

**Public Consultation Comments Table(3) / Tableau des commentaires de la consultation publique (3)
Fukushima Omnibus Amendments Project / Projet omnibus de modifications relatives à Fukushima**

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Additional comments / Commentaires supplémentaires

Comments received February 21, 2014 / Commentaires reçus le 21 février, 2014

Part 0: General

Partie 0 : Général

	Section	Organization	Comment	CNSC Response
1.	General (Glossary)	Candu Energy Bruce Power AECL OPG	As an observation, it would be very desirable to establish a standalone CNSC document with a set of definitions that can simply be referenced in each regulatory document. Such a glossary would ensure consistent use of terminology across the set of regulatory documents.	The CNSC maintains an internal glossary to ensure consistency across all REGDOCs, however some differences do evolve for historical reasons. The proposal for a standalone Glossary document to support CNSC regulatory documents has merit, and CNSC staff will investigate its potential development.

Part A: REGDOC-2.4.1, Deterministic Safety Analysis
Partie A : REGDOC-2.4.1, Analyses déterministes de la sûreté

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2.	Preface (Comment on REGDOC-2.5.2 with impact on REGDOC-2.4.1)	Bruce Power (from REGDOC-2.5.2 comments)	<p>Remove the last paragraph “This document is intended...”. Paragraph as it doesn’t add anything.</p> <p>The applicability of the document to existing facilities is still unclear. The second to last paragraph states that the requirements do not apply to existing facilities unless they have been included in whole or in part in the licensing basis. The next paragraph states that the document is intended to form part of the licensing basis for a regulated facility. As written, this would logically imply that the requirements in the document will apply to existing facilities as the requirements are intended to form part of the licensing basis. This needs to be corrected.</p> <p>Impact: Major. As written, the preface implies that the document will form part of the licensing basis for any regulated facility and therefore is ultimately applicable to existing facilities.</p>	<p>Although provided on REGDOC-2.5.2, this comment resulted in a minor editorial change to common Preface wording that was equally applied to the Fukushima project for consistency.</p> <p>1. The sentence of the paragraph in the preface is revised as follows: “This document is intended to form part of the licensing basis for a regulated facility or activity within the stated scope of the document.”</p>
3.	1.0 “Figure 1: Plant states considered in the design”	Bruce Power (from REGDOC-2.5.2 comments)	<p>Suggested Change: Retitle: “Figure 1: Plant states”</p> <p>Clarification: Industry understands the CNSC response to the industry comment regarding the Plant State figure, however, the title of the figure gives an impression inconsistent with the text in the section. It shows all plant states – not just those considered in the design</p>	<p>Agreed to provide clarity of intent. Change made to the title to better reflect content of the table. The same change has been made in REGDOC-2.5.2.</p>

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4.	4.3.2	Candu Energy Bruce Power AECL OPG	<p>Suggested change: Should define New NPP consistent with REGDOC 2.5.2 – e.g.: New NPP are plants first licensed in 2014 and beyond.</p> <p>Regarding statement on Page 18 of REGDOC-2.4.1: “Note: New NPPs referenced in this section are effectively those licensed after the issuance of RD- 337, Design of New Nuclear Power Plants, in 2008.” Consistency in definitions is recommended. In REGDOC-2.5.2, existing NPP are those first licensed before 2014. It is also important to add the word “first” in the definition, to account for relicensing activities.</p> <p>Clarification</p>	<p>Agreed in principle to provide clarity of intent, and consistency with REGOC-2.5.2.</p> <p>Note in section 4.4.4.5 (p.33) reads: Note: New nuclear power plants referenced in this section are those first licensed in 2014 and beyond.</p> <p>Note in section 4.3.2 (p. 18) reads: “Note: New NPPs referenced in this section are effectively those first licensed after the issuance of RD- 337, Design of New Nuclear Power Plants, in 2008.”</p>
5.	4.4.4.4 CNSC E-DOCS- # 4198699- v7 Item 16 CNSC Response 1	Candu Energy Bruce Power AECL OPG	<p>Update Section 4.4.4.4 – Table 3, First Row, Sixth Column header from “Minimum expectation” to “Performance objective”.</p> <p>Industry has previously identified three occasions where the term “minimum expectations” were used, and requested them to be changed to “performance objectives”.</p> <p>CNSC agreed to the change; however, only two of the occurrences were updated.</p> <p>Clarification: Inconsistency with the other two changes already made by the CNSC.</p>	Agreed to provide clarity of intent.
6.	4.4.4.4 CNSC E-DOCS-	Candu Energy Bruce Power AECL OPG	<p>Incorporate the second requested addition following Table 3 in Section 4.4.4.4. “For scenarios where analysis is being performed not to demonstrate trip coverage, but</p>	Agreed to provide clarity of intent.

