

September 24, 2019

Directorate of Nuclear Fuel Cycle and Facilities Regulation
Canadian Nuclear Safety Commission
280 Slater Street
PO Box 1046, Station B
Ottawa, ON
K1P 5S9
Canada

Re: Nordion Comments on Draft CNSC REGDOC-3.3.1, “Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities”

Dear Sir or Madam,

The intent of this letter is to provide Nordion’s response to the CNSC request for feedback on the draft REGDOC-3.3.1 “*Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities*”.

Nordion has participated in the development of a consolidated set of industry comments on the draft REGDOC-3.3.1, see Attachment 1. Nordion generally supports these industry comments on the draft REGDOC.

In addition to supporting the industry comments provided in Attachment 1, Nordion also has the following comment on the draft REGDOC-3.3.1;

- The draft REGDOC-3.3.1 sets out “Acceptable Financial Guarantee Instruments” in Section 4. In the past, the CNSC has rejected some of these instruments as being acceptable. Given that the CNSC now has more experience with these instruments and they are now documented in the REGDOC, the CNSC should be prepared to accept the indicated financial guarantee instruments if they meet the other requirements of the REGDOC.

Should you have any questions regarding the comments being provided by Nordion (Canada) Inc., please feel free to contact Paul D’Aubin at [personal information redacted]

Sincerely,



Paul A. D’Aubin
EHS Senior Compliance Specialist
Nordion (Canada) Inc.

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Ottawa, ON Canada K2K 1X8

613-592-3400 | nordion.com



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Attachments:

- #1** Industry comments on draft REGDOC-3.3.1, *Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities*.



Attachment #1 - Industry comments on draft REGDOC-3.3.1, *Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities*.

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1.	General	<p>The CNSC is using the creation of a draft REGDOC to convert effective guidance into new requirements. For instance, Section 3 of this draft includes "must" requirements for each of the sections on Liquidity, Certainty of value, Adequacy of value and Continuity that are currently "should" guidance statements in G-206.</p> <p>Licensees appreciate that changing guidance to a requirement may be appropriate in select instances. If it truly tightens a gap to nuclear safety, industry will not only support such a move, it will ensure it becomes a priority in the field. These conversions should be the exception, not the rule.</p>	<p>Review all conversions of previous guidance to new requirements to ensure they are justified and not just blanket changes done as part of the CNSC's document framework project.</p> <p>Maintain the proper guidance from G-206, by amending the following passages from Section 3:</p> <ul style="list-style-type: none"> 3.1. "The proposed financial guarantee should must be such that the instrument can be drawn upon only with the prior acceptance of the CNSC ..." 3.2 "Licensees should must elect funding or security instruments or arrangements which provide full assurance of their value." 3.3 "The value of the financial guarantees for nuclear facilities should must be linked to the cost estimate associated with the most up to date decommissioning plan. 	MAJOR	REGODOC changes are not theoretical or academic exercises for licensees. Every new requirement carries a real-life cost, either in hard resources or time. The cumulative impact of ever-increasing requirements means licensees' ability to prioritize their work and distribute their limited resources in areas that truly impact operational nuclear safety is progressively limited.
2.	General	Licensees appreciate the CNSC's desire to provide early drafts to industry, but feel more time could have been spent improving the editorial quality of this document, which contains a significant number of typos, unclear language and formatting issues. While industry understands these will be corrected before publication, this draft would have been easier to review if an editorial check had been done ahead of its release.	Licensees urge the CNSC to review the draft for clarity of language, spelling and formatting and would be pleased to review it again ahead of publication.	MAJOR	Requirements and guidance are more easily understood if they are written in clear, concise language.
3.	General	<p>Reviewers found several terms that were either undefined or misaligned with definitions in other regulatory documents or CSA nuclear standards. For example:</p> <ol style="list-style-type: none"> In Section 2, the CNSC definition of "decommissioning" is not clear with regard to release 	Ensure definitions for each of the examples are provided in this document and included in REGDOC-3.6, Glossary of CNSC Terminology and all other related REGDOCs.	MAJOR	Undefined terms – or definitions that vary across REGDOCs and are not included in REGDOC3.6 -- increase the risk of licensees misunderstanding requirements. Having clear, consistent definitions applied across the entire CNSC framework and catalogued in its

