



NUCLEAR ENERGY INSTITUTE

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Chief, Rules Review and Directives Branch  
Mail Stop: T6-D59  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**SUBJECT:** Comments on Draft NUREG-1757, Vol. 2,  
Consolidated NMSS Decommissioning Guidance

The Nuclear Energy Institute (NEI)<sup>1</sup> submits the following comments on NUREG-1757, Vol. 2, "*Consolidated NMSS Decommissioning Guidance*." NEI continues to support the Nuclear Regulatory Commission's (NRC's) efforts to consolidate and streamline regulatory guidance. This volume of the Consolidated NMSS Decommissioning guidance is a step towards accomplishing this goal. It should make it easier for a licensee to understand NRC expectations for license termination.

Draft NUREG 1757, Volume 2, incorporates in part, one of NEI's comments on draft Volume 1. We identified that Volume 1 did not clearly identify that the scope of the volume included power reactor licensees. Volume 2 does include references to reactor licensees and to license termination plans, but it does so in a limited way. It would enhance the clarity of the guidance if the Forward section of the document stated that, reactor licensees are included within the document scope. It would also be an improvement if PSDAR was included in the abbreviations and defined in the glossary. It would also help when a reference is made to DP in the text to substitute DP/LTP where appropriate.

NEI supports the inclusion of Appendix O which includes the industry generated and NRC reviewed Questions and Answers (Q&A). The Q&A process is a valuable tool to clarify guidance in specific areas. We understand that in the final version of Volume 2, all seven of the reviewed Q&As will be included pending resolution of any public comments. At that time it would be useful to refer to a specific Q&A within

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<sup>1</sup> NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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the body of the document discussing a related subject, to call a readers attention to the additional guidance. NEI recommends that other identified technical issues, such as subsurface contaminated soil or embedded pipe, be clarified through the Q&A process as both industry and regulator gain experience with these issues.

This NRC initiated guidance consolidation process is a major effort that will be of value to future industry and regulatory staff. However, the as written draft is difficult to read. It varies in style between sections and gives the overall impression that decommissioning is extraordinarily complex. The writing style should not increase that perceived complexity. A thorough edit while incorporating public comment would increase the value of this effort.

Specific comments on Volume 2 are contained in the enclosure. Please contact Paul Genoa at (202) 739-8034 or [phg@nei.org](mailto:phg@nei.org) if you have questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Felix M. Killar".

Felix Killar

NEI/  
Enclosure

c: NEI Decommissioning Working Group  
NEI Site Clean-up and License Termination Task Force  
Fuel Cycle Facility Forum  
Facility Operations Committee

**Specific Comments on Draft NUREG 1757, Vol. 2**  
**Consolidated NMSS Decommissioning Guidance**

Section 2.7: Please clarify what is meant by single source and sources in this section.

Section 2.7, box on p. 2-13: Section 2.3 does not appear to be the appropriate reference for calculation of the dose using final concentrations from the FSS.

Section 3.2: It would be more helpful to provide a practical, but simple example at the end of the section on DQO's.

Section 3.3: Clarify the first item in the box on p. 3-5. Does it mean that the licensee still needs to determine the amount of contribution from insignificant radionuclides and subtract that from the allowable dose? Does it mean that if insignificant radionuclides are not being considered, then only 90% of dose criteria can be used, or does it mean something else?

Section 3, P. 3-4: This section should state that it is allowable to determine radionuclide ratios during the remediation process, while sufficient radioactivity exists such that the ratio of Hard to Detect Radionuclides to Easy to Detect Radionuclides can better reflect the actual ratios and not be based on MDC values.

Section 3, P. 3-5, First Bullet: The two sentences seem to be contradictory.

Section 4.2: In second paragraph on p. 4-11, the first sentence states that the LTR does not apply if buildings and structure are disposed of. Please clarify that the LTR still applies to the site in this case.

Section 4.3: Remedial action survey plans should not need to be submitted to the NRC for review. This is an interim step to determine if remediation is sufficient, rather than the final status survey which determines if the site meets the criteria.

The discussion of the need to re-establish baseline parameters, including radionuclides distribution, following remediation clearly implies that DCGLs could be impacted. The DP or LTP need to be able to establish a method of changing DCGLs based on such information, rather than requiring a license amendment for changes to DCGLs. Requiring DCGLs to be revised by license amendment is a waste of NRC and licensee resources and time.

Section 4.4: Too much detailed information on instrumentation is required to be submitted in the DP/LTP per this guidance. This detail would tie licensee to specific instrumentation, even if it does not perform as well as expected or improved instrumentation is available. The DP/LTP should include criteria for instrumentation, rather than specific instrumentation or at least allow for substitutions.

The last three bulleted items in the list of information to be submitted should be in Section 4.5, rather than Section 4.4. This data will be available at the time of the final survey, not at the time of DP/LTP submittal of the description of the final site survey.

Table 4.2: It appears that part of the table is missing. As a minimum the last item in the left column is missing part of its description.