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	# 4198699- v7 Item 16 CNSC Response 3		<p>to provide support such as EQ room conditions analysis for equipment survivability, a backup trip parameter is demonstrated only if practicable.”</p> <p>Industry has previously proposed two additions to this sub-section: [1] “For accident scenarios with slow or no power increase, two parameter trip coverage is demonstrated only if practicable.”; and [2] “For scenarios where analysis is being performed not to demonstrate trip coverage, but to provide support such as EQ room conditions analysis for equipment survivability, a backup trip parameter is demonstrated only if practicable.”</p> <p>CNSC agreed to incorporate the first addition. However, it is unclear whether the CNSC has reviewed the second requested addition for incorporation.</p> <p>Clarification: This additional paragraph will provide further clarity on the guidance related to backup trip parameter for situations not involving trip coverage.</p>	
7.	4.4.4.4	Candu Energy Bruce Power AECL OPG	<p>Suggest changing: “Reactors with inherent safety: designs that demonstrate that an AOO or DBA with failure of the fast-acting shutdown means (anticipated transient without reactor trip type analysis) does not lead to severe core damage and a significant early challenge to containment” to: “Reactors with inherent safety: designs that demonstrate that any AOO or DBA with failure of the fast-acting shutdown means (anticipated transient without reactor trip type analysis) does not lead to severe core damage and a significant early challenge to</p>	<p>Agreed to provide clarity of intent. Text revised as suggested to replace “an” with “any” as follows:</p> <ul style="list-style-type: none"> •Reactors with inherent safety: designs that demonstrate that any AOO or DBA with failure of the fast-acting shutdown means does not lead to severe core damage and a significant early challenge to containment” •Reactors with engineered safety: designs that cannot demonstrate that any AOO or DBA with failure of the fast-acting shutdown means does not lead to severe core damage and a

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			<p>containment” Also suggest “an” be replaced with “any” in the definition of “reactors with engineered safety”.</p> <p>Definition of reactors with inherent safety: Change of “an” to “any” enhances clarity of the definition and makes it clear that for a reactor to be considered to have inherent safety, there must be no AOO and DBA events that can lead to severe core damage and a significant early challenge to containment in the absence of fast-acting shutdown.</p> <p>Removal of “(anticipated transient without reactor trip type analysis)” removes an apparent inconsistency, as the description as written does not include DBA events. Alternately, the parenthetical phrase could be re-worded to “(analysis similar to anticipated transient without reactor trip analysis, but also including DBA events)”.</p> <p>This comment does not bring into question what is understood to be the regulatory intent. It merely suggests a clearer manner of expression of that intent.</p> <p>Clarification</p>	<p>significant early challenge to containment.”</p>
8.	4.4.4.4	Candu Energy Bruce Power AECL OPG	<p>Table 3 is in the subsection of section 4.4.4.4 that deals only with reactors with engineered safety. As such, it would be expected the “reactor design scenario” applies to the reactor on an event-by-event basis. However, the wording seems to imply that the table in fact shows the differing expectations for reactors with inherent safety and for reactors with engineered safety. If the former is true, suggest</p>	<p>Agreed in principle. Table 3 is changed to clarify the intent. Note that equivalent levels of safety are required for all designs.</p>

