Country	Location	Stakeholder Group	Comment
Kazakhstan Kazakhstan	Almaty Almaty	Project Affected People Project Affected People	Rehabilitation aspects could be strengthened & in this context must be aligned with the ecological code.  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
Kazakhstan	Almaty	Project Affected People	management system for new tailings but I have a question about existing facilities and what about seismic issues etc.
Kazakhstan	Almaty	Project Affected People	Check that translations of lifecycle mean the same thing. Have them reviewed by native speaker.
Kazakhstan Kazakhstan	Almaty Almaty	Project Affected People Project Affected People	Clarify the intent - Get rid of the phrase "living a tribal way of life".  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
Kazakhstan	Almaty	Project Affected People	community.  In order for this standard to be more qualitative, we would like to have more experts in the sphere of (B21)
Kazakhstan	Almaty	Project Affected People	tailings dam) construction.
Kazakhstan	Almaty	Project Affected People	Important to the inhabitants that the standards benefit them.  As an inhabitant and a representative, I want to know if the draft Standard will ensure that the dam is 100%
Kazakhstan Kazakhstan	Almaty Almaty	Project Affected People Project Affected People	reliable.  Tailings facility design must take seismicity and climate change into account.  I am concerned that when the company leaves, what will happen to the pumping stations that are not working
Kazakhstan	Almaty	Project Affected People	any more? We are working with a company to take preventative measures. We experienced freezing followed by fleeds
Kazakhstan	Almaty	Project Affected People	We are working with a company to take preventative measures. We experienced freezing followed by floods recently and due to strong cooperation, nothing bad happened. Exploitation of existing tailings is being conducted and the tailings facility was constructed during Soviet times
Kazakhstan	Almaty	Project Affected People	so to manage the process is therefore impossible.
			Anecdote - 2 U/G pumping stations built at two sites which were closed. The pit became flooded. It is very close to the city and despite being fenced off and having security in place, children swim and animals drink
Kazakhstan	Almaty	Project Affected People	from there.
Kazakhstan Kazakhstan	Almaty Almaty	Project Affected People Project Affected People	Siting is critical.  Operators can remove people from the danger zone but not after they are gone.
Nazakristari	Aimaty	Project Affected People	When a company wishes to make final decisions, they have public hearings. Specialists come and organise
			people to come together. The communities are involved. For example, there is only one type of waste being
			stored in one place in this country which is the arsenic - where specifically to place this required 5 public hearings. Nuclear Polygon is only possible to be used because the grounds belong to Government and cannot
Kazakhstan	Almaty	Project Affected People	be used for any other purpose.
Kazakhstan	Almaty	Project Affected People	For closuse 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.
razamotan	7 uniacy	1 Tojout 7 Miloulou 1 Gopilo	Sommittee, and notice with ground about this project to fortable the differential.
			The community pays great attention to the realisation to the public hearings but also to the participation in
Kazakhstan	Almaty	Project Affected People	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.
Kazakhstan	Almaty	Project Affected People	In the draft standard is important to have an event with the communities and political authorities.
Kazakhstan	Almaty	Project Affected People	3.1 - Question with regard to tribal people, if there are no tribes does this apply to local communities?  Terminology in the introduction page 2 - topic 2 - should be the same in 3.1.
Kazakhstan	Almost (	Drainet Affected Doople	Did we understand right that this standard refers only to tailings and doesn't cover other mining dams?
Kazakhstan	Almaty Almaty	Project Affected People Project Affected People	Does the standard refer to tailings in design or operational facilities?
Kazakhstan	Almaty	Project Affected People	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.
, tazati iotai i	,ar	. reject medet / copie	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
Kazakhstan	Almaty	Project Affected People	circumstances.
Kazakhstan	Almaty	Project Affected People	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.
Kazakhstan	Almaty	Project Affected People	Tailings lifecycle - more detailed technical state of tailings would be more understandable. What is the meaning of the lifecycle?
Kazakhstan	Almaty	Project Affected People	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.
			It looks like ISO 9001. Will the standard be adopted by organisations in the future - it will be very important
Kazakhstan	Almaty	Project Affected People	when it comes to implementation that it considers the ecological code and local regulations etc.  Enterprises implement QMS, EMS etc, because this improves their public image and allows them to trade
Kazakhstan	Almaty	Project Affected People	internationally more easily. If enterprises use the Global Tailings Standard, it would enhance their image.
Kazakhstan	Almaty	Project Affected People	Companies often sub-contract for transport and tailings. The provision of these contracted services should be done by professionals and should have relevant certification.
Kazakhstan	Almaty	Project Affected People	The translation mentions "tribes who live a tribal way of life" so it is not clear that they still retain the rights.
	•	,	Don't have original and tribal people here. Can we use different terminology, because it reads as though non-
Kazakhstan	Almaty	Project Affected People	tribal living people wouldn't have the same rights protection.  Would like to pay attention to siting, soil condition and then depending on the completion of tailings, we need to
Kazakhstan Kazakhstan	Almaty Almaty	Project Affected People Project Affected People	take into consideration the height and thickness of the dam.  Another factor to take into consideration is the material used to increase the sizes of these dams.
Kazakhstan	Almaty	Project Affected People	Maps are created and the populated settlements nearby are often concerned because when we do dust elimination, the settlements nearby can feel the measure.
Kazakhstan	•	NGO	Meaningful participation means different things to different people - Will this be supported by guidance notes like the EITI requirements?
Kazakhstan	Almaty	NGO	Have you thought about how companies will report on standard implementation? External assessment?
Kazakhstan	Almaty	NGO	
Razakiistaii	Aimaty	NGO	Have you calculated how much it would cost to implement this standard because companies will ask this?  Motivation is very important. It was difficult to implement Publish What You Pay as some companies were not
Kazakhstan	Almaty	NGO	eager to follow good standards because it costs money. Both internal & external motivations are important.  Proposed the creation of a common working / action group where the owners of tailings facilities work with
Kazakhstan	Almaty	NGO	crisis management agencies and community representatives.
Kazakhstan Kazakhstan	Almaty Almaty	NGO NGO	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
Kazakhstan	Almaty	NGO	what the hazards, vulnerabilities and the possible scenarios.  Short and long term events require different levels and types of management. The Standard should insist on
Kazakhstan	Almaty	NGO	something like ISO13001 Risk management & disaster reduction.  Hopeful the standard will tell us what to do with old tailings and improve the environmental situation locally
Kazakhstan	Almaty	NGO	(scope issue as the standard focusses on safety).
Kazakhstan Kazakhstan	Almaty Almaty	NGO NGO	There needs to be adequate motivation to implement.  A few years after an event, people stop caring. People need to be kept aware of the problem.
	•		Linguistic issue - The use of "Principle" is confusing - suggests fundamentals/beliefs but they read like
Kazakhstan	Almaty	NGO	instructions/steps/actions.

Kazakhstan Almaty NGO Kazakhstan Almaty NGO	Translation is not correc it currently translates to Principle 5 - Robust has Provide more details on
Kazakhstan Almaty NGO	
Kazakhstan Almaty NGO	Provide more details on
Kazakhstan Almaty NGO	There is no requirement
Kazakhstan Almaty NGO	Appendix 2 - Classificat facilities as this is an inc
Kazakhstan Almaty NGO	Some requirements me specified - be consisten
Kazakhstan Almaty NGO	Req. 6.1 - we should bri this by adding numbers
Kazakhstan Almaty NGO	When you compare 7.1 large requirements or a Transboundary environr
Kazakhstan Almaty NGO Kazakhstan Almaty NGO	riverine systems should Reference to existing st
Kazakhstan Almaty NGO	Not necessary to clarify know how it will be imple
Kazakhstan Almaty NGO	How it will be implement
Kazakhstan Almaty NGO Kazakhstan Almaty NGO	integral part of the stand Add list of reference do
Kazakhstan Almaty NGO	Provide more details on
Kazakhstan Almaty NGO	Provide more details on Doubts that the standard
Kazakhstan Almaty NGO	Soviet. If not mandated, Government participation
Kazakhstan Almaty NGO Kazakhstan Almaty NGO	participation is very imp Many governments do r
Kazakhstan Almaty NGO	Put glossary at the start
Kazakhstan Almatý NGO	Who are the affected co
Kazakhstan Almaty NGO	partnership for the Stan
Kazakhstan Almaty NGO	How will compliance be
Kazakhstan Almaty NGO Kazakhstan Almaty NGO	Operators have differen Siting requirements sho
•	Principle 16.4 - Provide
Kazakhstan Almaty NGO Kazakhstan Almaty NGO	opened to all it would ca What about the safety of Increase and strengther
Kazakhstan Almaty NGO Kazakhstan Almaty NGO	requirements. Increase recultivation fu
Kazakhstan Almaty NGO	Responsible approach t responsible extraction in Teaching the local spec
Kazakhstan Almaty NGO Kazakhstan Almaty NGO	tailings. We must make sure th
	Standard contains some
Kazakhstan Almaty NGO Kazakhstan Almaty NGO	during design or proces Overarching principle of
Kazakhstan Almaty NGO	Continuous improvemen
Kazakhstan Almaty NGO	Must avoid a situation w How much should be in
Kazakhstan Almaty NGO	If we apply the standard some of these are strict
Kazakhstan Almaty NGO	To what extent does the former CCCP countries
Kazakhstan Almaty Mining Industry	Knowledge base: Shorta 2.6 - Rehab is already h
Kazakhstan Almaty Mining Industry	agree to insure the valu the price would be "unbe
Kazakhstan Almaty Mining Industry	Potential language issue contracted service or is
Kazakhstan Almaty Mining Industry	3.3 Physical & economic
Kazakhstan Almaty Mining Industry	3.3 Participants indicate
Kazakhstan Almaty Mining Industry	6.1 Design critera have
······································	6.3 - Can we have more
Kazakhstan Almaty Mining Industry	deformations etc. What with design best practic
Kazakhstan Almaty Mining Industry Kazakhstan Almaty Mining Industry	6.4 - EoR is not the curr
	Hydrogeological or prod
Kazakhstan Almaty Mining Industry	qualification for a tailing
Kazakhstan Almaty Mining Industry Kazakhstan Almaty Mining Industry	Most items are already How will this be integrat
Kazakhstan Almaty Mining Industry	Glossary - expand the d facility. 12.4 Didn't understand t
Kazakhstan Almaty Mining Industry	involved. In Kaz, there a so this not be aligned w
Tazanisan / may mang neessy	Question on representations does the financing come
Kazakhstan Almaty Mining Industry	roles and responsibilities State Budget or operato
Kazakhstan Almaty Mining Industry	The draft Standard does international standards
Kazakhstan Almaty Mining Industry	Local legislation are qui because they do not rec Difficult to assess the re
Kazakhstan Almaty Mining Industry	
Kazakhstan Almaty Mining Industry	Each country has their of Some issues missed su
Kazakhstan Almaty Mining Industry  Kazakhstan Almaty Mining Industry	what they are talking ab Transboundary issues r process.
Kazakhstan Almaty Mining Industry	The Standard doesn't ha

