



NUCLEAR WASTE SOCIÉTÉ DE GESTION
MANAGEMENT DES DÉCHETS
ORGANIZATION NUCLÉAIRES

September 9, 2016

File: NWMO-REG-00531-0203

MR. BRIAN TORRIE

Director General
Regulatory Policy Directorate
Canadian Nuclear Safety Commission
P.O. Box 1046, Station B
280 Slater Street
Ottawa, Ontario
K1P 5S9

Dear Mr. Torrie:

NWMO Comments on CNSC Discussion Paper DIS-16-03, Radioactive Waste Management and Decommissioning

The purpose of this letter is to provide NWMO comments on CNSC discussion paper DIS-16-03, Radioactive Waste Management and Decommissioning.

NWMO's detailed comments on DIS-16-03 are attached.

NWMO appreciates the opportunity to review the CNSC discussion paper. If you have any questions regarding this submission, please contact me at (647) 259-3025.

Sincerely,

Paul Gierszewski
Director, Safety & Licensing

Attach.

cc. H. Tadros – CNSC (Ottawa)

ATTACHMENT

Attachment to NWMO letter from Paul Gierszewski, "NWMO Comments on CNSC Discussion Paper DIS-16-03, Radioactive Waste Management and Decommissioning"

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#	Sec.	Applicable Question	Comment	Recommendation
1.	All	General comment	<p>In general, NWMO views the current Act and Regulations as adequate for most waste management activities and decommissioning, with the exception of the long-term aspects associated with some facilities. In particular, NWMO thinks that creating a separate Regulation for long-term waste management facilities would be useful.</p>	<p>This regulation should focus on the unique aspects of these long-term waste management facilities, which are neither surface facilities nor mines, and share the common focus on long-term safe management of the wastes. It is anticipated that this would largely serve as a collection of existing requirements into one regulation.</p> <p>This regulation should be constructed as a complete standalone regulation at the same level as the current Class I Nuclear Facilities, Class II Nuclear Facilities, and Uranium Mines and Mills Regulations to avoid overlap and confusion.</p> <p>One particular aspect to clarify would be the expectations around releasing a facility from CNSC licensing (i.e., licence to abandon), which is different for a long-term waste management facility than for surface facilities.</p>
2.	All	General comment	<p>Although the current Act and Regulations adequately cover most activities, additional clarification would be useful. This clarification and the relationship to other standards should be provided in REGDOCs and not in Regulations. Specific points are provided for some questions below.</p>	<p>Several CNSC REGDOCs state that they are for nuclear power plants, but no equivalent document exists for long-term waste management facilities. Either repository-specific documents could be created, or these documents could be clarified in title and content on the extent to which they apply to repositories.</p>

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3.	2.1	General comment	<p>Definition of "radioactive waste" should be clear that the definition of "no future use" is made by the waste owner, as in CNSC P-290.</p> <p>Context:</p> <p>CNSC DIS-16-03 defines "radioactive waste" as <i>"materials within the CNSC's mandate that contain licensable quantities of nuclear substances for which no future use or benefit is foreseen"</i>.</p> <p>CNSC P-290, defines "radioactive waste" as <i>"any material (liquid, gaseous or solid) that contains a radioactive "nuclear substance" as defined in section 2 of the Nuclear Safety and Control Act and which the owner has declared to be waste. In addition to containing nuclear substances, radioactive waste may also contain non-radioactive "hazardous substances", as defined in section 1 of the General Nuclear Safety and Control Regulations."</i></p> <p>CSA Standard N292.0-14 defines "radioactive waste" as <i>"a gas, liquid, sludge, or solid containing a nuclear substance in excess of the clearance or exemption criteria and without foreseeable use"</i>.</p>	<p>NWMO recommends that the definition of "radioactive waste" be clarified and kept consistent throughout all Regulations and REGDOCs, and in accordance with CNSC's policy which recognizes that the owner being responsible for declaring the material as waste.</p>
4.	2.1.1	<i>Do the definitions provided above align well with current usage within the Canadian nuclear sector?</i>	<p>The definitions should remain consistent with existing standards and should be provided by reference only.</p>	<p>CSA Standard N292.0-14 adequately covers waste categories and is referenced in existing CNSC licences. This link or clarifications could be strengthened by also referencing this standard in relevant REGDOCs.</p>