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			wording revisions to either the table or the text surrounding it. If the latter, this table and the introductory text to the table should be either moved under “guidance for shutdown means” or to a separate sub-section of 4.4.4.4 entitled “Guidance on trip parameter expectation for all reactors”	

Part B: REGDOC-2.4.2, Probabilistic Safety Assessment (PSA) for Nuclear Power Plants
Partie B : REGDOC-2.4.2, Études probabilistes de sûreté (EPS) pour les centrales nucléaires

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9.	Preface	Candu Energy Bruce Power AECL OPG	<p>Suggest to add text similar to REGDOC 2.4.1: “An applicant or licensee may put forward a case to demonstrate that the intent of a requirement is addressed by other means and demonstrated with supportable evidence.”</p> <p>To provide consistent consideration for alternate means of satisfying the intent of the requirements, it is suggested that similar wording to that found in REGDOC 2.4.1 be added to REGDOC 2.4.2.</p> <p>Clarification</p>	Agreed. The standard Preface text that includes the identified paragraph was added into REGDOC-2.4.2.
10.	3, item a	Candu Energy Bruce Power AECL OPG	<p>Section 3, Item a states:</p> <p>“... the design will comply with the fundamental safety objectives; the fundamental safety objective, as established in IAEA N-SF-1, is to protect people and the environment from harmful effects of ionizing radiation”</p> <p>Suggest that the wording use “align“ instead of compliance with the IAEA document. The document should not refer to compliance with an IAEA document.</p> <p>(Alternatively) the wording should be consistent with Section 4.1 of REGDOC-2.5.2: “In support of the NSCA and its associated regulations, the CNSC endorses the objective established by the IAEA that NPPs be designed and operated in a manner that will protect individuals, society and the environment from harm.”</p> <p>Clarification</p>	Agreed to use “ align ” in place of “ comply ” as that reflects the intent of the reference.

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11.	3, Item b.	Candu Energy Bruce Power AECL OPG	<p>Section 3, Item b. “... the first two levels of defence in depth ...”</p> <p>Provide reference to IAEA INSAG 10.</p> <p>A reference for defence in depth should be provided.</p> <p>Clarification</p>	Agreed to provide clarity of intent.
12.	3, Item d	Candu Energy Bruce Power AECL OPG	<p>Section 3, Item d states: “... there is extensive physical damage to the multiple fuel channels ...”</p> <p>Remove extra ‘the’ as editorial.</p> <p>Remove the redundant ‘the’ from “...there is extensive damage to the multiple fuel channels</p> <p>Clarification</p>	Agreed. Editorial correction.
13.	3, Item d	Candu Energy Bruce Power AECL OPG	<p>Section 3, Item d states: “... risks of major radioactive releases would include small and large release frequencies as defined in RD-337 (or proposed successor document)”</p> <p>Clarify that release definition ONLY is taken from REGDOC 2.5.2 or further clarify that targets are <E-04 for SRF and <E-05 for LRF respectively. This is the current industry practice for existing plants. Reference to RD-337 for the definition of release targets should be constrained to the definition of SR and LR activity targets, NOT frequencies.</p> <p>Industry PRAs to date would suddenly not be compliant with previously accepted safety goals</p>	<p>Agreed in principle, and text revised to also include: “or as established in licensing basis for the facility.”</p> <p>“... risks of major radioactive releases would include small and large release frequencies as defined in RD-337 (or proposed successor document) or as established in licensing basis for the facility.”</p> <p>The CNSC will revise the references for RD-337 to REGDOC-2.5.2 upon approval and publication.</p>