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		<p>from regulatory control. The first sentence within the definition states, "the removal of some or all of the regulatory controls," while the second sentence implies full release from regulatory control.</p> <p>2. "Intergenerational equity" is referenced in the 3rd paragraph on Page 2, but not defined.</p> <p>3. "Securities" is referenced in the 2nd second section 3.4, but not defined.</p> <p>4. In Section 13.1, "drawdown" and "uncertainty analysis" are referenced, but not defined. Also, there is some ambiguity between period dependent costs and "collateral and special item costs."</p> <p>5. In Section 13.2.1, the terms "structure" and "inventories" are referenced, but not defined.</p> <p>6. In section 16.1, the "Crown" is referenced, but not defined.</p>			Glossary promotes better compliance.
4.	■.■	This section does not acknowledge the current state of the facility/financial guarantee and the evolution throughout the lifecycle of the facility. Not all proposed facilities would be captured in the initial (construction) financial guarantee if they were planned to be constructed near the end of the facility life.	Amend the 1 st sentence of the 2 nd paragraph to read, "Applicants and licensees are required to make adequate provision for the safe decommissioning of existing or proposed nuclear facilities by ensuring that sufficient financial resources are available to fund all approved decommissioning activities should the licensee not be able to fulfill its obligations."	MAJOR	As written, this would require additional financial assurance than is currently the practice for uranium mines and mill licensees.
5.	2, 3.1, 5.1, 5.3, 5.4	In each of these sections, the document does not recognize that assurances are given to provinces in some jurisdictions and not the CNSC. In those instance, it is the province that has funds available to it.	<ul style="list-style-type: none"> In Section 2, amend the 3rd paragraph to read, "...the financial guarantee ensures that there are funds available to the <u>beneficiary CNSC</u> ..." Add the following as a subsection: <u>X.X.X Beneficiary</u> <u>An appropriate beneficiary should be named in the financial guarantee document. The beneficiary may be the CNSC, or where an understanding exists, may be an alternative government body with jurisdiction over the</u> 	Clarification	

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			<p><u>decommissioning activities of the nuclear facility.</u></p> <ul style="list-style-type: none"> In Section 3.1, amend the 1st sentence to read, "...prior acceptance of the <u>beneficiary CNSC</u>..." In Section 5.1, amend the 2nd sentence to read, "...prior acceptance of the <u>beneficiary CNSC</u>..." In Section 5.3, amend the 2nd paragraph to read, "...the issuer notifies the <u>CNSC (as the beneficiary)</u>" In Section 5.4, amend the 1st sentence to read "...controlled by the <u>provincial or</u> federal government ..." 		
6.	2.	The use of the phrase, "the polluter pays" in the 4 th paragraph, could be perceived as inflammatory and not necessary to inform readers about the background of financial guarantees. Without context, some may seize upon the phrase "polluters" to improperly drive a narrative.	Amend the 4 th paragraph to read, " Sustainable assurance of safety is guided by the two key principles of decommissioning: "the polluter pays" and "the intergenerational equity" principles. These principles raise specific financial obligations for decommissioning. These Financial obligations are intended to ensure:	Clarification	
7.	2	The final paragraph cites draft REGDOC-2.11.2 and CSA standard N294, which is being amended at the time of this review. As a matter of principle, draft REGDOCs should only reference other REGDOCs or standards that are currently published and not out for review. Otherwise, approved requirements may not be fully understood and informed comments cannot be provided.	Cite only currently published versions of REGDOCs and CSA standards.	Clarification	
8.	3	The language used to describe the designated officer is unclear.	Amend the 1 st sentence to read, "The Commission, or where a licence is used by a designated officer, the designated officer will determine ..."	Clarification	
9.	3.2	Applicants are not mentioned alongside licensees in this section.	Wherever "licensees" are referenced, "applicants" should be as well for consistency.	Clarification	
10.	3.4, 5.3	With regard to the "advance notice" referenced in the 3 rd sentence, to whom must this "advance notice" be given? Is such notice given to the CNSC?	Please clarify to whom advance notice is to be given.	Clarification	

