

October 16, 2019

NK21-CORR-00531-15389  
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Mr. B. Torrie  
Director General, Regulatory Policy Directorate  
Canadian Nuclear Safety Commission  
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Ottawa, Ontario  
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Dear Mr. Torrie:

Bruce Power comments on draft  
*REGDOC-2.11.2, Waste Management, Decommissioning*

The purpose of this letter is to provide the CNSC with feedback on this draft Regulatory Document as detailed in Attachment A. These comments emerged from a collective review of the document with our industry peers at Ontario Power Generation, New Brunswick Power, Canadian Nuclear Laboratories, Cameco Corporation and the Nuclear Waste Management Organization.

If you require further information or have any questions regarding this submission, please contact Steve Cannon, Senior Strategist, Regulatory Affairs, at (519)361-6559, or [steve.cannon@brucepower.com](mailto:steve.cannon@brucepower.com).

Yours truly,



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Attach.

## Attachment A - Bruce Power comments on draft *REGDOC-2.11.2, Waste Management, Decommissioning*

#	Document/ Excerpt of Section	Industry Issue	Suggested Change (if applicable)	Major Comment/ Clarification	Impact on Industry, if major comment
1.	<b>General</b>	<p>As currently written, the REGDOC is not clear on the timing of key activities. Specifically:</p> <ol style="list-style-type: none"> <li>1) Detailed planning documents (i.e., detailed plans to implement activities covered at a high-level in the PDP) need only be submitted ahead of conducting those activities. Submitting detailed plans too far in advance creates significant time and resource implications for licensees with minimal added value if the activities will not be conducted for several years. The PDP already provides this information at a high level.</li> <li>2) Reporting requirements as per <i>REGDOC- 3.1.1</i> and <i>REGDOC-3.1.2</i> are not referenced.</li> <li>3) It fails to acknowledge that certain decommissioning activities can take place under an operating licence as well as a decommissioning licence.</li> </ol>	<p>For clarity, licensees urge the CNSC to provide a more fulsome discussion of what decommissioning entails in the introductory sections of this document. Future drafts should:</p> <ol style="list-style-type: none"> <li>1) Provide more specific guidance on when key detailed implementation documents are required. Describe how detailed decommissioning implementation plan(s) are only required when a licensee is contemplating specific decommissioning activities. The REGDOC should put less emphasis on the titles that have historically been given to these detailed implementation plans (e.g., SAR, SOP, DDP) and focus on the point that detailed planning is needed around the time that specific decommissioning activities are being considered by the licensee.</li> <li>2) Ensure all reporting requirements are reflected as per <i>REGDOC- 3.1.1</i> and <i>REGDOC-3.1.2</i> (e.g. DDP, storage with surveillance plan)</li> <li>3) Describe how activities related to decommissioning can occur under an operating licence.</li> </ol> <p>More context could also be provided regarding other decommissioning strategies (prompt and in-situ) since only “deferred” is currently discussed in this draft.</p>	<b>MAJOR</b>	<p>The preparation and submission of detailed planning documents requires significant resources and has the potential to spawn additional assessments. The more specific this REGDOC can be regarding submission timings would help licensees plan their work and assign appropriate resources and time to prepare detailed plans.</p>
2.	<b>General</b>	<p>This language in this draft is unclear in some essential areas and inconsistent with some of the definitions and guidance in its related CSA standard, <i>N294 - Decommissioning of Nuclear Facilities</i>. Specifically:</p> <ol style="list-style-type: none"> <li>1) The use of “decommissioning” is inconsistent throughout this draft and not used in the context as</li> </ol>	<p>For consistency, the CNSC should ensure definitions and guidance truly align with those in other regulatory documents and related CSA standards. Specifically:</p> <ol style="list-style-type: none"> <li>1) Review all references to “decommissioning” and ensure it is being used in the proper,</li> </ol>	<b>MAJOR</b>	<p>Clear, consistent language repeated in all related regulatory documents and nuclear standards promotes better compliance.</p>

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		<p>per the Glossary’s definition. Instead, “decommissioning” is most often used when referring to dismantling and demolition.</p> <p>2) The Glossary definition of “decommissioning” is slightly different from those in <i>REGDOC-3.6, Glossary of CNSC Terminology</i> and <i>CSA N294, Decommissioning of Nuclear Facilities</i>. Even subtle differences in how terms are defined can generate confusion and questions.</p>	<p>defined context.</p> <p>2) Review definitions of “decommissioning” from sources such as <i>CSA N294</i>, the Nuclear Regulatory Commission and Part 6 of the International Atomic Energy Agency’s General Safety Requirements. From those, create a definition that can be included in <i>REGDOC-3.6</i> and used consistently in all related regulatory documents.</p>		
3.	General	<p>There are instances where the CNSC uses the creation of this draft REGDOC to convert clearly-written, highly-effective guidance from <i>G-219, Decommissioning Planning for Licenced Activities and CSA N294</i> into new requirements.</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>	MAJOR	<p>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.</p>
4.	1.1	<p>Additional clarity of the document’s Purpose is sought in the following ways:</p> <p>1) The definition in the 2<sup>nd</sup> paragraph specifies end of decommissioning as when licensed activities cease, but does not clearly indicate when decommissioning begins.</p> <p>2) The reference to “deferred decommissioning” in the final sentence of the 2<sup>nd</sup> paragraph does not add value.</p> <p>3) Regarding the 3<sup>rd</sup> paragraph, licensees need to demonstrate they no longer require a licence given the surveyed levels of nuclear substances that they are in possession of, per the Nuclear Substances and Radiation Devices Regulations (e.g., levels below the exemption and unconditional clearance levels. Also, is the “end-state criteria” mentioned at</p>	<p>Clarify the Purpose to say that decommissioning activities can occur under both operational and decommissioning licences and the phases are not precisely defined. Add further clarity by amending:</p> <p>1) The 2<sup>nd</sup> paragraph to stipulate the actual start of decommissioning in a way that aligns with activities covered in the PDP. This definition sets the reference point for the remainder of the document.</p> <p>2) The final sentence of the 2<sup>nd</sup> paragraph to read, “The time period for the conduct of decommissioning actions typically range from a few weeks for small and simple facilities, to years or decades for larger and more complex facilities, <del>especially in the case of</del></p>	MAJOR	<p>It’s important to know the actual start of decommissioning from a regulatory perspective.</p> <p>For reference, America’s Nuclear Regulatory Commission describes decommissioning as “the process of safely closing a nuclear power plant (or other facility where nuclear materials are handled) to retire it from service after its useful life has ended. This process primarily involves decontaminating the facility to reduce residual radioactivity and then releasing the property for unrestricted or (under certain conditions) restricted use. This often includes dismantling the facility or dedicating it to other purposes. Decommissioning begins after the nuclear fuel,</p>

