



Point Lepreau Nuclear Generating Station
PO Box 600, Lepreau, NB
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TU 06374
PICA 19-2812

January 11, 2021

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

Dear Mr. Torrie:

Subject: NB Power Comments on REGDOC-2.7.2, Volume I, Dosimetry: Ascertaining Occupational Dose, Post-Consultation Revisions

The purpose of this letter is to provide NB Power's comments on draft REGDOC-2.7.2, Volume I, Dosimetry: Ascertaining Occupational Dose (Reference 1). NB Power's Point Lepreau Nuclear Generating Station (PLNGS) has collaborated with industry to review the draft regulatory document in detail.

PLNGS appreciates the opportunity to provide input to strengthen the licensing process. Comments are provided in Attachment 1 recommending changes for improving the regulatory document.

NB Power is prepared to clarify our comments and concerns. If you require additional information, please contact [REDACTED].

Sincerely,

A handwritten signature in black ink that reads "Mark Power". The signature is written in a cursive, flowing style.

Mark Power
Site Vice President

MP/BT/bt

cc. Caroline Purvis, Bruno Romanelli, Isabelle Gingras, Josée Giguère, Nathan Kline, Anu Bulkan, Ailan Holbrook (CNSC - Ottawa)
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Reference:

1. CNSC draft REGDOC-2.7.2, Volume I, Dosimetry: Ascertaining Occupational Dose, December 2020, Post-Consultation Revisions.

Attachment:

1. NB Power comments on draft REGDOC-2.7.2, Volume I, Dosimetry: Ascertaining Occupational Dose

Attachment 1: NB Power comments on draft REGDOC-2.7.2, Volume I, Dosimetry: Ascertaining Occupational Dose

#	Document / Excerpt of Section	Industry Issue	Suggested Change (if applicable)	Major Comment/ Request for Clarification ¹	Impact on Industry, if major comment
1.	Preface	As with many other REGDOCs, industry is concerned with the potential interpretation of “should” and “may” statements in this draft. Some CNSC staff view “should” and “may” statements not as guidance or options to consider (as indicated in the Preface), but expectations that must be followed except in rare occasions.	Industry urges CNSC staff to host a stakeholder workshop as the most effective and expedient way for CNSC staff to understand industry’s remaining concerns with this draft REGDOC.	MAJOR	While industry will always invest in areas that enhance nuclear safety, some “should” statements in this document will require significant resources to either implement -- or to explain to CNSC staff why it is not implemented – with no commensurate increase in worker safety.
2.	2.6	As per the CNSC staff comments: “the NDR can accept lens of eye dose records, but have no records currently since only licensed dosimetry services may input data into the NDR and there are currently no LDS for lens of eye” How will lens of eye dose be reported in 2021 if there is no LDS?	Arrange for the NDR to accept lens of eye dose records from others. Otherwise, provide an alternative path for dose reporting.	MAJOR	There remains no LDS for lens of the eye. Many licensees do not have this as a licensed activity in their DSL. Industry notes Appendix A now provides guidance on using surrogate methods. Will this be considered licensed dosimetry? Will licensees be required to submit their approach to the CNSC for review, approval and reference in the dosimetry service licence?
3.	4.5	It is impractical to implement the revised sentence in this draft, which currently reads, “When non-uniform neutron fields are present and preferentially expose the eye, personal dosimeters that measure Hp (10) worn near the eyes provide a conservative estimate of the neutron dose to the lens of the eye. Note that this is in addition to neutron dosimetry used to monitor dose to the whole body (as described in section 5.6).”	Remove this reference from the REGDOC.	Clarification	
4.	4.3	The 7th paragraph reference the incorrect section when it says, “Section 5.3.1 provides guidance ...” Section 5.3.1 is on the topic of contamination meter efficiencies.	Replace text with: “Section 4.3.1 provides guidance...”	Clarification	
5.	4.3.1	The compartment factors presented in Table 2 of this draft imply the factors used to calculate WB effective dose when wearing a head and trunk dosimeter are 0.12 and 0.88, respectively. Current factors used by some licensees for head and trunk dosimeters are 0.11 and 0.89, respectively.	CNSC staff is urged to: <ul style="list-style-type: none"> Clarify that other factors may be used if a technical basis exists. Include some flexibility in the REGDOC to allow licensees to continue using the factors 0.11 and 0.89 for head and trunk. Revise the text as per comment #19 in the detailed comments table submitted by licensees during the initial round of consultation. 	MAJOR	The changes made in the REGDOC are relatively small in dose consequence but will require significant resources to revise procedures, update training and replace software for calculations. These changes are not commensurate with the safety benefit.