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			<p>Since REGDOC-2.5.2 is scheduled to be approved at the same time as REGDOC-2.4.2, suggest replacing RD-337 with REGDOC-2.5.2.</p> <p>Clarification</p>	
14.	4.7	Bruce Power	<p>Section 4.7 states: Seek CNSC acceptance of the methodology and computer codes to be used for the PSA before using them for the purposes of this document. The methodology should be suitable to support the objectives of the PSA (set forth in section 3 of this document) and to support the intended PSA applications.</p> <p>1)Delete the requirement for CNSC acceptance of methodology and computer codes. 2)Use Sections 4.4 and 8.4 of REGDOC 2.4.1 as a model for this section</p> <p>Bruce Power notes that while the rest of the industry did not comment on Section 4.7, Bruce Power still has a fundamental issue with any REGDOC simply stating “Seek CNSC Acceptance” as this is not a reasonable standard. While we agree that CNSC need to accept the methodology, there needs to be further direction/guidance on the use of either current industry standards or a path for the licensee to develop an acceptable methodology similar to Sections 4.4 and 8.4 of the draft REGDOC 2.4.1.</p> <p>As stated in our original submission, CNSC should be defining requirements for acceptable methodology and computer codes. In the absence of this, they should accept industry</p>	<p>Based on the comments received, CNSC re-visited the requirement and need for the acceptance of the methodology, and confirmed that it remains valid.</p> <p>The requirement for prior acceptance of the PSA methodology is current practice and has been retained.</p> <p>REGDOC-2.4.2 was drafted to be performance-based, providing objectives that must be achieved without defining the specific PSA methodology that must be used. This approach allows flexibility to the licensee to select the methodology most appropriate to the particular facility and risk profile. With this approach, however, it is important that the CNSC review the chosen methodology to ensure it meets regulatory requirements before the licensee undertakes the PSA.</p> <p>Experience has shown that CNSC support and guidance for PSA has been beneficial to assure a consistent level of assessment.</p> <p>The following guidance note on the development of methodologies is added for information purposes:</p> <p>It should be noted that the CNSC is currently reviewing the methodology for developing Multi-unit PSA to evaluate the site integrated risk. This may include the consideration of:</p> <p>- Interactions between the units, due to an initiating event (single unit events and common mode events), or as a result of the accident progression.</p>

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			<p>standards and best practice. While CNSC staff evaluation of industry practice is certainly expected this evaluation needs to be against a defined Standard. Simply stating “CNSC Acceptance” is not a reasonable standard. Sections 4.4 and 8.4 of REGDOC 2.4.1 describe requirements and guidance for deterministic safety analysis, a similar model should be adopted for this REGDOC.</p> <p>Major issue: This has caused delays in implementing PSA to the current S-294 standards as there have been cases where methodologies were accepted by CNSC staff for one licensee but changes were requested to the identical methodology for another licensee due to a different CNSC specialist being the lead. This is unacceptable to Bruce Power. While CNSC acceptance of the methodology is a good practice we suggest that the solution to this issue is to have a reference industry standard methodology developed through CSA or COG, and accepted by the CNSC.</p>	<p>- Aggregation of risk from internal events, internal hazards, and external hazards during all operating modes for all the units at site.</p> <p>- Radioactive sources other than the reactor cores (noting that alternative analysis methods, may be used if accepted by the "authorized person" from CNSC).</p>
15.	4.8	Candu Energy Bruce Power AECL OPG	<p>Section 4.8 states: “Include all potential site-specific initiating events and potential hazards, namely: a. internal initiating events and internal hazards b. external hazards, both natural and human-induced, but non-malevolent Include potential combinations of the external hazards. The screening criteria of hazards shall be acceptable to the CNSC.</p> <p>The licensee may, with the agreement of “persons authorized” by the Commission, choose an alternate analysis method to conduct</p>	<p>Agreed to include the definition for “external hazards”. Also addresses the comment provided on consistency with REGDOC-2.5.2.</p> <p>External hazard</p> <p>An event of natural or human-induced origin that originates outside the site and whose effects on the reactor facility are considered as potentially hazardous.</p> <p>The note below is moved into the text as guidance for section 4.8.</p> <p>Examples of external hazards are seismic hazards, external fires (e.g., fires affecting the site and</p>

