africa Johannesburg Mining Industry
We talk of life of mine planning but we don't use the word closure. With regard the government, part of the concern will be that the responsibility would be left with the consultants. The regulator was therefore not checking the dams which now means that they do not have the skills to do this. We need to train our regulators because if they are not checking, who is?

South Africa Johannesburg Mining Industry
The standard doesn’t call out that the responsibility is handed over however.

South Africa Johannesburg Mining Industry
Principle 13 could include a suggestion on training for government.

South Africa Johannesburg Mining Industry
If we don't spend money to educate the regulators, they won't be able to review our work. We train them at our own costs.

South Africa Johannesburg Mining Industry
We have some ownerless tailings facilities in RSA and the government has responsibility for these.

South Africa Johannesburg Mining Industry
If we are the government, I have costs that I need to manage, these guys, by their suggestions alone are imposing additional costs on the regulator as I will need a whole new department.

South Africa Johannesburg Mining Industry
We already have factors of safety for different scenarios and activities around the mine.

South Africa Johannesburg Mining Industry
It would be quite difficult in a lawsuit to say you have done x.y.z to comply with the standard when someone can rebut this and say that other things would have been done. If the risk is lower you can adjust the factor of safety accordingly.

South Africa Johannesburg Mining Industry
There is no prescriptive things in Topic III. Nothing about safety factors in 6.2. Will there be anything that comes out later that will provide this level of prescription?

South Africa Johannesburg Mining Industry
For example in Brazil, if they had used a different methodology to determine safety factors, the outcome might have been different. No specificity in this document about drained v undrained. Amongst consultants, there is a lot of arguments about which method is best.

South Africa Johannesburg Mining Industry
I like that you make the senior executive responsible at the end of the day.

South Africa Johannesburg Mining Industry
Will the factors of safety come into the recommendations report?

South Africa Johannesburg Mining Industry
Principle 13 - organisational culture that promotes learning covers that conversation with the CEO about why the money needs to be spent!

South Africa Johannesburg Mining Industry
Does ICMM envision the EoR as having its own contract as EoR? This is not very common. You are not appointed officially as the EoR. Does this include a scope of work that includes you have the power to stop operations and you are officially the EoR? Principle 12.

South Africa Johannesburg Mining Industry
EoR and responsible tailings facility engineer - for me these are very key people. Req. 6.4. In RSA, my experience is that the EoR is invariably a consultant and is offsite in most cases going to site visits for inspections and audits. The RTFE is often a metallurgist or sometimes someone who is getting close to pension and is perceived as someone who manages waste. We are sitting with knowledgeable people that are feeding the operators with important information based on the ground compared with these external people who don't have as much context etc. For me there is a gap, not with what the standard says but what is happening on the ground in terms of the right knowledge and being able to apply what the engineer might want to apply on the ground. There is a training gap. It's not just for state officials but also for people on the ground.

South Africa Johannesburg Mining Industry
Principle 13 - organisational culture that promotes learning covers that conversation with the CEO about why the money needs to be spent!

South Africa Johannesburg Mining Industry
We've got a situation at one of our operations where we have a dam which is unstable - we were asked what we see in terms of risks so that they could prepare for emergencies. We have emergency responses for U/G operations but not in the South East. Outside of this we do not have those services available. The public services provider says that we have the proper response team for this situation but I check this as it is a very concerning issue. The capacity of the response teams needs to be analysed. You can't keep a response team for one mine but you could have a national strategy where you locate these services in hubs.

South Africa Johannesburg Mining Industry
Our mine rescue services are not skilled or staffed to provide these types of responses.

South Africa Johannesburg Mining Industry
People of the different things I have observed is that they have performed up to 6 drills and went into partnership with local authorities and they have an agreement with them. When the drill happens, it's something that most operations are perfecting these things and legislation is pushing towards this.

South Africa Johannesburg Mining Industry
Ref: Footnote 32 - How would we begin to address this requirement?

South Africa Johannesburg Mining Industry
I agree with it but footnote 32 - with regard to the capacity of the public sector, how can the operator provide all of these? Recommend this is a guideline not a requirement.

South Africa Johannesburg Mining Industry
In the unlikely case of failure, the operators have to provide this anyway.
One of the challenges is that you are putting a lot of information into the public space that is very technical and this can be dangerous. How you package this information is important to avoid misinterpretations. In terms of emergencies, if this dam fails and 10,000 people are affected, how do you communicate that is a challenge. This affects property prices and livelihoods.

Do you think people in that situation don’t take this risk into account? Citizens are entitled to make decisions based on information provided. Failing to provide the information and having someone ask afterwards, it will come across as though you were trying to hide.

Annual risk assessments for example are realistic to share. As per the disclosure notes, would this include communication and engagement plan as we want to avoid a situation where the regulators can force operators to disclose information.

In any case, most of our risks are out there and it depends on who is reading them. In terms of disseminating this information, when we do this, some interested but unaffacted party will pick up on this information and start publicly sharing it in a different medium which can lead to a large community response when the risk ultimately doesn’t exist. I’m not saying it’s not right to publish this but it is an absolute nightmare for our industry.

Do you think this information already, the community would have been able to discover the sensational reporting. Some individuals have their own agenda.

Engagement and interactions - lots of time on communicating risks and other issues. Lots of tension and mistrust; organisations or individuals that might be tempted to undermine and to create additional tension and disruptions.

Potential dangers of failing to communicate, particularly in the case of an incident, are worth considering and reflecting more in the standard.

Where is the standard setting up that don’t have any official status but which are nonetheless there. What are the responsibilities of the owners there in the event of a failure?

This will go nowhere unless the government of RSA is onboard. You need to reach out to them and go to them in person. They will not come to you.

We support the knowledge base as it will enable mines to have the information they need for their particular environment. This is particularly important for changes in ownership. Ensuring the specific risks associated with dam failures need to be spelled out. One mine might not be able to cover the emergency preparedness, but we could do this as a collective.

We think that the standard is one principle. Suggestion that we combine disclosure and communities together as a topic.

Content and structure of the standard - two big chunks in the middle and affected communities, when you read the standard there is only one principle. Suggestion that we combine disclosure and communities together as a topic.

Consider the loading of the people on the ground with regard to this assurance burden.

Parental or events and prescription would be welcomed. Climate change - request that it be made more visible. How can variability be reflected? Updating the baseline was welcomed in this respect. Understanding that this makes site characterisation more of a challenge but it is welcome.

We support the knowledge base as it will enable mines to have the information they need for their particular environment. This is particularly important for changes in ownership. Ensuring the specific risks associated with dam failures need to be spelled out. One mine might not be able to cover the emergency preparedness, but we could do this as a collective.

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Global Tailings Review Public Consultation Feedback

South Africa Johannesburg Civil Society
Will this be a voluntary process? We have many voluntary mechanisms which don't really work. There is no punishment if you flout them. All you have to do is to write an apology letter.

South Africa Johannesburg Civil Society
With regard to the consultation process: What we are reflecting here is an exhaustion with these types of principles and standards because things are slow to change. There is a lot of good in the standard and could be useful to us.

South Africa Johannesburg Civil Society
Are there any reflections you can share about what the companies are saying about the standard during your consultations?

South Africa Johannesburg Civil Society
When you spoke of incentivising the adoption of the standards for companies, how would that incentivization take place? Is the intention of the organisation to drive that incentivisation by engaging with the insurers etc.?

South Africa Johannesburg Civil Society
When talking about grievances, how do you launch a grievance mechanism? Looks to me like it would go through the company concerned. In my experience, with mining companies, there is a gap between the senior level management and some companies have good standards or no standards at all so that the system of grievance lodging within organisations is not smooth and transparent within companies. The opportunity for things to get lost or not addressed is very great. If this standard was not complete, you could consider that grievances be logged directly via a portal that is independent perhaps through the entity. Various parties may take the opportunity to manipulate systems for their own agendas. How would you get around this in a more effective manner so that you can enforce action and it doesn't just get lodged in a grievance file?