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		the end of 3 <sup>rd</sup> paragraph defined anywhere or prescribed by the CNSC?	<p><del>deferred decommissioning.</del>” If “deferred decommissioning” remains, it should be defined.</p> <p>3) The 3<sup>rd</sup> paragraph to read, “...followed by a survey to verify that there are no areas with residual contamination above <del>end-state criteria</del> <u>levels that would require a licence.</u>” If not amended, define “end-state criteria.”</p>		<p>coolant, and radioactive waste are removed.”</p> <p>And the Nuclear Energy Association notes that in many cases, the starting point is the requirement to change from an operating licence to a decommissioning licence.</p> <p>Conceptually, the definition of decommissioning encompasses the lifecycle of a facility. In fact, Figure 1, Phase of decommissioning, in Section 2, is actually a facility lifecycle for-end-of life, of which decommissioning is a critical activity in that lifecycle.</p>
5.	1.2	<p>Additional clarity of the document’s Scope is sought in the following ways:</p> <ol style="list-style-type: none"> <li>1) As per comment #1, the timing of decommissioning phases and issues associated with multi-unit sites should be addressed and a revised Figure 1 in Section 2 referenced in the Scope.</li> <li>2) “Remediation” is not defined in the Glossary or in <i>REGDOC-3.6</i>.</li> <li>3) It would be helpful to define “legacy,” either by using the words from the note in section 4 or referencing that note here.</li> <li>4) An additional CSA standard should be added to the final paragraph.</li> </ol>	<p>Clarify the Scope by:</p> <ol style="list-style-type: none"> <li>1) Discussing single versus multi reactor units and the potential staging of shutdown since there may be a need to incorporate a Periodic Safety Review and Aging Management per <i>REGDOC-2.3.3</i> and <i>REGDOC-2.6.3</i>.</li> <li>2) Defining “remediation” in the Glossary or <i>REGDOC-3.6</i>.</li> <li>3) Either refer to the note in section 4 for the definition of “legacy” or add the following to the end of the 3<sup>rd</sup> paragraph, <u>“In Canada, legacy sites specifically refer to research and demonstration facilities or facilities dating back to the birth of nuclear technologies in Canada for which decommissioning was not planned as part of the design.”</u></li> <li>4) Add <i>N292.5-11, Guideline for the exemption or clearance from regulatory control of materials that contain, or potentially contain, nuclear substances</i> to the final paragraph.</li> </ol>	<b>MAJOR</b>	<p>Understanding the document’s intended scope is essential to ensuring compliance.</p>

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6.	2	<p>Industry believes the bulleted list of items under the subheading ‘Lifecycle decommissioning planning assists in’ could be clarified in the following ways:</p> <ol style="list-style-type: none"> <li>1) Add “located” and “construction” to the 1<sup>st</sup> bullet.</li> <li>2) Regarding the 7<sup>th</sup> bullet, although there will be waste “generated during decommissioning” activities (removal of buildings etc.), waste is generated throughout the lifecycle that will require decommissioning (it is not generated during decommissioning).</li> <li>3) Add a bullet to the list linked to siting of the facility</li> <li>4) Consider adding “post decommissioning” to the end of the list.</li> </ol>	<p>Clarify the bulleted list by:</p> <ol style="list-style-type: none"> <li>1) Amending the 1<sup>st</sup> bullet to read, “ensuring that a nuclear facility is <u>located</u>, designed <u>and constructed</u> in a manner that will facilitate decommissioning.”</li> <li>2) Amending the 7<sup>th</sup> bullet to read, “estimating the quantities, types and classes of waste that will be <u>managed and recorded generated</u> during decommissioning.”</li> <li>3) Add the following bullet, “<u>ensuring the siting process considers eventual abandonment of the facility if that is the strategy being adopted</u>”</li> <li>4) If “post decommissioning” is included, amend the sentence before Figure 1 to read, “These phases are discussed in sections 5 to <u>9 8</u> of this regulatory document.”</li> </ol>	Clarification	
7.	2	<p>As per comment #1, the requirements and timing for the preparation of the DDP are problematic based on the options that may exist for the completion of the “Execution of decommissioning” phase in this document. The manner in which the REGDOC is currently written indicates that a DDP is required before the completion of this phase. This is problematic since the decision on how the Execution phase will be implemented can change the requirement for this document. An example of this would be if the licensee is indicating through the PDP and SAP that they are going to choose the deferred decommissioning format. In this case, the CSA standard and the REGDOC indicate that a Storage with Surveillance Plan (SWS) is required. It is industry’s position that the SWS document should be used exclusively to set out the conditions for how the SSC’s will be managed during this phase. During the</p>	<p>Figure 1 could be a helpful visual guide if amended to more closely match the corresponding Figure 1, Phases of decommissioning on page 11 of CSA N294 and reconfigured to:</p> <ol style="list-style-type: none"> <li>1) Show decommissioning as a separate activity within the operational history of a facility.</li> <li>2) Move DDP to the start of the execution phase and/or show storage with surveillance plan at the start of executive and DDP at the start of dismantling. Review for where institutional controls may fall and adjust the figure accordingly. Although text in section 9 suggests it’s in Post-Decommissioning, there’s no additional step for releasing from institutional control and moving to a licence to abandon (if applicable) at the end of post-</li> </ol>	<b>MAJOR</b>	<p>Decommissioning is a separate activity within the operational history of a facility and must be considered as such.</p> <p>As currently configured, the items do not align with expectations for submissions to the CNSC. This would result in mismatches and potential delays to users of document.</p> <p>It is unclear how “other regulatory controls” are to be applied, which leads to unclear expectations for licensees.</p>

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		<p>SWS phase, there may be some elements - as highlighted in section 7.1 of the REGDOC - that may be possible to support a good SWS strategy. These types of activities need to be considered when the SWS plan is being developed. It should be recognized that the actual licence transition should also take into consideration the type of functions that will be completed during this phase. Currently, Section 6.1 of the REGDOC requires a SWS plan and a DDP at the same time and this is not likely possible in terms of meeting the requirements that are expected in the DDP at this time.</p> <p>When the licensee transitions into the Decontam and Demolition (D&amp;D) phase of the “Execution of decommissioning,” it is clear that a DDP will be required for this phase and the prescriptive elements that are indicated in section 6.2 and Section 6.2.1. It would be more appropriate to prepare this plan for the D&amp;D phase closer to when this work would be completed. Until specific decisions on “the when and how” of the D&amp;D work are available, this may only be possible when a contracting strategy and inputs from the contractor are available. It is also likely that the licence for these activities will be quite different from this phase of the work, as there would be significantly different conditions and training that would be required to support this phase of the work.</p> <p>Figure 1 does not match the narrative in the REGDOC, which makes it difficult to follow and creates more confusion than clarity in the following ways:</p> <p>1) Fundamentally, licensees do not agree that decommissioning is a phase that encapsulates the</p>	<p>decommissioning.</p> <p>3) If required, add a note with a triple asterisk to the bottom of the figure (which will be associated with the wording on the decommissioning plans timeline ending with “surveillance plan” and three asterisks). Otherwise, delete the three asterisks following “surveillance plan.”</p> <p>4) Add the radiological and hazardous surveys required at each stage.</p> <p>5) Spell out PDP and DDP, perhaps in a footnote to the figure.</p>		