Kazakhstan Almaty

Mining Industry

ct and there are many mistakes. Even the name of the standard doesn't sound right as

o "Global standard for organisation of tailings" as been translated as "trustful" / "trustworthy".

n what ROBUST means in terms of the technical aspects.

n what knowledge base includes.

nt to warn the public about hazardous situation to their health. Add after 3.1.

tion - add one more annex to add information about types of tailings and the size of

ention the deadlines for reports etc - Reg 8.2 and for others, the frequency is not nt or remove and allow each country to determine aligned with their requirements ring in some numbers here as this doesn't make the design criteria clear. Reformulate s or omit it.

with 6.4 - the weighting of the requirement is very different. Either add sub points to at least balance them.

mental issues regarding the location of tailings and their interaction with transboundary d be mentioned.

tandards would be good to include inside the standard.

y who will manage the standard and who will pay but do the audience does need to

nted and assessed and how governments will be involved etc needs to become an ndard.

ocuments used in the development of the standard.

n what knowledge base includes

n what ROBUST means in terms of the technical aspects.

rd will be effectively implemented in countries with strong govt system such as former d, it may not work.

ion in the siting and other decisions should be mentioned in the standard. State portant.

not have the financial capacity to manage legacy tailings issues.

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

ency initiatives - EITI standard has been renewed this year and could be a strategic ndard?

e reported? Annually?

nt financial capabilities and capacities so they will need to make theirs clear.

ould be more strenuous in mountainous regions for example

e for the participation of project affected communities should be restricted to experts. If ause chaos

of workers involved with the tailings?

en requirements and to take into consideration the seismic considerations and legislative

unds to take care of tailings post closure.

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

cialists - the local operators must use the potential of local specialists to take care of

nat mines cease to be abandoned and not rehabilitated.

ie very obvious things that one way or the other the mining companies are already doing

could be 'safe by design'.

ent principle should be called out more as part of management systems

where operators can for example put \$5k in an account and say they have provisions. n provisions? How do you calculate the cost of rehabilitating sub-surface operations? d it may mean the government requirements with regard to tailings are not met as ter than in the EU.

e draft Standard integrate the recommendations of UNECE, MAC, Australia, RSA and

tage of competent independent experts - clarify who these experts are.

happening and is compulsory here. Concerned that insurance companies who would ue of the max consequence of these facilities. Might be problem to get this insurance or bearable"

ie - Human Rights due diligence - 3.1 - this term was not understood - is this a formal s it in-house? What are the compulsory criteria?

- ical displacement they do this with the government as it is a joint responsibility here.
- ed they would need to investigate the standards that are referred to in the footnotes.
- en't been quantified.
- re explanation on the mechanisms? Is it an instrumental follow up to monitor cracks. at are the specific requirements on the tools used for these? Could add "in accordance ces" or something similar.

rrent practice in Kazakhstan.

duction/processing experts are not called "tailings expert". Not sure there is a gs specialist and it would be difficult to find this person.

covered by national legislation in Kazakhstan

ted with other standards or requirements?

definition of tailings as it is not that detailed or precise and also the definition of tailings

the mention of Procurement. If we hire an EoR, the Procurement team are not are a list of rules around subsoil, we need to use Procurement to outsource consultants vith legislation.

atives of State authorities with regard to emergency services and outsourcing - where ne from? Between the operator and the legislation, there are always discussions about es. With regard to the Requirements for emergency response, will this come from the tors budget?

es not recognise other standards like CDA and other international practices such as of risk management

ite old so it is not possible to compare these and analyse them as they currently are cognise international standards.

elationship between the draft standard and jurisdictional requirements

own regulations and the draft Standard captures important issues with the regulations. such as it requires someone to be responsible but it doesn't say that they need to know bout. The responsible person needs to know the issues

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

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.

		Olobai i	Tullings Notice 1 usile consultation i cousant
			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
Kazakhstan	Almaty	Mining Industry	from limited raw data.
			Closure and how this affects communities is not adequately addressed in the draft Standard but is a very
Kazakhstan	Almaty	Mining Industry	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
Kazakhstan Kazakhstan	Almaty Almaty	Mining Industry Mining Industry	addressed sufficiently though it is a little.  What quality of data do you need to collect for the knowledge base?
Nazakiistaii	Aimaty	Willing Industry	writat quality of data do you need to collect for the knowledge base?
Kazakhstan	Almaty	Mining Industry	The Standard could go further. I acknowledge that there is a need for a standard but it must be the right one.
Kazakhstan	Almaty	Mining Industry	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
Kazakhstan	Almaty	Mining Industry	they could have created a new council but the concept of the ITRB is unclear.
Kazakhatan	A los atu	Mining Industry	Cleaves is important to be taken into account in the design phase but it about he explicitly mentioned
Kazakhstan	Almaty	Mining Industry	Closure is important to be taken into account in the design phase but it should be explicitly mentioned.  UNEA global resolution on mineral resource governances including tailings and closure in particular. Who
Kazakhstan	Almaty	Mining Industry	would pay if there is a failure?
Kazakhstan	Almaty	Mining Industry	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
Kazakhstan Kazakhstan	Almaty Almaty	Mining Industry Mining Industry	which aspects the concept of participation refers.  1.1 - Environmental, social and economic context must include ERP report.
Nazamstan	Aimaty	Willing House y	Transboundary issues such as emergency response planning and prevention including information sharing and
Kazakhstan	Almaty	Mining Industry	joint preventative measures.
Kazakhstan	Almaty	Mining Industry	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
Kazakhstan Kazakhstan	,	Mining Industry Mining Industry	here. Audits on facilities can sometimes be visual only.
Kazakhstan	,	Mining Industry	Siting decisions are covered by legislation.
Kazakhstan		Mining Industry	Almost all points regarding emergency response planning are covered by legislation.
Kazakhstan	Almaty	Mining Industry	Req. 2.2 - What kind of body is an ITRB?
Kazakhstan	Almaty	Mining Industry	Req. 2.2 - Translation suggests it refers to a Council.
Kazakhstan China	Almaty	Mining Industry Mining Industry / Government	Competent people are very hard to find.  Title of Topic V is called III.
China	Beijing Beijing	Mining Industry / Government	Please describe the background to the programme and what we can do to support.
China	Beijing	Mining Industry / Government	How China can engage will be a key question for the Ministry.
China	Dailing	Mining Industry / Covernment	Where does the mission come from I will need to know this before we can appear further with the Ministry
China China	Beijing Beijing	Mining Industry / Government Mining Industry / Government	Where does the mission come from? I will need to know this before we can engage further with the Ministry.  Who is funding this work?
China	Beijing	Mining Industry / Government	Who is the agency to issue this standard?
China	Poiiing	Mining Industry / Covernment	The standard is mostly about safety but in China safety is managed by a separate ministry to the ministry for natural resources.
China	Beijing Beijing	Mining Industry / Government Mining Industry / Government	There will need to be modifications for each jurisdiction.
China	Beijing	Mining Industry / Government	What does the term "private entity mean"?
China	Beijing	Mining Industry / Government	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
China	Beijing	Mining Industry / Government	private standard is.  It's possible that the CMA could take the place of this entity in China as the intermediary between the
China	Beijing	Mining Industry / Government	government and the co-convenors, for example Who are the Chinese representatives on PRI, ICMM and UNEP? We need to talk to those local entities. Are
China	Beijing	Mining Industry / Government	there Chinese banks associated with PRI?
China	Poiiing	Mining Industry	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?
Cillia	Beijing	Mining Industry	Does the standard cover dry tailings or just wet? Chinese companies have implemented dry stacking quite
China	Beijing	Mining Industry	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
China	Beijing	Mining Industry	world but if your standard doesn't improve the situation on dry tailings it might be a wasted opportunity.
China China	Beijing Beijing	Mining Industry Mining Industry	What encouragement do you give to countries to sign up? What are the costs?
China	Beijing	Mining Industry	What are the costs: What are the benefits?
OF:		,	What is the relationship between this an the Equator Principles with regard to financing requirements as there
China	Beijing	Mining Industry	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
China	Beijing	Mining Industry	on the environment?
China	Beijing	Mining Industry	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 shoud be an emphasis on investigation
China	Beijing	Mining industry	data.
Chile	Santiago	Government	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.
Crine	Santiago	Government	There are currently a number of duplications in terms of permitting and there is a clear understanding that
Chile	Santiago	Government	tailings are more specific than other storage facilities.
Chile	Santiago	Government	Lots of issues in the standard have been considered as very important for the state of Chile.
			The water authority is working with Sergeonamin and there have been a number of resolutions from the private
Chile	Santiago	Government	sector. They are planning a 1st draft in January after which they will enter a period of consultation.
			There is a productivity committee to deal with the duplications of process within the water permitting department with a view to creating a one stop shop. Sergeonamin are consulting with the water department on
Chile	Santiago	Government	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
Chile	Santiago	Government	certification, closure and new technologies.
	· ·		
Chile	Santiago	Government	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
Chile	Santiago	Government	last updated in 2001).
Chile	Santiago	Government	D248 is the mining code that is being reviewed and this will force a change in the closure regulations.
Chile	Santiago	Government	Other work that is ongoing in Chile is the Programma Tranque which is a relationship between the public and private sectors as the government is working with Fundación Chile.
Chile	Santiago	Government	Monitoring the environmental impact is important.
Chile	Santiago	Government	Efficient water management - construction requirements, environmental and communities issues.
Chile	Santiago	Government	Physical stability - the GTR standard must introduce clear seismic design criteria, consequence classifications
Chile	Santiago Santiago	Government	and international standards in this respect.  Chemical stability programme has risk criteria for various types of tailings.
Chile	Santiago	Government	Introduce run off and storage of water issues into the design aspects of the draft standard.

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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

Standard 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

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.

Programma Tranque is a collaborative programme with private and public partners We have developed a high level standard for national Chilean companies who have volunteered to participate in the programme.