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			<p>the assessment of external events (internal hazards and external hazards)."</p> <p>Delete "(internal hazards and external hazards)" after "external events."</p> <p>Make text consistent with definition in glossary. The glossary defines "external events", but does not define "external hazards".</p> <p>Clarification</p>	<p>originating from nearby forest fires), external floods, high winds and wind induced missiles, offsite transportation accidents, releases of toxic substances from offsite storage facilities, and severe weather conditions.</p> <p>Additionally, section 4.8 is revised as follows to provide better clarity regarding the terms "events" and "hazards".</p> <p>"Include all potential site-specific initiating events and potential hazards, namely:</p> <p>a. internal initiating events and internal hazards b. external hazards, both natural and human-induced, but non-malevolent Include potential combinations of the external hazards. The screening criteria of hazards shall be acceptable to the CNSC.</p> <p>The licensee may, with the agreement of "persons authorized" by the Commission, choose an alternate analysis method to conduct the assessment of internal hazards and external hazards."</p>
16.	Glossary	Bruce Power (from REGDOC-2.5.2 comments)	<p>The definition should be added back into RegDoc 2.4.2. Suggest issuing a stand alone Glossary which applies to all REGDOCS</p> <p>At the request of the industry, the definition of external hazards was added to the glossary to ensure consistency of terminology across the RegDocs. However, the definition was removed from the latest version of RegDoc 2.4.2.</p> <p>Clarification</p>	<p>Agreed to include the definition for "external hazards". Also addresses the comment provided on consistency with REGDOC-2.5.2.</p> <p>External hazard</p> <p>An event of natural or human-induced origin that originates outside the site and whose effects on the reactor facility are considered as potentially hazardous.</p> <p>The note below is moved into the text as guidance for section 4.8.</p> <p>Examples of external hazards are seismic hazards, external fires (e.g., fires affecting the site and</p>

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				originating from nearby forest fires), external floods, high winds and wind induced missiles, offsite transportation accidents, releases of toxic substances from offsite storage facilities, and severe weather conditions.
17.	Glossary	Candu Energy Bruce Power AECL OPG	<p>Definitions should be consistent across the REGDOCS. As noted in our comments on REGDOC 2.5.2. Alternatively, consideration should be given to having the Glossary as a standalone document which each REGDOC then cross-references.</p> <p>There continue to be differences in definitions between various REGDOCS. For example, the definition of External Hazards has been removed from REGDOC 2.4.2 but has been included in REGDOC 2.5.2.</p> <p>Major: A lack of consistency in definitions across regulatory documents can lead to confusion.</p>	<p>Agreed to address consistency in the document with REGDOC-2.5.2.</p> <p>Agreed to include the definition for “external hazards” clarity and alignment with REGDOC-2.5.2.</p> <p>External hazard</p> <p>An event of natural or human-induced origin that originates outside the site and whose effects on the reactor facility are considered as potentially hazardous.</p> <p>The note below is moved into the text as guidance for section 4.8.</p> <p>Examples of external hazards are seismic hazards, external fires (e.g., fires affecting the site and originating from nearby forest fires), external floods, high winds and wind induced missiles, offsite transportation accidents, releases of toxic substances from offsite storage facilities, and severe weather conditions.</p>
18.	Glossary	Candu Energy Bruce Power AECL OPG	<p>The Glossary includes the following definition: “graded approach A method or process by which elements such as the level of analysis, the depth of documentation and the scope of actions necessary to comply with requirements are commensurate with: the relative risks to health, safety, security,</p>	<p>Agreed. The definition is retained. The text that describes the use of the graded approach is part of the Preface text that is being added to address another stakeholder comment.</p> <p>This Preface text is being added to regulatory documents to generally describe the positioning of the documents in the regulatory framework, and how they</p>

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			<p>the environment, and the implementation of international obligations to which Canada has agreed the particular characteristics of a facility or activity”</p> <p>Remove or clarify use. Graded approach is defined in the glossary but not used within the document itself.</p> <p>Clarification</p>	<p>are referenced and applied in licensing basis.</p>