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11.	6	<p>Annual status reports are not completed now by some licensees. Any proposed change to a facility requires discussion on the implications of the financial guarantee under the licence conditions handbook (LCH) change request process and when no change is proposed, no status report is necessary.</p> <p>Licensees who currently provide annual updates to the CNSC as per their LCH have significant concerns with the unnecessary inclusion of the phrase "according to the most up-to-date decommissioning plan" in the 2nd sentence. It is not practical or reasonable to expect the associated cost estimates be updated on an annual basis with all the required review and approval due diligence from licensees and governments.</p> <p>Please see comments on section 13.1 for related concerns.</p>	<p>Delete section 6.</p> <p>Otherwise, align it with the LCH's of those licensees who are required to file updates by amending it to read, "<u>Certain licensees are required by their licence conditions handbooks</u> to report annually on the status and the validity of their financial guarantee. <u>These</u> licensees must indicate if their financial guarantee remains valid, in effect and sufficient to meet decommissioning needs <u>according to the most up-to-date decommissioning plan [3] [4].</u> <u>Eof certain licensees, additional requirements for reporting on financial guarantees may be specified in the licence conditions handbook.</u>"</p>	MAJOR	<p>This section imposes a new annual report on some licensees and -- without further clarification -- could significantly increase the resource burden on other licensees with no corresponding improvement to nuclear safety.</p> <p>Before publication of this REGDOC, the CNSC is strongly encouraged to discuss this issue further with industry to ensure all requirements and their impacts are fully understood.</p>
12.	6	The financial guarantee review reporting requirements, as stated in sections 15 and 19, are not referenced in this section on reporting requirements.	If section 6 is retained, reference the financial guarantee review reporting requirements from sections 15 and 19.	Clarification	
13.	8	This section contains redundant information that is discussed in proposed REGDOC-2.11-2. The scope of this document should be kept to discussion on the cost estimation process and financial guarantees.	Remove the section.	Clarification	
14.	8	Clarity can be added to the lifecycles stages of a facility.	Amend the 2 nd sentence of the 1 st paragraph to read, "The lifecycle stages of a facility include: siting; design and construction; commissioning ; operation and maintenance; final shutdown ; decommissioning."	Clarification	
15.	9	it is unclear how Appendix B would be applied for determining contingencies in cost estimates. Recommended contingencies provide for Grade A, B	Confirm if this is intended to also be considered when selecting an appropriate contingency. Also, clarify which type of classification (grades vs classes) would be better	Clarification	

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		and C estimates in the first part of the Appendix. In Table 1 of Appendix B, a column is provided with 'Expected Accuracy'	suited for decommissioning cost estimates for nuclear power plants.		
16.	10	With regard to radioactive waste and used fuel, what is the difference between long-term management (as referenced in the eighth bullet) and storage and disposal (as referenced in the fifth bullet)?	Please clarify.	Clarification	
17.	11	In the last paragraph on Page 11, the reference to "reasonably conservative" is subjective, not defined and not necessary to convey the point being made.	Amend to read, "The applicant or the licensee should reflect local construction rates for labour, reasonably conservative estimates for materials, equipment and administrative expenses."	Clarification	
18.	12	The 3 rd sentence in the 2 nd paragraph references "major cost groupings" in terms of the second level of a hierarchal cost structure, but such groupings are referred to as "activity groups" in terms of the example hierarchal cost structure presented in Figure 1.	For the sake of consistency, such groupings should be referred to as either "major cost groupings" or "activity groups" throughout the REGDOC.	Clarification	
19.	13.1	Some of the bullets listed in this section are redundant as they are requirement of a decommissioning strategy (i.e. PDP or DDP) described in REGDOC-2.11.2. The 13 th bullet, "description of computer codes or calculation methodology employed" is onerous and not needed since proper QA programs are already in place.	Amend to read, <u>"The basis of estimate (BOE) is the foundation upon which the cost estimate is developed. For nuclear facilities, the BOE comprises the decommissioning strategies within the PDP and DDP prepared in accordance with REGDOC-2.11.2. Additional BOE information should be included in the cost estimate such as:</u> <ul style="list-style-type: none"> <u>• assumptions and exclusions, including the reference year and the currency used</u> <u>• boundary conditions and limitations – legal and technical (e.g., regulatory framework)</u> <u>• sources of data used (actual field data vs. estimating judgment)</u> <u>• cost estimating methodology used: e.g., bottom-up</u> <u>• the basis for determining contingency, estimating uncertainty and risk</u> 	Clarification	A well-documented BOE should fully reflect the current decommissioning plan for the facility. The BOE should provide a detailed description of the decommissioning project including:

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			<ul style="list-style-type: none"> • <u>schedule analysis</u> • <u>uncertainty analysis"</u> <p>Remove remaining bullets.</p>		
20.	13.1	<p>Industry believes the 2nd paragraph in this section adds more confusion than clarity and is not required.</p> <p>Specifically, licensees have significant concerns with the phrase 'worst-case scenario or "decommissioning tomorrow approach" in the 1st sentence of the 2nd paragraph. This is not defined and could be inappropriately interpreted by some to require the highest cost estimate.</p> <p>The last sentence in the 2nd paragraph reads, "A credit for salvage of materials or equipment is not allowed. For the purpose of the cost estimate, they must be considered waste." However, Appendix C, item 3, expenses, states, "income from asset recovery ("negative expenses") is included."</p>	<p>Delete the 2nd paragraph. This section is meant to provide BOE guidance, which is sufficiently offered by the revised bullet list as per comment #19 and the final paragraph in the section.</p> <p>As currently written, the 2nd paragraph adds more confusion than clarity. It does not define: 'worst-case scenario'; 'asset recovery'; or 'salvage.' Perhaps there is a subtlety between salvage of material and asset recovery? It's also unclear if the salvage of materials or equipment can be considered as part of the "uncertainty analysis."</p>	Clarification	
21.	13.4	In terms of the "summary-level schedule" referenced in the last paragraph, to whom would this be provided? Would it be provided to the CNSC?	Please clarify.	Clarification	
22.	13.5	In terms of the 3 rd sentence in the 4 th paragraph on Page 12, why are contingencies "expected to be spent during the realization of the decommissioning project"?	Amend the last sentence of the 4 th paragraph to read, "Contingencies are an integral part of the cost estimate and are expected to be spent during the realization of the decommissioning project."	Clarification	
23.	13.5	Licensees have clarity and compliance concerns with the phrase, "Unforeseeable elements outside the defined project scope."	Remove the reference to "outside the project scope" in this section and throughout the document.	MAJOR	"Unforeseeable elements outside the defined project scope" is ambiguous terminology and would be difficult, if not impossible, for licensees and applicants to fully account for in



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					a financial guarantee.
24.	14.14.1	The terms "current value" and "constant dollars" are used interchangeably in this section. "Constant dollars" is the better term as per most cost estimating terminology.	For clarity and consistency, just use "constant dollars."	Clarification	
25.	15	The wording in this section should reflect the fact that the financial guarantee requirement needs to be reviewed every five years, presented to the CNSC, etc., not just the financial guarantee.	Revise accordingly.	Clarification	
26.	Appendix B	Which type of classification (grades vs classes) would be better suited for decommissioning cost estimates for NPPs? Also for Table 1, the expected accuracy column for class 4 should be aligned with latest AACE reference document.	Please clarify the classification and ensure alignment regarding Table 1.	Clarification	
27.	Appendix C	The preamble includes "materials" as part of investment costs. Section 3 speaks to "consumables" and spare parts as part of the expenses category.	Please clarify.	Clarification	