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		<p>facility lifecycle. Industry's view is that decommissioning is a <b>defined activity</b> which supports the facility lifecycle from beginning to end. As depicted in Figure 1, the lifecycle approach to decommissioning phases creates confusion in terms of our initial comment on when decommissioning commences. In addition, it conflicts with CSA N286-12, <i>Management system requirements for nuclear facilities</i>, which refers to the lifecycle of a facility and decommissioning as part of that lifecycle.</p> <p>2) Some items appear to be in the wrong spot and others are missing. Specifically, a DDP is normally prepared for the execution of decommissioning and should precede the phase. Note, for deferred decommissioning, a storage with surveillance plan is prepared after operations and a DDP is prepared prior to dismantling. This is shown definitively in Figure 1 of <i>N294-19</i> where a line separates storage with surveillance and dismantling. A PDP is prepared during siting, not at the end of design/construction as the figure shows (i.e. prior to operation). As well, in the case of in-situ decommissioning, there would be a phase of institutional control (IC). Since completion of decommissioning results in release from CNSC regulatory control, then IC would fall under completion of decommissioning. However, preparation and submission of an end-state report is only at the end of this phase. Although this figure is true for buildings/areas, it seems to lack the future thought of decommissioning a waste management disposal area.</p> <p>3) It is not clear where the triple asterisk following</p>			



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		<p>“surveillance plan” is directing the reader to, as there is no note at the bottom of the figure with a triple asterisk.</p> <p>4) The graphic would benefit from adding the radiological and hazardous surveys required at each stage.</p> <p>5) Acronyms PDP and DDP are not defined but used in the figure.</p>			
8.	3	<p>Licensees recognize the Preface and Section 3 both direct readers to <i>REGDOC-3.5.2, Regulatory Fundamentals</i>, for more information on a graded approach. However, users believe this section would benefit from more direct discussion on the topic since:</p> <ol style="list-style-type: none"> <li>1) It is not immediately clear which licensees, facilities or type of radioactive waste (low, intermediate, or high level) management this REGDOC applies to.</li> <li>2) There is unclear wording in the 1<sup>st</sup> paragraph. What are the criteria for optimization? What is the expectation for demonstration of optimization?</li> <li>3) It's not clearly stated that the regulator must agree to the graded approach chosen by the licensee.</li> </ol>	<p>Licensees request the CNSC:</p> <ol style="list-style-type: none"> <li>1) Clarify which licensees this REGDOC applies to and which ones it excludes. Where licensees are excluded or addressed in another REGDOC (e.g., <i>REGDOC 2.1.1 Volume II</i>), the reader should be redirected to that REGDOC. The REGDOC should address or redirect readers to the requirements of all licensees as captured by <i>REGDOC 3.3.1, Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities</i>.</li> <li>1) Amend the 1<sup>st</sup> paragraph to read, “The licensee shall ensure <del>that</del> the protection and safety of workers, the public and the environment during decommissioning <del>is planned and optimized.</del>”</li> <li>2) Amend the 2<sup>nd</sup> paragraph to read, “The licensee <del>should shall</del> apply a graded approach <del>that covers in</del> all aspects of decommissioning, commensurate with the type, scale, complexity, maturity, physical state, inventory, uncertainty and reliability of information, and risk associated with the decommissioning of the facility or activity.”</li> </ol>	<b>MAJOR</b>	<p>There is a potential for licensees to be out of compliance because of the lack of clarity regarding which radioactive waste management facilities this guidance applies to.</p>



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			As per comment #1, for consistency, the CNSC is urged to match the definition of graded approach in <i>REGDOC-3.6</i> with the one in <i>N286-12</i> , which says, “With a graded approach, all requirements shall apply but to varying degrees depending upon the safety significance and complexity of the work being performed. If such an approach is used, the criteria and process used for grading shall be defined.”		
9.	4	<p>Additional clarity is required in a number of areas in section 4. Specifically:</p> <ol style="list-style-type: none"> <li>1) The section mentions three types of decommissioning strategies, but does not provide details for their associated decommissioning activity. Later in the document, section 6.1 speaks only to deferred decommissioning.</li> <li>2) As per comment #1 on a lack of clarity regarding timing, what is meant by “early” in the 1<sup>st</sup> paragraph, which reads “...the decommissioning strategy shall be selected <i>early</i> in the lifecycle of the facility.”</li> <li>3) Bullet B, which supports the 2<sup>nd</sup> paragraph, should recognize that “storage with surveillance” can also be referred to as “care and maintenance” for uranium mines and mills.</li> <li>4) The 3<sup>rd</sup> paragraph references a draft REGDOC. 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.</li> <li>5) The 3<sup>rd</sup> paragraph repeats a requirement already in <i>REGDOC-2.11.1, Volume III</i>. Eliminate repetition to</li> </ol>	<p>Licensees urge the CNSC to:</p> <ol style="list-style-type: none"> <li>1) Provide further details for each decommissioning strategy and their associated activities.</li> <li>2) Clarify what constitutes “early” in terms of this requirement.</li> <li>3) Amend Bullet B to read, “... period of storage and surveillance (<u>or care and maintenance</u>) ...”</li> <li>4) Remove references to draft REGDOCs or any standards that have not been published. Cite existing, published documents or don’t cite them at all.</li> <li>5) Amend the 3<sup>rd</sup> paragraph to read, “Further information on safety case and safety assessment can be found in draft REGDOC-2.11.1, Waste Management, Volume III: Safety Case for Long-Term Radioactive Waste Management, Version 2 [3]. <del>For waste with other hazardous properties, the licensee shall ensure that the safety case and supporting safety assessment encompasses those hazards and is in compliance with applicable regulatory requirements regarding such hazards.</del></li> </ol>	Clarification	

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		<p>ensure the requirement in <i>REGDOC-2.11.1 Volume III</i> is applied consistently.</p> <p>6) The 1<sup>st</sup> sentence in the final paragraph on page 4 on strategies is not needed since it is already a requirement of the PDP.</p> <p>7) Similarly, the final paragraph on page 5 related to strategy is unclear. Under what scenario would the decommissioning strategy have to be revised? Does the decommissioning strategy refer to the PDP? Also, this is specific to Class I facilities only, but that is not clear in this draft.</p> <p>8) The 15<sup>th</sup> bullet beneath the 1<sup>st</sup> paragraph on page 5, “other political, social and economic considerations” is broad and open to variations in interpretation. It should be removed.</p>	<p>6) Amend the 1<sup>st</sup> sentence of the final paragraph on page 4 to read, “<del>The licensee shall justify the selected strategy and should conduct a comparison of alternative decommissioning strategies.</del> The evaluation method used to select ...”</p> <p>7) Move the wording about strategy from the 2<sup>nd</sup> paragraph of section 5 to here, the first reference to a decommissioning strategy. Clarify that it applies only to Class I facilities.</p> <p>8) Remove the 15<sup>th</sup> bullet, “<del>other political, social and economic considerations</del>”</p>		
10.	4	<p>Licensees have several questions related to the 4<sup>th</sup> paragraph on in situ decommissioning. Specifically:</p> <p>1) The 1<sup>st</sup> sentence recognizes in situ decommissioning as an acceptable practice for uranium mines and mills and includes a consideration for other facilities under exceptional circumstances. It does not make reference to facilities that were initially designed to be disposal facilities.</p> <p>2) The 3<sup>rd</sup> sentence uses the term “foreseeable future” which is vague and open to interpretation. The sentence would also benefit from an example of when in-situ may be considered acceptable.</p> <p>3) As per comment #2, the last sentence of the 4<sup>th</sup> paragraph and the following Note (5<sup>th</sup> paragraph) currently align with the wording in the new revision of <i>CSA N294</i>. However, future revisions could misalign these two documents so it must be clear the <i>REGDOC</i> is setting the requirements, not the</p>	<p>Licensees encourage the CNSC to:</p> <p>1) Amend the 1<sup>st</sup> sentence in the 4<sup>th</sup> paragraph to read, “In situ decommissioning with a disposal end-state is an accepted and acceptable practice for uranium mines and mills <u>and disposal facilities.</u>”</p> <p>2) Amend the 3<sup>rd</sup> sentence to read, “... and which will remain under institutional control for the <u>period defined in the safety case foreseeable future.</u>” Also, provide an example of when in-situ may be considered acceptable.</p> <p>3) Amend section 4 to make it clear the <i>REGDOC</i> sets requirements and the <i>CSA</i> standard offers guidance on how requirements can be achieved by licensees.</p> <p>4) Consider whether the final sentence should explicitly say what is to be removed.</p>	Clarification	

