ACLS Comments to FORRI on Proposed Regulation Updates

Section	Comments / Suggestions	Background / Justification
2.1 (2) (m)	Comment on Management System item 2 (m) "include a records management system to identify, generate, control and retain records necessary to support operational and regulatory requirements, and all other records associated with the management system and ensure that they are made accessible to those that require access; …"	Justification for survey and other engineering records to be made available.
2.2 (k)	Add to item (k) as follows: "The management system documentation shall include … (k) processes and procedures for inspecting, monitoring and maintaining the integrity of all installations, facilities, vessels, pipelines, *flowlines, umbilicals, subsea structures* and all other equipment or systems…"	To ensure the operator knows these items are covered as well.
3.1 (1) (f)	Add to item 1 (f) as follows: "(1) The application for an authorization for any work or activity shall be accompanied by … (f) a description of all installations, facilities, vessels, vehicles (onshore COGOA only), pipelines, *flowlines, umbilicals, subsea structures* and all other equipment or systems proposed to be used;"	To ensure the operator knows these items are covered as well.
3.1 (1) (i) iv	Add new item (1) (i) iv as follows: "(1) The application for an authorization for any work or activity shall be accompanied by …(i) in the case of a geoscientific, geotechnical or environmental programs (add definitions to these terms to define what they include and for greater clarity), i) maps illustrating the location of the program and proximities to man-made and vulnerable natural structures and any territorial or other boundaries; ii) details of the proposed data acquisition plan; and iii) a detailed description of the methods and equipment to be used; *iv) a detailed outline of the objectives to be achieved by the program*."	To be clear why the geoscientific, geotechnical or environmental program is to be executed and so that the Board will be able to measure the success of the survey program compared to the associated risks.
3.4 (c)	Add to item (c) as follows: "The safety plan shall set out the procedures, practices, resources, sequence of key safety-related activities and monitoring measures necessary to manage hazards and to conduct the proposed work or activity safely and shall include … (c) a description *and plans* of all structures, facilities, equipment, and systems critical to safety and a summary of the system in place for their inspection, testing and maintenance; …"	To ensure the operator has information available in order to be able to visualize how the various structures, facilities, equipment and systems are interconnected.

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3.5 (c)	Add to item (c) as follows: "The environmental protection plan shall set out the procedures, practices, resources and monitoring necessary to manage hazards to and protect the environment from the proposed, work or activity and shall include … (c) a list *and plans* of all structures, facilities, equipment and systems critical to environmental protection and a summary of the system in place for their inspection, testing and maintenance; …"	To ensure the operator has information available in order to be able to visualize how the various structures, facilities, equipment and systems are interconnected.
3.9 (3)	Add to item (3) as follows: "The resource management plan shall include a detailed description, *plans,* and an analysis, of the following: …"	To ensure the Board has information available in order to be able to visualize the Development Plan.
4.8	Add to item as follows: "When a geoscientific, geotechnical or environmental program is commenced, terminated or cancelled by an operator, the operator shall forthwith notify the Chief Conservation Officer in writing of the date of commencement, termination or cancellation *which will be provided to the public via the Board website.*"	To keep interested parties and the public aware of events. This statement is repeated in section 14.11.
6.4 (1)	Add to item (1) as follows: "(1) The Operator shall ensure that every installation or pipeline, *flowline, umbilical, or subsea structure* is designed to withstand or avoid, without loss of overall structural integrity or main safety function, all foreseeable site-specific physical and environmental conditions, or any foreseeable combination of physical and environmental conditions at its intended location."	To ensure operator knows these items are covered as well.
6.4 (2)	Add to item (2) as follows: "(2) The Operator shall ensure that comprehensive and reliable environmental design criteria are systematically determined for every installation or pipeline, *flowline, umbilical, or subsea structure* based on representative regional and site-specific data and statistical analysis and modeling of physical, oceanographic, meteorological, ice, geotechnical and seismic conditions and hazards, including …"	To ensure operator knows these items are covered as well.
6.4 (4)	Add to item (4) as follows: "(4) Based on the results of analysis and tests described in s. 6.5, the Operator shall identify and record the physical and environmental conditions under which the installation or pipeline *flowline,*	To ensure operator knows these items are covered as well.

