

REGDOC-2.11.1, Volume I: Comments received in advance of the workshop with industry

REGDOC-2.11.1, tome I: Commentaires reçus en vue de l’atelier avec l’industrie

Note: Comments submitted, including names and affiliations are intended to be made public, in the official language in which they are received.

Remarque : Les commentaires reçus, y compris les noms et les affiliations, seront rendus publics, dans la langue officielle dans laquelle ils auront été reçus.

	Organization / Organisation	Section	Comment / Commentaire	CNSC Response / Réponse la CCSN
1.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano	General	<p>Industry appreciates the CNSC’s efforts to revise the previous draft and clarify the application of the REGDOC to licensees who manage, store and/or dispose of radioactive waste. The revisions better define the types of radioactive waste to which the REGDOC applies. However, there remain several items which licensees believe require additional revisions or clarifications before this draft is presented to the Commission for approval and publication.</p> <p>Of particular concern, while the Waste Management REGDOCs (2.11.1 Volumes I, III) and Decommissioning document (REGDOC-2.11.2) are clearly interdependent, the sequence of their public review and eventual publication appear to be independent, or phased. This lack of synchronization posed a significant challenge for reviewers who were asked to comment on documents knowing other interdependent REGDOCs were still in draft form. Draft guidance is subject to change, which makes the path to compliance unclear. Given this, industry encourages CNSC staff to consider the suggested amendments in the table below and to present a complete package of interdependent REGDOCs to the Commission at the same time. That way, licensees can be assured only issued versions will be referenced in published REGDOCs.</p>	<p>The following drafts regulatory documents will all be presented to the Commission together as one package:</p> <ul style="list-style-type: none"> • REGDOC-1.2.1, <i>Guidance on Deep Geological Repository Site Characterization</i> • REGDOC-2.11.1, <i>Waste Management, Volume I: Management of Radioactive Waste</i> • REGDOC-2.11.1, <i>Waste Management, Volume III: Safety Case for Disposal of Radioactive Waste, Version 2</i> • REGDOC-2.11.2, <i>Decommissioning</i> • REGDOC-3.3.1, <i>Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities</i> <p>Only published documents will be referenced in the published versions of the five REGDOCs. If approved by the Commission, the five REGDOCs will be published at the same time.</p>
2.	Bruce Power, BWXT,	1.2	The Scope should clearly describe the relationship between the REGDOC, which defines requirements, and CSA standards which offer guidance and best practices to help licensees’ meet those requirements.	The text was revised to : “This document is complemented by the requirements and guidance in CSA N292.0, <i>General Principles for the</i>

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	Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano		<p>Suggested change: Amend and simplify the 2nd paragraph to read, “This document is complemented by other CNSC regulatory documents and the requirements and guidance in CSA N292.0, General Principles for the Management of Radioactive Waste and Irradiated Fuel [1], which offers guidance and best practices to meet the requirements in this REGDOC.” Together, this regulatory document and CSA N292.0 provide requirements and guidance for the management of radioactive waste. Furthermore, this regulatory document is complemented by other CNSC regulatory documents.</p>	<p><i>Management of Radioactive Waste and Irradiated Fuel</i> [1]. Together, this regulatory document and CSA N292.0 provide requirements and guidance for the management of radioactive waste. Furthermore, this regulatory document is complemented by other CNSC regulatory documents.”</p>
3.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano	2	<p>MAJOR Licensees appreciate the CNSC’s effort to align Section 2 with NRCan’s Radioactive Waste Policy Framework, but believe additional edits are needed to ensure readers have a complete, contextual understanding of the framework. The current wording omits key elements of the policy and implies that waste producers operate a waste storage and/or disposal facility. Also, industry believes a brief clarifier would ensure readers truly understand the obligations of waste producers and owners.</p> <p>Suggested change: Amend Section 2 to read, “Under Canada’s Radioactive Waste Policy Framework [2], waste producers and owners are responsible, in accordance with the principle of “polluter pays”, for the funding, organization, management and operation of disposal and other facilities required for their wastes. The policy recognizes that arrangements may be different for nuclear fuel waste, low-level radioactive waste and uranium mine and mill tailings. REGDOC-2.11, Framework for Radioactive Waste Management and Decommissioning in Canada [3], describes the national framework and the philosophy underlying the CNSC’s approach to regulating the management of radioactive waste. This includes waste generated by another</p>	<p>REGDOC-2.11, <i>Framework for Radioactive Waste Management and Decommissioning in Canada</i> outlines the radioactive waste policy in Canada.</p> <p>As a result of this comment, the section was revised as follows: Section 2 “The CNSC’s waste management framework” REGDOC-2.11, Framework for Radioactive Waste Management and Decommissioning in Canada [3], describes the national framework and the philosophy underlying the CNSC’s approach to regulating the management of radioactive waste.</p> <p>In addition to this regulatory document, the CNSC’s regulatory framework for waste management includes...”</p>

