



**Template for the review of the draft standards and guidelines
associated with the draft regulations on exploitation of mineral resources in the Area**

TEMPLATE FOR COMMENTS

<i>Document reviewed</i>	
Title of the draft being reviewed:	Draft standard and guidelines for the preparation and implementation of emergency response and contingency plans
<i>Contact information</i>	
Surname:	
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<i>General Comments</i>	
<p>Terms within the document such as the Emergency Preparedness Assessment and Defined Situations of Hazards and Assessments are taken verbatim from the Norwegian Oil and Gas Industry regulatory documents. While the consideration of existing mechanisms in other industries is supported, straight copying of text and terms from other documents is not supported. It is recommended that these terms be removed from the document throughout, and that terms relevant to the Exploitation Regulations (such as the Emergency Response and Contingency Plan, the Environmental Management and Monitoring Plan, the Plan of Work, etc.) be used instead.</p>	
<p>The structure and content of the document is highly reflective of the Norwegian oil and gas industry regulatory guidance documents. Again, while context from existing offshore industries is relevant, the structure and content proposed in this document is not necessarily fit for purpose for seabed mining and does not reflect the content or intent of the draft exploitation regulations. The document would be improved with clear sections (in order) on:</p> <ul style="list-style-type: none"> • Purpose and scope • Objectives • Scope - aspects/elements of a Plan of Work to which this Plan applies (i.e., does the plan apply to the support vessel, but not ore transport vessels?) • Policy and legal framework – including reference Exploitation Regulations, Sponsoring State regulations, and other international treaties/conventions (which have been listed as a comment below), reference to other plans/documents such as the EMMP, Plan of Work, etc., and reference to other Standards and Guidelines such as Risk and Hazard Assessment, Health and Safety Plan, etc. • Identification of potential incident scenarios 	

- Management framework, roles and responsibilities, for incident response
- Development of management actions in response to incident scenarios
- Communication and reporting during and after an incident
- Monitoring of the environment following an incident
- Process Improvement - Review of this Plan, and other plans such as the EMMP, following an incident, and/or following internal audits and inspections
- Training and Awareness

Specific Comments

Page	Line	Comment
3	43	This Standard applies to assets deployed for, or in support of, exploitation of mineral resources in the Area, and sets out mandatory requirements for the preparation and implementation of emergency response and contingency plans.
3	44	This Standard shall be read in conjunction with the Emergency Preparedness and Response Guidelines
3	52	While identifying potential incident scenarios, it is important to consider the mitigating actions towards controlling the risk of such incidents. An emergency response and contingency plan is seen as a vital contributor to mitigating such risks.
3	56	The objective of this Standard is to describe the process for preparing and implementing emergency response and contingency plans for managing accidental events incidents that could potentially occur during mining operations in the Area.
3	62	62. The Contractor shall carry out a hazard identification process that provides a balanced and most comprehensive representation of potential hazards associated with the mining activities in order to inform the development of an Emergency Response and Contingency Plan. The hazard identification process shall include specific consideration of hazards and scenarios associated to every process, operation and phase covered by a Plan of Work Application and will include human and environmental factors as well as consideration of processes and tasks. Hazards associated with human error and the natural environment will also be considered.
3	67	Risk analyses shall be carried out to identify and assess the potential cause, likelihood and consequence of each hazard occurring, in order to identify appropriate actions and management strategies to both prevent and respond to incidents when they do occur. Where relevant, international standards associated with risk identification and management (such as ISO31000) should be used to guide the Contractor's hazard and risk identification process.
	68-69	Please delete the term "risk" after accident or use the expression major safety or environmental incidents.
3	72	The Contractor shall ensure that the Emergency Response and Contingency Plan is embedded into the Contractor's Health, Safety, Environment,

