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ADD: Bridget Curran, Harriet Karagiannis, Mary Neely
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ATTN: Program Management, Announcements and Editing Staff

Subject: Industry Comments on NRC's Draft Regulatory Guide (DG), DG–8060, "Monitoring Criteria and Methods to Calculate Occupational Radiation Doses," Docket ID NRC–2021–0217

Project Number: 689

Program Management, Announcements, and Editing Staff:

On behalf of its members, the Nuclear Energy Institute (NEI)[1] appreciates the opportunity to provide comments on the proposed Revision 1 of RG 8.34, "Monitoring Criteria and Methods to Calculate Occupational Radiation Doses." Revision 1 describes an approach that is acceptable to the staff of the U.S. Nuclear Regulatory Commission (NRC) to meet the requirements in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20, "Standards for Protection Against Radiation," (Ref. 1), for monitoring and determining the radiation dose to occupationally exposed individuals.

The purpose of Revision 1 is to provide guidance:

- to revise the definition of the total effective dose equivalent (TEDE) as the sum of the effective dose equivalent (for external exposure) (EDEX) and the committed effective dose equivalent (CEDE),
- to provide guidance on performing prospective dose evaluations to determine the need for required monitoring to meet the occupational dose monitoring requirements of 10 CFR 20.1502,
- to provide guidance on monitoring of unplanned, unintended doses when monitoring was not performed,
- to provide guidance on monitoring dose from hot particles or contamination on or near the skin,

[1] The Nuclear Energy Institute (NEI) is the organization responsible for establishing unified industry policy on behalf of its members on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry.

- to define the term "dosimetry processing" and explain when there are requirements for processing by an accredited National Voluntary Laboratory Accreditation Program (NVLAP) processor,
- to provide guidance on assessing dose from intakes of radioactive material by wound injuries, and
- to provide guidance on calculating soluble uranium intakes.

We appreciate the NRC's 30-day extension to this comment period to provide stakeholders additional time to review this revision, considering the original Regulatory Guide was last issued in July 1992. We refer you to the attachment for our detailed comments.

We appreciate your consideration of these comments. Please contact me if you require further information or clarification.

Sincerely,

Hilary Lane

Attachment

c: Mr. Steven Garry, NRC/NRR
Ms. Harriet Karagiannis, NRC/RES

Attachment 1: NEI Comments on DG–8060, "Monitoring Criteria and Methods to Calculate Occupational Radiation Doses"

Section	Comment	Proposed Resolution
2.1 (Page 10)	Footnote 1 appears to have a typo in the phrase "…*the term "should" denote a recommendation…*"	Revise the footnote to use the term "denotes" instead of "denote"
2.5 (Page 12)	The following sentence appears to contain a typo (emphasis added): "*These scenarios do not involve required monitoring because the prospective dose evaluation determined that these types of* ***unplanned, intended exposures*** *may occur and were not likely to exceed occupational dose limits."*	The phrase "…unplanned, intended exposures…" seems to be a typo which needs to be corrected. Based on the guidance in the DG it appears that the phrase should say "…unplanned, unintended exposures…" If this is not a typo, additional guidance is needed on what this term means.
3.2 (Page 13)	The last two sentences of this Section appear to contradict each other: "*At the end of the year, doses from each location would be summed. The DDE to be recorded would be that of the dosimeter location receiving the highest dose*." It is not possible to sum each location while also only recording the highest location. Clarification on this statement is needed.	NRC should revise the last two sentences of the section to clarify that the DDE is the sum of each location with the highest dose *per wear period.* Currently, the draft as written does not convey that meaning.
3.4 (Page 13), and similar wording in Section 4.5	The following sentence contains unclear language (emphasis added): "*For hot particles or contamination on or near the skin, SDE may be calculated using methods described in NUREG/CR-6918,* ***Revision 4, "VARSKIN+ 1.0****, A Computer Code for Skin Contamination and Dosimetry Assessments" issued in 2021 (Ref. 25)* ***or more updated versions."*** The reference to a specific revision of NUREG/CR-6918 and the terminology "*or more updated versions*" appears to be limiting and may confuse the reader to infer or interpret that an earlier version of Varskin (e.g., Varskin 5, etc.) can't be used.	For clarity, we recommend not referring to a specific revision of NUREG/CR-6918 and deleting the words "or more updated versions".
Appendix A	In the Appendix A example, it is not clear to all readers how the uranium calculations are performed. I.e., from the calculations of intake masses (Table A-2) to the calculation of CEDE (Table A-3)	It would be helpful if the RG provided some additional, more straightforward calculations of other scenarios.

Section	Comment	Proposed Resolution
		It would also be helpful to include an example, or additional guidance, on an acceptable situation for documenting a prospective evaluation for the need for monitoring, and how to properly evaluate and document the situation.
Appendix A (Page A-2)	The last sentence before Table A-2 appears to have typo in the language "*If bioassay monitoring indicates additional intake occurred…*"	Revise the language to change the word "intake" to "intakes."
Appendix A (Page A-3)	It appears that the statement "Table A-2 shows the data used in calculating CEDE" incorrectly refers to "Table A-2" when it should refer to Table A-3.	Revise this to correctly refer to Table A-3 instead of Table A-2.
Appendix A (Page A-3)	The "Committed Dose Equivalent (CDE)" section at the end of page A-3 appears to incorrectly refer to "Table A-3" when it should refer to Table A-4.	Revise this to correctly refer to Table A-4 instead of Table A-3.
Appendix A (Page A-4)	The sentence below Table A-4 appears to incorrectly refer to "Equation A.3" instead of Equation A.4.	Revise this to correctly refer to Equation A.4 instead of Equation A.3.