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			<p>licensee and transferred under a commercial agreement to a waste owner to process, store and dispose.”</p> <p>Impact on industry: Without these clarifiers, the document could require small waste producers to meet the same requirements as larger producers with established waste programs. Also, as issues related to waste management draw increased political and public scrutiny, it’s imperative that all readers of this REGDOC understand the relationship between waste producers and owners and their commercial agreements. Plain language helps reduce misunderstandings, which is important for companies that contract other companies for waste management.</p>	
4.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano	2.1	<p>MAJOR As per the initial comment, bullets 1, 4, 5 and 6 cite draft documents. It is confusing to suggest that licensees comply with REGDOCs that are still in draft form and potentially subject to change. As an example, since REGDOC-2.11.1, Waste Management, Volume III is still in draft form, industry’s previous comments regarding which types of radioactive waste management facilities require safety analyses remains unclear.</p> <p>Suggested change: References to draft REGDOCs should be removed. REGDOCs should only be cross-referenced in interdependent documents after they have been presented to the Commission and approved for publication.</p> <p>Impact on industry: Draft guidance is subject to change. The path to (e.g., timing of) compliance is therefore unclear.</p>	See response to comment #1 in Table D.
5.	Bruce Power, BWXT, Cameco, CNA,	5	<p>MAJOR Similarly, industry has concerns with:</p>	The wording of the third bullet aligns with CSA N292.0, <i>General Principles for the Management of Radioactive Waste and Irradiated Fuel</i> , other than the “should” was changed to “shall”. To address the concern, the word “appropriately” has been added

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	CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano		<ul style="list-style-type: none"> • The 3rd bullet, which reads, “take into account interdependencies among all steps in radioactive waste management; each step shall be evaluated as an individual step in the process and as part of an integrated radioactive waste management system” • The clarity of the 4th bullet. <p>Suggested change: As currently written, the 3rd bullet would require a fully-integrated waste management system in which the waste is generated, managed and disposed of by the same licensee. Also, for clarity, the 4th bullet should read, “produce and/or maintain records for each of the steps in the management of radioactive waste for which they are responsible”</p> <p>Impact on industry: Unless amended, it will be difficult for smaller waste producers to demonstrate how they are accounting for waste interdependencies.</p>	<p>to the third bullet to align with IAEA GSR-5, <i>Predisposal Management of Radioactive Waste</i> to read: “take into account interdependencies among all steps in radioactive waste management, as appropriate; each step shall be evaluated as an individual step in the process and as part of an integrated radioactive waste management system.”</p> <p>No change made for the fourth bullet. Not all licensees will have to both produce AND maintain records.</p>
6.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano	6	<p>MAJOR Again, licensees feel it’s important that readers fully understand that commercial agreements can be used to ensure a waste management program is implemented and maintained.</p> <p>Suggested change: Amend the 1st bullet on page 3 to read, “- identify the waste management activities to be undertaken by waste producers and owners “</p> <p>Impact on industry: As issues related to waste management draw increased political and public scrutiny, it’s imperative that all readers of this REGDOC understand the relationship between waste producers and owners and their commercial agreements. Plain language helps reduce misunderstandings.</p>	<p>No change made to remove the word “waste”, as that would change the meaning of the sentence. No change made to add “by waste producers and owners” as it is up to the licensee to determine what activities are carried out by the producer versus the owner. The waste program document shall list the activities to be conducted; the licensee may then add additional information on the roles and responsibilities to conduct those activities.</p>
7.	Bruce Power, BWXT,	6	<p>The REGDOC should clearly differentiate between ongoing management and handling of waste storage versus disposal. For example, in section 6:</p>	<p>1) Change made to remove the word “all”. CNSC staff agree that the addition of the word “all” was superfluous,</p>