Attachment 1: NB Power comments on draft REGDOC-2.7.2, Volume I, Dosimetry: Ascertaining Occupational Dose

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6.	6	The formula provided in this section does not apply in all circumstances. In fact, it will not apply if a NEW of the age of 17 has an ingestion of radionuclides, which is legal in the federal jurisdiction. All provinces appear to allow even younger NEWs. Please see comment #34 in licensees' submission during the initial round of consultation. CNSC staff agreed with the comment and said the text has been revised to include two footnotes. However, there have been no changes made to this section to that effect.	Add the missing footnotes as per comment #34 in the detailed CNSC comments disposition table, which reads: "Specifically, a footnote will be added at the end of the 2rd paragraph of section 7: For persons that are less than 18 years of age, the committed equivalent dose is the equivalent dose received by an organ or tissue from a radionuclide from the time of intake to age 70 years. And another footnote to be added at the end of the 3rd paragraph: For persons that are less than 18 years of age, the CED is the effective dose received from the time of intake to age 70 years."	MAJOR	The REGDOC does not conform to all relevant regulations, including the Radiation Protection Regulations.
7.	7.1.1 E.2.1 E.6.3 G.2	REGDOC-2.7.1 and Section 2.1 refers to "non-NEWs" as "persons who are not NEWs"	CNSC staff is urged to use consistent terminology between the two REGDOCs or define the term "non-NEW" in this REGDOC. Consistent terminology improves clarity in the REGDOCs.	Clarification	
8.	7.2	Limiting confirmatory monitoring to bioassay samples is unnecessarily restrictive and inconsistent with NUREG 1400 and US NRC Regulatory Guide 8.25, which is referenced in NUREG 1400.	This may be accomplished by confirmatory monitoring using personal air sampling in the breathing zone or bioassay. In order for the air sampling to be considered representative of breathing zone air, the ratio of intakes calculated from air monitoring to the intakes calculated from either personal air samples or confirmatory bioassays, averaged over all workers participating in the confirmatory monitoring, should be more than 0.7. The same ratio for each individual worker should be more than 0.5. For further information, consult NUREG-1400, <i>Air Sampling in the Workplace</i> [20] and/or US NRC Regulatory Guide 8.25 Rev 1 June 1992.	MAJOR	A lack of clarity can create regulatory uncertainty.
9.	15	The 2 nd paragraph reads, "The licensee should demonstrate that every effort was made to inform each worker of the change and that each worker agrees to the proposed changes(s) to <i>his or her</i> dose records."	In alignment with the updates to the RPRs, "his or her" should be replaced with "the worker" (or "their"). Consistent terminology improves clarity in the REGDOCs.	Clarification	

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10.	E.8.4	The cited formulae for MDA are only correct if data is Gaussian, which leads to question whether the formulae are correct for low counts. While the true equations are complicated, applying these Gaussian equations results in errors greater than 10% when background (blank) counts are less than 3 counts. This would also imply the CNSC accepts a 14% deviation between the Poisson discrete counting and the Gaussian approximation for nominal alpha counting. In its disposition table, CNSC staff says text was added to clarify that the formula may not be applicable to low counts. However, there have been no changes made to this section to that effect.	As per comment #44 in the detailed CNSC comment disposition table, add a note that states that the formula may not be applicable to low counts. Also, recommend including Poisson version so it is applicable for low-level counting.	MAJOR	The result of using equations that are not appropriate for low-level counting is magnified the lower the background levels. If not described correctly, alpha detection by licensees will be inadequate
11.	E.8.3, E.5	Though referenced in these areas, "Section 9.1.5" does not exist. Is this supposed to be Section 7.1.5?	Update section reference	Clarification	