		Quality (HSEQ)/Management systems, and that mechanisms associated with accountability, reporting, external notification and communications, and monitoring are consistent with the HSEQ systems and procedures.
4	82	The Contractor shall consider, for each scenario identified during the hazard identification process, a suite of possible contingency actions appropriate to the likelihood and consequence of each hazard materializing in the form of an incident. For ease of implementation, contingency scenarios may be grouped into potential incident categories such as collision, grounding, fire and explosion (including uncovering of unexploded ordinances spills and pollution, equipment failure, health and safety incidents (including medical emergencies), security incidents (including civil unrest) and natural environment incidents (such as storms or seismic events), etc.
4	86	Delete para 12
4	91	Delete para 13
4	95	Delete para 14
5	104	<p>15. The Contractor shall define the objectives for the emergency preparedness assessment relevant for the project phase for the system(s) all phases of the proposed operation, including construction, commissioning, steady state operations and decommissioning and closure. The objectives shall be suitable for the purpose of the assessment, particularly with respect to providing sufficient and appropriate input to the decision-making at the right time. The defined objectives for the emergency preparedness assessment (and its included elements) shall be documented.</p> <p>The Contractor shall ensure the Objectives of the Plan include at a minimum:</p> <ul style="list-style-type: none"> • Provision of a framework for preventing and managing the impacts of incidents and emergencies; • Detail of activities to be undertaken during an incident or emergency to minimize the effects of such an event; • Provision of a communications framework for internal and external communication during an incident, including with the ISA, Sponsoring States, Flag States, external groups including the media, close proximity operators (such as other shipping vessels in the area) and employees' next of kin; • Provision of a framework for monitoring the effects and impacts arising from emergencies and incidents, including but not limited to the monitoring of environmental impacts, human health and safety, and status and condition of assets.
		Add 15bis: The Plan must conform with the requirements of the Exploitation Regulations in relation to the notification of emergency incidents to the ISA, and the procedural assessment of the circumstances in

		order that the Contractor may be obliged not to continue or proceed with any activities under the Plan of Work where those activities may contribute to the continuation of an incident or emergency situation or prevent the timely and effective management of such an incident.
5	108	<p>95. The Contractor shall define the scope of the emergency preparedness and contingency plan, which shall include, the scope of installation(s), plant(s), system(s), activity/activities, operation(s) and/or phase(s) that will be included in the plan;</p> <p>The Contractor shall stipulate in the Plan the extent to which the Plan conforms with the requirements of the Exploitation Regulations and any supporting Standards and Guidelines, as well as other international conventions including, but not limited to:</p> <ul style="list-style-type: none"> • International convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL); • International Convention on the Safety of Life at Sea 1974 (SOLAS); • Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREG) • International Convention on Standards of Training, Certification and Watch Keeping for Seafarers 1978 (STCW).
5	121	<p>17. The Contractor shall identify and describe the premises for the emergency preparedness and contingency plan. The premises shall, as minimum:</p> <p>(a) define the purpose of the plan in accordance with the needs of the activity;</p> <p>(c) identify relevant regulations, possible classification society rules and applicable</p> <p>(f) identify relevant risk assessment assumptions that may influence the development of the plan; and</p> <p>g) identify relevant operational activities and phases covered by the plan,</p>
5	134	D. Define roles and responsibilities
5	136	<p>18. The Plan shall define the roles and responsibilities related to the implementation of the Plan, including the responsibilities associated with ensuring the Plan is implemented by both the Contractor organization(s) and any relevant subcontractors. The Plan shall illustrate the extent to which the organizational structure and systems in relation to roles and responsibilities align with those in the HSEQ Management System. The development of roles and responsibilities will be undertaken with respect to the responsibilities for interacting with, reporting to, and complying with the requirements of, external parties such as Sponsoring States, Flag States, Coastal States and the International Maritime Organization, in relation to emergency response.</p>