South Africa Johannesburg Civil Society
We could share some of our internal thinking on our grievance mechanism and how it can be balanced out. The one we have at the moment or the ones we know of are centred around the company. If the head of the household batters the wife all the time, you can't go to the head of the household, you need to find someone else to go to. Most mechanisms lead back to the company - the project affected communities need to go to the very same company to get a resolution. No third party so the companies don't often deal with the problems. Independent Problem Solving Service - members of the community, independent body who will then assess with the company to come to a conclusion. It's very balanced. (3.4 & 17.2)

South Africa Johannesburg Civil Society
I want to share what I had in the back of my mind before I came here about my concerns with regard to affected impacted communities. (Seismic vibration e.g. = impacted), I thought to raise the concern from our research around 2 years ago with regard to dust from tailings. Our research revealed that in one community they have started to discover cancers that they didn't know existed. The community is very much afraid of the dams. Our research covered a number of areas close to the tailings and the types of illnesses that come from tailings. When operators close down, they do not take care of the tailings. Lots of skin conditions particularly in children, eye problems, asthma - visible problems from dust. Secondly the proximity to households. We have an argument with the operators who say that communities are encroaching on the TSF. When Soweto was built, it was during apartheid times. They knew it was a slow poison. The wind direction that blows from the tailings blow in the direction of Soweto. It is a hellish town. You would not get the same experience of Soweto if you come with us.

South Africa Johannesburg Civil Society
Trucks are now transporting tailings to a super dump. Trucks that have a radioactive sign on the side are driving through the townships and cities without covering. Worker education for the truck drivers for example is not highlighting the dangers of the "sandals". The operators often try to blame the chain and say that these drivers for example are contractors.

South Africa Johannesburg Civil Society
Managing tailings dams is one thing from a technical perspective but dust and water pollution are key issues for us.

South Africa Johannesburg Civil Society
I'm not a technical expert but when you develop a mine, you have to develop it with mine closure already planned for. If you look at life of mine and you have a forecast on closure, surely the whole issue around tailings and taking care of it has been considered. In a utopian world, what is your experience with this. Were the dams not planned for?

South Africa Johannesburg Civil Society
How does the tailings dam planning relate to mine closure? Surely it's part of the whole process and then the dam is supposed to be cleared?

South Africa Johannesburg Civil Society
We had two incidents here whereby tailings dams opened up. The exclusion zone - normally we say there should be 500m between any TSF and households - which is problematic because it still hit the community. Currently, at the Snakepit, you can see that there are cracks showing. We are now getting warnings of flash floods so we are now sitting on a ticking time bomb. The issue of consent for me would be - why are tailings dam always on a high plain when the communities are beneath? Why are they always above the height of the communities? In RSA, they are always located near a river - why is this the case? Is it because they want to divert it into the river if it is overfull?

South Africa Johannesburg Civil Society
We have issues with the late notification and most importantly, our organisation and our communities have no independent significance on our own but we represent constituencies. When matters such as this arise, we appreciate the opportunity to participate so that what is said reflects our views. Consider extending our process to give us an opportunity to comment. From the process point of view, one of the issues would be that the concept of the document is not a bureaucratic issue. In matters such as this that involve a science beyond our knowledge, it means we have to get experts outside our communities to understand these and to take them through this process. We will feedback to you so that their comments are informed. From experience, none of the things are meaningful if communities aren't empowered so that they are able to hold companies accountable. To educate and empower people to engage confidently.

South Africa Johannesburg Civil Society
The consultation time is aggravated by Christmas but I will talk to my colleagues to see what we can do. If it was any other issues, quite frankly, we wouldn't have come. We are talking about a major issue here. This is a legacy that will be with us for hundreds of years. It has a huge impact on our community and the issue is more constant than any other.

South Africa Johannesburg Civil Society
It is regrettable that this will suffer the injustice of not hearing the voices of those most affected because of the way the process has been conducted.

South Africa Johannesburg Civil Society
It is a concept that is long overdue and something that we have been raising in that something has to be done. The way the tailings have been managed in RSA falls short and if you look at the concept of the document, there is something that will go along way which is all the more reason why we need to get the voice of those most affected.

South Africa Johannesburg Civil Society
If we are able to get some comments we will just put something in writing. I would be confident if this was about law but I am not confident with regard to tailings.

To the moderators of this process, can you appeal for an extension of the consultation as a common comment that you received? Something that requires the RSA government to pass a white paper takes 3 months, here we are talking about an international standard and you could not reach everybody. If we had known, we could have beamed you in live to reach 600 communities to tell them about this. A bit of an extension maybe to April. We don't need to go from village to village with the document but we need to get a sense of what they think about the document and we need to give them a sense of empowerment. We need to be at one with the people we represent.

Communication is a big problem. Things that are meant to benefit the communities are told to them that it is not illegal.
Response from companies is that the information is confidential. We are supposed to be able to see these documents. By law here, social and labour plans are the key instruments in which the companies make commitments which are legally binding and become conditions of the mining right. The people who benefit are supposed to be informed first. Regulators, companies deliver glowing reports about fulfilment of their plans but the rising tide of dissent about the legitimacy of mining. Limpopo, this mine has been there for many years. If the money they are claiming has been spent the way they are saying it has been sent. All of the villages would be different to what they are now. They would only need to spend £300k to £500k to benefit. For example. A small shop owner I know built a school himself. Mines can't even point to which school they developed.

Care and maintenance - this is another problem - what does this even mean? Post closure? All responsibilities go away.

Communities are being forced to allow mining. By law, government can force me to mine my land - if the person can continue mining then why do they leave? They are hoarding the minerals, holding the rights, but doing nothing for communities.

In our community, they did surface mining where they moved existing tailings to reprocess them. Even after this, there still remains some tailings. The moved this to the outskirts of the mine and spread it. The sand from those tailings are even finer than they were in our area because the remaining gold has been removed, and we have possibly even more toxic effluent. I don't see that they can fully rehabilitate those tailings. They did experiment with re-vegetation. It grows on one side but on the side which gets direct sunlight doesn't seem to be as successful. Is anywhere else to put these?

I am surrounded by tailings. So storage and how they are maintained is of interest to me. No reclamation done on closed and abandoned mines.

Failure is a major concern for us because we have raised this that the tailings are quite high and asked if they have a plan if there was a landslide. If there is a landslide, it would take away our whole community. Some of the tailings we are talking about are still operational. For example, the super dam. You can't even see the township for dust.

Run off from the local TSF enters the water from which cattle drink and in which some baptisms still occur. There was recently a report on water monitoring which found high alkaline levels but they did not test for uranium, copper or zinc which is what is in the tailings.

By law technically this is not allowed but we have a very strange government that thinks left and acts right. We live in a country where despite having 600 abandoned mines in Johannesburg alone, they are still giving out licenses left right and centre. There is an element of political will which if not present will lead operators to do what they want.

The dams are not closed off or sign posted to say no swimming or that it is dangerous. There is nothing to stop the children from entering.

When we talk about independent problem solvers, in the event where the government doesn't have the capacity to bite, they would have some power to say you have infringed against the law and because the government is there they can target their response.

We have more complaints than solutions. Our research gives recommended solutions which are hardly ever taken up.

The problem is with international operators from all over the world - no where specific.

Holders of political office are very connected to operators and vice versa. There is a revolving door system.

The CEOs are very pleasant and understanding but when you talk about implementation at the source, they promise to make changes by sending an email and it will then get attention for a week or so but then they go back to the way it was.

We have met people from all over South America, Yugoslavia and other places but we have never met with a Black empowerment partner. In some cases are not educated or qualified to work in mining.

We also find that South Africans are shareholders in these companies, many of them Ministers (silent partners or they sit on the board and collect the stipend).

There is a real danger with regard to operators transferring assets to smaller operators to avoid liabilities. Introduction - please be more specific about local laws & practices. The highest standard should apply even if local law is lower standard.

This makes the site characterisation more complex including social & environmental & physical behaviour so it will be difficult to come up with a broadly applicable frequency of updates to the Knowledge Applications. Topics II & VI Affected communities / Public Disclosure & Access to Information & V Emergency Response -

Ensure there is a link to the inundation study.