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		<p>CSA standard.</p> <p>4) The last sentence also says, "...in situ decommissioning should not be considered ... where removal is practicable" but not what is to be removed.</p>			
11.	4	<p>Licensees have some questions and suggestions to clarify the bullet list on page 5 under the subhead, "The decommissioning strategy should be reviewed and updated in light of;" Specifically:</p> <ol style="list-style-type: none"> <li>1) Where is this strategy documented? Are licensees expected to capture the strategy in the PDP?</li> <li>2) The 3<sup>rd</sup> bullet, "management structure" is subjective and should be removed.</li> <li>3) The 9<sup>th</sup> bullet implies there will be a common facility for the disposal of irradiated fuel and radioactive waste.</li> </ol>	<p>Licensees encourage the CNSC to:</p> <ol style="list-style-type: none"> <li>1) Clarify where the decommissioning strategy is captured.</li> <li>2) Remove the 3<sup>rd</sup> bullet. "management structure"</li> <li>3) Amend the 9<sup>th</sup> bullet to read, "availability of a facility for the disposal management of irradiated fuel and a facility for the disposal of radioactive waste"</li> </ol>	Clarification	
12.	5	<p>Industry has two concerns with the 2<sup>nd</sup> paragraph, which requires licensees to prepare a waste management strategy "in compliance with the applicable clauses of <b>draft REGDOC-2.11.1 Waste Management, Volume I: Management of Radioactive Waste.</b>"</p> <ol style="list-style-type: none"> <li>1) As per our earlier comment and 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.</li> <li>2) It is not clear what the applicable clauses would be in <i>REGDOC-2.11.1</i>, which is only for radioactive waste. Decommissioning will have some clean waste streams for which <i>REGDOC-2.11.1</i> is not applicable. Further, <i>REGDOC-2.11.1</i> does not</li> </ol>	<p>Licensees encourage the CNSC to:</p> <ol style="list-style-type: none"> <li>1) Cite only currently published versions of REGDOCs and CSA standards.</li> <li>2) Otherwise, identify the clauses in <i>REGDOC-2.11.1</i> that apply in this instance.</li> </ol>	Clarification	

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		define what is required for a waste management strategy.			
13.	5.1	<p>As per comment #1, this section is not clear on the timing of key activities like the submission of a PDP. Specifically:</p> <ol style="list-style-type: none"> <li>1) The 1<sup>st</sup> sentence does not seem to reflect the current process. Nor is it helpful to vaguely say "...submit it to the CNSC for acceptance as early as possible ..."</li> <li>2) It's unclear from the 2<sup>nd</sup> paragraph whether a PDP requires an update if, upon review, changes are <i>not</i> required. In those instances, a submission every five year should not be required.</li> <li>3) The 3<sup>rd</sup> paragraph would be better suited at the beginning of section 4.</li> <li>4) The 4<sup>th</sup> paragraph, when read in conjunction with the 2<sup>nd</sup> paragraph, results in the need to update an entire site PDP every five years.</li> </ol>	<p>Licensees encourage the CNSC to:</p> <ol style="list-style-type: none"> <li>1) Provide more specific guidance on when key planning documents like a PDP should be submitted for review. The wording should reflect that a PDP is required as part of the current licensing process for a new facility. Also, clarify what constitutes "as early as possible" in terms of this requirement.</li> <li>2) Amend the 2<sup>nd</sup> paragraph to read, "<a href="#"><u>The licensee should review the PDP in light of the considerations listed at the end of section 4 every five years, or as requested by CNSC staff. If changes are identified during the review, the licensee shall submit an updated PDP to the CNSC.</u></a>"</li> <li>3) Move the 3<sup>rd</sup> paragraph to the beginning of section 4.</li> <li>4) Clarify that an entire site PDP is not required every five years as per the 2<sup>nd</sup> paragraph.</li> </ol>	<b>MAJOR</b>	<p>The preparation and submission of key planning documents like PDPs and DDPs require significant resources and have the potential to spawn additional assessments. The more specific this REGDOC can be regarding submission timings would help licensees plan their work and assign appropriate resources and time to prepare the plans.</p>
14.	5.1	<p>The last two paragraphs are contradictory. One says, "The licensee may consider dividing a complex site or facility into a number of relatively independent decommissioning projects. For example, a large facility may be divided into areas (i.e., planning envelopes) that, from the point of view of decommissioning, are relatively physically independent from one another." The other says, "For sites with more than one facility, the licensee shall submit a PDP for the entire site to the CNSC for acceptance. In such cases, the site PDP should be prepared to cover all planning envelopes. The sequence of executing the planning envelopes and any interdependencies would also be included in both the</p>	<p>The CNSC is strongly encouraged to:</p> <ol style="list-style-type: none"> <li>1) Clarify what is meant by a site PDP and whether it is intended to cover the facilities on site or the site itself. If it is the site itself, this should be removed from the document as the CNSC has no regulatory jurisdiction for areas outside of licensed facilities. To eliminate the issue, the CNSC should amend the 1<sup>st</sup> sentence of the 4<sup>th</sup> paragraph to read, "For sites with more than one facility, the licensee <del>shall</del> <u>may</u> submit a PDP for the entire site to the CNSC ...."</li> <li>2) Keep the current practice of facility PDPs with</li> </ol>	<b>MAJOR</b>	<p>The wording in this section needs to be able to be applied to all facilities. While it may work for a mining site, or for a site like Chalk River's National Laboratories, it will not work for a site like Bruce Power. This will cause confusion over requirements and possibly require unnecessary plans to be developed.</p> <p>Additional resources would also be required to produce documentation which is already covered more efficiently in the current structure (i.e., facility-only PDPs).</p>