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	umbilical, or subsea structure can safely operate and under which it can survive and shall ensure:	
6.5 (1)	Add to item (1) as follows: "(1) The operator shall ensure that every installation, pipeline, *flowline, umbilical, or subsea structure* is designed to reduce risks to as low as reasonably practicable."	To ensure the operator knows these items are covered as well.
6.5 (2)	Add to item (2) as follows: "(2) Without limiting the generality of (1), an operator shall additionally define target levels of safety for the risk to life and the risk of damage to the environment that are to be achieved for all activities within each phase of the life-cycle of the installation or pipeline, *flowline, umbilical, or subsea structure* including all related facilities, equipment and systems."	To ensure the operator knows these items are covered as well.
6.5 (3)	Add to item (3) as follows: "The operator shall ensure an installation, pipeline, *flowline, umbilical, or subsea structure* including its structural components, skids …"	To ensure the operator knows these items are covered as well.
6.5 (4)	Add to item (4) as follows: "The design of an installation, pipeline, *flowline, umbilical or subsea structure* including structural components, skids …"	To ensure the operator knows these items are covered as well.
6.5 (5)	Add to item (5) as follows: "In particular, installations, pipelines *flowlines, umbilicals and subsea structures* and their structural components	To ensure the operator knows these items are covered as well.
6.5 (7)	Add new item (7) as follows: "The operator shall ensure that in navigable waters pipelines are buried to a maintained depth of cover of no less than 1.8 metres (6 feet) which shall be achieved by trenching or subsea rock installation depending on the near surface seabed strata. Depth of cover shall be verified by as-built surveys and subsequently verified by pipeline inspection surveys as required by the maintenance schedule."	To ensure the pipeline is well protected in case of anchor strikes, and to conform with overseas industry standards and regulations.
6.9 (1)	Add to item (1) as follows: "(1) The operator of a pipeline, *flowline or umbilical or subsea structure* shall develop a pipeline integrity management program that anticipates, prevents, manages and mitigates conditions that could adversely affect safety or the environment during the design,	To ensure the operator knows these items are covered as well. In addition, to be clear that these items are being covered in these regulations as mentioned in by CAPP in their Phase 3 submission for section 6.9.

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	construction, operation, maintenance or abandonment of a pipeline, *flowline, umbilical or subsea structure*."	
6.9 (2)	Add to item (2) as follows: "(2) The operator shall ensure that all offshore pipelines, *flowlines, umbilicals and subsea structures* are designed, constructed installed, operated, and maintained in accordance with CAN/CSA-Z662-15 Oil and Gas pipeline systems *as amended from time to time, and notify the Board where there is any conflict with these regulations and the applicable standard."*	To ensure the operator knows these items are covered as well. The suggested amendment with respect to "as amended from time to time" may already be covered off in the *Canada Oil and Gas Operations Act* section 14 (2).
6.9 (3)	Add new item (3) as follows: *"(3) The operator shall ensure that all pipeline, flowline and umbilical route surveys; site surveys; subsea rock installation surveys; pipeline, flowline and umbilical as-built surveys; and pipeline, flowline, umbilical, subsea structure and installation inspection surveys; and decommissioning surveys are surveyed to modern standards and plans submitted to the Board and the Canada Lands Survey Records within 90 days after the survey is completed which will be provided to the public via the CLSR website."*	The Board needs to understand where these additional features are located and surveys are the means to achieve that objective.
6.10	Add to item as follows: "The operator shall ensure the initial and continued structural integrity of an installation, pipeline, *flowline, umbilical or subsea structure* by using materials that are: …"	To ensure the operator knows these items are covered as well.
6.15 (6)	Add to the Mooring Requirements new item (6) as follows: *"(6) The operator shall conduct a geohazard survey to ensure any sub-sea mooring anchors / piles at the proposed location are suitable and shall then ensure such anchors / piles are surveyed to modern standards and plans submitted to the Board and the Canada Lands Surveys Records within 90 days after the survey is completed which will be provided to the public via the CLSR website."*	The survey is required for a complete mooring analysis.
6.22	Add to item as follows: "The design of an installation shall consider the removal of the installation at end of life unless the abandonment of the installation or an alternative use for the installation has been approved by the Board through the development plan. *For this section installation shall include*	There is nothing in these regulations which relates directly to the decommissioning of pipelines, flowlines, umbilicals and subsea structures.