Highlight / mention gender-related consequences and vulnerabilities. Focus on response of communities and their resilience & ability to respond to impacts.

Req. 15.1 - Because it is site-specific, the knowledge base should include to take into account social variability. With regard to engagement with different communities who may or may not be literate, is this that covered by meaningful engagement?

Discuss level of detail of information that’s required to be shared with communities - who decides and who’s the messenger. The details of FN37 is information overload. There has to be a focus on what’s meaningful, what kind of information, by whom, and when.

Ways of communication is critical as we don't want to create mass panic. Should this requirement be context-specific? Accountability mechanism already exists.

Disclosure of information leads to ease of scrutiny of performance of the tailings dams and in the long run this is a good thing for everyone.

Industry associations have a role to play in the success of this Standard.
South Africa Johannesburg Mining Industry

Brittle failure mechanism Req 6.3 = we understand why this term has been used (vs undrained analysis) but this may be lost because its only one word but has a major implication - please define this in the Glossary.

The design criteria is elevated from CDA - why the difference? What difference does this make to facility safety?

Req 4.2: Why the AE or the Board? Why does it require to go to the Board? Take out the AE altogether as this implies that the CEO is bypassed.

Input from Independent senior tech reviewer - should there also be input from the EOR?

Check the sequencing between classification as extreme and accountability - no need for Board if not extreme.

Clarify which facilities and when.

Observational method may not suitable to detect brittle failure mechanisms, OM is not sufficient against brittle failure mechanism. See Peck’s paper of 1937 where the original text warns against using this.

6.2 & 6.3 With regard to factors of safety, the probability of failure is a matter of description and should be on a par, or should be more emphasis on reliability. Factors of safety gives a mathematical approach vs variability / uncertainty. Both should be retained.

South Africa Johannesburg Mining Industry

Positive - I really like the document. National committee (should) look at Standard to adopt as national standard.

South Africa Johannesburg Mining Industry

Feels like one extra level of control - site engineer + EOR + ITRB + DSR. Seems like too many too people / roles.

Having a responsible person on site + EOR + ITRB is enough but perhaps this is capacity issue.

Perception with regard to safety - why is communities at the start with just one principle? Could the various requirements on safety be pulled together to provide more weight in one place - could Topic II and VI both go up front to address this perception?

Please mention worker safety just to ensure they’re mentioned for the alignment with existing labour & worker HS systems.

Capacity question / technically skilled individuals to all these roles. What would be the number of facilities that a single engineer should be looking after? Please consider and discuss somewhere please as we need to address this as an industry.

Unintended consequences - consider application in different contexts - developing vs developed countries and reasons why this is not applied.

Question of state buy-in, especially in RSA.

South Africa Johannesburg Mining Industry

Question of conflicting standards with national government imposed standards and the addition of another audit.

Communities have no information, and no idea of what would be an indicator of a problem, so that they can respond if they see something. Is a dead fish a problem or not? Who do they tell? Who needs to know what information, to whom should they report?

Ghana Tarkwa Multi-stakeholder

Communities need local language to be used, so that they will understand better.

Educate the community leaders, and then they can transmit the information back to their communities; they are trusted

In conversation - Does the Standard ask you to do everything for all dams?? Having to apply these requirements to all dams would be a considerable endeavour and it doesn't feel really necessary for all.

For consultants it means more work and more dollars but I am not sure companies will not appreciate the volume of work required.

I respect what you are trying to do but I've been around long enough and have heard that these disasters can never happen again. In petroleum, after each major incident, there are enquiries and an announcement that this can never happen again. What is going to be different this time with your endeavour so that people can be really assured that there will be a change?

Your definition of extreme is 100 people. Being the devil’s advocate, if there are 50 people downstream, should we assume that it is not extreme if it should fail? Shouldn’t it be that if there is any potential for loss of life, that it is unacceptable?

Australia Perth Mining Industry

With regard to Principle 4 - if there are less than 100 people downstream, the principle can be rebutted?

When we are talking about elevating things up to the highest point in the organisation - it's not really practical in a very large organisation. The standards seems to be written for a much smaller company. The organisation chart is one thing but if we have to put decisions about 144 facilities to our board or a single accountable executive, that's going to be a challenge. We are all struggling with this. It doesn't flow very well as written but chart is one thing but if we have to put decisions about 144 facilities to our board or a single accountable executive, that's going to be a challenge. We are all struggling with this. It doesn't flow very well as written but

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I understand the context and intent.

Lots of different companies and levels and resourcing ability - quite a comprehensive standard - doesn't seem to be a lot of scale in certain aspects. Resourcing requirements should be considered.

For smaller companies the challenge will be how to resource this extra work and for larger companies it will be about how to insert this Standard into existing processes.

Are you going to present 150 dams to one CEO as it dilutes the effect & devolves responsibility from the front line.

With the number of reviews and (especially) independent reviews required - there are only limited number of these experts globally.

Smaller companies may only be able to afford smaller or not as qualified consultants.

It worries me that you would lose the access to knowledge as, often, this sits outside the company. (A situation whereby) the EOR has all the information is a risk to a company.

With regard to resources - is the ITRB be set up for the company or is it a general global thing?

Ressourcing - does the EoR have to meet certain qualifications, to be certified etc. The engineering world would have to up their game.

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Classification matrix - why was it adapted? What ICOLD incorporate this?

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Difference with ANCOLD is that it excludes the impact on the business.

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We report on ANCOLD, CDA, DMRIS - and now another one?

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Where does this sit within the bigger picture? Reasonably well regulated here - is there an expectation that the regulators update theirs? Without creating something separate, can we integrate it? With regard to JV partners - they are called out as part of the implementation in various parts which is probably not practical for various parts. What do you do with the various combinations of JV?

How do you meaningful engagement with many dams in one areas. What does it mean in Australia as the risks are negligible in so many cases?

Everyone has consultation fatigue in many of our communities.

How transparent you are with information about your tailings dams and how educated are the communities with regard to these risks?

At the conference in Vancouver, they presented a risk table - consequence and likelihood. Is there an intention to include this in the standard? In many cases, consequence is used as “risk” by many. Do we report design consequence classification or risk assessments? If we go the former, we will lose trust.

Shareholder release lead to much panic and we had regulators on site. ANCOLD & CDA - there is only one table which is being replicated in the standard.

Communication with the communities might be better to use likelihood rather than consequence.

Is the intention to do this in all areas? In Australia, most of them will be very unlikely to fail so it would be overkill to go over all of this unless in a high rainfall.

Consequence based level of assessments would be good - to align with ANCOLD and CDA (these dictate the level of detail you go into for inundation study) Perhaps vary the levels of detail required based on consequence.
Part of each design raise and part of annual review to the inundation study. You review the assumptions, the method and the results. If they are no longer valid, you update the study.

We also (already) have a continuous engagement process with Traditional Owners. One of our bigger dams is non-fresh water dams - not tailings but impoundments - the intent that this Standard doesn’t cover these? We still have to classify these so our reporting requirements include these which mean an increased burden.

For TSF you make assumptions on drainage etc - this standard is around the operational issues. Variable water issues. How would we implement the systems and procedures is a challenge?

How do you get expertise to operate, manage and monitor these? Capacity at the site level is key. Principle 13.

We should allow some flexibility in how we organise the reporting lines as the way they are worded is not scalable.

Knowledge is the first step in reporting information effectively up the line. It’s redundant - dry stacking is just drier. This statement precludes you from downgrading.

Monitoring is an issue. For example, having a large decant pump with no one monitoring it. Piezometers not being connected for example but just there to keep the regulators are happy.

This should not be applied in a blanket fashion - this will be down to the implementation stage.

Principle 2- minimizing risk - no definition of a risk system - minimise to what level? Should be saying these things clearly. If this is a global standard - what is tolerable risk acceptance.

If this is a standard - it will form contracts and form part of a legal requirement. Some of them are detailed but some are nebulous so difficult to prove some of them. There needs to be more legal rigour.

Design for a maximum event and see how bad it is and you might pare back from there depending on the result.