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	Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano		<p>1) The use of the word “all” in the 3rd bullet is a potential trap for future audits and inspections. The focus should be on key roles related to the process, not defining all roles within an organization.</p> <p>2) The use of the word “potentially” in the 5th bullet is too open-ended to be implemented reasonably. It may create variations in interpretation and application among licensees. Monitoring programs are well-established and documented and “potentially contaminated” waste is addressed elsewhere.</p> <p>Suggested change: Amend the 3rd bullet to read: 1) “establish an organizational structure that specifies the roles and responsibilities for all positions with respect to the safe management of radioactive waste”</p> <p>Amend the 5th bullet to read, 2) “encompass all waste streams associated with or potentially contaminated by nuclear substances</p>	<p>as the positions for which roles and responsibilities shall be documented is qualified at the end of the clause.</p> <p>2) Change made to remove the word “potentially”. CNSC staff agree that the addition of the word “potentially” was open-ended.</p>
8.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano	7.1	<p>MAJOR</p> <p>Licensees continue to have concerns with this section. The waste classifications as listed are similar, but not identical, to the waste classifications used by at least one licensee (OPG) in that they appear to be independent of dose rate provided they are above exemption limits. The classification is defined by the life of the radionuclides contained in the material.</p> <p>In addition: 1) The 2nd sub-bullet (VSLLW) appears to contradict itself. Why is a nominal 100 day half-life provided? 2) The last sentence of the 2nd main bullet is commentary and inconsistent with the contents of the section, which aim to describe/characterize the categories. The sentence should be removed.</p> <p>Suggested change:</p>	<p>To align with CSA and IAEA, dose rates are no longer used to define the classes of radioactive waste. Licensees can however use dose rates in their own programs that will be reviewed and approved by the CNSC.</p> <p>1) The sentence has been revised to align with the IAEA. The sentence now reads: “In general, the management option of storage for decay for VSLLW should only apply to radionuclides with a half-life of 100 days or less.” 2) The wording aligns with IAEA GSG-1, no change made.</p>

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			<p>The CNSC is urged to:</p> <p>1) Remove the last sentence in the 2nd sub-bullet related to VSLLW, or change the listed half-life to align with the broader category of “decay within several years.” This is consistent with the CNSC Glossary and IAEA definitions.</p> <p>2) Amend the 2nd main bullet to read, “Intermediate-level radioactive waste (ILW) generally contains long-lived radionuclides in concentrations that require isolation and containment for periods greater than several hundred years. ILW needs no provision, or only limited provision, for heat dissipation during its storage and disposal. Due to its long-lived radionuclides, ILW generally requires a higher level of containment and isolation than can be provided in near surface repositories.”</p> <p>Impact on industry: As the REGDOC nears the end of its development stage, most readers should have very few questions about the intended meaning or purpose of passages. This is particularly true of readers/practitioners with expertise in waste management. If phrases or classifications are not immediately clear, the CNSC is urged to delete or rephrase them to avoid confusion and compliance issues. Otherwise, additional analysis may be required to determine if this REGDOC will require re-classification of any waste streams by some licensees.</p> <p>Also:</p> <p>1) Setting 100 days as a nominal half-life in the 2nd sub-bullet excludes the possibility of broadening the application of this category based on research, innovations and future waste treatment options.</p> <p>2) Including the commentary in the 2nd main bullet limits the potential for evaluating long-term disposal options based on their merit and safety analysis.</p>	
9.	Bruce Power, BWXT, Cameco, CNA,	7.3	<p>MAJOR The document needs to clearly distinguish between safety analysis used for waste management and a safety case that is only applicable to disposal facilities.</p>	No change made, the use of safety case in this clause is appropriate. See the definitions of safety case and safety assessment in draft REGDOC-2.11.1, <i>Waste Management, Volume III: Safety Case for Disposal of Radioactive Waste</i> ,