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	pipelines, flowlines, umbilicals and subsea structures. The design, including any modifications through the lifecycle of the facility, …"	
7.1 (2)	Add to item (2) as follows: "(2) The operator shall ensure that any impairment in the installation, equipment, pipeline, *flowline, umbilical, and subsea structures* vessel and support craft that may …"	To ensure the operator knows these items are covered as well.
7.2 (a)	Add to item (a) as follows: "The operator shall ensure that every installation is designed and equipped to be accessible, and provided with clear markings and identifications of areas to be inspected, in a manner that allows safe and effective: (a) monitoring, maintenance and inspection of the installation, *pipelines, flowlines, umbilicals, and subsea structures*; and …"	To ensure the operator knows these items are covered as well.
7.2 (c)	Add new item (c) as follows: "*c. The operator shall ensure that installation 3D drawings are updated on a regular basis.*"	The as-built survey drawings need to be updated as the installation ages to show changes necessitated in the live installation.
7.5 (1)	Add to item (1) as follows: "(1) The operator shall ensure all equipment, process vessels, piping, valves, fittings and structural elements that are part of an installation, pipeline *flowline, umbilical or subsea structures*, the failure of which as a result of corrosion would cause a safety or environmental hazard, are designed, operated, monitored and maintained to prevent and manage corrosion over the life-cycle of the installation, pipeline, *flowline, umbilical or subsea structures* to prevent their failure."	To ensure the operator knows these items are covered as well.
7.28 (d)	Add new item (d) as follows: *"d. such directional and deviation surveys shall be surveyed to modern standards and plans submitted to the Board and the Canada Lands Survey Records within 90 days which will be provided to the public via the CLSR website."*	The Board needs to be assured that the operator is within the defined licence area.
7.29 (8)	Add new item (8) as follows: *"(8) The operator shall ensure any sub-sea production systems and other sub-sea features such as the floating production storage and offloading (FPSO) mooring anchors / piles are surveyed to modern standards and plans submitted to the Board and the Canada*	The Board needs to understand where all such sub-sea features are located.

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	Lands Survey Records within 90 days after the survey is completed which will be provided to the public via the CLSR website."	
8.1 (h)	Add new item (h) as follows: "*h. for both offshore and onshore operations the operator shall ensure that surveys related to geoscience, geotechnical and environmental operations are surveyed to modern standards and plans submitted to the Board and the Canada Lands Survey Records within 90 days after the survey is completed which will be provided to the public via the CLSR website."*	The Board needs to understand where such surveys are located.
10.8 to 10.10	Comment on Submission of Samples and Data related to cores.	The ACLS would not expect these requirements to apply to seabed cores acquired to support an offshore construction project such as the design and installation of offshore pipelines, subsea structures and installations.
12.7	Add new item (4) (c) as follows: "(4) When the pilot scheme reaches the end of its set time period, the operator shall ensure that a report is submitted to the Board that sets out … *(c) the operator shall update any plans or survey documents which were changed as part of the pilot scheme which will be surveyed to modern standards and submitted to the Board and the Canada Lands Survey Records within 90 days after the survey is completed which will be provided to the public via the CLSR website."*	"Pilot Scheme" is in section 82 of the current *Canada Oil and Gas Drilling and Production Regulations*, but was not included in the Phase 2 documentation. This section was added in May 2018 edition. Although typically such pilot schemes may not require survey related changes, the regulations should allow for that eventuality just in case.
13.3	Revise item 13.3 as follows: "The operator shall ensure that, on the abandonment of any offshore well *where the casing strings are to be cut and removed below the seabed, pipeline, flowline, umbilical or subsea structure* the seafloor is cleared of any material or equipment that might interfere with navigation or other uses of the sea, ~~or have an adverse effect on the marine environment~~"	The Board needs to ensure all offshore items and debris are removed, if deemed necessary and that the appropriate clearance surveys are provided by the operator. The reference to "adverse effect on the marine environment" is too broad and was removed in line with the suggestion of the Department of Economic Development and Transportation, Government of Nunavut in their Phase 2 submission.
14.2 (1)	Revise item (1) as follows: *"(1)* The operator shall ensure that a survey is used to confirm the location of an *offshore* well, *pipeline, flowline, umbilical on the seabed, and any* production installation *and any associated subsea structures which shall include pipeline, flowline and umbilical route surveys; site surveys; subsea rock installation surveys;*	The Board needs to know where these items are located not just the surface or seabed location of an offshore well or production installations.