Risk assessment side, the credible failure modes are important.

4.1 - being able to down rate from extreme - lower category including impactful flow failure would exclude most tailings facility. Part of your sunny day failure anyway and would probably prevent you from downgrading any of them. It’s redundant - dry stacking is just drier. This statement precludes you from downgrading.

I don’t know if starting with extreme and downgrading it is any different from what we currently do. You still assess these anyway. If you are missing information you assume extreme anyway. Probably just a drafting issue. Impactful flow failure - not sure what this means.

Is the intention to have a rebuttal process or can you just say you rebut it? You can either do some work or lots more work that could take 6 months.

This should be related to consequence of failure. More work would be required on this.

This should be in a risk based framework rather than a one size fits all.

Public disclosure - what is excessive disclosure? Is there a process or a limit? External actors can manipulate information and use it against you.

International association for public information - we could cross reference with this organisation on how to engage publicly.

Putting a consequence list out there will lead to outrage.

Balance across requirements - very specific on seismicity and floods but less specific on factors of safety.

Rainfall and seismic issues need to be considered on a regional basis.

5.1 - confused by this. External tailings facilities in some places but not in all. Why is it in here and in other places? All other requirements bar this.

The independent auditor not reporting to the site but reporting to senior management is one of the most important and strongest thing in the standard.

We should allow some flexibility in how we organise the reporting lines as the way they are worded is not scalable.

Knowledge is the first step in reporting information effectively up the line.

How would incentivisation work to drive the right behaviours? This should be in a risk based framework rather than a one size fits all.

Knowledge will also form the basis of performance reviews.

Balance across requirements - very specific on seismicity and floods but less specific on factors of safety.

It is a high-risk career for prospective candidates.

External actors can manipulate information and use it against you.

Reviewing the operations phase of a dam is difficult. From a regulatory point of view this is a gap.

11.4 - not been able to do successive reviews - can’t come to the immediate one but can go back.

As a consultant, would you work for a company who don’t comply with standards? Reputation is at risk.

In WA you don’t have to be registered to work as a tailings engineer.

Implementing the standard would create a lot more demand for consultants.

Accountability and culture are important.

Knowledge is the first step in reporting information effectively up the line.

Geotechnical capacity within regulators is limited.

Most important issues were insufficient specification or differentiation between existing and old facilities on the one site and insufficient differentiation between high consequence and lower consequence facilities. The insufficiency might make it difficult to concentrate on the most urgent issues during implementation. Largely recognised that we are confronted with a serious shortage in terms of competent people.

Referenced at various moments: What can the standard deliver and what has to be described and recognised that we are confronted with a serious shortage in terms of competent people.

Method and the results. If they are no longer valid, you update the study.

Cyclical nature of the education system doesn’t help as it creates a lag between need and the delivery of candidates.

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Number of comments on disclosure requirements 17.2 - it specifically addresses all reasonable stakeholder requests and prior to making information public - the energy and effort that goes into shareholder disclosures - unless we undergo some stringent and rigorous internal reviews that basically mean that we are sharing this with the market place at the same time as external stakeholders who have queries about a particular dam is a very onerous requirement.

Is there a filter around how much information on a defined period (rather than ad-hoc) for making these disclosures? Regular receipt of queries sometimes from organisations who do not have best interests at heart.

Wording of 4.2a - the ability to downgrade - suggest some of the wording needs to be changed as it currently includes no potential impact of flow failures. This will never allow you to move from extreme categories.

There is a need for an overarching document to explain the link between this and ICMM and other standards. Several comments about closure and the need to say a lot more about closure in the standard. Even after closure, there is still a possibility of dam failure and the risks can increase. How are you proposing to deal with this?

The drafting of the document - while there is still work to be done, in terms of the point of the force of law of the document will really sit within regulators as to whether they bring this into license conditions or bring it in to the conversation on determining negligence. It will be interesting to see how regulators intend to approach these.

You need to get the view of regulators as to how they would use the standard.

We would have to say that the standard would be the least of the regulations.

You mentioned that you felt the standard was weak on existing new regulations, closure and chronic impact of tailings. We have heard snippets of this but can you call this out!

You also mentioned certification - ICMM might look for companies to be certified but there needs to be some flexibility to allow one or more sites from within companies to comply.

Schedule seems very tight at the end of the year, you mentioned there might be an opportunity for us to see a subsequent draft and that there would be another round of review. Can you explain what the key steps will be between now and March and the touch points with Industry?

The transitional arrangements - when will these be confirmed? Do you know when it will be decided as to when we need to comply?

Consequences changing post final closure (up to decades later) - how do we deal with that? 17.2 - We want to avoid the risk of people seeking information for mischievous purposes. We don't want to be overwhelmed with requests for information because every time they provide information publicly, they must also provide it to the market.

Two solutions were proposed - do a consolidated response to all requests received once a year or release independent auditor reports which should cover most queries.

Follow on, based on Canadian failure, the engineers were named? How do you attract people to this industry and then when they get to 9 years' experience, how do you keep them when the responsibilities when they hit the required experience? The standard doesn’t make clear what their liabilities will be. In Oz, we adopt the Canadian legislation for the dam safety reviews but that legislation doesn’t apply in Oz so there is a grey area.

With the responsible engineer, is there any expectation that for a low hazard facility, we will quickly run out of engineers if every dam has one - do you think there is scope to have multiple dams within the responsibility of the one engineer. The standard implies that they would be full time for each individual facility. - Available at all times. If we have multiple operating dams, how would you reasonably apply that requirement? Or can you have two people or what is the reasonable amount of time to be available for that?

Can I start with the front cover? My biggest issue is that it's called a tailings review - tailings are hardly mentioned here, this is a document about tailings stewardship, it's all about storage which is an important distinction. It is intended as a tailings storage facility review. These are important aspects but there is so much missing in terms of how to control and to get consistent properties in the tailings that you are storing in the TSF. The fluids that are with the tailings are not even mentioned. The title is neat but it's not fully descriptive.

In your glossary there is a brief description of tailings but it does not mention the properties and the need to maintain consistency of tailings. If you are redacting the terms of tailings (storage being seen as the least attractive option) or considering alternative uses this is fine but the consistency of tailings is quite critical.

Do you think it's possible to address this with wordsmithing with regard the composition and toxicology in the tailings? We should be able to put a generic requirement on the properties of the tailings?

If you can change the tailings properties so that it is more inert for example, the risk would reduce so then when exploring options you might opt for this.

The geochemistry is mentioned in annex 1 - this is not comprehensive enough - it is focussed on acidity but we know we have alkaline tailings and we know that some trace metals have toxic effects (element leaching). It is all based on acid leaching. Also we do not mention to what they are toxic - toxic to what? We have plenty of guidelines in place, is the intent to assign responsibility away from the board?

Is the intention that the description of environment > significant - the first sentence is the requirement with the rest of it being examples?

Footnote 37 - Tailings failure is not defined anywhere - Do we mean disaster or are we wanting to cover things like lead dust coming off the TSF? Is that tailings failure?

Footnote 37 - Consolidate long list of requirements.

Global Tailings Review Public Consultation Feedback
You also have quite a narrow focus on factors of safety for the technical aspects - what about other aspects of the design with regard to waterflow for example.

Australia Perth Geotechnical Consultants / Academics

Final figure on the org structure doesn't show the ITRB, why is that? Suggest this be added.

Australia Perth Geotechnical Consultants / Academics

But the EoR is on the org chart? (the EoR isn't reporting to anyone).

Australia Perth Geotechnical Consultants / Academics

Who is paying the ITRB and how can we ensure they are independent?

Australia Perth Geotechnical Consultants / Academics

So is it up to the individual states to mandate the levels?

Australia Perth Geotechnical Consultants / Academics

4 re DBSR - being reviewed by the ITRB - this is something that could house the factors of safety. Perhaps this is where the executive should be involved to approve the specific factors of safety. I approve you to use this factor. Suggest including the senior executive in this requirement.

Australia Perth Geotechnical Consultants / Academics

One of the issues I see here is that we are going to saturate the market which is already saturated. All of a sudden you will have a group of engineers to are quickly qualified. We need to find away to support the poorer performing operators who do not operate responsibly.