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5.	2.1.1	<i>Should any waste categories be re-examined?</i>	The addition of a Very Low Level Waste should be considered.	
6.	2.1.1	<i>If these categories were adopted within the CNSC regulatory framework, how would licensees operationalize the proposed definitions? That is, how would they demonstrate/ensure that their waste management programs comply with the proposed definitions?</i>	NWMO expects that these would be addressed through the usual mechanisms of measurements and/or process knowledge as appropriate. It is not clear if firm numerical boundaries in the definitions would require more measurements of difficult-to-measure radionuclides which may result in increased worker dose with no change in safety, depending on the waste management facility.	
7.	2.1.1	<i>What would be the impact on licensees or other stakeholders if the CNSC adopted these definitions for use within its regulatory framework; e.g. by referencing or including them in regulations or regulatory documents?</i>	<p>The numeric limits proposed for the Low Level Waste (LLW), Intermediate Level Waste (ILW) and High Level Waste (HLW) as fixed boundaries does not recognize that the radioactivity levels are strongly linked to the disposal concept and its associated safety case. What is acceptable in one facility may not be acceptable in another. Conversely, a facility designed for one class of waste may be able to accept a portion of a higher class.</p> <p>In addition, it is noted that the CSA Standard N292.0-14, in defining the LLW, ILW and HLW, uses these numerical limits "for orientation purposes only", and not as rigid limits. The standard recognizes the need for detailed characterization for each of the three classes of radioactive waste. The standard also recognizes that, for example, "a</p>	NWMO recommends that the definitions of the main classes of radioactive waste be kept consistent with CSA Standard N292.0-14.

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			<i>precise boundary between LLW and ILW cannot be provided, as limits on the acceptable level of activity concentration will differ between individual radionuclides or groups of radionuclides."</i>	
8.	2.1.2	<i>Should the CNSC revise or clarify the types of waste described above? [Other types of waste]</i>	The Act and Regulations already cover radioactive waste or hazardous waste that results from the activity to be licensed. No further clarification is required.	
9.	2.1.2	<i>Are there other types of waste that the CNSC should describe or define?</i>	Very Low Level Waste.	
10.	2.2	<i>Should the CNSC reinforce the importance of "reduce, reuse, recycle" in regulations?</i>	NWMO recognizes the importance of the "reduce, reuse, and recycle" principle applied in general to waste management. However, CNSC Regulatory Policy P-290 captures it through the concept of "waste minimization" which seems more reasonable for all types of radioactive waste. Also, this change, notably "recycle" could imply a CNSC policy decision regarding nuclear fuel waste.	This principle should be reinforced in CNSC documents and not in Regulations, and should be kept to "waste minimization", as stated in CNSC Regulatory Policy P-290.
11.	2.2	<i>The CNSC is of the view that licensees are already applying "reduce, reuse, recycle" in their waste management programs. If there are significant compliance or administrative costs associated with this proposed new regulatory requirement, please describe the nature of these costs.</i>	The costs to licensees would be dependent upon the requirements.	

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12.	2.3	<i>Should the CNSC standardize the minimum record retention period for all waste management and storage facilities? What should be the minimum retention period after a licence expires?</i>	A standardized record retention period could work if it were risk-based and specific to the type of facility.	A standardized record retention period should be carefully considered for activities/facilities that have long-term aspects, such as repositories.
13.	2.3	<i>Are there other considerations (e.g. administrative costs) that the CNSC should take into account when setting record-keeping requirements for disposal facilities?</i>	<p>With respect to long-term waste management facilities, specific aspects for long-term record-keeping (i.e., after repository closure) could include:</p> <ul style="list-style-type: none"> • key records to be preserved for long period of times to allow safety and policy reviews • communication media • transfer of responsibilities after repository closure • location of the key records. <p>International initiatives, such as the NEA Radioactive Waste Management Committee's initiative on Preservation of Records, Knowledge and Memory (RK&M) across Generations, should be considered when developing any specific record-keeping requirements for repositories. The initiative focuses on the period of time after repositories closure. Recognizing that "there is no single best means of preservation over all timescales", the initiative's working areas include topics such as developing a systemic approach for the elements of a system to preserve RK&M, identifying the minimum set of information to preserve after repository closure, and other.</p>	Any specific record-keeping requirements for repositories should be developed taking into account current and future international collaborative initiatives.

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14.	2.4	General comment	<p>NWMO considers that creating a separate Regulation for long-term waste management facilities would be useful. In particular, if the new regulation was constructed as a complete standalone set at the same level as the current Class I Nuclear Facilities, Class II Nuclear Facilities, and Uranium Mines and Mills Regulations, there would be no need to cross-reference multiple regulations.</p> <p>As an example, in the CNSC PMD 13-P1.2 (23 July 2013) provided to the Joint Review Panel for OPG’s Low & Intermediate Level Waste Deep Geologic Repository Project, the CNSC states that the regulatory requirements come from the General Nuclear Safety and Control Regulations and Class I Nuclear Facilities Regulations, while guidance comes from the Uranium Mines and Mills Regulations.</p> <p>Surface interim waste management facilities, e.g., Western Waste Management Facility, could continue to be covered under existing regulations, but deep geologic repositories, tailing management areas and surface disposal sites could be covered under the new regulation.</p>	<p>The separate Regulation for long-term waste management facilities would focus on the unique aspects of these facilities, which are neither reactors nor mines, and share the common focus on long-term safe management of wastes. It is anticipated that this would largely serve as a collection of existing requirements into one regulation.</p> <p>One particular aspect would be to clarify the intent to release a facility from CNSC licensing (e.g., licence to abandon), which is different for long-term waste management facilities than for surface facilities.</p> <p>Related to this, several CNSC REGDOCs state that they are for nuclear power plants, but no equivalent document exists for repositories. Either repository-specific documents could be created, or these documents could be clarified in title and content on the extent to which they apply to repositories.</p>