We looked for counterparts within this conversation to get different perspectives

We must service the industry and we are therefore looking for professionals with competencies in technology. Difficult to get different parties around the table for example to develop new technology when participation is not linked to their remuneration or bonuses

The basis for safe engineering, design and construction is to be found in legislation from the 1970s after El Cobre.

Regulation works. It is respected by large and small scale miners.

Storms, seismic issues are addressed in Closure legislation which is currently also being reviewed. The review will be based on learnings since implementation for example, re-processing and developing a market for this.

We evaluate a number of risks via many projects: People, environment, internal erosion, overtopping, storms, external environmental impacts, operations and mining techniques, closure, water effluence, chemical risks (quidelines on chemical stability) etc.

Closures must be designed to minimise liabilities.

Water content management - the safety of environment and humans.

Characterisation of tailings (some 577 TSFs and 700 deposits in Chile alone which have approx. 56 elements or species of tailings in each (e.g. trace elements, rare earth etc).

Prevention / Mitigation and management of risks done on the basis of stages - preparation - disasters recovery - rehabilitation - reclamation.

Emergency tailings table - national emergency. We provide guidelines for first responders and on public and private coordination.

. We focus on economic rehabilitation of tailings with the idea being to provide positive support to industry to develop recovery aspects.

We have a national observatory of geological mining risks (emergencies are only one element). The observatory receives data to help the agency and companies to provide a comprehensive response

They use algorithms to monitor and manage safety indicators. In-house monitoring system to be connected to the observatory.

Technical and scientific agreement on which elements should be monitored. This should develop an effective and enforced monitoring system.

We need specialists to run this and it is focussed on active dams only.

This is also connected with volcanic-related tailings activity.

With regard to community relations, how to work with communities and to provide information in a simple way so as to not cause panic but to keep trust.

Check the translation of the Thema - Issue or Topic?

A request was made for specific feedback on the water management aspects of the draft Standard as the Chilean regulatory systems seems to differ.

In terms of graduality, implementation needs to be financially attractive to operators.

What is the deadline for the online consultation?

It is a great honour to be invited and it is extraordinary work. In terms of getting contributions from Chile, can we do this online or can we do it face to face?

This is interesting, deep work and we hope that there will be Chilean people on these boards. No Chileans on the UN.

There have been 60% more accidents in Chile than listed. Chile is the vanguard of mining and we innovate on an ongoing basis.

In the draft, why do you not consider upstream construction?

There is empirical evidence to support that upstream dams are all in the extreme category. No down stream dams have failed - only upstream. You say you won't deal with this but to do this would be to ignore empirical evidence.

There are some surprising aspects for example using risk as an aspect of permitting. Risks are not quantitative so far (in the draft) but it would be great to be clearer that Risk should be main criteria. Safety is an important aspect. Chile adopted international standards which state that siting is critical. Chile has looked for abandoned facilities and produced an atlas of Chile and a register of data of the chemical properties of all of these so that there is an oversight of the volume of arsenic and lead on which people can base decisions on where to live

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.

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.

Siting decisions should incorporate closure considerations.

There are 3 different regulatory bodies looking at if 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? Once launched, how can we help you implement it? What will the process be?