Australia Perth Geotechnical Consultants / Academics

One thing in general terms, training framework for stepping into these roles. The amount of deliverables that we will have will cripple the market - this puts a lot of additional workload on the industry - this will choke up all of the senior positions in consulting firms.

Australia Perth Geotechnical Consultants / Academics

If you raised the salaries, you would increase university uptake which would also lead to the universities increasing their fees.

Australia Perth Geotechnical Consultants / Academics

It is not a structured discipline at the moment - no qualification for a tailings engineer.

Australia Perth Geotechnical Consultants / Academics

To take one engineer out of school and to make them a tailings expert would take 10 years. And this would be a concerted effort. Once you get the expertise, you may just have that on one type of facility. We are very few.

Australia Perth Geotechnical Consultants / Academics

now so how many you can prepare in the next few years is not very many.

Australia Perth Geotechnical Consultants / Academics

Is there an opportunity for a panel to provide some recommendations to governments or universities to provide these skills?

Australia Perth Geotechnical Consultants / Academics

I concur with the requirement that sites should be doing as much as they can with regard to topic 5. If you look at Europe, and the number of mines compared with the number of emergency services. In Australia, we have one, maybe 2 chemists on each emergency services department. We are hugely under-resourced. If we are to monitor every tailings dam who want to consult on what would happen, it is not going to work out.

Australia Perth Geotechnical Consultants / Academics

15.3 - the plan - capacity and capability of response services - hopefully the operator would put their own resources into developing this capacity. There are often dependency relationships across co-located mines. Local capacity must be continuously resourced. Long distances to be covered with very limited resources.

Australia Perth Geotechnical Consultants / Academics

Companies should put a lot more energy into developing the state capacity. There seems to be a higher reliance on calling the emergency services but we cannot respond. We are mostly volunteers and we wouldn't send a volunteer into a mine site where there are specific hazards for which they are not qualified. It would be useful for the emergency services to make their capacity known to operators.

Australia Perth Geotechnical Consultants / Academics

The key thing is that the responsibility is on the operator. Some legislation that is pushing liability to the crown where operators fail. Operators share their plans infrequently but may still try to rely on these later.

Australia Perth Geotechnical Consultants / Academics

Unexpected inundation with heavy rainfall or seismic activity will already drain the emergency services outside of the mine so the operators should not rely on the emergency services.

Australia Perth Geotechnical Consultants / Academics

If you place the tailings in pit and they might still fail in there - suggest adding "based on consequence". After the recent failure, there was a drive to have an inundation study done so if you can justify that an inundation study is not required based on risk.

Australia Perth Geotechnical Consultants / Academics

Defining what is credible causes a lot of argument among consultants so the requirement to do credible hypothetical failure modes is well written.

Australia Perth Geotechnical Consultants / Academics

2.1 - alternatives analysis links with principle 5.

Australia Perth Geotechnical Consultants / Academics

Disclosure question - clients have raised concern about disclosure. So what is the logic behind the disclosure requirements? Where is the line drawn? Do you include everything in an inundation study? 17.1 suggests all data may be potentially relevant for which they are not qualified. It would be useful for the emergency services to make their capacity known to operators.

Australia Perth Geotechnical Consultants / Academics

You are dealing with a consequence instead of a risk and communicating this is risky. We do not tell the public with worst case scenarios when discussing emergency situations such as fires.

Australia Perth Geotechnical Consultants / Academics

Comment on the loss of life in the consequence classification - it comes up quite a lot that you have to calculate loss of life. If you are arguing between 10 and 11 people dying, you should be going between 0 and 1 - particularly if it is being released to the public. Not sure where the driver is coming from this in the industry.

Australia Perth Geotechnical Consultants / Academics

In the preamble, it says there is a goal of zero harm - you should therefore start with and end with zero fatalities. 16.3 - when is it intended that this plan be developed? Also it is italicised but has no definition. You should specify when this takes place.

Australia Perth Geotechnical Consultants / Academics

When you start recovering is in the immediate aftermath but having something generic in place before hand really helps! We read this as being something that already existed. Business continuity plans are quite common in larger companies.

Australia Perth Geotechnical Consultants / Academics

You will have a business continuity plan which will give you a lot of guidance. This is something your operators need to be familiar with.

Australia Perth Geotechnical Consultants / Academics

One thing in general terms, training framework for stepping into these roles. The amount of deliverables that we will have will cripple the market - this puts a lot of additional workload on the industry - this will choke up all of the senior positions in consulting firms.

Australia Perth Geotechnical Consultants / Academics

The Knowledge base raises alternatives.

Australia Brisbane Civil Society / Academics

Recovery - other half is not just about getting out of harm. Note the long term value proposition and really helps! We read this as being something that already existed.

Australia Brisbane Civil Society / Academics

Business continuity plans are quite common in larger companies.

Australia Brisbane Civil Society / Academics

Emergency response - remote locations - need companies and government to be prepared and money set aside.

Australia Brisbane Civil Society / Academics

Need clarity about how/why the TSF is less extreme (risk) after internal examination/evidence - who is responsible?

Australia Brisbane Civil Society / Academics

is justification given to? (de-risk)

Australia Brisbane Civil Society / Academics

Competent persons - need more specifics around "Engineer of Record".

Australia Brisbane Civil Society / Academics

Reporting requirements need to be more specific.

Australia Brisbane Civil Society / Academics

Regulatory framework needs to ensure enforcement, competency/capability to verify if the EoR is sufficient.

Australia Brisbane Civil Society / Academics

Undefined dam safety review.

Australia Brisbane Civil Society / Academics

Doesn't explain DBSR and EoR - key roles (including P 22).

Australia Brisbane Civil Society / Academics

Low insignificant categories - small mines will struggle - doesn't take account of the justification for this model for smaller/lower levels.

Australia Brisbane Civil Society / Academics

Goveriance structure also needs scalability. Principle 16 should specify what would be reconstructed needs definition - to include livelihoods - outcome not just infrastructure - must include ecosystems - major - assumption that repair will not be restoration (irreversible losses) - major heading.

Australia Brisbane Civil Society / Academics

Omission - Closure.

Australia Brisbane Civil Society / Academics


Australia Brisbane Civil Society / Academics

Omission - Major Hazard risk (not just safety).

Australia Brisbane Civil Society / Academics

Omission - Needs definition - Catastrophe rapid onset - Explain this.

Australia Brisbane Civil Society / Academics

Omission - Internal audit but not external.

Australia Brisbane Civil Society / Academics

Omission - Topic 3 - Must include closure in the heading.

Australia Brisbane Civil Society / Academics

Omission - Legacy issues of abandoned community left behind.
In the last few years, there has been such a dramatic change in the technology with regard to data. At every documentation that they can store away.

In the discussion format we are only speaking about the contents of the standard - what about implementation principles? These would be useful to give the implementing body some guidance about what your vision was. Some issues would be directed only to the standard entity but some implementation issues would be directed at the operator. The standard should stipulate the requirements but not how to do it. When you use the term comprehensive, you mention Topic I and Topic III - what does comprehensive mean? Operators need to know what this means. That will define the standard. Some of the wording is not as clear or well defined from a technical perspective to follow as a standard.

I understand that not all the ICMM members have endorsed the draft standard - what are their sticking points - what are they not happy about? Will the ICMM Members HAVE to endorse it? They have an input into the process? Have the member companies already voiced what they are not happy about with the standard? In discussions I have had with people in the industry, they have voiced concerns about the rebuildable presumption - some are for (good idea to get senior management attention) and some are against (it will be too onerous to treat all dams as if they are extreme but you really don't have to do much work to prove they are not extreme).

As someone who is concerned about the health of workers and neighbouring communities - why hasn't health been highlighted? It could be assumed to be included in "social" but it could be something that is included clearly in terms of knowledge base and consequence.

The standard should stipulate the content about closure etc. Assignment of the engineer of record - stating this rather than "expert" is a good idea.