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	CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano		<p>Suggested change: Amend the 1st paragraph to read, “A licensee that receives waste shall develop waste acceptance criteria consistent with, and derived from, the site-specific safety analysis case.”</p> <p>Impact on industry: Failure to distinguish between safety case and safety analysis could result in misunderstanding in expectations by licence holders and members of the public.</p>	Version 2 and REGDOC-3.6, <i>Glossary of CNSC terminology</i> ; which is aligned with CSA N292.0, <i>General Principles for the Management of Radioactive Waste and Irradiated Fuel</i> and GSR Part 5, <i>Predisposal Management of Radioactive Waste</i> .
10.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano	8.3	<p>MAJOR Licensees continue to have concerns with the following items in this section: 1) The 3rd paragraph has inappropriately gone from guidance to a requirement that now says, “The licensee shall segregate sealed sources from other wastes...” This was properly a “should” statement in the previous version. Now, it is inconsistent with REGDOC 2.12.3, Security of Nuclear Substances. 2) Additional clarity is required for the 2nd sentence of the 2nd paragraph. 3) The 1st sentence of the 4th paragraph prevents waste that meets waste-acceptance criteria from being placed in that facility.</p> <p>Suggested change: The CNSC is urged to: 1) Amend the 3rd paragraph to read, “The licensee should shall segregate sealed sources ...The licensee should keep spent or disused sealed sources in a shielded container during handling.” Licensees are subject to REGDOC 2.12.3, which discusses the handling and storage of sealed sources, but does not specifically mention the need to segregate sealed sources from other wastes 2) Amend the 2nd paragraph to read, “The licensee should consider early processing of waste to convert it to a passively safe form or to otherwise stabilize it while being in compliance with any WAC disposal requirements.”</p>	<p>1) The wording of the clause was amended to “should” instead of “shall” to align with the IAEA. The 1st sentence in the 3rd paragraph was additionally modified to remove “because of the different regulatory requirements that apply.” The clause now reads: “The licensee should segregate sealed sources from other wastes. The licensee should keep spent or disused sealed sources in a shielded container during handling.”</p> <p>2) No change made. There may be situations where processing is in line with WAC for the storage facility, and additional processing will need to take place prior to disposal to be in line with WAC disposal criteria. See sections 7.3 and 9 for requirements and guidance regarding waste acceptance criteria.</p> <p>3) No change made. This clause is applicable for both storage and disposal</p>

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			<p>3) Amend the 1st sentence of the 4th paragraph to read, “The licensee shall not subject spent or disused sealed sources for storage to compaction, shredding or incineration in order to ensure their integrity.”</p> <p>Impact on industry: As currently written, this draft:</p> <p>1) Introduces a new requirement for the storage and handling of sealed sources with no clear rationale.</p> <p>2) Does not recognize that by converting waste to a passively safe form or stabilizing it, it must be done in a manner that allows it to meet the WAC for subsequent disposal.</p> <p>3) Prevents waste that meets waste-acceptance criteria from being placed in that facility</p>	
11.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano	8.4	<p>MAJOR If CNSC inspectors interpret the phrase “... onsite transfers (not on public roads) should meet an equivalent level of safety” as a defacto requirement, some licensees may unnecessarily alter the way they currently – and safely -- transport low and intermediate waste onsite. This could cascade into additional time and costs for licensees with commercial transport agreements.</p> <p>Suggested change: Amend the 2nd sentence to read, “While not subject to those regulations, onsite transfers (not on public roads) should meet an appropriate equivalent level of safety.”</p> <p>Impact on industry: If taken as a defacto requirement – not guidance - this will increase the time it takes to transport waste and the cost associated with the preparation and packaging of the waste.</p>	No change made. The clause remains as: “While not subject to those regulations, onsite transfers (not on public roads) should meet an equivalent level of safety.”
12.	Bruce Power, BWXT,	8.5 and 8.6	<p>MAJOR It is difficult to differentiate between “storage” versus “disposal” requirements.</p>	The requirements in sections 8.5 (storage) and 8.6 (disposal) were reviewed and were aligned where appropriate. For