Suggestion that Consejo Minero could be an ambassador in Chile

Ohile	Cti	0	Are you considering meeting with communities as this is one of the most important and complicated issues in
Chile	Santiago	Government	Chile?  Don't feel informed technically so don't know how effective the science is and how detrimental it could be living
Chile	Santiago	Project Affected People	so close to the TSF.
Chile	Santiago	Project Affected People	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.
Chile	Santiago	Project Affected People	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
Chile	Santiago	Project Affected People	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.
Chile	Santiago	Project Affected People	Social media tell us that operators are sucking up the ground water so we have a lot of fear.
			We get accuracy of taking the mining companies side when we are got with them and I warm that I am being
Chile	Santiago	Project Affected People	We get accused of taking the mining companies side when we engage with them and I worry that I am being mislead by the company. It is difficult to make people understand as there is a lot of negative media.
010	ouago		Why now? Why is this being done so quickly? Mining has been going on for so long with the same human
Chile	Santiago	Project Affected People	needs, what's the hurry right now?
			The mining industry will be more aware of the impacts on communities. That's why we are being called upon
Chile	Santiago	Project Affected People	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.
		,	
			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
Chile	Santiago	Project Affected People	doesn't talk about failure. Failure means there is a problem. All of this to me spells danger. None of the operators tell us that "every second you are in danger but we are working towards reducing this".
Crille	Sanilago	Froject Affected Feople	operators terrus tract every second you are in danger but we are working towards reducing trits.
			The soil is our livelihoods - "common house" we call it. Mining companies don't care about their footprint or
Chile	Santiago	Project Affected People	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
Chile	Santiago	Project Affected People	danger. Use of the word risk doesn't confer this severity.  Visual, environmental, contamination impacts - the companies are aware. Do companies equate the money
Chile	Santiago	Project Affected People	they give us for projects with the value of human life?
Offic	Garillago	1 Toject Allected 1 copie	There is a problem with language limitations - I like when I hear people (being honest and) saying they are
Chile	Santiago	Project Affected People	afraid.
			Everyday I take pictures at different times of the day. 9 years ago, it was a white dot - now it is huge and I
Chile	Santiago	Project Affected People	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.
Offic	Garillago	1 Toject Allected 1 copie	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
Chile	Santiago	Project Affected People	neighbours and provide education.
Ohile	0	Desired Affected Desire	I have read the standard and with regard to tailings that have been lying there for years - will this standard
Chile	Santiago	Project Affected People	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 Chileans are
			used to disasters so it would be good to educate people that we are in constant danger and if so, what
Chile	Santiago	Project Affected People	chances do we have?
Chile	Santiago	Project Affected People	Will the standard replace our policies here?
Chile	Santiago	Project Affected People	Companies part of ICMM - are they going to adopt this? Are our operators members?  Maybe we should clarify the incentive because voluntary stuff doesn't happen here as we like laws. What is the
Chile	Santiago	Project Affected People	advantage of the Standard?
00	ouago		colaniego o no ocinica.
			On the issue of water, we are very concerned. I've heard that in the 20 years the water will be polluted and that
Chile	Santiago	Project Affected People	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?
Cille	Santiago	1 Toject Affected 1 eople	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
Chile	Santiago	Project Affected People	than any other country to have a quake measuring 10.
Chile	Santiago	Project Affected People	Chile has different construction systems and are doing better than Brazil for example.
Chile	Santiago	Project Affected People	What has happened over time has shown that preventing upstream dams is a good measure.
			·····
Chile	Continue	Drainet Affacted Doople	With regard to consequence descriptors, when constructing we must take consequences into account. 5
Chile	Santiago	Project Affected People	categories aligned to Chilean regulations with regard to extreme consequences for example.  Information needs to be made public. Does the standard apply any conditions on public disclosure of studies
Chile	Santiago	Project Affected People	or assessments?
	Ü	·	What about when a project is presented to the community and project decisions have to be made. At what
Chile	Santiago	Project Affected People	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.
			Why set up a TSF so close to where communities are if there are so many risks? Why aren't they sited far
Chile	Santiago	Project Affected People	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
Chile	Santiago	Project Affected People	wasn't applied but all the regulations are clear now.
			Why this site? We asked the operator and their answer was that the space met the requirements they need.
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.
OTINO	carnage	r roject / mosted r copie	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
Chile	Santiago	Project Affected People	were building the dams.
Chile	Santiago	Project Affected People	Suggest you be more practical and didactic.  Knowledge base (1.3) - Credible hypothetical failure including estimates and 1.4 - I approve of these and they
Chile	Santiago	Project Affected People	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
O	•	D 1 14 5 1 5 5	considering senior technical reviewers and the technical focus should be expanded as we don't trust the expert
Chile	Santiago	Project Affected People	panel.
Chile	Santiago	Project Affected People	Whenever the ITRB are there, the community should be the ITRB do not consider other's perspectives.
Chile	Santiago	Project Affected People  Project Affected People	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?
			What do you think you would like to see in dam construction? You are talking about tailings but really the
Chile	Santiago	Project Affected People	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.
20	- 3	,	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
Chile	Santiago	Project Affected People	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 TSF. We need
Chile	Santiago	Project Affected People	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
Chile	Santiago	Project Affected People	we ask for them. Part of the responsibility of those involved to participate in this engagement but how are we supposed to be
Chile	Santiago	Project Affected People	meaningfully engaged if we didn't get the standard? When I realised how many pros are involved in this project, I realised there were only 4 human interest people
Chile	Santiago	Project Affected People	involved. Out of all the people involved, how many people understand what we need?
Chile	Santiago	Project Affected People	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?
Chile Chile	Santiago Santiago	Project Affected People Project Affected People	How can I trust that the EoR won't prioritise the company?  What about whistleblowers?
Chile	Santiago	Project Affected People	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.
00	ou.mago	r rejecti medica r copie	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
Chile Chile	Santiago Santiago	Project Affected People Project Affected People	minutes. There are no hills that we can climb up to safety.  Signage should be a minimum. Does the standard require this?
Offic	Carmago	1 Toject Allected 1 copie	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 in reality, it did not work. They told us not to drive but others
Chile	Santiago	Project Affected People	did drive so lots of education is required.
Chile	Santiago	Project Affected People	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
Chile	Santiago	Project Affected People	involved in these plans.  Technical plans are well engineered and they are trained in it but we would trust them more if a community
Chile	Santiago	Project Affected People	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
Chile	Santiago	Project Affected People	agreed that discussion was preferable to protesting.
Chile Chile	Santiago Santiago	Project Affected People Project Affected People	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.
Chile	Santiago	Project Affected People	Consider local regulations to be basic so we started banging on their door with regard to ICMM principles.
Chile	Santiago	Project Affected People	Seamless dialogue leads to greater trust.  Lots of elements in this standard that are essential. We must work on the ERP. How are we going to connect
Chile	Santiago	Project Affected People	to this? How do we face our communities?  There may be some aspects we can implement. We have spen 9 years knocking on doors. If we had seen this
Chile	Santiago	Project Affected People	standard earlier, it would have saved us so much time.  I agree that civil society must be recognised and that this is needed in towns that are neighbours with tailings
Chile Chile	Santiago Santiago	Project Affected People Project Affected People	dams. How can we involve civil leaders more in the standard as they will be the ones using this document?
Chile	Santiago	Project Affected People	This issue has almost destroyed families. We are not on an equal platform so how can we engage with government.  Educating companies too about us (social leaders). The new generation rising in the ranks to educate and
Chile	Santiago	Project Affected People	train them so that they don't go through what we did.
Chile	Santiago	Project Affected People	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
Chile	Santiago	Project Affected People	are empowered but some people don't like to put their neck on the line.
Chile Chile	Santiago Santiago	Project Affected People Project Affected People	I expected to have the state to be an "insurance company" to protect us on these environmental issues.  We shouldn't fall prey to being the protagonists - other civil society organisations need to be involved.
Chile	Santiago	Project Affected People	What we want is for the mine to leave or at least to understand the lifecycle and provide a clear path forward so that we can rest easy.
			15.4 states "to train local organisations". We realise we had gaps at state level. Onami, (emergency response organisation) the people supervising tailings, only work until 7pm. There is a huge gap after 7pm and
Chile	Santiago	Project Affected People	we need more.
Chile	Santiago	Project Affected People	Sergeonamin'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 with the EoR of the things the transfer of the transfer
Chile	Santiago	Project Affected People	from the State via the EoR at which point it is too late to respond. The response needs to be more specific. Company doesn't have the authority to respond but we want them to rase the alarm. If there is a 200 year rainfall event and we reach the limit for evacuation, signage and express routes are very
Chile	Santiago	Project Affected People	important.  Good that we are no longer invisible after so many years. We might have been confused but you listened to us
Chile	Santiago	Project Affected People	and explained it.  We are very glad that you speak Spanish. It makes it easier because we can understand you. It is nice when
Chile	Santiago	Project Affected People	visitors speak our language.
Chile	Santiago	Project Affected People	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 mere 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.
Chile Chile	Santiago Santiago	Project Affected People Project Affected People	Why is it so hard to have safety measures for these things as it is all about protecting lives? We do want young people involved as far as tailings are concerned.
Chile	Santiago	Project Affected People	We are more worried about when the company leaves and leave legacy sites that are more dangerous.
Chile Chile	Santiago	Project Affected People Geotechnical Consultants / Academics	Thanks for trying to provide information. We are afraid but it's good to know we are not alone. It was noted early on that this would take 5 years to implement.
Chile	Santiago		Feedback on the translation was that it was quite clearly done by software but obvious that it had been
Chile Chile	Santiago Santiago	Geotechnical Consultants / Academics Geotechnical Consultants / Academics	checked. It remains a little stiff.  We should focus on weak links both in terms of management and technology.  In Chile we follow codes - written rules unlike common law where you can rely on case law. You cannot refer to
Chile	Santiago	Geotechnical Consultants / Academics	a standard like this unless it is part of the code.
Chile Chile	Santiago Santiago	Geotechnical Consultants / Academics Geotechnical Consultants / Academics	Decree 248 is being reviewed and could include as many recommendations of the draft standards.  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
Chile	Santiago	Geotechnical Consultants / Academics	what about the others?
Chile Chile	Santiago Santiago	Geotechnical Consultants / Academics  Geotechnical Consultants / Academics	Brazil copied MAC guidelines, translated them quickly and put them in place as a temporary law.  1.3 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?
Chile	Santiago	Geotechnical Consultants / Academics	What about failure modes other than liquefaction? Maybe a translation issue. In English, "flow failure" (liquefaction or other reason) - not the same meaning.
Chile	Santiago	Geotechnical Consultants / Academics	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 riles for this. There may be a variation of the consequences of a flow failure in terms of environment or communities. The
Chile	Santiago	Geotechnical Consultants / Academics	principles are too broad. We shouldn't have one methodology or another specifically but we need more prescription.
			Usually consequence 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
Chile	Santiago	Geotechnical Consultants / Academics	of 40 years. The consequences will be different for the first 5-10 years. The standard should refer to this.  Minimum compliance v best practise? Is the standard aiming for minimum compliance. It is an important point
Chile	Santiago	Geotechnical Consultants / Academics	to communicate that the standard can be exceeded.  1.4 - Investigating complex evaluation of foundation conditions, contractors are under extreme pressure to
Chile	Santiago	Geotechnical Consultants / Academics	reduce the data collection they do.  Congratulations on the work - it is in line with international trends. In Chile, same efforts with D248. To ground
Chile	Santiago	Geotechnical Consultants / Academics	things, how I do inundation studies per 1.4 - Impact (flow) and inundation area (livelihood and people)? How do we reach a consequence within the area as it involves many criteria?
Chile	Santiago	Geotechnical Consultants / Academics	How can we connect this with current practices, especially for new projects?  The tailings community needs to look at hazard and risk communities. Excellent practice from all over the
Chile	Santiago	Geotechnical Consultants / Academics	world so we must look at other jurisdictions.  2.2 - 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
Chile	Santiago	Geotechnical Consultants / Academics	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
Chile	Santiago	Geotechnical Consultants / Academics	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.
Chile	Santiago	Geotechnical Consultants / Academics	Might be better to include meaningful engagement while ensuring the communities have the tools and capacity to be informed. They need to be on a par with technical knowledge to engage appropriately.
			With regard to 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
Chile	Santiago	Geotechnical Consultants / Academics	of pieces of kit required is high). The best solution includes the involvement of OEMs. Have you taken into consideration the comments of the
Chile	Santiago	Geotechnical Consultants / Academics	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 real 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
Chile	Santiago	Geotechnical Consultants / Academics	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
Chile	Santiago	Geotechnical Consultants / Academics	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.
Chile	Santiago	Geotechnical Consultants / Academics	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.
Chile	Santiago	Geotechnical Consultants / Academics	8.2 & Annex 2 - it is quite good to define critical controls but it is not detailed enough in terms of the frequency, the numbers and types tailings etc.
Chile	Santiago	Geotechnical Consultants / Academics	Connect consequence classification to the level of monitoring.  Applied consequence analysis should be expanded outside of floods and earthquakes. Defined the thresholds
Chile Chile	Santiago Santiago	Geotechnical Consultants / Academics Geotechnical Consultants / Academics	for frequencies and types of monitoring as these are not currently defined. 8.2 in the Spanish version is numbered 14.2. With regard to closure, facilities start as a downstream deposit but end up as a paste tailings dam - how do
Chile	Santiago	Geotechnical Consultants / Academics	you deal with the situation where you have multiple tailings leftover when it comes to closure? Have you considered this?
Chile	Santiago	Geotechnical Consultants / Academics	Definition has to be general, I understand that but for a few general concepts, such as flow failure aspects, these are not clear.
Chile Chile	Santiago Santiago	Geotechnical Consultants / Academics Geotechnical Consultants / Academics	6.2 - Apply safety factors - probability analysis is not mentioned. Risk management doesn't mention risk analysis at all stages and for all failure modes.
Chile	Santiago	Geotechnical Consultants / Academics	Congratulations on 6.4 (DBR) - We have been fighting for this for years and I hope this is included in the revised D248.  Help to control safety from a monitor - direct monitoring is critical - these aspects that are picked up by visual
Chile	Santiago	Geotechnical Consultants / Academics	inspections and not be monitoring instruments. For daily patrolling, you need a trained eye. These visual inspections are not often recorded but would be very valuable in predicting events.  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
Chile Chile	Santiago Santiago	Geotechnical Consultants / Academics Geotechnical Consultants / Academics	need to clarify the wording.  EoR requirements are fine.  With regard to the role fo the state and the role of the operator, for the communities, the draft Standard should
Chile Chile	Santiago Santiago	Geotechnical Consultants / Academics Geotechnical Consultants / Academics	clarify their rights through enforcement.  Vulnerability ranking - The state must do its job and cannot blame lack of resources.  Missing - be clearer about the responsibility of owner and that regulators & enforcers to do the job they are
Chile	Santiago	Geotechnical Consultants / Academics	supposed to do.  EoR - Now a clear understanding across the world. Opportunity to clarify this in the standard. The idea of
Chile	Santiago	Geotechnical Consultants / Academics	having an EoR internally is not a guarantee of sufficient independence from the operator.
Chile	Santiago	Geotechnical Consultants / Academics	12.1 for example, the industry needs a definition of what the role is meant to do and how the roles inter-relate.
			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 abut not having these things in place and it's not appropriate to cut costs on these
Chile	Santiago	Geotechnical Consultants / Academics	issues. Society should not be paying the full cost of failures. Cost-benefit analysis is always used so maybe the standard should nuance it somewhere that the costs can't be the only driver.
Chile	Santiago	Geotechnical Consultants / Academics	Employee with expertise puts the same value on their independence. Could add that in exceptional circumstances only and justified but don't agree with it now (in terms of independence).
	3		Topic 5 - In house activities - if you separate ops from maintenance for example, the same activities end up in
Chile	Santiago	Geotechnical Consultants / Academics	no mans land. There needs to be guidance on where these gaps go in times of an emergency.  Organisation structure and operating model are key. You can't have emergency services reporting to the
Chile	Santiago	Geotechnical Consultants / Academics	concentrator department for example.  Topic 5 can be used to integrate some other requirements. Dynamic risk model (hazard, vulnerabilities,
Chile	Santiago	Geotechnical Consultants / Academics	resilience & recovery).  Emergency preparedness and response needs to go hand in hand with the change in circumstances and when
Chile	Santiago	Geotechnical Consultants / Academics	parameters change - this is connected with knowledge base - risk is powerful.
Chile Chile Chile	Santiago Santiago Santiago	Geotechnical Consultants / Academics Geotechnical Consultants / Academics Geotechnical Consultants / Academics	Calculating probabilities and if not possible then use deterministic approach - take a scenario approach. Risk can tie this document together.  Get people prepared or get them out. Don't let them in or have good evacuation mechanisms.
Chile	Santiago	Geotechnical Consultants / Academics	Chile is considering using tsunami warning systems and earthquake emergency response procedures.
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Chile	Santiago	Geotechnical Consultants / Academics	Commitment to repair and recover will involve a lot of costs. This could be made more robust as it seems voluntary.
Chile	Santiago	Geotechnical Consultants / Academics	Any link to closure planning in terms of creating funds for closure and Principle 16?
			Principle 16 - in terms of Brumadinho - this is very general "evaluate the impact" - no recommendation on what
Chile	Santiago	Geotechnical Consultants / Academics	the standards should be but could include international best practices in emergency response planning.
Chile	Santiago	NGO	Issues with the GTR communications with NGOs in Chile & response rates were low.
Chile	Santiago	NGO	The TMS must be integrated fully so as to ensure that production and tailings teams are connected.  Our organisation works with operators and governments on the prevention of conflicts. We don't get a lot of
Chile	Santiago	NGO	opportunity to discuss these issues. There are lots of social and environmental conflicts in Chile.
			Every company has to do a baseline to present the project for approval. Baseline / impact assessments are
Chile	Santiago	NGO	logged and each request is publicised each week yet communities don't find about what this.
Chile Chile	Santiago Santiago	NGO NGO	Will the standard be an obligation or voluntary?
Chile	Santiago	NGO	How can we help companies improve the standards of tailings management?  How are you going to use this information with communities?
Chile	Santiago	NGO	There is a challenge with disclosure in Chile.
Chile Chile	Santiago Santiago	NGO NGO	Table 2 - Acronym - MCS - doesn't match - Sismo Max. Cred. The responsibility sits with the owner.
Chile	Santiago	NGO	Does independent mean out side the company?
Chile	Santiago	NGO	Emergency response - involvement by the community is key.
01.1	0 "	NOO	Keyword you have used is "building trust" which is a complex issue. The standard is important but what
Chile	Santiago	NGO	happens is that the standards are basic. We should have these as a minimum as it affects the earth forever.  Building trust cannot be achieved without engaging with people who are going to be affected. They must have
Chile	Santiago	NGO	a voice.
			8 projects affecting 30,000 people who have no opportunity to address the state. The consequences /permanent impacts are borne by the communities not the companies. Very difficult to deliver on promises of
Chile	Santiago	NGO	the companies.
Chile	Santiago	NGO	Employment offices set up to recruit in areas with no economic opportunities so they accept any employment conditions.
Offiic	Carmago	1100	Impacts on the territories are not identified in time. How to measure the impact of Samarco for example and
Chile Chile	Santiago Santiago	NGO NGO	incorporate that into the standard?
Chile	Santiago	NGO	Projects create a lot of noise at impact assessment time but then it goes quiet.  International standards should apply everywhere.
Chile	Santiago	NGO	Lack of guarantee the government gives to their communities is a very important aspect of this issue.
Chile Chile	Santiago Santiago	NGO NGO	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
Chile	Santiago	NGO	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
Chile	Santiago	NGO	the interaction with natural regulations to allow flexibility.
Chile	Santiago	NGO	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.
Chile	Santiago	NGO	Human rights due diligence is generally not applied in Chile.
Chile	Santiago	NGO	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.
0.11		1100	You talk about trust - The challenge is that it needs to be reliable. Chile has a very bad record and this would
Chile Chile	Santiago Santiago	NGO NGO	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.
Chile	Santiago	NGO	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
Chile	Santiago	NGO	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
Chile	Santiago	NGO	and communities in this enforcement?
			With regard to verification protocols and the involvement of assurance. How the communities engage in
Chile	Santiago	NGO	assurance is by being asked to verify data or information obtained by the assessor to check it's true.
Chile	Santiago	NGO	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 state here in Chile.
Chile	Santiago	NGO	Why is there no chance this standard could be integrated in law?
Chile	Santiago	NGO	Chilean president has ignored reports on human rights violations right now. This is a specific challenge here that doesn't happen elsewhere.
Chile	Santiago	NGO	Wish this standard could involve more powerful actors.
Chile	Santiago	NGO	What's the position of the standard with regard to ocean tailings disposal?
Chile Chile	Santiago Santiago	NGO NGO	Topic III - where is closure?  What happens with tailings that exist before the implementation of the standard?
Obit-	Cti	NGO	
Chile	Santiago	NGO	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
Chile	Santiago	NGO	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
Chile	Santiago	NGO	contamination, including that caused by wind.
			Topic 6 - Just published an article on tailings pipelines that rupture and leach into rivers. Most of the time, companies deny it. How can the standard make a change by applying this topic because in Chile, companies
Chile	Santiago	NGO	do not supply transparent information?
			The Standard could help improving this by involving other agents to enforce what the standard says. Chilean
Chile	Santiago	NGO	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.
Chile	Santiago	NGO	We strongly recommend you get an implementation partner. (8.1 or 8.4)
Chile	Santiago	NGO	Who is going to manage the information of the standard? How will they manage the information the company provides?
01.1		NOO	We are currently looking for solutions right now in Chile to our existing problem with regard to the inequality of
Chile Chile	Santiago Santiago	NGO NGO	information.  The standard is a resource for the community to engage with the companies.
Obil-	Cti	NGO	We have a role to show them they can use this as a tool to ask "why are you not complying with international
Chile	Santiago	NGO	standards"? We have a programme of "adopt a tailings" and for example, the standard could be trialled within this
Chile	Santiago	NGO	programme.
Chile	Santiago	Mining Industry	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
Chile	Santiago	Mining Industry	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
Chile	Santiago	Mining Industry	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.
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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 has a different set of responsibilities in different countries. In Canada the professionals sign their livelihoods away by signing a document. 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 certification for EoR.