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		<p>site PDP and the facility-specific PDPs.”</p> <p>This is problematic in the following ways:</p> <ol style="list-style-type: none"> <li>1) This could be interpreted that a site like Bruce Power’s is required to have a single site decommissioning plan for all of the facilities (i.e. Bruce A, Bruce B, Douglas Point, Western Waste MF, etc.) where the preceding paragraph indicates these may be separated. This could also be interpreted as requiring a site PDP.</li> <li>2) Currently, PDPs are facility specific. Interdependencies are already discussed between facilities in the PDPs. Production of an entirely separate document (for acceptance) is unwarranted given the information will be repeated multiple times for the site plus each facility. There may also be a large gap in the timeline for decommissioning facilities on a site and very few interdependencies may be applicable.</li> <li>3) PDPs are currently not accepted (they are notification only documents per licence condition handbooks). Does the CNSC intend to make them acceptance documents?</li> </ol>	<p>interdependencies noted.</p> <ol style="list-style-type: none"> <li>3) Clarify if the CNSC intends PDPs to be acceptance documents.</li> </ol>		
15.	5.1.1	<p>Licensees have several questions and suggestions to improve the section on content of the PDP, which is formatted poorly with a series of bullets and sub-bullets.</p> <p>More specifically:</p> <ol style="list-style-type: none"> <li>1) The content/requirements of the PDP should be somewhat flexible as the PDP evolves over the life of the facility. Some requirements may not be applicable for some facilities or may not have been developed depending on the life stage of the facility.</li> <li>2) Bullet 2, sub-bullet 5, says “the type, quantity, and</li> </ol>	<p>Licensees urge the CNSC to:</p> <ol style="list-style-type: none"> <li>1) As per comment #3, ensure this REGDOC is consistent with <i>N294</i> Annex A and does not inappropriately convert effective, existing guidance into new requirements.</li> <li>2) Clarify what is meant by “or”</li> <li>3) Clarify what level of detail/explanation is needed to meet the requirement outlined in bullet 2, sub-bullet 6.</li> <li>4) Replace with wording from <i>G-219</i> (Section 6.1.2, bullet 2).</li> <li>5) Clarify whether hazardous materials include</li> </ol>	<b>MAJOR</b>	<p>Licensees may not be able to meet CNSC expectations/REGDOC requirements without precisely defining requirements.</p> <p>The content of the PDP should not be too prescriptive and should allow some flexibility to meet requirements.</p> <p>The PDP may not be the place to make all the commitments related to the bullet points in this section. Depending on the level of plans and protocols the CNSC wants to accept, it can cause</p>

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		<p>form of radioactive and hazardous materials stored, produced <b>or</b> used during operation.” Does the word “or” imply only one of the three options (i.e. stored, produced, or used) since more than one of these options could apply to a given nuclear facility?</p> <p>3) Bullet 2, sub-bullet 6 says, “the design features used to reduce the spread of contamination and facilitate decontamination and dismantling.” This seems to be a new requirement. This can be a very extensive list as many design features systems could be classified this way.</p> <p>4) Bullet 3 and it’s sub-bullets on the requirements for ‘post-operational conditions’ is very detailed and would be better suited for a detailed plan.</p> <p>5) Bullet 3, sub-bullet 1, references “hazardous materials.” Does this include radioactive materials?</p> <p>6) Bullet 3, sub-bullets 2 and 3 says, “the predicted nature and extent of contamination” for primary systems and walls, floors and ventilation. It is against ALARA to get samples for some of the systems. This type of information is too detailed for a PDP and should be included as a DDP-type requirement.</p> <p>7) Bullet 3, sub-bullet 4, says, “an overview of the principal chemical conditions anticipated to exist.” What is meant by “chemical conditions”?</p> <p>8) Bullet 4, sub-bullet 2, should include in situ decommissioning concepts in the list beneath “the rationale for:”</p> <p>9) Bullet 5 and its sub-bullets on the requirements for ‘work breakdown structure’ are very detailed and would be better suited for a DDP.</p> <p>10) For bullet 5, sub-bullet 4, what is the “detailed planning stage” and where is this defined?</p> <p>11) For bullet 5, sub-bullet 5, is structure</p>	<p>radioactive materials in this reference.</p> <p>6) Clarify what level of detail/explanation is needed to meet the requirements of bullet 3, sub-bullets 2 and 3. Amend sub-bullet 3, to read, “the predicted nature and extent of contamination on floors, walls, work surfaces, ventilation systems, etc., <u>if anticipated that contamination would be outside of normal levels in these areas</u>”</p> <p>7) Clarify what is meant by “chemical conditions”?</p> <p>8) Add the following sub-bullet, <u>“- in situ decommissioning concepts”</u></p> <p>9) Replace with wording from G-219 (Section 6.1.2, bullets 7 and 8).</p> <p>10) Clarify what the “detailed planning stage” is and where it is defined.</p> <p>11) Clarify if structure dismantlement is grouped into work packages.</p> <p>12) Consider whether the PDP is the place to make the commitment tied to bullet 6.</p> <p>13) Consider whether the PDP is the place to make the commitments tied to bullet 6, sub-bullet 2.</p> <p>14) Amend bullet 7, sub-bullet 3, to read, “a commitment to segregate as much material as possible for reuse and recycling <u>based on social and economic factors</u>”</p>		<p>a large regulatory burden/schedule impact. It could also stop work if plans need to be revised during execution. Licensees would need to understand the full impacts of these bullets prior to implementation of this document.</p>

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		<p>dismantlement not grouped into work packages?</p> <p>12) Bullet 6 says, “the radiological monitoring and survey commitments...” Radiological monitoring is already a part of the regulations.</p> <p>13) Bullet 6, sub-bullet 2, says, “a commitment to develop plans and protocols acceptable to the CNSC...” Is the PDP the place to make all these commitments? What is the purpose of the operational radiological data referenced? Is it to give baseline data prior to the onset of shut down and decommissioning?</p> <p>14) Bullet 7, sub-bullet 3, says, “a commitment to segregate as much material as possible for reuse and recycling.” Processing can reduce amounts of radioactive waste but can be expensive and dose-intensive to implement. The statement “as much as possible” should be clarified.</p>			
16.	5.1.1	<p>As per comments #1 and #7 on timing of key activities, several bullets in section 5.1.1 raise questions and potential confusion. For instance:</p> <ul style="list-style-type: none"> <li>• The 3<sup>rd</sup> last bullet on page 7 says “a commitment to prepare a detailed decommissioning plan (DDP) for CNSC acceptance prior to dismantling and demolition.” However, the timing of the DDP submission would be far too late in the process.</li> <li>• The last bullet on page 7 says, “the physical state of the facility at: <ul style="list-style-type: none"> <li>○ the end of operations</li> <li>○ the start of decommissioning”</li> </ul>                     Is this the end of Commercial Operations SOP phase? When is the “start of decommissioning”? It should be consistent with the initial activities pro-</li> </ul>	Provide more specific guidance on the timing of key phases.	<b>MAJOR</b>	The preparation and submission of detailed planning documents requires significant resources and has the potential to spawn additional assessments. The more specific this REGDOC can be regarding submission timings would help licensees plan their work and assign appropriate resources and time to prepare detailed plans.