		Add 18bis: The definition of roles and responsibilities in the Plan shall also include the roles and responsibilities associated with communication of information internally and externally, during and after an emergency or incident.
5	144	E. Content of the Plan
	145	Add: For minor or less severe incidents, the Contractor shall, as part of the Emergency Response and Contingency Plan, develop guidance to assist relevant internal staff to implement contingency strategies applicable to the circumstances. Such guidance may include decision trees, or steps to be undertaken in the event of an incident to secure human health and safety and prevent harm to the environment. The Contractor shall include and document, in relation to environmental risks, an assessment of pollution hazards and the measures to prevent or reduce such hazards, for example, mining discharges and measures to control such discharges.
6	151	Add: F. Competence and Expertise of Contributors
6	154	Delete Section F
6	159	Delete Section G
6	176	Delete Section H
6	185	Replace Para 25 with: The Contractor shall ensure that any contingency measures in relation to incidents that may have harmful effects on the environment are aligned with the guidance and intent of the Environmental Risk Assessment and the Environmental Impact Statement. Any amendment to the Plan of Work and subsequent Environmental Risk Assessment and Environmental Impact Statement should include an amendment to the Emergency Response and Contingency Plan to ensure consistency in relation to response measures and to confirm the project continues to have appropriate emergency response measures in place relative to the environmental risks associated with the Plan of Work.
6	196	Delete para 26
7	199	Delete para 27
7	203	Delete para 28
7	208	Delete para 29
7	214	Delete para 30
7	219	Delete para 31
7	230	Replace para 32: The Emergency Response and Contingency Plan shall set out the structure and function of the internal groups, both on board and on shore, which will have responsibility for the implementation of the Plan. This may involve such designations as the Incident Response Team, for both vessel and shore-based management aspects associated with emergency response. Add para 32bis: The Plan shall set out the manner in which internal groups or teams are comprised, established, and the triggers which may result in the formation or commencement of operation of such a team. The Plan

		shall establish the function(s) of the teams both in general, and (where appropriate) under specific emergency scenarios. The Plan shall also set out the manner in which the teams will communicate with internal stakeholders, including clear links to roles and responsibilities associated with emergency response. The Contractor shall ensure that the Plan demonstrates that the capacity and function of emergency response teams is reflective of the nature of hazards and risks identified under the Plan
7	238	Delete para 33
7	247	Delete para 34
8	252	Delete para 35
8	257	Para 36: The Contractor shall ensure the Plan clearly sets out the manner in which communication of incidents and emergencies shall be managed, including reporting to the ISA, Sponsoring States, Flag States, and close proximity operators (such as other shipping vessels in the area). In addition, the Plan may include measures for internal communications, and communication to internal stakeholders such as employees and their next of kin.
8	260	Delete para 37
8	267	VII. Training, Awareness and Competency
8	269	<p>Replace para 38: The Plan shall describe the manner in which the Contractor will ensure that all personnel responsible for the execution of the tasks and requirements contained within the Plan are competent on the basis of education, training and experience, and that each has received inductions appropriate to the specific emergency response measures outlined in the Plan.</p> <p>Add 38bis. The Plan will set out the training and induction activities associated with the implementation of the plan, which may include but not be limited to:</p> <ul style="list-style-type: none"> • Formal site inductions; • Training needs analyses; • Implementation of a training matrix developed in relation to the content of the Plan; • Delivery of daily briefings on risks, hazards and incidents; • Procedures for implementation of training drills, and the recording of performance and improvement measures identified as a result of the implementation of drills; • Record keeping of training undertaken in support of the Plan.
8	276	Delete para 39
8	284	Replace para 40 - The Plan shall establish a schedule for periodical internal and external audits and inspections in relation to the processes and infrastructure associated with emergency response. The Contractor shall establish a process within the Plan for auditing and inspections in relation to its own operations, as well as those of any subcontractor, as well as operators that may interact with the Contractor's infrastructure (such as contractors operating ore transfer vessels and personnel transfer vessels or