By creating a position such as this internally, you can create accountability under criminal law so prosecution can still happen.

Technicality 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 State around these key issues e.g. insurance based on X situation, if the community changes/increases, my insurances will increase and this might make my business less viable. Not sure if there will be another document to try to engage with the states or should there be one new topic areas to cover the role of the state in terms of the operation of a new TSF.

If permits are received but conditions change and I have a new circumstances which mean I no longer comply with all requirements - will be certification be revoked?

Now a lot of the financial companies, e.g. trust funds and investors, that will be looking at this certification. If there are new circumstances which mean you can't meet the requirements and you get your certification revoked, this could put your company in a difficult position with regard to financing.

revoked, this could put your company in a difficult position with regard to financing. Very interesting that there will always be risk that you cannot eliminated. The state should always ensure the safety of the people and in particular the people downstream. The state should be heavily involved in this process given the level of risk to their people.

Understand that 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 obligation to get an agreement with the communities in the situation where 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.

You should focus only 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 could 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 they 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.

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 a great effort putting this 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.

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 responsible for issues that arose hundreds of years ago. 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.

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 this creates could affect the normal operation without really producing the outcome of a safe facility. E.g. we know there are some stakeholders that are not constructive and they could use public information to cause problems. Finding a way to limit the information might be good - the list states that almost everything needs to be disclosed. Concerned about the impact that could have in terms of diverting attention.

The particular items that cause concern include: 4.2, 4.3, 9.1, 9.2, 7.3 & 7.8, 11.1, 11.4, 11.5 & 13.5. These would not be helpful to publish.

Principle 15.2 (public sector) - with regard to the role of the state. And 16. Of course we understand the principle that when preparing for an emergency, you should involve the government but when you say "significant participation" of public sector, not every local state has the same capabilities in terms of capacity or resources. They may not have an expert in every region so it would be difficult to participate in the planning processes. We are not sure how we manage this when we as a company start to take responsibilities that should sit with the government where they don't exist. If you have an accident and the local services are not able, this would be difficult where there is no capability so the sensitivity is how the operator takes this on this responsibility. As written, it is expected that the company does this and it could be strengthened.

The language "act accordingly" needs to be strengthened. Does the Standard only look at catastrophic failures or all failures. I can't imagine a catastrophic failure that would have any lower consequences than very high or extreme. For non-catastrophic failures, you may not have to have all of these requirements for those situations. If it is just as a general rule that the failures determine your standard, how do you consider the alternative situations in your analysis. The standard in general has a lot or restrictions and my impression is that implementation is to prevent catastrophic failures only

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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 consequence category 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 not 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 deposits 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.

Req. 3.3 with regard to resettlement in particular, should be explicit about existing  $\nu$  new.

We understand that there will be information that will be disclosed to communities so they can understand and know the risks so it would be good to see how that information could be delivered so that it is understood. 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.

Principle 5 or 6 - These could be merged as I cannot see the difference.

Consequences that are very high or extreme, you don't do a true risk analysis you go into consequences only. If you have a low consequences, you can sometimes accept a higher probability. You cannot do a trade off if both are high. You are always and immediately out of the risk analysis and into the probability. Maximum consequence management could be putting in a secondary containment dam which may not be economical, or filter your tailings and add cement so that they become solid. The decision about your tailings dam solution has to be at the highest level of consequences. It's not the project manager to take the decisions to ensure that the cheapest action is not taken so as to meet their KPIs.

Could the expert panel be made responsible to make public information? They could also be the ones to decide what information and what level of information could be appropriate. There should be an entity who decides what level of disclosure is appropriate.

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 on what to do in this case. 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, it of course includes the tailings dams. 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".

Minster 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.

With regard to implementation will this be voluntary or compulsory? How does it relate to local regulation? In the future it will become compulsory even if it starts as a voluntary initiative

How long would it take to get certified? How long does the certification last for? How is it different to ICOLD, ANCOLD and MAC guidelines? What does it add?

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

wait legal to a duff and imperimentation, orien such initiatives cleate work for folegin additions and don't learly make a difference.

Req. 3.3 - Too general and does not consider local regulation. It suggests there are only two options: relocate

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.

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

The focus should be on preventing catastrophic failure, not general management. 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? What is the point of reference?

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

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).

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

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

You need to clearly differentiate between upstream and downstream.

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.

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 non-existent or clinics are many kilometres away. Does that mean that the company need to set up a hospital there?

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

Emergency response - close the loop by engaging closely with government so that responsibility is shared. Public disclosure: good for the public to know the risks; important for companies to look at social and cultural aspects. The company needs to speak to communities downstream in case there is a risk of dam break. How do we engage though? Do we just go and speak to them?

Public disclosure - importance of explaining the information to avoid communities using the information as leverage to jeopardise the project.

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Req. 13.4: "senior independent technical reviewer" who defines what is a "senior expert"?? In Ghana we have maximum of 25 experts with 15+ experience. You would run out of people.

maximum of 25 experts with 15+ experience. You would run out of people.

Be aware of surface rights and access to land and how that is integrated in the Standard. Resettlement and compensation shouldn't be the only options.

Important to state (in Intro) what is the gap. Make clear what needs to be done to raise the bar.

Most of the tailings requirements are already legislated in Ghana - government regulation: LI 2182 - MinCom. For the technical construction of the dam, we need more detail. We need the "how" and detail proceedings, not general requirements.

Importance of ongoing engagement with flora and fauna NGOs.

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).

Dedicated tailings unit is critical.

"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.

Audits have to include affected communities. There is now no communication or transparency about how auditors arrive at their conclusions, how they give a score.

Good regulation but poor implementation and enforcement. There are also contradictions between Minerals Commission (COI 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 linings removed at closure to restore the land to what it was before. If EPA's requirement for liners is met, how 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 siting 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 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 build 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 substandard 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 cultures and report bad news and where 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, how 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 it 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.