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		posed in the PDP.			
17.	5.1.2	The section on Uncertainty is not needed.	Remove section 5.1.2 as this is captured in last bullet in Section 4	Clarification	
18.	6	<p>Licensees found several items in section 6 could be improved for clarity. Specifically:</p> <ol style="list-style-type: none"> <li>1) As written, industry is unsure how the requirement in the 1<sup>st</sup> sentence can be implemented when a utility has other facilities under operation using the same governance set. There is no value updating <i>all</i> program documents, just those that are impacted or, where appropriate, just the licensee’s management system.</li> <li>2) Does “program” as referenced in this section refer to the “decommissioning program”?</li> <li>3) Regarding the 4<sup>th</sup> paragraph and its supporting bullets, licensees believe a “permanent shutdown plan” and a “stabilization activity plan” are not required in this REGDOC since they are already covered in a license application/LCH.</li> <li>4) As per comment #1 and the timing of key activities, when specifically is the DDP referenced in the second bullet on Page 9 to be submitted to the CNSC. Clarity is also needed on what DDP is expected if the facility is using a deferred decommissioning strategy. For a deferred strategy, instead of a DDP, a storage with surveillance plan should be required.</li> <li>5) Also in reference to comment #1, the 3<sup>rd</sup> paragraph on page 9 needs to be amended to clarify that timing requirements needs to be reviewed against/align with existing and proposed regulatory documents like <i>REGDOC 1.1.4 License Application Guide: Licence to Decommission Reactor Facilities</i>.</li> </ol>	<p>Licensees urge the CNSC to:</p> <ol style="list-style-type: none"> <li>1) Amend the 1<sup>st</sup> sentence to read, “During the preparation for decommissioning phase, the licensee shall review and revise <u>its management system, or impacted as appropriate, all</u> program documents, <u>as appropriate,</u> to ensure <del>that</del> they align with the decommissioning activities.”</li> <li>2) Clarify what is meant by program.</li> <li>3) Delete the requirement to prepare permanent shutdown and stabilization activity plans or replace with detailed plans for the activities being proposed in the licence application.</li> <li>4) Specify when the referenced DDP in the 2<sup>nd</sup> bullet on page 9 is to be submitted. Identify a storage with surveillance plan is required (with reference to section 6.1) for a deferred strategy, while a DDP is required for prompt decommissioning.</li> <li>5) Amend the 3<sup>rd</sup> paragraph and supporting bullets on page 9 to read, “<u>Notification timelines for facility decommissioning activities should align with requirements in existing regulatory documents.</u>” This will need to be updated upon publication of <i>REGDOC 1.1.4</i></li> </ol>	<b>MAJOR</b>	Licensees may not be able to meet CNSC expectations/REGDOC requirements without precisely defining requirements.
19.	6.1	As per comments #1 and #7 on the timing of key	Clarify timing expectations and that it is	<b>MAJOR</b>	The preparation and submission of detailed

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		<p>activities, the 1<sup>st</sup> paragraph refers to the possibility of submitting a ‘storage with surveillance plan’ as a stand-alone document. If this is done, when is this plan to be submitted to the CNSC?</p> <p>Also:</p> <ol style="list-style-type: none"> <li>1) The final sentence of the 1<sup>st</sup> paragraph says, “The storage with surveillance plan should outline:” This implies only limited detail is required. What level of detail is expected?</li> <li>2) It’s unclear what the expectations are for each of the bullet points.</li> <li>3) Regarding the 5<sup>th</sup> paragraph, depending on the reactor (e.g., SMR), there may not be a need for a fuel bay. Therefore, it would not be a key activity.</li> </ol>	<p>acceptable to provide the DDP details under a deferred dismantling strategy prior to the start of dismantling activities and <i>not</i> at the start of storage with surveillance.</p> <p>Also:</p> <ol style="list-style-type: none"> <li>1) For flexibility, amend the final sentence of the opening paragraph to read, “The storage with surveillance plan <del>should</del> <b>could include should outline:</b>”</li> <li>2) For each of the bullet points, briefly clarify the expectations with related sub-bullets. For example, what is expected regarding the 1<sup>st</sup> bullet, “responsibilities” or the final bullet “records”? Does “quality assurance” mean “management system”?</li> <li>3) Delete the references to fuel bays or insert a qualifier like “ <b>...for those facilities with fuel bays.</b>”</li> </ol>		<p>planning documents requires significant resources and has the potential to spawn additional assessments. The more specific this REGDOC can be regarding submission timings would help licensees plan their work and assign appropriate resources and time to prepare detailed plans.</p> <p>To ensure CNSC expectations are met, the REGDOC could better describe the storage with surveillance plan sections and where the priority or focus should be.</p> <p>Regarding the bullet points, licensees may not be able to meet CNSC expectations/REGDOC requirements without fully understanding the expectations.</p>
20.	6.2	<p>As with section 5.1, this section suggests a DDP for the entire site should be submitted to the CNSC for acceptance. Please see comment #14 for details on why this is a major concern to licensees.</p> <p>As with section 6, this REGDOC should identify that a storage with surveillance plan is required for deferred decommissioning, with a DDP required at the start of dismantling activities or for prompt decommissioning.</p> <p>With reference to the 5<sup>th</sup> paragraph, are facility-specific DDP’s required for sites with more than one facility, while the submission of a site DDP is advised guidance (i.e. should)? Also, the list of inclusions is already provided in 6.2.1 and does not need to be duplicated in the 1<sup>st</sup> paragraph.</p>	<p>Licensees encourage the CNSC to avoid duplication of text and to clarify what is meant by a site PDP and whether it is intended to cover the facilities on site or the site itself. If it is the site itself, this should be removed from the document as the CNSC has no regulatory jurisdiction for areas outside of licensed facilities.</p> <p>Amend the 1<sup>st</sup> sentence of the 1<sup>st</sup> paragraph to read, “Prior to execution of decommissioning activities, the licensee shall prepare and submit a <b>storage with surveillance plan (for deferred decommissioning) or</b> a DDP to the CNSC for acceptance.”</p> <p>For consistency, the CNSC should amend the 1st</p>	<b>MAJOR</b>	<p>The wording in this section needs to be able to be applied to all facilities. While it may work for a mining site, or for a site like Chalk River National Laboratories, it will not work for a site like Bruce Power. This will cause confusion over requirements and possibly require unnecessary plans to be developed.</p> <p>Additional resources would also be required to produce documentation which is already covered more efficiently in the current structure (i.e., facility-only PDPs).</p>

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			sentence of the 5th paragraph to read, “For sites preparing to undergo decommissioning with more than one facility, the licensee <del>may should</del> submit a DDP for the entire site to the CNSC for acceptance, <u>or for each individual facility (if the facilities are to be decommissioned separately).</u> ”		
21.	6.2	Similar to comment #13, clarify is sought on the line in the 3 <sup>rd</sup> paragraph, which reads, “Where the execution takes longer than five years, the DDP should be updated every five years.”	Clarification is required since this could be interpreted that DDP work may be stopped every five years awaiting CNSC acceptance, even if there was no change. Some DDPs span a period greater than five years	<b>MAJOR</b>	The preparation and submission of detailed planning documents requires significant resources and has the potential to spawn additional assessments. The more specific this REGDOC can be regarding submission timings would help licensees plan their work and assign appropriate resources and time to prepare detailed plans.
22.	6.2.1	Licensees have several questions and suggestions to clarify the section on ‘Content of the detailed decommissioning plan.’ Specifically: 1) While the wording in this section currently aligns with that in the new revision of CSA N294, future revisions could misalign these two documents so it must be clear the REGDOC is setting the requirements, not the CSA standard. 2) The 2nd bullet, 5th sub-bullet, on page 11 says, “the quantities, characteristics and disposition methods of waste.” As written, this implies the CNSC approves of destructive/invasive sampling to gather characterization info. If CNSC approval is required, when and how is this approval obtained e.g. before a DDP is written or after DPP is approved? 3) The third bullet in Section 6.2.1 on page 10 implies that deferred decommissioning has been selected	Licensees urge the CNSC to: 1) Ensure this REGDOC continues to align with N294 Annex C. 2) As per comment #1 on timing, please provide better guidance on the CNSC approvals. 3) What about other decommissioning strategies? 4) Are end-state objectives the same as end-state criteria as identified in section 8? This REGDOC does not give guidance on how to develop or who to consult to develop. 5) Define “phased program” and “deferral periods” and include in REGDOC-3.6. 6) Amend to require this report during the DDP for dismantling phase. 7) Clarify interpretation criteria and how it is derived. 8) Amend the 10 <sup>th</sup> bullet on page 11 to read,	Clarification	