With regard to the Knowledge base requirements - you need to maintain knowledge of the facilities from the first day they were planned to the day are closed for the purpose of assessing risks - you have stated that the risk assessment needs a level of independence. Have you thought about the repositories for this knowledge base over time (to ensure longevity and independence over time) and to allow access to relevant independent reviewers? I don't think we do this. For some key decisions we put the onus back on the industry to supply key information but we need to start thinking about how we do this.

In terms of enforcement, it comes back to whether the state regulator adopts it as the enforceable instrument.

ANCOLD has a guideline that to all intents and purposes is a de facto standard. The mining industry consider it a standard and should anything go amiss and they were to stand up in court, they would rely on ANCOLD. Which would be the overarching - standard or the guideline - the standard could become overarching but who knows how the legal people will treat it. One thing that is probably worth doing - usually with standards they read like standards and this standard reads more like a guideline - standard or the guideline - the standard could become overarching and who knows how the legal people will treat it.

Who is going to tell people that you were planning to add in some form of review and to consider this as a living document that would continue to evolve after March next year. There really is a problem with this very short timeframe. What is the economic context that you are talking about in Knowledge Base? I have several concerns here - tailings is quite challenging because PNG faces high seismic, high rainfall etc. When we say global standard, we will have stricter standards than this. Why don't we call it a guideline rather than a standard? This should be a minimum requirement.

I don't read this knowledge base as being a broader public database but rather focussed on an operation. Who would fund the government repository? The mining companies themselves currently sign off on the design and they are becoming extremely risk adverse. They will now ask that their designers comply with ANCOLD or whatever which in some states in Australia is written into law.

The role of the state is not very clear in this document at the moment. Will the ICMM Members HAVE to endorse it? They have an input into the process?

The best instrumented tailings dams in the world are those who have had failures. Huge effort to bring all that together.

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I've looked at this from a number of different lenses. 1. As a principle based standard, there are none in there that you could disagree with as a stakeholder or a company as good practice. 2. ITO Project affected communities and Management & Governance - the reference to standard practices that are already required jumped out to me. There is nothing very different to what is being done or what should be done in any case. Some further analysis would be good to highlight what is new or different. 3. Management & governance - I feel quite strongly about this. If you can get this to work, your business will run more efficiently. Comments about learning cultures etc - all companies are trying to do this and are struggling to do this. It's a really really good document and thanks for making it broad.

We have principles and in particular with regard to dam closure, we can talk about principles but it is also good to know about the objective. Looking at dams, and physical and chemical, physical and chemical is important. We should think about highlighting the objective so you are not dictating specific things but achieving the end result for all of the requirements.

The challenge is going to be when you step into the detail which is when you will get a lot of comments from industry such as "how do I know that what I am doing is acceptable?"

There are lots of teeth in the standard, some are molars and some are incisors; Which ones will reduce risk more effectively?

If water is the risk with a tailings dam, if we are to ask what would this standard do to increase the uptake of dry tailings, the answer isn't clear to me. Not necessarily dictating the technology but encouraging. Re Principle 4 - why not say "design for dry unless you can rebut"? This is a once in a decade moment, if this standard doesn't increase the uptake of dry, it is a missed opportunity.

Parallel conversation that is happening out there is do you actually need tailings dams and can you get away from high water systems altogether. This will drive innovation in directions away from wet tailings. From a discussion group: How will the standard reduce tailings failures? Does it/should it encourage dry tailings? Does it/should it drive "storage" methods? Should it drive cost?

Isn't there another way of tackling this? When you talk about design, construct etc. (couldn't) you raise the question specifically: What is the need for the storage? If there is a need to store tailings, what kind of facility is required? Raise this question in a stronger manner.

2.1 - all feasible sites and technologies are mentioned here - this does include dry so it is covered somehow but perhaps you could expressly mention dry.

There is currently no incentive to move towards dry - the standard should make it easier to get certification for a dry standard than for a wet standard. The incentives aren't clear.

Instead of calling it dry - you build as you operate and depending on where you are, there are minimum or lowest possible water content that we can push for. You should always maintain water at the lowest achievable levels. This could enforce a shift in water management practices.

We are not always making dams sufficiently stable at the moment - water dams are generally more stable than tailings dams.

Mining is completely wedded to net present value accounting and KPIs - wrong bonuses for the wrong things. Production and minimising capex are the goals. Capex is minimised, open goes up. That would be another suggestion - what incentive can you give to industry to look at whole of life costs?

There is a gap in the current document with regard to water management in this document. If you deposit your tailings sub-aqueous, it won't solidify properly.

Is there an opportunity to reinforce the lifecycle approach for managing tailings? If you do coarse grinding, you can reduce the amount of water in the dam. There are opportunities early in the process to reduce this. You might be aware of the real options approach to evaluating tailings dam failures. You can calculate the cost of failures which can be brought into provisioning calculations. There is an individual working on this in Brazil for many years and it could be a good idea to connect with her work.

With regard to, net present value - the investors drive the financial modelling of the companies. The investors will drive the companies into the best solution for tailings storage.

Breakout session output: Standard v guideline. Guidelines: There are several; they are not enforceable; they become de facto standards over time as they become absorbed in regulations, and they need to be regionally specific to cater for issues such as seismicity, rainfall, topography and societal issues. Standards - enforcement is easier; it won't replace current guidelines, includes "should" but should say "shall", it is high level and shouldn't interfere with guidelines, likely to become enforceable by investors, it's a global standard and regional settings are less well captured, lack of implementation guidelines from operators not from the standard and the link with regulators, it is not focused on the how, it is focused on reducing harm and it is yet to be tested.

Technical aspects are included in some but not all. From a technical side, you get a slight feeling that the existing technical guys have stuffed it up and the industry has had to go outside to get other technical input. Skills shortage and the need for training - short supply of expertise out there - there are no qualifications globally on tailings.

From a discussion group: Design criteria - decided by the company and intended to remain in compliance with local guidelines or laws. From a discussion group: Endorsement of standard - Hoped that a compromise will be reached that all will endorse.

From discussion group: Add "Health" - Add Closing, Chronic impact, technical, social, economic implications of NPV& KPIs, skills shortage/training and centralised monitoring.

From a discussion group: Responsibility for data management and cost? Standalone? Independent? Current expectation that it is on a company basis. Abandoning or on relinquishment? Few sites currently have this (Samarco arguably the best instrumented site in the world).

From a discussion group: Data/technology advances: Mining companies are adverse to public disclosure. Easy to read, well-crafted, don't need to be a technical expert to read. Local context approach is front and centre which is good.

Assuming that the facility is high risk is supported and this may encourage improvements in the methods of storage.

Closure is a gap - all of the stages through to closure including post closure land use and legacy issues (including abandonment). Acute v chronic aspects are different and the health aspects have been neglected. Relationships between EoR and dam safety review process. Reporting requirements and the role of the regulator. The standard is not directed at controlling these but we looked at the relationship between the operator and the regulator in this respect.

Scalability - lower and smaller operations - how are government involvement and governance issues scaled appropriately?

Role of the regulator is NB - they would like a model for leading practice on how to engage on tailings issues particularly around emergency response and the remoteness. Emergency response needs to be initiated well in advance of a disaster to allow people to respond.

Ownership and management of the knowledge base - this is not a one way communication process - how you protect and manage this knowledge coming from the communities?

In an overarching sense, we discussed the challenges of taking a risk based approach to a standard and some of the issues that emerge from this are who is at risk, who determines the significance of the risk - at a practical level, the standard needs to be looked through to ensure consistency with regard to how it relates to risk. Also references to guidelines etc. We have some examples of these but we won't discuss now. In essence, one issue that preoccupied us - extreme loss of life = over 100 but what about villages of 50 people? We shouldn't quantify the numbers of people as defining the consequential impact. The standard should review these aspects.
Some structural inconsistencies around this and the moral issue around value of life.

Key project affected group is defined but it does not mention workers - you should call out that workers are included.

Consistency descriptors are prescriptive and contradictory to some other things in the standard.

Treatment of long term risk was underdone. Standard is silent on residual risk at the moment.