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 to 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 actualise 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 important to keep doing 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 ÜK 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.

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Is ICMM sharing information between companies on stuff like this?

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.

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 is specific and link it to tailings and to the operational management generally. We don't need to add anything else, just to connect it together. 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 them because of legal entitlement. Could we include something in the standard about how to deal with this situation?

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

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 dam could fail and as such your life is at risk? Is meaningful that I put it on the webpage 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 to do this responsibly is a challenge.

Is it something that each operation does or does the government or other organisation bring it into the public discourse?

The EIA consultations that we do includes this (engagement with communities).

Knowing that they are at risk will increase expectations.

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. 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 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.

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?

The standard doesn't call out that the responsibility is handed over however.

Principle 13 could include a suggestion on training for government.

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.

We have some ownerless tailings facilities in RSA and the government has responsibility for these. If I am 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.

UN guiding principles already infer these responsibilities on the governments

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?

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.

I like that you make the senior executive responsible at the end of the day.

Will the factors of safety come into the recommendations report?

We already have factors of safety for different scenarios and activities around the mine.

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.

Will it not be prudent if perhaps the standard was to provide guidance on timeframes regarding the upgrading of current tailings facility? Otherwise we will take forever to do this.

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 with possibility of 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 with 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. Not necessarily retrain as an engineer but some training material to ensure competence of individuals working on tailings facilities. We need to have something in place to train these people.

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

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.

In RSA if you are a contractor, you can still be held responsible under mine health and safety regulations. The EoR today can write to the company to flag concerns and ask that they address it but that's as far as they can go - they have no further power.

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 say that we have the proper response team for this situation but we need to 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. Our mine rescue services are not skilled or staffed to provide these types of responses.

One of the 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 happened it was very interesting how different people got involved. It is a model that can be adapted and taken into our own conditions. It's not really dependent on the mine as the damage is outside our fences so it has to be driven largely outside the mine fence. It is something that most operations are perfecting these things and legislation is pushing towards this. Ref: Footnote 32 - How would we begin to address this requirement?

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.

In the unlikely case of failure, the operators have to provide this anyway.

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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 X,000 people are affected, how to 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 footnotes, 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, in my experience, when we do this, some interested but unaffected party will pick up on this information and start publicly sharing it in a different way. We then need to have 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.

Maybe if you had disclosed this information already, the community would have been able to discount 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

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

Where settlements spring 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 are 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.

RSA we have a code of practice on life threatening occurrences. 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.

RSA is not currently equipped to deal with this in terms of public services.

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

Cross-functionality and inter-disciplinary issues are very welcome.

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

Periodicity of 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.

Topic II and VI and Emergency response - brief discussion on resettlement requirements (which they will feed into the portal)

Meaningful engagement - needs to take into account vulnerabilities etc Potentially need to bolster the definition.

Literacy levels in terms of information sharing must be more strongly reflected.

Information overload is a risk and focus required on meaningful information.

Specificity on dam size etc - Categories of sizes of dams require different management requirements in RSA. Add more quantitative factors of safety.

Query about the use of factors of safety and why brittle mechanisms were used.

Why have some requirements gone beyond current international standards?

Accountable executive and board differentiation could be revisited

Question about the number of different roles required in the face of the current level of skills capacity.

Standard could address, for example, how many facilities an EoR might be likely to have to look after? Observational method has limitations in addressing brittle failure modes.

What about reliability and probability of failure in terms of assessing rather than just factors of safety? We didn't feel that we should take out factors of safety completely in terms of mentioning numbers, we would prefer to add other aspects. When you do specify FoS - look at international standards which are more specific.

Involuntary resettlement - our concern is that if you do an inundation study, you do not differentiate high probability or low probability of failure. We do it on the premise that it does fail. If we have involuntary resettlement in the standard, we could have a situation where a dam is well managed do we then have to resettle these communities. If we work on that principle, would we not cause mad panic.

Why is there no representation here from our regulator?

Something that occurs to me that from an outside perspective, why aren't we talking about zero waste?? Where is the advancement in that operational capacity or circular business process to make this happen? Putting my overly cynical hat on - when I see things about human rights and principles - I would like to see the rubber hitting the tar. These are platitudes unless there is some mechanism where by this is monitored and evaluated. I don't see it as being any more than what people are saying already. Very little change in terms of the impact on their lives. Mining is more concerned with what suits them from a processing perspective and not the impact on human lives

I have similar concerns, in my initial review of the standard I think it's quite progressive and a lot of what we want to see is in the law.

I'm surprised that this has come out of ICMM as this seems to go much farther in many ways than they have come out with before.

What does the standard actually mean? I will be surprised if the ICMM members embrace something so progressive. What do we do with it then? What does it mean for an ICMM member organisation not to adhere to this standard with regard to the communities?

Useful advocacy tool but beyond this I don't see this going anywhere.
Useful to learn about the implementation but I think we are always looking for ways to make binding what are ultimately voluntary principles. If an ICMM member company does not comply with this standard, what does this mean? What would the sanctions be?

What will your grievance mechanism look like?

We may need to add more to the explanatory text with regard to best practice on grievance mechanisms.

You said you have 7 weeks of consultation and you counted about 8 countries. An interesting part will be that from where I am sitting, we welcome the process etc but for 7 weeks to touch all of those countries and to talk to the communities in those countries. How do you do these consultations in these countries? Do you consider this to be a full South Africa consultation because I am quite shocked that this is how you are doing it? The time is a problem and so is the electronic format. We are doing a perception index on line and in paper. We discovered that in the process of working with PAP, we are much better connected when it comes to the internet. When you talk of an electronic survey, it's not something that works in South Africa. People in mining affected communities are illiterate and only some of them would have technology. To get the means to participate is a huge difficulty. When you talk about things that directly affect the communities, it's not going to

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

With regard to the consultation process: What we are reflecting here is an exhaustion with these types of

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.

Are there any reflections you can share about what the companies are saying about the standard during your consultations?

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.?

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 big gap between senior and local 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 aiming to introduce transparency, 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? Req 3.4 & Glossary.

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) I want to share what I had in the back of my mind before I came here about my concerns with regard to

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. This community is between two tailings 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.

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 "sands". The operators often try to blame the chain and say that these drivers for example are contractors.

Water discharge into natural rivers. Leaching etc upstream.

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

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?

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?

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 dams 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?

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 review these and to take us through the science and break it down for us 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.

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 mahor 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.

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.

It is a concept that is long over due 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 this standard addresses them is something that will go along way which is all the more reason why we need to get the voice of those most affected.

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 March next year so that we give space for this kind of engagement and this kind of presentation to be made.

I will share the portal with provincial chapters via Whatsapp across Africa but the challenge will be to find the means to participate. How can we ensure that affected and impacted communities to speak effectively? For me, now that we have this document - next week the country closes down. Nothing really happens until the week of the 11th January when things start to pick up. We can start working on it now but alternative mining Indaba, it is federations of communities. 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 we are told by them that it is not illegal.

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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 per year to build a school 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

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

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 them to the outskirts of the city and we find that the dust and the sand from those tailings are even finer than they were in our areas because the remaining gold has beer 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?

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.

In the 7 weeks you are giving to consult, you should consider opening this up further especially if people are not educated.

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

You 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).

Holders of political office are very connected to operators and vice versa. There is a revolving door system. Black empowerment partners in some cases are not educated or qualified to work in mining.

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

What is the point of taking tailings from one place to another, even closer to the communities? Why don't you put them into the holes you have already created in the ground?

We call it the silent killer.

We have met people from all over South America, Yugoslavia and other places but we have never met with a global standard. How would you make that happen?

If companies don't comply then they don't get a certificate but they should also be penalised.

It would be good if the independent entity looks at both sides, the operator and the government, so that there can't be any golden handshakes

Where do the governments fit in? If the government is issuing a license to the operator, do they need to look for this certification?

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.

Revisit the purpose of the standard - do we look just at this Standard or together with national standards. There is a problem with duplication of standards. Will the Standard become the benchmark? Discussion around the RSA standard - SANDS 102.

Please give better guidance with regard to the term 'regularly' in line with the Consequence classification e.g.

Site characterisation - annually for extreme or every 2/3 years for significant / high? Does 'regular' mean monthly? Please be more prescriptive and specify the frequency.

Is the Standard in line with current standards / or national standards?

Please make climate change more visible, how we can meet these challenges using the standard to help us regular updates to the baseline and consequent management measures

This makes the site characterisation more complex including social & environmental & physical behaviour so it will be difficult to come up with broadly applicable frequency of updates to the Knowledge base 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.

Reg. 15.1 - Because it is site-specific, the knowledge base should 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 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 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 contextspecific? 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.

Will disclosure make the facility safer?

Is there a specificity on dam size e.g. water dam safety risk as relevant to national legislation? I commend the cross-functional approach.

Industry associations have a role to play in the success of this Standard.

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Topic III - Factors of safety & likelihood of failure = be more quantitative please and align with the consequence classification.

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 more robust description and should be on a par, or should be more emphasis on reliability. Factors of safety gives a mathematical approach vs

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

Feels like one extra level of control - site engineer + EOR + ITRB + DSR. Seems like too many 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 H&S 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.

variability / uncertainty. Both should be retained.

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

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?

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

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 right that this is required for all. For consultants it means more work and more dollars but I am not sure companies will not appreciate the

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?

It seems to me it is also a matter of organisation culture which I hope we will hear more about.

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?

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 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 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?

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

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

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

We report on INCOLD, CDA, DMIRS - and now another one?

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 this somehow 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.

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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 undate the study.

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 risks is non-fresh water dams - not tailings but impoundments - Is 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.

Accountability and culture are important.

result

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

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?

Knowledge will also form the basis of performance reviews.

Financial assurances depend on state - some have provisions for closure, doubt there are any for rehabilitation. Pool of insurers is getting smaller as they are no longer willing to take the risk so we will struggle to get insurance and struggle to get sufficient sums insured.

More detail on provisions for closure costs these days. It is a very subjective matter. You pay \$x per hectare on closure but no need for a geotechnical assessment (essentially an earthworks thing).

How would small coal mining companies implement this? Will the one man engineer become the EoR? Can they outsource the operational issues?

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

AMEC would be interesting to connect with them (juniors and exploration companies). Implementation will be very tricky across range of companies.

As a consultant, would you work for a company who don't comply with standards? Reputation is at risk. Geotechnical capacity within regulators is limited.