		aircraft)
8	288	Delete para 41
8	295	The Contractor shall be responsible for documenting such audits and maintenance of a separate register for non-conformities and observations along with the audit report.
9	300	Where relevant, the Contractor shall establish under the Plan a process for the independent external auditing of both contractor and subcontractor operations.
9	308	Replace para 44: The Plan shall outline a clear process by which outcomes of any incidents or emergencies, as well as the outcomes of inspections, audits and drills shall be used to drive continuous improvement in emergency planning and response. The Plan will also demonstrate the process for capturing the outcomes from any continuous improvement processes in the form of updates to the Plan. Any updated Plans will be submitted to the ISA as part of the Annual Reporting Process. However, in some circumstances it may be necessary to amend the Contractor's Plan of Work in order to reflect continuous improvement in emergency planning and response. In such circumstances the Contractor will submit an updated Emergency Response and Contingency Plan to the ISA in support of any such amendment.
9	314	Delete para 45
9	317	Delete para 46
9	332	Delete para 50
9	334	Delete para 51
11	380	The scope of an Emergency Response and Contingency Plan is to clearly set out the response strategies, performance requirements, emergency preparedness organization and measures to be implemented in the event of an emergency during all phases and across all aspects of the project-
11	388	The objectives for the Plan should be clearly defined. The objectives may be function-based, goal-based or a combination of the two, depending on the framework chosen for establishing the EPA. Functional objectives are those that relate to the specific functions of a given phase while goal-based objectives are focused on achieving specific parameters within each phase.
11	396	Add 4bis. The Contractor shall ensure the Objectives of the Plan include at a minimum: <ul style="list-style-type: none"> • Provision of a framework for preventing and managing the impacts of incidents and emergencies; • Detail of activities to be undertaken during an incident or emergency to minimize the effects of such an event; • Provision of a communications framework for internal and external communication during an incident, including with the ISA, Sponsoring States, Flag States, external groups including the media, close proximity operators (such as other shipping vessels in the area) and employees' next of kin; • Provision of a framework for monitoring the effects and

		<p>impacts arising from emergencies and incidents, including but not limited to the monitoring of environmental impacts, human health and safety, and status and condition of assets.</p> <p>Add 4ter. The Plan must conform with the requirements of the Exploitation Regulations in relation to the notification of emergency incidents to the ISA, and the procedural assessment of the circumstances in order that the Contractor may be obliged not to continue or proceed with any activities under the Plan of Work where those activities may contribute to the continuation of an incident or emergency situation or prevent the timely and effective management of such an incident.</p>
		The scope should clearly define the assets, infrastructure, processes, tasks and personnel which the Plan covers.
11	402	Define Roles and Responsibilities
11	404	While The Roles and Responsibilities of the Contractor organization in relation to the implementation of the Plan must be clearly defined, including an accountability structure, and processes for managing performance in relation to the implementation of the Plan.
12	414	7. The Contractor shall ensure that expertise is gathered from within the Contractor organization and, where relevant, external organizations with relevant experience and expertise in emergency response and planning, in order to inform the development of the Plan.
12	423	Replace para 8: The Contractor shall ensure that any contingency measures in relation to incidents that may have harmful effects on the environment are aligned with the guidance and intent of the Environmental Risk Assessment and the Environmental Impact Statement. Any amendment to the Plan of Work and subsequent Environmental Risk Assessment and Environmental Impact Statement should include an amendment to the Emergency Response and Contingency Plan to ensure consistency in relation to response measures and to confirm the project continues to have appropriate emergency response measures in place relative to the environmental risks associated with the Plan of Work.
12	431	Delete para 9
12	436	For environmental emergency preparedness analyses, the Contractor should set goals for reduction of the environmental risk, including goals for protecting the vulnerable environmental KPIs prior to the emergency preparedness analysis. The analyses should also cover minor discharge incidents and measures to limit and combat these.
12	445	Replace para 11: The Emergency Response and Contingency Plan shall set out the structure and function of the internal groups, both on board and on shore, which will have responsibility for the implementation of the Plan. This may involve such designations as the Incident Response Team, for both vessel and shore-based management aspects associated with

