

Document reviewed		
Title of the draft being reviewed:	Draft Guidelines on tools and techniques for hazard identification and risk assessments	
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General Comments		
<p>We are aware that these draft documents refer to draft Regulations which have not yet been finalised and, in some cases, also refer to other Standards and Guidelines which may not yet have been drafted or agreed. Following consideration of stakeholder comments, the draft Standards and Guidelines will need to be reviewed again once the relevant exploitation Regulations have been agreed, and other relevant draft Standards and Guidelines are available.</p> <p>The concept of risk assessment and risk management is inherent through most of the operations involved in exploitation. As such, having a guideline dedicated to risk assessment seems sensible. We suggest that the consideration of risk is complementary among Standards and Guidelines, but also that information is not duplicated among Standards and Guidelines.</p> <p>The Guideline will be used by a wide range of stakeholders. As such, we would recommend moving the list of acronyms to the start, and ensuring that acronyms such as ERCP or HSP are fully written out at intervals through the document. Moving the acronyms to the start of the document will be useful to ensure a common understanding of the terms 'risk', 'hazard' and 'impact'.</p> <p>The Guideline currently includes both operational risk considerations and environmental risk considerations. The guidance for environmental issues is currently quite generic, rather than specific to deep-sea mining. We therefore recommend that these two different concepts are separated out within the document.</p> <p>Many of the non-ISA guidelines mentioned in the document, especially ISO documents, are not open access and may be expensive to procure. We would recommend that all documents needed to interpret this Guideline are equally available to all.</p>		
Specific Comments		
Page	Line	Comment
1	47-49	This sentence is an excellent summary of risk activities, and we recommend it could usefully also be included elsewhere in the Standards and Guidelines

		where clear, concise explanation of this concept would be beneficial.
1	60-62	This should refer to serious harm to the marine environment.
3	141	We recommend a fifth bullet is added - “what is residual impact?”
4	Fig 1	This figure is “adapted” from IEC/ISO31010 – we suggest that figures are reproduced directly from any best practice guideline, or the differences from the best practice guideline highlighted in the text / in a footnote, with an explanation of why the changes were made. Some adaptations to anything considered ‘best-practice’ may affect whether it could still be considered best-practice.
6		Post-closure monitoring submissions to the Authority should include both interim and final assessment reports, given the potential length of any post-closure period
7	227	This paragraph could usefully include more detail which could be used by the applicant to produce their risk assessment.
7	248	To include here both surface and subsurface vessel(s)
8	286	This paragraph could usefully include more detail which could be used by the applicant to produce their risk assessment.
9	Fig 3	<p>This figure is “adapted” from Vamanu et al 2016 – we suggest that figures are reproduced directly from any best practice guideline, or the differences from the best practice guideline highlighted in the text / in a footnote, with an explanation of why the changes were made. Some adaptations to anything considered ‘best-practice’ may affect whether it could still be considered best-practice.</p> <p>It may be useful to consider whether use of a figure from a book concerning road and rail transportation of dangerous goods is most appropriate for a Guideline on deep-sea mining. It may also be useful to clarify here whether to include a process chain from quantitative to qualitative assessments, where this is likely to not be appropriate for environmental issues.</p>
12	414	Providing example values such as this may be unhelpful or potentially misleading if these are not values which are accepted by the LTC. If this is not the case, then that might usefully be made clearer in the text.
13	464-476	Given its wide-ranging importance, we recommend that this section should be moved from its current position and included in the introduction.
14	478	We recommend that the phrase ‘deep-seabed Exploitation’ is replaced with standard language as used elsewhere in the Regulations, Standards and Guidelines.
14	490	This could usefully explain that the Exploitation Regulations are not the appropriate place for thresholds to be listed – and to include here the title of the relevant Guidelines in full.
14	493-496	It may be useful to clarify the exact meaning of this paragraph. Site and area-based thresholds are always recommended, and we do not consider that Area-wide (i.e. the Area) thresholds are likely to be appropriate.
14	507	We do not consider that F-N curves (representing fatality risk in the nuclear

		industry) are an appropriate example for including in this list.
16	556-560	This is an example of where it will be useful to check against the agreed text of the Exploitation Regulations.
16	572	We recommend that this sentence might be reworded – most, if not all, environmental low risks will still need risk treatment / risk management.
18	673	To include here the full title for Guideline 3.
19	684	We recommend that this list should be referenced, if it has been drawn from an external source.
24	869	In the interests of future-proofing this document, we suggest considering placing the links on an updateable web page provided by the ISA to sit alongside the Guidelines.
<i>Additional rows can be added to this table by selecting “Table” followed by “insert” and “rows below”</i>		

Comments should be sent by e-mail to ola@isa.org.im