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19.	13.1	Some of the bullets listed in this section are redundant as they are requirement of a decommissioning strategy (i.e. PDP or DDP) described in REGDOC-2.11.2. The 13 th bullet, "description of computer codes or calculation methodology employed" is onerous and not needed since proper QA programs are already in place.	Amend to read, <u>"The basis of estimate (BOE) is the foundation upon which the cost estimate is developed. For nuclear facilities, the BOE comprises the decommissioning strategies within the PDP and DDP prepared in accordance with REGDOC-2.11.2. Additional BOE information should be included in the cost estimate such as:</u> <ul style="list-style-type: none"> • <u>assumptions and exclusions, including the reference year and the currency used</u> • <u>boundary conditions and limitations – legal and technical (e.g., regulatory framework)</u> • <u>sources of data used (actual field data vs. estimating judgment)</u> • <u>cost estimating methodology used; e.g., bottom-up</u> • <u>the basis for determining contingency, estimating uncertainty and risk</u> 	Clarification	A well-documented BOE should fully reflect the current decommissioning plan for the facility. The BOE should provide a detailed description of the decommissioning project including:

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			<ul style="list-style-type: none"> <u>schedule analysis</u> <u>uncertainty analysis</u> 		
			Remove remaining bullets.		
20.	13.1	<p>Industry believes the 2nd paragraph in this section adds more confusion than clarity and is not required.</p> <p>Specifically, licensees have significant concerns with the phrase ‘worst-case scenario or “decommissioning tomorrow approach” in the 1st sentence of the 2nd paragraph. This is not defined and could be inappropriately interpreted by some to require the highest cost estimate.</p> <p>The last sentence in the 2nd paragraph reads, “A credit for salvage of materials or equipment is not allowed. For the purpose of the cost estimate, they must be considered waste.” However, Appendix C, item 3, expenses, states, “income from asset recovery (“negative expenses”) is included.”</p>	<p>Delete the 2nd paragraph. This section is meant to provide BOE guidance, which is sufficiently offered by the revised bullet list as per comment #19 and the final paragraph in the section.</p> <p>As currently written, the 2nd paragraph adds more confusion than clarity. It does not define: ‘worst-case scenario’; ‘asset recovery’; or ‘salvage.’ Perhaps there is a subtlety between salvage of material and asset recovery? It’s also unclear if the salvage of materials or equipment can be considered as part of the “uncertainty analysis.”</p>	Clarification	
21.	13.4	In terms of the “summary-level schedule” referenced in the last paragraph, to whom would this be provided? Would it be provided to the CNSC?	Please clarify.	Clarification	
22.	13.5	In terms of the 3 rd sentence in the 4 th paragraph on Page 12, why are contingencies “expected to be spent during the realization of the decommissioning project”?	Amend the last sentence of the 4 th paragraph to read, “Contingencies are an integral part of the cost estimate and are expected to be spent during the realization of the decommissioning project. ”	Clarification	
23.	13.5	Licensees have clarity and compliance concerns with the phrase, “Unforeseeable elements outside the defined project scope.”	Remove the reference to “outside the project scope” in this section and throughout the document.	MAJOR	“Unforeseeable elements outside the defined project scope” is ambiguous terminology and would be difficult, if not impossible, for licensees and applicants to fully account for in

#	Document/ Excerpt of Section	Industry Issue	Suggested Change (if applicable)	Major Comment/ Request for Clarification	Impact on Industry, if major comment
24.	14. 14.1	The terms "current value" and "constant dollars" are used interchangeably in this section. "Constant dollars" is the better term as per most cost estimating terminology.	For clarity and consistency, just use "constant dollars."	Clarification	a financial guarantee.
25.	15	The wording in this section should reflect the fact that the financial guarantee requirement needs to be reviewed every five years, presented to the CNSC, etc., not just the financial guarantee.	Revise accordingly.	Clarification	
26.	Appendix B	Which type of classification (grades vs classes) would be better suited for decommissioning cost estimates for NPPs? Also for Table 1, the expected accuracy column for class 4 should be aligned with latest AACE reference document.	Please clarify the classification and ensure alignment regarding Table 1.	Clarification	
27.	Appendix C	The preamble includes "materials" as part of investment costs. Section 3 speaks to "consumables" and spare parts as part of the expenses category.	Please clarify.	Clarification	