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	Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetricks, NB Power, NWMO, OPG, Orano		<p>Suggested change: Recommend the clarification for long-term aspects are referenced with RD-2.11.1, Vol III.</p> <p>Impact on industry: The requirements are blurred between “storage” and “disposal.”</p>	alignment, the second requirement of section 8.5 is now also a requirement under section 8.
13.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetricks, NB Power, NWMO, OPG, Orano	8.5.1	<p>MAJOR This section introduces a time limit on decay storage that requires additional clarity.</p> <p>Suggested change: Remove or modify the time limit. Otherwise, clarify the intent of this section.</p> <p>Impact on industry: There is no stated purpose for the proposed time limit on decay storage other than the reference in 7.1 for VSLLW and so applicability is limited. Is this intended to preclude the possibility of storing LLW until clearance or exemption limits have been reached? Can this be modified to allow release or clearance of any material that can be shown to meet those limits?</p>	Section 8.5.1 was amended as requested and now only contains one clause as follows: “The licensee should segregate radioactive waste designated for decay storage from other waste, from the point of generation to its disposition.”
14.	Bruce Power, BWXT, Cameco, CNA, CNL,	11.2.2	<p>Additional clarity is sought regarding the following bullets beneath the 4th paragraph: 1) In the 7th bullet, it is unclear how measurement of water in an SSC will contribute to safety.</p>	1) No change made to remain in alignment with N292.6, <i>Long-Term Management of Radioactive Waste and Irradiated Fuel.</i>

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	CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano		<p>2) The 8th bullet does not recognize that maintenance requirements for disposal facility SSCs will change over the licensing stages and into disposal for this type of facility.</p> <p>Suggested change: For clarity, the CNSC is urged to:</p> <p>1) Remove the 7th bullet as this appears to be a specific requirement for one type of facility. Otherwise, modify it to read, “considers the presence of water in safety-significant SSCs prior to closure”</p> <p>2) Amend the 8th bullet to read, “allows for maintenance activities of SSCs appropriate to the facility’s lifecycle stage”</p>	<p>2) The 8th bullet was amended to add additional context and to align with CSA N292.6 and now reads: “allows for maintenance activities of SSCs prior to closure”.</p>
15.	Bruce Power, BWXT, Cameco, CNA, CNL, CANDU Owners Group, Hydro-Québec, Kinetrics, NB Power, NWMO, OPG, Orano	11.3	<p>Additional clarity is sought regarding the following:</p> <p>1) The 1st sentence on page 11 should be amended slightly to align with wording in IAEA SSR5.</p> <p>2) The 2nd sentence of the 4th paragraph should remove the term ‘equipment’ to be consistent with the 3rd paragraph in section 10.3.</p> <p>Suggested change: For clarity, the CNSC is urged to amend:</p> <p>1) The 1st sentence on page 11 to read, “The licensee should avoid or limit unintended disturbances to the host environment during construction.”</p> <p>2) The 2nd sentence of the 4th paragraph to read, “Commissioning shall demonstrate that the equipment and SSCs important to safety perform as expected in support of operations.”</p>	<p>1) The clause was amended as recommended to provide additional clarity.</p> <p>2) The clause was amended as recommended to provide additional clarity and terminology alignment within the document.</p>
16.	Bruce Power, BWXT, Cameco, CNA, CNL,	11.4, 4 th par.	<p>Additional clarity is sought regarding the following:</p> <p>1) The 4th paragraph should be updated to be consistent with the comment in section 10.4.</p> <p>2) The 5th paragraph should be updated due to changes in requirements over the lifecycle of the facility.</p>	<p>1) The clause was amended as recommended to provide alignment between sections 10.4 and 11.4.</p> <p>2) The clause was amended as recommended to provide additional clarity.</p>

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	CANDU Owners Group, Hydro- Québec, Kinetrics, NB Power, NWMO, OPG, Orano		<p>Suggested change: For clarity, the CNSC is urged to amend:</p> <p>1) The 4th paragraph to read, “The licensee shall maintain, test and inspect the facility at a frequency that ensures that the reliability of equipment remains high and that the effectiveness of systems remains in accordance with the design intent for the facility.”</p> <p>2) The 5th paragraph to read, “The licensee shall establish an aging management plan to provide for the timely detection and mitigation of the aging effects, in order to ensure integrity and functional capacity of the SSCs appropriate to throughout all stages of the facility’s lifecycle stage.”</p>	