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		<p>as the decommissioning strategy.</p> <p>4) Clarity is sought regarding the 4<sup>th</sup> bullet, which says, “the final radiological, physical and chemical end-state objectives.”</p> <p>5) What is meant by “phased program” and “deferral periods” as listed in the 8<sup>th</sup> bullet? Where are these terms defined?</p> <p>6) The 8<sup>th</sup> bullet on page 11 says, “a summary report of any public and Indigenous consultations undertaken in preparing the plan, including issues raised and how they were considered and dispositioned.” This would be more applicable during DDP for dismantling phase.</p> <p>7) The 14<sup>th</sup> bullet on page 11 says, “a final survey program with interpretation criteria.” How are licensees to define interpretation criteria? This is related to end-state criteria but there is no guidance on how to derive. Is this following MARSSIM type of approach?</p> <p>8) The 10<sup>th</sup> bullet on page 11 says, “applicable programs” It should be applicable management system.</p> <p>9) The 12<sup>th</sup> bullet on page 11 says. “conventional occupational health and safety...” It should be applicable management system.</p> <p>10) The 3<sup>rd</sup> bullet and supporting sub-bullets on page 11 says, “a schedule showing...the proposed start date ...anticipated completion date.” Start date” of what? “Completion date” of what?</p> <p>11) The final bullet on page 11 says, “Criticality safety assessment.” This is given as a requirement even if all fissile material has been removed. Also section 6.3 does not mention a criticality safety assessment.</p>	<p>“applicable <del>management system programs</del> (e.g., <del>management system</del>, emergency responses...”</p> <p>9) Amend the 12<sup>th</sup> bullet on page 11 to “<u>applicable management system</u>”</p> <p>10) Clarify what start and completion dates are being referenced.</p> <p>11) Amend the final bullet to say, “<u>as required</u>”</p>		

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23.	6.3	As per comments #1 and #7, this document is not clear regarding the expectations for a safety assessment for decommissioning. Is a safety assessment only required for the DDP, or is it needed for storage with surveillance as well? If the assessment is to be submitted as a stand-alone document, when specifically is it to be submitted to the CNSC?	Align the wording in this section with that in <i>N294</i> since this material is covered through the detailed plan. Also, provide clarity on which phases require a safety assessment so licensees can meet regulatory expectations.	<b>MAJOR</b>	As written, this draft suggests a separate document needs to be part of the decommissioning approval package. If this is not the intent, further clarification is needed so licensees can meet CNSC expectations.
24.	6.3	Licensees seek additional clarity on section 6.3. Specifically: <ol style="list-style-type: none"> <li>1) For message consistency, add “the environment” to the 1<sup>st</sup> sentence.</li> <li>2) <i>REGDOC-3.6</i> defines Safety Assessment as, “An assessment of all aspects relevant to safety of the siting, design, construction, commissioning, operation or decommissioning of a nuclear facility.” This focuses on safety in very general terms, however, there is mention here of safety analysis via <i>REGDOC-2.4.1 Deterministic Safety Analysis</i> which is not applicable to the definition of Safety Assessment of decommissioning.</li> <li>3) In the 3<sup>rd</sup> bullet in the 1<sup>st</sup> bulleted list on page 12, should “operational” be replaced with “decommissioning”?</li> <li>4) In the 2<sup>nd</sup> set of bullets on page 12, the 4<sup>th</sup> and 5<sup>th</sup> bullets can be clarified.</li> <li>5) It is unclear if the requirement in the final paragraph in this section applies only if the “in situ” results in a disposal site.</li> </ol>	For clarity: <ol style="list-style-type: none"> <li>1) Amend the 1<sup>st</sup> sentence to read, “The licensee shall perform a safety assessment to identify hazards to workers, <u>the environment</u> and the public from both routine decommissioning activities and credible accidents during decommissioning.”</li> <li>2) Delete last sentence which on page 12 which references <i>REGDOC-2.4.1</i>.</li> <li>3) Consider replacing “operational” with “decommissioning”</li> <li>4) Amend the 4<sup>th</sup> and 5<sup>th</sup> bullets to read, “demonstrates <u>whether an</u> adequate defence in depth has been provided” and “demonstrates <u>whether that</u> adequate measures have been taken to prevent accident”</li> <li>5) Amend the final paragraph to read, “For <i>in situ</i> decommissioning <u>resulting in a disposal site</u>, a long-term safety case (see section 4) shall be provided in addition to the decommissioning safety assessment”</li> </ol>	Clarification	
25.	6.4	Licensees believe this section could be clarified in the following ways: <ol style="list-style-type: none"> <li>1) The final paragraph references draft <i>REGDOC-2.11.1</i>. As a matter of principle, draft REGDOCs should only reference other REGDOCs or standards</li> </ol>	For clarity, the CNSC is urged to: <ol style="list-style-type: none"> <li>1) Cite only currently published versions of REGDOCs and CSA standards.</li> <li>2) Suggested adding the following to the end of the section, <u>“In the initial phases of</u></li> </ol>	Clarification	

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		<p>that are currently published and not out for review. Otherwise, approved requirements may not be fully understood and informed comments cannot be provided.</p> <p>2) The document should recognize the waste management plan is higher level during the early stages of a facility lifecycle (PDP), becoming progressively more detailed in the DDP</p> <p>3) Industry suggests more information on waste minimization could be added to section 6.4 as per N294.</p>	<p><u>decommissioning planning, the waste management plan will be preliminary in nature, becoming more detailed as the facility progresses into actual decommissioning.</u></p> <p>3) Consider adding the following text from N294, <u>“The waste management program shall cover the following processes, as applicable:</u></p> <p><u>(a) characterization;</u></p> <p><u>(b) classification;</u></p> <p><u>(c) minimization;</u></p> <p><u>(d) segregation;</u></p> <p><u>(e) clearance;</u></p> <p><u>(f) handling;</u></p> <p><u>(g) volume reduction;</u></p> <p><u>(h) treatment;</u></p> <p><u>(i) packaging;</u></p> <p><u>(j) storage;</u></p>		
26.	7	The 2 <sup>nd</sup> bullet could be clarified	Amend the 2 <sup>nd</sup> bullet to read, “implement <del>and maintain</del> a decommissioning <del>process program and supporting programs</del> , as applicable, to ensure safety”	Clarification	
27.	7.1	<p>Licensees have several questions and suggestion to clarify section 7.1 such as:</p> <p>1) This section should explicitly address prompt, deferred and in-situ decommissioning by identifying the required decommissioning criteria for each strategy. By doing so, Section 7.1 Storage with Surveillance is not needed.</p> <p>2) What about other decommissioning strategies, given that this section is focused on deferred decommissioning alone (similar to Section 6.1, etc.)?</p> <p>3) Final bullets should include disposal facility as a</p>	<p>Clarify by:</p> <p>1) Explicitly addressing prompt, deferred and in-situ decommissioning by identifying the required decommissioning criteria for each strategy.</p> <p>2) Referencing other decommissioning strategies.</p> <p>3) Amending the final bullets to read, “removal of radioactive waste to an offsite licensed storage facility <u>or disposal facility</u>” and “removal of radioactive waste to an offsite licensed storage facility <u>or disposal facility.</u>”</p>	Clarification	