It is a high-risk career for prospective candidates.

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

Difference between geotechnical engineer and a tailings engineer

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

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

10.3 - RTFE has to report to mine management - some facilities don't have a mine - change to facility for example.

11.4 - not been able to do successive reviews - can't come to the immediate one but can go back. Wherever it says Accountable Executive - change to "AE, or qualified delegate reporting to the AE" The term 'Best practice' - there is a legal meaning associated with this. The duty of care would be the average of what the practitioners would be able to provide (not many can do this or therefore review against). Legally challenging. Suggest - Accepted standard of care or something similar.

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 emphasised in the implementation document once the standard has been implemented bearing in mind that there are possibilities within the standard to clarify about being more cautious of the words, use of footnotes and of the explanatory text in the recommendations report.

The level of work and the amount of work that would be required for a low cat dam or a high cat dam - you would be approx. 70% along the work you would have to put in for the low dams. This would dilute the energy and effort involved for the resources we have to deal with the higher consequence.

Starting out with extreme category in the design of a new facility - at what point can it be downgraded to a lower level? Are you bringing in an ITRB from day one? Do we have the resources available to do the work that will be required as a result of the standard?

Are you bringing in an ITRB from day one? Do we have the resources available to do the work that will be required as a result of the standard?

Stretched in terms of EoR, consultants and ITRB - the sheer number of people to manage the standard is a lot.

Design criteria for extreme dams are far more stringent than for other industries such as for earthquakes. Buttressing applied to existing dams required to reduce to lower levels and the ability to manage and that is questionable.

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Australia	Perth	Mining Industry	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 dams is a very onerous requirement.
Australia	Perth	Mining Industry	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
Australia	Perth	Mining Industry	includes no potential impact of flow failures. This will never allow you to move back from extreme categories.
Australia	Perth	Mining Industry	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
Australia	Perth	Mining Industry	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
A 4 1; -	D	Minima Industry	the conversation on determining negligence. It will be interesting to see how regulators intend to approach
Australia Australia	Perth Perth	Mining Industry Mining Industry	these. You need to get the view of regulators as to how they would use the standard.
Australia	Perth	Mining Industry	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 v new regulations, closure and chronic impact
Australia	Perth	Mining Industry	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
Australia	Perth	Mining Industry	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
Australia	Perth	Mining Industry	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
Australia	Perth	Mining Industry	we need to comply?
Australia	Perth	Mining Industry	Req 4.1 a - Not clear. Delete "impactful flow failures"
Australia Australia	Perth Perth	Mining Industry Mining Industry	Req 4.2 - not clear precisely who makes the decision to rebut.  Req 5.5 - "Should" should be "Shall".
Australia	Perth	Mining Industry	Req 12.2 - Change the word "concurrence" - poor choice of word.
Australia	Perth	Mining Industry	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?
Australia	Perth	Mining Industry	Footnote 37 - Consolidate long list of requirements.
Australia	Dorth	Mining Industry	Need to differentiate between law and high concessioned dome because not appose people to do all the work
Australia Australia	Perth Perth	Mining Industry Mining Industry	Need to differentiate between low and high consequence dams because not enough people to do all the work. 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
Australia	Perth	Mining Industry	overwhelmed with requests for information because every time they provide information publicly, they must also provide it to the market.
Australia	Perth	Mining Industry	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.
Australia Australia	Perth Perth	Mining Industry Geotechnical Consultants / Academics	17.1 - requires you to disclose without being asked - we would prefer to wait until we are specifically asked. Will there be a period of further revision post implementation?
Australia	Perth	Geotechnical Consultants / Academics	Is the view for the guideline to complement different guidelines that are already out there? Would this take precedence over those other guidelines or what do you think this might look like?
Australia	Perth	Geotechnical Consultants / Academics	Just querying what is a qualified engineer? A degree, chartership? It could be equal to the Senior Technical Engineer but this is currently not defined for the EOR or qualified engineer.
Australia	Perth	Geotechnical Consultants / Academics	What are the implications for individuals who are appointed? If something does happen even with all of the guidelines in place, is the intent to assign responsibility away from the board?
Australia	Perth	Geotechnical Consultants / Academics	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 it 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.
Australia	Perth	Geotechnical Consultants / Academics	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?
Australia	Perth	Geotechnical Consultants / Academics	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.
Australia	Perth	Geotechnical Consultants / Academics	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 reducing the volumes 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.
Australia	Perth	Geotechnical Consultants / Academics	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?
Australia	Perth	Geotechnical Consultants / Academics	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.
Australia	Perth	Geotechnical Consultants / Academics	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 other guidance. By providing an example it is excluding something that was potentially not intended. Remove examples from the annex? Change to significant PH to the surrounding environment for example.
Australia	Perth	Geotechnical Consultants / Academics	Consequence classification matrix - what about risk? The standard is very focused on impact to people - what about threatened or sensitive areas to communities?
Australia	Perth	Geotechnical Consultants / Academics	It does specify a time impact which is reasonably well measurable metric.  Is the intention that the description of environment > significant - the first sentence is the requirement with the
Australia Australia	Perth Perth	Geotechnical Consultants / Academics Geotechnical Consultants / Academics	rest of it being examples?  Do you start with extreme and work your way back down?  General Q about the approach for principle 6 - the decision making process to develop this with respect to not specifying factors of safety. You have specified design criteria but have avoided specifying factors of safety - what was the motivation for this? Most guidelines and legislation specify a factor of safety that you have to work towards and there is currently a movement towards doing this on the basis of probability. often there is a risk of prescribing a factor of safety that people assume it's safe if the monitoring is within the defined
Australia	Perth	Geotechnical Consultants / Academics	parameter.