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	pipeline, flowline and umbilical as-built surveys; and pipeline, flowline, umbilical, subsea structure and installation inspection surveys; and decommissioning surveys." (For COGOA onshore only) Add to item "The operator shall ensure that a survey is used to confirm the location of an *onshore* well, *pipeline*, and production *facilities*."	Updated wording for *Canada Oil and Gas Operations Act*.
14.2 (2)	Add new item (2) as follows: *"(2) The operator needs to consider maintenance and inspection requirements for an offshore well, pipeline, flowline, umbilical on the seabed, and any production installation and any associated subsea structures. Examination and monitoring of these assets shall be part of routine maintenance. The operator needs to consider both how and when these assets should be surveyed and examined to validate and maintain them in a safe condition."*	To provide the operator with guidance on survey and inspection time lines.
14.3 (b)	Add to item (b) as follows: "The operator shall ensure that (a) the survey is certified by a person licensed under the *Canada Lands Surveyors Act*, and (b) a copy of the survey plan *and related documents* filed with the Canada Lands Survey Records is provided to the Board *which shall be submitted within 90 days after the survey is completed which will be provided to the public via the CLSR website."*	The Board needs to ensure the survey and other related documents will be available to the public.
14.3 (c)	Add new item (c) as follows: "The operator shall ensure that … *(c) the survey shall adhere to the current National Standards for the Survey of Canada Lands."*	Added reference to the appropriate Canada Lands survey procedures.
14.6	Comment on "Management of Records / Accessibility to Records"	A CLS should retain records related to the work at least to within the different provincial or territorial statute of limitations, but typically these records are retained indefinitely.
14.11	Add to item as follows: "The operator shall immediately notify the Board in writing when a geoscientific, geotechnical or environmental program *which will be provided to the public via the Board website*: …" In addition remove the paragraph	To keep interested parties and the public aware of these survey events. This statement is repeated in section 4.8.

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	numbering (3) at the start of the sentence as it is not required.	
14.26 (1)	Add to item (1) as follows: "The operator shall ensure that the final geoscientific, geotechnical or environmental program reports are provided to the Board, unless otherwise authorized to in writing by the Board, within *90 days* of completing any geoscientific, geotechnical or environmental program. *Reports shall be provided for pipeline, flowline and umbilical route surveys; site surveys; subsea rock installation surveys; pipeline, flowline and umbilical as-built surveys; installation as-built surveys; pipeline, flowline, umbilical, subsea structure and installation inspection surveys; decommissioning surveys; and other reports commissioned by the operator. For 2D, 3D and 4D seismic reports the time limit shall be 6 months*	The deadline was updated to match the suggested period provided in the previous sections. The list of reports expected are detailed to ensure the operator is aware of the requirements.
14.26 (2) to (4)	Update the listings as suggested below.	The requirements listed in these regulations are outdated. Below sections 2 to 4 have been reworded and rearranged to meet current requirements.

14.26 Final Geoscientific, Geotechnical or Environmental Program Reports

(2) The operations and processing report(s) required by sub-section (1) shall be provided in a form and manner prescribed by the Board and shall contain as applicable:
a) *title page with* the program number assigned by the Board; the title, author(s) and date of the report; names of the installation or vessel; and the names of the operator and contractor(s) and any interest owners;
b) Table of contents;
c) *a brief introduction with* a description of the program and a description of any installation(s), vessel(s), aircraft or helicopter(s) used to execute the program, including any support vessels;
d) *executive summary including*
(i) key project dates, including commencement, suspension (if applicable) and completion dates,
(ii) the equipment used,
(iii) the operational methods employed,
(iv) the number of crew
(v) *operational summary for the survey*, and
(vi) the quantity of data collected, broken down by data acquisition technique;
f) location map*(s)* illustrating the data acquisition program including the identification and location of data points, lines or areas and the type of data acquired;

g) location map*(s)* that show the boundaries of the area that is subject to each interest covered by the operation and the identification number of each such interest;
h) a time breakdown illustrating the type and duration of all activities including any non-productive time;
i) *discussion of safety related issues encountered during the survey;*
j) the accuracy of the navigation system*(s)* *and* the accuracy of the positioning *of the* ~~and~~ survey systems;
k) the parameters and configuration of the survey systems including any towed equipment ~~of both *the energy source*~~ and the *respective* recording system*(s);*
(j) a description of the ~~geoscience~~ *geoscientific, geotechnical or environmental* data acquired including the data processing sequence and parameters; and
(k) a description of the geoscientific and geotechnical analyses.