## Attachment A - Bruce Power comments on draft *REGDOC-2.11.2, Waste Management, Decommissioning*

#	Document/ Excerpt of Section	Industry Issue	Suggested Change (if applicable)	Major Comment/ Clarification	Impact on Industry, if major comment
		waste path			
28.	8	<p>Licensees seek additional clarity in the following ways:</p> <ol style="list-style-type: none"> <li>1) As per comment #1, the 2<sup>nd</sup> paragraph on page 14 says, “The licensee shall prepare and submit an end-state report to the CNSC...” but is not specific on timing.</li> <li>2) What is the definition of “remaining entities” as referenced in the 5<sup>th</sup> bullet on page 14? Should clearer, alternative terminology be used?</li> <li>3) Per the 8th bullet on Page 14, the licensee must “describe waste quantities and dispositions.” What does this refer to?</li> <li>4) The last bullet – “describe the future use of ...”- Does the term ‘lands’ refer to facility or site? There is no mention of release from regulatory control request to the CNSC, as depicted in Figure 1.</li> </ol>	<p>Clarify by:</p> <ol style="list-style-type: none"> <li>1) Being specific as to when this report is to be submitted to the CNSC.</li> <li>2) Explaining what is meant by “remaining entities” or inserting an alternative phrase.</li> <li>3) Further explaining the reference.</li> <li>4) Saying whether the term ‘lands’ refer to facility or site.</li> </ol>	Clarification	
29.	9	<p>The 1<sup>st</sup> sentence says, “If institutional controls are required to be in place, the licensee shall prepare plans to address the post-decommissioning phase.” As per comment #1, are these plans (including the “visual inspection plan for periodic examination of the site”) to be submitted to the CNSC and if so, by when?</p>	<p>Clarify if these plans are to be submitted to the CNSC and if so, by when.</p>	<b>MAJOR</b>	<p>The preparation and submission of detailed planning documents requires significant resources and has the potential to spawn additional assessments. The more specific this REGDOC can be regarding submission timings would help licensees plan their work and assign appropriate resources and time to prepare detailed plans.</p>
30.	9	<p>Licensees seek additional clarity in section 9 in the following ways:</p> <ol style="list-style-type: none"> <li>1) For message consistency, add “the public” to the 2<sup>nd</sup> sentence.</li> <li>2) Revise or delete bullets 2 and 3 since there are no monitoring systems that provide early warning of the release of radionuclides. Also, clarify if site boundary is the whole site or the ISD location</li> </ol>	<p>For clarity:</p> <ol style="list-style-type: none"> <li>1) Amend the 2<sup>nd</sup> sentence to read, “The post-decommissioning plans include programs for monitoring and surveillance that will be established and maintained <del>to for the optimization of safety and</del> protection <del>and safety of the public,</del> and <del>for the protection of</del> the environment.”</li> <li>2) Revise or delete bullets 2 and 3. Otherwise, clarify what constitutes “active controls” and</li> </ol>	Clarification	



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#	Document/ Excerpt of Section	Industry Issue	Suggested Change (if applicable)	Major Comment/ Clarification	Impact on Industry, if major comment
			what is being actively managed.		
31.	10	Add clarity to the bulleted list by drawing points from N294.	<p>Replace the 2<sup>nd</sup> bullet with:  <u>“- Identify contaminants, impacted and non-impacted areas, and provide an estimate of the variability of contamination”</u></p> <p>Add the following two new bullets:  <u>“- Providing a complete description of the nature, extent, and variability of contamination in each area of the site/facility</u>  <u>“- Supporting remediation activities and determine when remediation is complete”</u></p>	Clarification	
32.	10	The main focus of this section should be the decommissioning phase.	Sections 10.1, 10.2 and 10.2.1 can be included as guidance for the other facility lifecycle phases as it does not pertain to decommissioning.	Clarification	
33.	10.1	Licensees believe: 1) The phrase ‘Radionuclides and hazardous chemicals’ in the 2 <sup>nd</sup> sentence of the 1 <sup>st</sup> paragraph is unnecessarily alarming in this context. 2) The word ‘retained’ in the 3 <sup>rd</sup> paragraph implies it will be kept for future reference.	Clarify by: 1) Amending the 2 <sup>nd</sup> sentence to read, “...to be measured (e.g. <u>constituents of potential concern radionuclides and hazardous chemicals</u> )” 2) Amending the 3 <sup>rd</sup> paragraph to read, “...should be <u>collected retained</u> and assessed...”	Clarification	
34.	10.2	The opening paragraph could be further clarified.	Add the following to the end of the 1 <sup>st</sup> paragraph, <u>“They may also include records of clean-up operations undertaken with initial and final decontamination levels achieved.”</u>	Clarification	
35.	10.4	Add clarity to the 1 <sup>st</sup> bullet point	Amend the 1 <sup>st</sup> bullet to read, “final radiological survey objectives <u>and defined acceptance criteria</u> ”	Clarification	
36.	Glossary	The Glossary requires addition clarity in the following ways:	Clarify by: 1) Aligning the definition in this draft with that	Clarification	

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#	Document/ Excerpt of Section	Industry Issue	Suggested Change (if applicable)	Major Comment/ Clarification	Impact on Industry, if major comment
		<p>1) The definition of decommissioning in the Glossary of this draft does not match the definition in <i>REGDOC-3.6</i> or align with industry’s understood meaning. Rather, it refers to a broader process used to retire a facility that includes ECO processes. Also, the definition in this draft is not clear with regard to release from regulatory control. The 1<sup>st</sup> sentence says, “... the removal of some or all of the regulatory controls” while the 2<sup>nd</sup> sentence implies full release from regulatory control.</p> <p>2) Add definitions for End of Commercial Operation (ECO) and End of Life (EOL) in this draft and <i>REGDOC-3.6</i>.</p>	<p>in <i>REGDOC-3.6</i> and <i>N294</i> and correcting any contradiction related to release from regulatory control.</p> <p>2) Adding the following definitions here and in <i>REGDOC-3.6</i>:</p> <p><b>End of Commercial Operation (ECO):</b> The end of commercial operation of a reactor unit coincides with the reactor’s final shutdown and permanent cessation of electricity production from that unit.</p> <p><b>End of Life (EOL):</b> The end of life of a licensed facility coincides with release of the facility from regulatory (CNSC) control. In accordance with CNSC <i>REGDOC-3.5.1</i>, this occurs when the licensee has successfully decommissioned the facility and restored the facility to a state in which it can be released for future use. End of life coincides with issuance of a Licence to Abandon or an exemption from licensing.”</p>		
37.	References	Additional references could be added for enhanced context.	<p>Add the following to the Reference section:</p> <ul style="list-style-type: none"> <li>• <i>REGDOC-2.3.3, Periodic Safety Review</i></li> <li>• <i>REGDOC-2.6.3, Aging Management</i></li> <li>• <i>REGDOC-2.1.1, Management System</i></li> <li>• <i>Decommissioning of Facilities, IAEA General Safety Requirements Part 6</i></li> </ul>	Clarification	
38.	Additional Information	Amend the section to include NEA reference.	<p>Add:</p> <ul style="list-style-type: none"> <li>• <i>NEA, Decommissioning Nuclear Power Plants, 2003</i></li> </ul>	Clarification	