Australia	Perth	Geotechnical Consultants / Academics	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? 6.4 re DBR - 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
Australia	Perth	Geotechnical Consultants / Academics	this factor. Suggest including the senior executive in this requirement.
			One of the issues I see here is that you 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
Australia	Perth	Geotechnical Consultants / Academics	performing operators who do not operate responsibly.
			One thing in general terms, training framework for stepping into these roles. The amount of deliverables that
A t 1: -	D	Ctb-:  C tt	we will have will cripple the market - this puts a lot of additional workload on the industry - this will choke up all
Australia	Perth	Geotechnical Consultants / Academics	of the senior positions in consulting firms.  If you raised the salaries, you would increase university uptake which would also lead to the universities
Australia	Perth	Geotechnical Consultants / Academics	increasing their fees.
Australia	Perth	Geotechnical Consultants / Academics	It is not a structured discipline at the moment - no qualification for a tailings engineer.
			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.
			Is there an opportunity for a panel to provide some recommendations to governments or universities to
Australia	Perth	Geotechnical Consultants / Academics	provide these skills?
			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
Australia	Perth	Geotechnical Consultants / Academics	monitor every tailings dam who want to consult on what would happen, it is not going to work out.
			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.
			Companies should put a lot more energy into developing the state capacity. There seems to be a higher
Australia	Perth	Geotechnical Consultants / Academics	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
Australia	Perth	Geotechnical Consultants / Academics	operators.
			<b>-</b>
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	i Citii	Geolecinical Consultants / Academics	Unexpected inundation with heavy rainfall or seismic activity will already drain the emergency services outside
Australia	Perth	Geotechnical Consultants / Academics	of the mine so the operators should not rely on the emergency services.
			If you place the tailings in pit and they might still fail in there - suggest adding "based on consequence". After
Australia	Perth	Geotechnical Consultants / Academics	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.
, taotrana	1 0141	Coolor mod Concatante / / toddormos	Defining what is credible causes a lot of argument among consultants so the requirement to do credible
Australia	Perth	Geotechnical Consultants / Academics	hypothetical failure modes is well written.
Australia	Perth	Geotechnical Consultants / Academics	2.1 - alternatives analysis links with principle 5.
			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
Australia	Perth	Geotechnical Consultants / Academics	data may be potentially relevant.
	5		You are dealing with a consequence instead of a risk and communicating this is risky. We do not tell the public
Australia	Perth	Geotechnical Consultants / Academics	with worst case scenarios when discussing emergency situations such as fires.
			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
Australia	Perth	Geotechnical Consultants / Academics	- 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.
, taou ana		Cooled I I I Consultante , 7 tou de l'II S	16.3 - when is it intended that this plan be developed? Also it is italicised but has no definition. You should
Australia	Perth	Geotechnical Consultants / Academics	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.
Australia	Perth	Geotechnical Consultants / Academics	Business continuity plans are quite common in larger companies.
Australia	Brisbane	Civil Society / Academics	Need to create a stronger link between the knowledge base and affected people - how information is shared
Australia	Brisbane	Civil Society / Academics	Strengthen the (concept of) co-creation of knowledge base.
			Role of the regulator is important but (the Standard) does not provide a regulatory model of leading practice. A
			regulatory model is needed. (Out of scope?) Would like to see recommendations on this in the
Australia	Brisbane	Civil Society / Academics	recommendations report. (the standard is narrow on this but the conversation around this was quite broad).
Australia	Brisbane	Civil Society / Academics	With a tailings standard, is it possible organisations return to alternative models that are worse? Is there a potential for perverse affects or retrograde actions such as riverine tailings?
Australia	Brisbane	Civil Society / Academics	Include as a principle (that there is to be) not adverse change in riverine/oceans (disposal).
Australia	Brisbane	Civil Society / 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 commitment to the principle and the process to have had and to initiate conversations.
Australia	Brisbane	Civil Society / Academics	16.1 - Semi-colon missing.
			Emergency response - remote locations - need companies and government to be prepared and money set
Australia	Brisbane	Civil Society / Academics	aside.  Need clarity about how/why the TSE is less extreme (rick) after internal examination/evidence, who is
Australia	Brisbane	Civil Society / Academics	Need clarity about how/why the TSF is less extreme (risk) after internal examination/evidence - who 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 DSR 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 Civil Society / Academics	Governance structure also needs scalability.
		<b>,</b>	Principle 16 should specify what would be reconstructed needs definition - to include livelihoods - outcome not
A	D-: '	Oid Codet / A . I .	just infrastructure - must include ecosystems - major - assumption that repair will not be restoration
Australia Australia	Brisbane Brisbane	Civil Society / Academics Civil Society / Academics	(irreversible loss) - major heading. Omission - Closure.
Australia	Brisbane	Civil Society / Academics Civil Society / Academics	Omission - Closure.  Omission - Needs definition - Slow failure v acute failure - Accumulating/cumulative.
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 Australia	Brisbane Brisbane	Civil Society / Academics Civil Society / Academics	Omission - Internal audit but not external. Omission - Topic 3 - Must include closure in the heading.
Australia	Brisbane	Civil Society / Academics	Omission - Legacy issues of abandoned community left behind.
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			Blodal Tailings Review Public Consultation Feedback
Australia	Brisbane	Civil Society / Academics	Omission - Topic 2 - doesn't engage with post-closure land use at facility.
Australia	Brisbane	Civil Society / Academics	Omission - If community perspective - all disposal means need to be addressed.  Omission - Topic 4 - All internal management/governance needs to encourage companies to proactively
Australia	Brisbane	Civil Society / Academics	engage with regulator & with indigenous groups.
Australia Australia	Brisbane Brisbane	Civil Society / Academics Civil Society / Academics	Strength - Well crafted language - easy to read/understand for non-technical people.  Strength - That affected communities are central.
Australia	Brisbane	Civil Society / Academics	Strength - Local content approach.
Australia Australia	Brisbane Brisbane	Civil Society / Academics Civil Society / Academics	Strength - 2.3 Requires us to assess the potential failure.  Strength - 2.3 All TSFs are at a high risk until proven otherwise.
Australia	Brisbane	Civil Society / Academics	Strength - Portal allows specific feedback to be included.
Australia	Brisbane	Civil Society / Academics	Strength - May encourage alternative/improved ways of managing tailings.  When the process is finished and you implement this - which organisations do you expect would endorse this
Australia	Drichono	Civil Coninty / Anadomina	standard? It's important at the international level who endorses this document. Is there any involvement from
Australia Australia	Brisbane Brisbane	Civil Society / Academics Civil Society / Academics	ICOLD for example which might have an interest in this area.  Do you envisage that the standard would supersede the myriad of other standards around the world?
			You have legal representation on the committee, in their view, will the standard carry more weight than the regulations in certain jurisdictions? If a representative of a company is going to be arrested, will they be held
Australia	Brisbane	Civil Society / Academics	accountable under the regulations or the requirements of your standard?
			About the timeframe - you were given only a very short time to complete this job. I understand the public and
			political pressure to come out with something but there is also an obligation to engage thoroughly with mining
			affected communities. One year is a very short time, would you accept this time frame again if you were asked? Would you consider an opportunity for some form of review and to consider this as a living document
Australia	Brisbane	Civil Society / Academics	that would continue to evolve after March next year. There really is a problem with this very short timeframe.
Australia	Brisbane	Civil Society / Academics	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
Australia	Brisbane	Civil Society / Academics	than a standard? This should be a minimum requirement.
			ANCOLD has a guideline that to all intents and purposes is a de facto standard. The mining industry consider
Australia	Brisbane	Civil Society / Academics	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 - overtime the standard could become overarching
Australia	Brisbane	Civil Society / Academics	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 as there are a lot of "shoulds" in there. In the requirements there are lots of
Australia	Brisbane	Civil Society / Academics	shoulds. The standard must be an imperative.
Australia	Brisbane	Civil Society / Academics	Irrespective of what name you use, it seems to me that this document is a high level guidance document. The high level types of principles are interfering with high standards.
		•	In terms of enforcement, it comes back to whether the state regulator adopts it as the enforceable instrument.
Australia	Brisbane	Civil Society / Academics	Until such time it could either be a standard or a guideline.
Australia	Brisbane	Civil Society / Academics	What status will this document have finally as this will help have them adopted or endorsed at local level.
			One of my concerns is that some of the technical requirements are very complex (e.g. analysing slurry is very complex) - who will say that the analysis has been done properly? There is a bit of a grey area about who will
Australia	Brisbane	Civil Society / Academics	sign off on this.
			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	Brisbane	Civil Society / Academics	Australia is written into law.
			In the discussion format we are only speaking about the contents of the standard - what about implementation
Australia	Brisbane	Civil Society / Academics	principles? These would be useful to give the implementing body some guidance about what your vision was.
Australia	Brisbane	Civil Society / Academics	Some issues would be directed only to the standard entity but some implementation issues would be directed at the operator.
Australia	Brisbane	Civil Society / Academics	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
Australia	Brisbane	Civil Society / Academics	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 -
Australia	Brisbane	Civil Society / Academics	what are they not happy about?
Australia Australia	Brisbane Brisbane	Civil Society / Academics Civil Society / Academics	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?
, taoti alia	Briobario	Civil Coolety / Academico	In discussions I have had with people in the industry, they have voiced concerns about the rebuttable
			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
Australia	Brisbane	Civil Society / Academics	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
Australia	Brisbane	Civil Society / Academics	clearly in terms of knowledge base and consequence.
Australia Australia	Brisbane Brisbane	Civil Society / Academics Civil Society / Academics	The sense I got was that you were planning to add more content about closure etc.  Assignment of the engineer of record - stating this rather than "expert" is a good idea.
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			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
Australia	Brisbane	Civil Society / Academics	information but we need to start thinking about how we do this.
Australia	Brisbane	Civil Society / Academics	I didn't read this knowledge base as being a broader public database but rather focussed on an operation.
		•	Governments need the data that spans back from the commencement of the structure of the dam to take over
Australia	Brisbane	Civil Society / Academics	when they accept closed sites.  The best instrumented tailings dams in the world are those who have had failures. Huge effort to bring all
Australia	Brisbane	Civil Society / Academics	dams up to this standard.
			There is no connection after a number of years as they report to the mine manager - the person who has a lot
Australia	Brisbane	Civil Society / Academics	of knowledge so if they report to an individual who is separate, this will help with that information retention.
Australia	Brisbane	Civil Society / Academics	Still a risk that if it is within a company, the financials will also dictate the resourcing of data sources. It's difficult for operators to maintain knowledge over even a period of ten years.
Australia	Brisbane	Civil Society / Academics	This data collection needs to link in with the state regulator, The regulator needs to request certain documentation that they can store away.
Australia	Brisbane	Civil Society / Academics Civil Society / Academics	The role of the state is not very clear in this document at the moment.
Australia	Brisbane	Civil Society / Academics	Government can ask for a design plan but this was deemed to risky as it implied they would make comments and/or endorse the plan. It was then changed to have the operator keep these plans.
Australia	Brisbane	Civil Society / Academics Civil Society / Academics	Who would fund the government repository?
			In the last few years, there has been such a dramatic change in the technology with regard to data. At every step of the way, all that went before was lost. I hope we will get to the technological stage that it will be easy
Australia	Brisbane	Civil Society / Academics	and cheap.
Australia	Brisbane	Civil Society / Academics	Making information publicly available is a good idea but companies have commercially sensitive information and they will never change on this.
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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 stability etc - stating the end result 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 lot 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 rather than short term 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 a discussion group: Add "Health" - Add Closure, 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. Abandoned sites 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.

Assumption 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. Failure needs to be defined as it could be as simple as not achieving objectives.

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 risk 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 refers 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

Australia	Brisbane	Civil Society / Academics	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
Australia	Brisbane	Civil Society / Academics	included
Australia	Brisbane	Civil Society / Academics	Consequence descriptors are prescriptive and contradictory to some other things in the standard
Australia	Brisbane	Civil Society / Academics	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
Australia	Brisbane	Civil Society / Academics	mine.
			Why isn't there more discussion about some of the technology solutions but this was explained as a scoping
Australia	Brisbane	Civil Society / Academics	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.
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			Any considerations to unintended consequences of the standard such as misunderstanding of terminology in
Australia	Brisbane	Civil Society / Academics	the case of an incident and accountability or negligence hearings. Legal framework considerations. How the standard interacts legally over time needs to be considered? e.g. knowledge transfer through M&A.
Australia	Brisbarie	Civil Society / Academics	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
Australia Australia	Brisbane	Civil Society / Academics	base and which specific parameters need to be monitored?
Australia	Brisbane	Civil Society / Academics	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
Australia	Brisbane	Civil Society / Academics	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.
Australia	Brisbane	Civil Society / Academics	What are the consequences of this - how do you build communities to have that meaningful engagement.
		•	
Australia	Brisbane	Civil Society / Academics	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.
Australia	Brisbane	Civil Society / Academics	Section on stakeholders and communities could be beered up.
Australia	Brisbane	Civil Society / Academics	Conflicts of interest in the context of transparency could be enhanced if mentioned in Principle 10 & 12.
Australia	Brisbane	Civil Society / Academics	Providing some examples of what conflicts of interest could look like would be helpful.
Australia	Brisbane	Civil Society / Academics	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 ever increasing information) Also the standard is silent
Australia	Brisbane	Civil Society / Academics	on what companies are expected to do when a site changes ownership.
Australia	Brisbane	Civil Society / Academics	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!
Australia	Brisbaric	Olvii Godicty / Adademics	We would encourage companies to by pass storage allogether:
			Page 11 - Footnote 22 minimising risks - is this a hierarchy order or is it just the order in which it was written?
Australia	Brisbane	Civil Society / Academics	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 were directed to 3.1) Embedding meaningful 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
Australia	Brisbane	Civil Society / Academics	be spelled out in the text.
Australia	Brisbane	Civil Society / Academics	There is a general feeling that footnotes are less important than the text.
Australia	Brisbane	Civil Society / Academics	Was there a purposeful omission of FPIC in the document? Suggest you insert this in the text under affected communities.
		•	
Australia	Brisbane	Civil Society / Academics	3.3 - instead of saying "good faith" could you strengthen this as it can be defined differently across the world? 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
			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.
Australia	Brisbane	Civil Society / Academics	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
Australia	Brisbane	Civil Society / Academics	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.
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be in effect in Q1 2020? Do you have any concerns that this may not be achieved?

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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 guite 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 chart, thinking aloud, 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. You may end up having small firms with low capacity having higher risks

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

Can the EOR can 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 tell 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 13 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 lifecycle) 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 scope doesn't clearly stand out. 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 drier 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 but 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 subjective or open.

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 -

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 quidelines 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. Potential for data to be released that could be misunderstood or manipulated.

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 rebuttable 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.

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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 established this consequence.

The standard relates to tailings facilities - not dams - relates to a much broader scope of containment so if you

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 referring to 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."

The process isn't to assume to start anywhere, the process is to assume it fails with a worst case scenario. You don't stop at the bottom or the top and you see what happens.

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.

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, the 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.

You may lose some public trust by changing the language (speaking about risk and or 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.

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.

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

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 conversation about risk and how to communicate this to communities is a challenge as they do not understand.

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" v "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.

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