Definition of tailings facility could be strengthened by example closure of a tailings facility or closure of the mine.

Why isn’t there more discussion about some of the technology solutions but this was explained as a scoping issue. The standard doesn’t mention riverine tailings or ocean tailings etc we understand the scope but perhaps the title could be changed to reflect this as it currently raises expectations.

Any considerations to unintended consequences of the standard such as misunderstanding of terminology in the case of an incident and accountability or negligence considerations. How the standard interacts legally over time needs to be considered? e.g. knowledge transfer through & M&A.

Great to see enhanced monitoring but concerned that this may not happen and that there would be a low appetite among operators for this. Would someone be charged with looking after the data and the knowledge base which specific parameters need to be monitored?

Ensuring compatibility of data for future use and future integration with other data sets.

Have you thought about how the application of the standard might have prevented accidents in the past? This could be an interesting exercise to review some case studies.

Meaningful engagement - is a bit woolly. It would be helpful to have more definition about what this means.

What are the consequences of this - how do you build communities to have that meaningful engagement.

Some of the words in the preamble puts the onus on the communities to hold the companies to account.

Section on stakeholders and communities could be beefed up.

Conflicts of interest in the context of transparency could be enhanced if mentioned in Principle 10 & 12.

Providing some examples of what conflicts of interest could look like would be helpful.

Meaningful engagement in connection with public disclosure - the standard doesn’t address this.

Turnover and corporate memory - turnover of staff (knowledge base can be accumulated but the assimilation into minds is difficult as all new people need to ingest new increasing information) Also the standard is silent on what companies are expected to do when a site changes ownership.

Being clear about the title and the importance of the title - if it was called Tailings storage facilities then maybe we would encourage companies to by pass storage altogether!

The order is correct in my opinion but there is no hierarchy. Suggest that the standard proposes a hierarchy. I like the focus on people and affected communities, but I wonder why indigenous communities are footnoted? Lots of footnoting with regard to meaningful engagement but it would make this stronger - indigenous people have been slightly erased from the text. (Audience engagement directed to 3.1) Entering engagement with them in the text would be good - there is a lot of implied knowledge. Not a good look that half of it is footnoted. It’s important that it is upfront - the fact it is number 3 is good and you don’t often see this.

Deconstructing meaningful engagement in the text would be helpful. It’s used routinely in the text that it should be spelled out in the text.

There is a general feeling that footnotes are less important than the text.

Was there a purposeful omission of FPIC in the document? Suggest you insert this in the text under affected communities.

If one takes it seriously that affected communities should be front and centre then there are some serious points missing the text now - legacy issues, long term effects and abandoned sites. There is a problem with the narrowing down of the whole thing to storage facilities because the effects on communities can be very detrimental as these can include riverine etc. There has been mention of perverse effects of this standard.

This should be captured in your deliberations if you are taking mine affected communities as the core of your work.

I would like to speak in favour of the footnote approach. With regard to the readability of the document, everything I expected to see mentioned were in the footnotes. The power of the footnotes for me was that what is mentioned there governs everything in the document. There is a concern with pulling out suggested issues that everything would then need to be called out which may hamper the readability. The document speaks to a range of people coming from a range of disciplines. I think you have the balance right that you are hearing comments on technical and social issues.

I suspect that a lot of the detail will be in the accompanying report. I have a procedural question about submitting a written submission on line. What kind of format is most helpful to you? The bulk of my comments are hearing comments on technical and social issues.

I have delivered the guidelines and operators have signed up to them, will they say that they own the standard? Who is going to be the owner? Will it be a combination of UNEP and PRI and you guys?

Clearly there is a lot of content in the standard, has the team thought about the timesframes etc for implementation and what is a reasonable expectation in this regard?

With regard to the accompanying report - many of the questions we have been having might be answered in this report. It’s not very clear what will be included in that report. In principle, what are we looking at? A guidance note? More technical?

With your equivalency work/mapping with ANCOLD etc, are you expecting that if they line up you could rely on alternative mechanism and only that any gaps would be focussed on? If we are required in a host country to comply with ANCOLD or some other, you say you have two assurance processes from ICMM and ANCOLD etc. Keen to avoid duplication of effort - one to please the regulator and one to meet the requirements of the ICOMM.

When I read it my first question was where does this sit with regard to technical and social standards. We are used to different standards, but usually that entity has done the work to identify where the overlaps and gaps are. Unless this is clear and unless there is some way forward, the uptake will be hampered. When you dive into the equivalency aspect, there is likely to be changes and will you come back to consult on these?

In your perspective, what is the value add of this standard compared with other standards that are out there?

ICMM in June 2019 described this as a three tiered process where this standard would be the upper level/overarching document and the ICM would be developing a document that would be focused on the governance aspects and underneath that again there would be a technical document. ICOLD are currently working on the development of this technical guidance. ANCOLD envisages that the standard could be accepted in such a way that ICOMM takes the governance issues and ICOLD takes the technical aspects following which ICOMM would adapt accordingly. We are therefore worried about having a number of different standards. Your presentation so far doesn’t have these three levels.

Overarching comment re the standard, like many things, these evolve to become mandatory over time with respect to the expectations of our stakeholders. Is there value in looking at the standard and remove those optional pieces that are above the minimum bar? The guidance could include options to go further but the standard keeps it to the minimum. All non-impertinences should be changed to reflect they are must-haves.

You mention you were constrained by time, and from your website, there is an expectation that the standard be in effect in Q1 2020? Do you have any concerns that this may not be achieved?
You expectation that this standard is going to be for want of a better word observed or accepted by everyone? All reasonable companies would adopt this, is this your expectation?

Principle 10 - Reflecting this on the table at the back - my hope would be that this is re-written to reflect that there are a number of ways to demonstrate accountability and independence. The wording within the principle is quite prescriptive and this needs to be amended to allow for variability across organisations.

Guarantee of independence in the introduction - if you relate that to the org structure classifying about whichever org structure a company has, how would it reflect this independence? Independence would disappear through all of the levels of the organisation.

With the EOR concept being a firm rather than individual. Do you see there being a problem whereby larger engineering companies might not take that on board as there is too much risk relative to the monetary gains.

Can you give me an example of other industries that are comparable in this situation?

It's interesting that you have made a firm an EOR because we have pushed back on having an individual as the EOR. The contract is between the owner and the firm and the EOR has the support of their firm behind them.

Can the EOR be from the operator too?

The intent of this is to ensure the independence of review processes. We don't want it to be the individual within the company who is the EOR, if they move and they are then involved in assessing their own work.

Interested to understand - this standard was prepared by a panel of experts. There are quite a lot of requirements that would in some cases require large capital investments, in particular for large tailings facilities. Can you give us a little more about the tailings experts who were involved in the development of the standard. Was there any involvement of the owners?

On principle 3 with respect to organisation culture, in some requirements it is quite specific (13.2 re incorporating worker experience into planning is specific and related to tailings (re)cycle) but there are also requirements on recognition and reward - is the expectation that these would refer specifically to tailings or that they would have a broader recognition system?

What is interesting about the comment about performance incentives that they would not be tied totally to tailings, we have seen that when safety is tied to incentives, that it drives negative behaviours. There is a risk that incentivising tailings may lead to similarly negative behaviours.

The intent early on (I know it is an international standard) that the state regulators need to educated and engaged. In a mature system the regulators may not welcome this.

Public disclosure with regard to public impact - we have a number of facilities where there would be no community impact but which would be classified as a high risk facility.

Grievance and complaints aspects look like a hodge podge and something that has just been added in. Scope of the document is not clear. There is a lot of preamble and text, the document feels very short. Multiple comments around the room and you have been quick to point out that it is not an ICMM document but some of the aspects of our conversation lead me to believe it is an ICMM document as they are part of the triumvirate developing this document.

One thing I have noticed when reading the standard is that in some countries, like in Chile, the regulation is quite strong in particular with regard to seismic conditions and this is very well supervised. Putting a standard in a country like Chile will be putting another level of pressure on companies to get another stamp where they don't need it. This looks redundant to me and I can see that the operators would see it as something they don't need to do but I accept in weaker jurisdictions, this could be important.