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15.	2.4	<i>Should the CNSC clarify its licence application requirements for different types of waste operations? What are your comments on the proposals above?</i>	<p>Given the different purposes of various facilities, it would be appropriate to clarify the licence application requirements for different waste operations. However,</p> <ol style="list-style-type: none"> 1. Although the proposed three categories are acceptable in concept, their titles are not very clear. A "waste management" facility could be one where waste is conditioned rather than disposed. 2. Possibly only the new class of long-term waste management facility needs to be identified since others already exist. 	NWMO recommends that the new regulation focuses on long-term waste management facilities. It does not favor the phrase "waste disposal facilities" as retrievability may be a factor for long periods of time.
16.	2.4	<i>Waste management and storage facilities are currently subject to the Class I Nuclear Facilities Regulations when they have an inventory greater than 1×10^{15} Bq. Does this continue to provide an effective, safe and practical point to distinguish between a Class I facility and other waste operations?</i>	This is reasonable.	
17.	2.4	<i>The CNSC is of the view that classifying facilities as described above would improve clarity by codifying the application requirements now</i>	NWMO supports the proposal to clarify "any other information" for facilities based on risk-graded approach. Costs would be dependent on the specific requirements put into the regulations.	These items should be clarified in REGDOCs and not in Regulations.

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		<i>addressed by using the "any other information" clause. If there are any new compliance or administrative costs associated with the proposals above, please describe the nature of these costs.</i>		
18.	2.5	<i>In what areas does the CNSC need to clarify its requirements for waste management programs?</i>	NWMO supports the proposal to clarify requirements for waste management programs based on risk-graded approach.	Requirements for waste management programs are documented in CSA Standard N292.0-14, which the CNSC should reference in licences rather than develop new REGDOCs or Regulations.
19.	2.5	<i>Are there any specific comments on the proposed activities above?</i>	It is recommended that the CNSC align with the CSA N292 series of standards to the extent possible.	
20.	2.5	<i>The CNSC is of the view that licensees are already implementing these requirements, although they have not yet been codified in the regulatory framework. If there are significant compliance or administrative costs associated with the requirements described, please describe the nature of these costs.</i>	Costs would be dependent on specific requirements put into the regulations.	

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21.	2.6	<i>Is there a need for the CNSC to define the concepts of remediation, legacy site, existing situation, and reference levels?</i>	No comment.	
22.	2.6	<i>Are there other definitions that may be useful to the consideration of the requirements for long-term management of remediated sites?</i>	No comment.	
23.	2.6	<i>Is there a need for an alternative process to the issuance of a licence to perform remediation for existing situations?</i>	No comment.	
24.	2.6	<i>Are there any additional comments on the proposals above?</i>	No comment.	
25.	2.7	<i>Is there a need for the CNSC to clarify the role of a licence to abandon in a nuclear facility's lifecycle?</i>	Yes, clarifying the role of a licence to abandon would be beneficial. However it would be better to have an alternative term or process as described further below.	
26.	2.7	<i>Is "abandon" the appropriate term to use for a nuclear facility that has successfully completed a decommissioning or remediation process and no longer requires CNSC oversight?</i>	No, abandonment is not the appropriate term to use for a nuclear facility such as a repository that has completed decommissioning without the removal of all nuclear substances, but which is in a defined safe state.	Possible alternative terms could be: <ul style="list-style-type: none"> • Closure • Long-term management • Disposal • Release from regulatory oversight

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27.	2.7	<p><i>Is there a need for an alternative process to the issuance of a licence to abandon for nuclear facilities when they reach the end of their lifecycle, but still require long term care and maintenance?</i></p>	<p>NWMO proposes a different licence than Licence to Abandon should be used for a waste management facility which continues to contain significant radioactivity after completion of decommissioning.</p>	<p>It is suggested that such a waste facility have a "long-term waste management facility" licence during site preparation, construction, operation, decommissioning, and/or monitoring. After the Licence to Decommission, there should be a licence that would address the closure phase with radioactive material remaining on site.</p> <p>An option would be to name this as a Licence to Dispose. This proposed name would maintain consistency with the current Nuclear Safety and Control Act (NSCA). The NSCA recognizes a nuclear facility for the disposal of a nuclear substance generated at another facility (in NSCA definition of nuclear facility). It also gives the Commission power to establish licences, including for activities under Sec. 26(b) to ... "dispose of a nuclear substance".</p> <p>Such a licence, whatever it is called, would address long-term aspects such as:</p> <ul style="list-style-type: none"> • Institutional controls • (Eventual) release from CNSC oversight • Preservation of information • Monitoring and maintenance • Trust funds • Liability. <p>It is recommended that the licence be applicable for an extended period during which CNSC regulatory oversight would be retained acting on behalf of the Canadian government.</p>

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				The CNSC licence would end when there is transfer of institutional control to another agency, or the remaining wastes drop below some level. The nature of this agency and the timing need not be defined at this time.
28.	2.7	<i>Are there any additional comments on the proposals above?</i>	No further comments.	