		<p>emergency response.</p> <p>The Plan shall set out the manner in which internal groups or teams are comprised, established, and the triggers which may result in the formation or commencement of operation of such a team. The Plan shall establish the function(s) of the teams both in general, and (where appropriate) under specific emergency scenarios. The Plan shall also set out the manner in which the teams will communicate with internal stakeholders, including clear links to roles and responsibilities associated with emergency response. The Contractor shall ensure that the Plan demonstrates that the capacity and function of emergency response teams is reflective of the nature of hazards and risks identified under the Plan.</p>
12	450,454, 458	Delete para 12, 13, 14
13	464	The process for establishing the emergency response team should be sufficiently detailed to enable the response to large variations in terms of consequence and the probability of occurrence. It is also important to have links to the shore-based organization in coordinating efforts during an incident.
13	478	Replace para 17: The Contractor shall ensure the Plan clearly sets out the manner in which communication of incidents and emergencies shall be managed, including reporting to the ISA, Sponsoring States, Flag States, and close proximity operators (such as other shipping vessels in the area). In addition, the Plan may include measures for internal communications, and communication to internal stakeholders such as employees and their next of kin.
13	496	Training and Awareness
13	497	<p>Add 19pre: The Plan shall describe the manner in which the Contractor will ensure that all personnel responsible for the execution of the tasks and requirements contained within the Plan are competent on the basis of education, training and experience, and that each has received inductions appropriate to the specific emergency response measures outlined in the Plan.</p> <p>367.</p> <p>368. The Plan will set out the training and induction activities associated with the implementation of the plan, which may include but not be limited to:</p> <ul style="list-style-type: none"> • Formal site inductions; • Training needs analyses; • Implementation of a training matrix developed in relation to the content of the Plan; • Delivery of daily briefings on risks, hazards and incidents; • Procedures for implementation of training drills, and the recording of performance and improvement measures

		<p>identified as a result of the implementation of drills; and</p> <ul style="list-style-type: none"> Record keeping of training undertaken in support of the Plan.
14	523	<p>The Plan shall establish a schedule for periodical internal and external audits and inspections in relation to the processes and infrastructure associated with emergency response. The Contractor shall establish a process within the Plan for auditing and inspections in relation to its own operations, as well as those of any subcontractor, as well as operators that may interact with the Contractor’s infrastructure (such as contractors operating ore transfer vessels and personnel transfer vessels or aircraft).</p> <p>22bis. The Contractor shall be responsible for documenting such audits and maintenance of a separate register for non-conformities and observations along with the audit report.</p> <p>23ter. Where relevant, the Contractor shall establish under the Plan a process for the independent external auditing of both contractor and subcontractor operations.</p> <p>Periodical audits may be conducted either by the shore personnel or the personnel on board. However, it is recommended to conduct an audit by shore personnel as far as practical to ensure neutrality and also to avoid potential conflicts on board. The audits should have a structure that includes an audit intimation, an audit plan, minuting the meetings, logging of observations and non-conformities etc. The level of information capture from different types of audits may be categorized and logged according to the type of audit performed. Regardless of the type of audit, such logs should be made easily available upon request by ISA.</p>
14	533	<p>Replace para 23: The Plan shall outline a clear process by which outcomes of any incidents or emergencies, as well as the outcomes of inspections, audits and drills shall be used to drive continuous improvement in emergency planning and response. The Plan will also demonstrate the process for capturing the outcomes from any continuous improvement processes in the form of updates to the Plan. Any updated Plans will be submitted to the ISA as part of the Annual Reporting Process. However, in some circumstances it may be necessary to amend the Contractor’s Plan of Work in order to reflect continuous improvement in emergency planning and response. In such circumstances the Contractor will submit an updated Emergency Response and Contingency Plan to the ISA in support of any such amendment.</p>
15	604	<p>Consider how this section might be tailored further for mining operations. For instance, spills of cold, nutrient-rich, and potentially toxic, water might be released through processing and dewatering of the ore on the surface vessel and during transfer to the transport barges.</p>
16	614	<p>5. Add bullet to include ‘leakage of the riser pipe’</p>

		Add bullet to include an element relating to dewatering procedures and discharge pipe
<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.jm