It took me a while to understand what tailings you were talking about. Paste and dry tailings seem to be the hot topic in the industry now. This approach (by the standard) seems a little bit out of date already. Some jurisdictions have already outlawed certain aspects that force operators to move to more dry tailings. The standard could promote in a more positive way, new technologies. The standard should be clearer and more open on new technologies.

Question on public disclosure - couple of references here - this is going to be a major change from what we do now. The data whether technical or not, we have policies on what to report and to publish etc. 8.4 talks about monitoring programme etc, it refers to regulatory and public disclosure - can you explain a little bit more about this?

As I read the requirements, I find a lot of the language very subjective so I wonder how compliance would be assessed e.g. 6.1 - design criteria - seems very vague. How would anyone ever judge that to be compliant or non-compliant. What about specific factors of safety? Specifically, the words reduce and appropriate are assessed e.g. 6.1 - design criteria - seems very vague. How would anyone ever judge that to be compliant or non-compliant?

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Contextualising the standard up front with regard to application in small compared with larger companies and mature and immature systems.

Terms used in some cases could be misleading e.g. Best practice sometimes hard to define. To the greatest extent possible could be interpreted as zero so using some risk-based terminology might be better to use - ALARP.

Principle 4 - Lots of discussion and there was concern that if we do it that we would dilute the assessment of the consequence classification for those that are really extreme.

Consequence categories and the intent of this being to increase the standards of design. In Table 2.0 currently the specified design parameters are quite different to those in ANCOLD. It's all very well to identify the consequence category, but the important thing you should be concerned with when it comes to design criteria is that for ANCOLD they are all the same (high & very high 1 in 100, with freeboard or PMF) and for Extreme is the same. ICOLD currently developing a global technical bulletin on dam safety along the lines we understood with three levels of tailings management with the standard, ICMM and then ICOLD so this document is being developed to support this. Closure is for the very long foreseeable future so we don't think the design criteria are the same as for operations (ANCOLD). We recommend the table is either modified or deleted and references made to other guidelines instead.

If we had all of the dams being elevated in consequence category, a lot more engineers would be required to fill these roles. There is a lack of engineers in the industry as it is (approx. 8,000 short at the moment) and if we look at overall staffing of dams we are up to 20-30,000 engineers. We need a consequence category that doesn't assume all are extreme because we will dilute the resources we have.

Role of designers should be more prevalent in the introduction.

Consequence categories - often one of the factors that determines where the dam sits is the impact on the company financially so the tendency is to elevate dams on the basis of this criteria rather than loss of life or damage to the environment. Companies shouldn't therefore be punished for being conservative. The whole purpose of the categories is as a design tool to ensure resourcing is adequate. Could there be some other way of identifying the risk because consequence category shouldn't be considered to be the risk.

Factors of safety and going to higher factors of safety don't mean you are improving safety and it depends on the amount of data on which you base these factors of safety. They can give a false sense of security. Most of the time was spent talking about the realistic presumption. It is a distraction to focus on this.

Discussion around defining the likely failure mode not being included clearly enough and then how to do the calculations on these.

Yes no gates and if you are a smaller company where some of the requirements don't apply.

Applicability in highly regulated jurisdictions?

14.1 - Wording suggests establishing a joint grievance mechanism with the regulator which the operators were not comfortable with.
The important thing is to do it properly and thoroughly and have it signed off by the appropriate person.

The consequence categorisation you don't take likelihood into account, you assume it will fail.

Good to acknowledge that the consequence category can change over the life of a mine.

The communities and the media equate consequence with risk.

The consequence category doesn't mean it is less robust.

Suggest you engage on the implementation plan to promote a whole of industry approach.

Australia Brisbane Mining Industry

Disclosure of data - acknowledgement that data is out there but there is a remaining level of discomfort with this.

Every body is pointing to the rebuttable principle and it is quite shocking to me. After Samarco, most companies started on the journey with senior leaders on understanding the risks. We are identifying the critical controls and we are making efforts to communicate properly. We will now need to go back to our senior management to almost start again. Is this really the right approach? Can you outline some of the thinking behind this? Why are you asking operators to do better than engineering firms on this as they are the experts?

The engineering firms are better equipped to do this.

If you haven't done a consequence classification then you are by default extreme so anyone who has done that will have already classified consequence.

The standard relates to tailings facilities - not dams - relates to a much broader scope of containment so if you are putting tailings into a final void, it's not a dam for example and there is no way it can fail. Why then are you really classifying consequence here?

The challenge in the wording of this clause is scaring people. The classification needs to be based on clear evidence. It is scary that it implies that all facilities will stay extreme. If the intent is to demonstrate through evidence that it does not need to be classified as extreme.

Why does it need to be moved up to accountable person if it is low? "Why do you need a person to say that ok you're right, it's not extreme."

You don't stop at the bottom of the top and you see what happens.

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The important thing is to do it properly and thoroughly and have it signed off by the appropriate person.

If you are not going to do the process properly, then it is extreme. If the operator cannot show they have done it properly then it is extreme.

Poor engineering to not do a consequence classification for any raise or any construction. This should really be a requirement.

It's currently couched quite negatively so it could be changed to something like if you don't do the assessment, default is extreme.

Remove the default to extreme just the requirement to do the assessment. The consequence categorisation you don't take likelihood into account, you assume it will fail.

The questioning process is being provoked by insisting on this enquiry to prove it is not extreme. Raising it up the ranks is further securing the double take (consideration) on the classification.

The process isn't to assume to start anywhere, the process is to assume it fails with a worst case scenario. Raising it up the ranks is further securing the double take (consideration) on the classification.

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You may lose some public trust by changing the language (speaking about risk and likelihood rather than consequence) - the effect of the requirement would be the same but it would sound stronger to the public.

If the principle was to align with the language of the rest of the standard, it would be more positive and explicit.

Perhaps the whole document should be reviewed to reflect that all requirements demand action. There is a lot of technical content behind the process that is not included here. Mistakes can be made anywhere along the design phases.

The outcome, following the engineering process, will be the same regardless of the wording. You go through the same process with the engineering process anyway. Suggest changing the wording to something like "Sufficient evidence to support the consequence classification adopted that has been determined throughout the process." You can leave the procedural accountability process unchanged.

ANCOLD closure requirement is that it has to be designed for the most extreme loadings anyway. It has to be designed for the maximum reasonable flood as it will be there forever. The closure design is standard in Australia regardless of the classification.

The consequence category doesn't mean it is less robust. The consequence category doesn't mean it is less robust. The consequence category doesn't mean it is less robust.

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Closure is a very different scenario to an operating mine. If you don't design your dam during operations properly, you can be restricted as infrastructure is built around it.

It's reasonable to ask people to consider what might change in the future when they are setting their consequence category.

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Good to acknowledge that the consequence category can change over the life of a mine.

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If you do a 3 yearly dam safety review, you should review the consequence category at the same time anyway. The application of the terms Risk and consequence is sometimes incorrect. Need to be clear what is a risk, what is a consequence and what is likelihood. We need to think more carefully about this. If we talk about just having had a 1 in 100 year flood that the community understand that this doesn't mean there won't be another one for another 100 years. Both in the standard and in communications. Consequence to communities can raise alarms but the likelihood conversation has to be had also. The consequence to communities can raise alarms but the likelihood conversation has to be had also. The consequence to communities can raise alarms but the likelihood conversation has to be had also.

The communities and the media equate consequence with risk.

Suggest you look at the use of the word ‘controls’ - refer to risk management practitioners to ensure the reference is quick.

Implementation with respect to "elites" vs "non-elites" (outside ICMM) - in the implementation plan this should be explicit. We could end up with a two-speed industry were we have one strand of companies who have been able to access these resources at the right time and the other set of operators who don't have access to the resources at the right time and which then fall foul of having more expensive insurance and financing etc.

It should be a whole of industry approach based on risk. The highest consequence dam operators should be given priority for the resources to ensure these are secured first. Top down approach and not just with ICMM companies.

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Suggest you engage on the implementation plan to promote a whole of industry approach.