(3) Subject to section 14.27, the interpretation report*(s)* required by sub-section (1) shall be provided in a form and manner prescribed by the Board and shall contain as applicable:
a) a written discussion along with interpretative maps that are appropriate to the data collected including:
i) for pipeline, flowline and umbilical route surveys maps of seabed and subsea features and the proposed route including shallow geological conditions and object avoidance;
ii) for site surveys maps of the seabed and subsea features including shallow geological conditions including core and sample descriptions, surficial geology maps, the geophysical correlation of shallow seismic data with data from cores and geotechnical boreholes;
iii) for subsea rock installation surveys maps of the seabed and manmade features, and along track maps showing the depth of cover;
iv) for pipeline, flowline and umbilical as-built surveys maps of the seabed and manmade features, along track maps showing the depth of burial, and listings of eventable items;
v) for installation as-built surveys maps of the seabed features and 3D drawings of each face of the installation;
vi) for pipeline, flowline, umbilical, subsea structure and installation inspection surveys maps of the seabed and manmade features with listings of eventable items and a difference eventable item listing compared to previous survey(s);
vii) for decommissioning surveys maps of the seabed features identifying any remaining man made debris and the height above the seabed;
viii) for 2D seismic surveys maps of the line acquired with the location of any wells in the area;
ix) for 3D and 4D seismic surveys maps of the area(s) covered with and without the seismic aperture, and the coverage at various target depths;
x) for all location maps for any samples or core holes, and any images and videos as applicable.

(b) Additional information shall be provided for seismic surveys including:
i) geological and geophysical correlations;
ii) time, depth structure and isopach maps, velocity and residual velocity maps, and seismic attribute maps;
iii) details of corrections or adjustments that were applied to the data during processing or compilation;
iv) the operator's velocity information that was used in a time-to-depth conversion;
v) a description of synthetic seismograms and seismic modelling studies that use synthetic seismograms;

vi) vertical seismic profiles at wells that were used in the interpretation of the operation data;
vii) amplitude versus offset studies;
viii) any seismic inversion studies;
ix) any other seismic studies related to the program; and
x) any geological maps.

c) For 2D and 3D seismic surveys were gravity data was collected
ii) final Bouguer gravity maps, and any residual or other processed gravity maps;
ii) correlations between the gravity and the collected seismic data; and
iii) gravity station location maps and the associated gravity report.

(4) The final reports required by sub-section (1) shall be accompanied by all acquired data in a form and manner prescribed by the Board including, as applicable,
a) final processed bathymetric, side scan sonar and sub-bottom profiler data;
b) final processed as-built data;
c) any images, video or other graphic information that are relevant and contribute to the drafting and interpretation of the final report;
d) all final processed seismic data for each 2D seismic line in time and depth;
e) a final processed 3D *or 4D* volume and each line generated from that volume in time and depth;
f) any vertical seismic profiles, synthetic seismograms, amplitude versus offset data or any seismic inversion data;
g) in the case of a gravity survey, a series of gravity profiles across all gravimetric surveys; and
h) in the case of controlled source electromagnetic data, final processed cross-sections on all receiver lines, curves from all receivers and 2D and 3D final models generated.

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Annex 1	Add item "*as-built surveys – carried out to record the location of item(s) placed on the seabed to show the work was executed as planned and any deviations*"	Term is suggested to be used in these regulations.
Annex 1	Add item "*decommissioning surveys – carried out to support the approved decommissioning plan and provide information on any hazards*"	Term is suggested to be used in these regulations.
Annex 1	Add item "*inspection surveys – carried out to support the required maintenance schedule*"	Term is suggested to be used in these regulations.
Annex 1	Add item "*route surveys – reconnaissance carried out to establish a particular route*"	Term is suggested to be used in these regulations.
Annex 1	Add item "*site surveys – inspection of an area where work is proposed, to gather information for a design*"	Term is suggested to be used in these regulations.