Section 4, P. 4-8, First paragraph, Second Sentence: This description seems appropriate to a Non-Impacted Area and not Class 3. MARSSIM defines Class 3 as containing up to a small fraction of the DCGLs'

Section 4, Page 4-8, Last Paragraph and Page 4-9, Last Paragraph: The first sentences of each of this paragraph seem to disagree with each other.

Section 4, Page 4-10: This section should refer to the Generic Q & As in the Appendix for clarification of requirements for characterization data.

Section 5.1: Screening criteria should be usable if residual radioactivity is limited to both building surfaces and surface soil, as long as both the default building and soil scenarios are used.

Section 5.2: Clarify the last paragraph on p. 5-16 and the same wording on p. 5-25. This guidance was not understood by the reader.

Section 5, P. 5-2, 3rd paragraph: It seems burdensome to require a license amendment to reclassify an area from impacted by groundwater to non-impacted. To be consistent with the lowering of a Survey Area Classification, this change can be subject to NRC inspection rather than requiring a license amendment.

Section 6.3: This section is confusing. The term, "preferred option" should be better explained. Also, some decisions need to be made on an activity or area basis. For example, whether further cleaning a specific wall would be ALARA should be based on what it would take and the amount of reduction expected to be gained. A formal ALARA program setting up the decision-making criteria would establish this process.

Section A.1: Please clarify whether an area would need to be classified as Class 1 if it did contain equipment with residual radioactivity above the DCGL, but the equipment will be removed before the FSS and the area without the equipment would meet the description of Class 2 or 3.

Appendix A, Page A-2, 3rd Bullet: This definition differs from that in MARSSIM in that MARSSIM considers that a class 3 area may have residual radioactivity that is a small fraction of the DCGL.

Appendix A, Section 3: In general, the summary level of information contained in this Section is choppy and difficult to understand.

Appendix A, Section 3.3: It would be more convenient if applicable guidance from Chapter 12 of NUREG-1705 was included here, rather than referenced.

Appendix A, Section 4.2: Please specify whether  $\lambda$  is the average residual radioactivity concentration for all sample points in the survey unit only, or all sample points overall.

Appendix A, Section 5.1: If a detector other than a sodium iodide gamma detector is being used, are acceptable estimates of  $MDC_{scan}$  provided in any guidance?

Appendix A, Section 8: The formulas in this section did not print correctly.

Appendix A, Section 9: The reference to Section 2.6 in the paragraph below Table A.4 is not correct. The correct reference may be Section 2.7.

Appendix A, Page A-6, 3rd paragraph: The proper reference would seem to be NUREG 1505 rather than NUREG 1705.

Appendix B: The introductory paragraph refers to Groups 1-3 using the simplified guidance, while Section B.1 refers only to Group 1 and some of Group 2 licensees.

Appendix C, Section 2: Item 2 on p. C-7 appears to have an error. The letter “a” is used where probably “ $\alpha$ ” belongs.

Appendix C, Section 2: Clarify whether user would be expected to perform simulation studies if using the approximations on p. C-8 and on p. C-10 – C-11.

Appendix C, Section 2: Add explanation for Item 2 on p. D-4 to help user follow the calculation. The explanations for Items 1 and 3 are helpful.

Appendix E, Section 7: On p. E-7, move the second formula to after “determined by”.

Appendix E, P. E-8: Please clarify the last paragraph on p. E-8. The preceding section implies it is necessary to recalculate the instrument MDC, the first sentence in the last paragraph states that generally it will not be necessary.

Appendix F, Page F-3, Last paragraph & Page F-7 1st paragraph: The amount of detail required here seems excessive for a Decommissioning Plan. It would appear to be more appropriate to have this information available for inspection in the Groundwater Monitoring Report, which would be available on site.

Appendix F, Page F-7, Last Paragraph: The requirement to sample on a monthly basis for the first quarter seems excessive as if residual radioactivity is detected, sampling will continue for an extended period of time. This statement appears also in conflict with the quarterly sampling frequency specified in the last full sentence on this page.

Appendix F, Page F-8, 4th paragraph: It should be mentioned that Radiological Environmental Monitoring Program data from a facilities operating period can be utilized to meet some of this characterization requirement.

Appendix G, Page G-1, last paragraph: Beams and other structural components need to be added to the list in the second sentence.

Appendix G, Page G-4, 1st Full Paragraph, next to last sentence: The concept of performing an elevated measurement comparison for volumetric samples has not been presented in any previous guidance. If licensees are to be able to perform such a comparison, additional guidance as to appropriate methodology needs to be provided.

Appendix H: This section seems geared towards NRC reviewers, rather than providing guidance on how to use screening values.

Appendix H: Subsections in H.1 and H.2 should be combined for each issue.

Appendix H, Section 2.1: Table H.1 has footnote "a" not footnote "1"

Appendix H, Section 2.2: The first paragraph and the first Item 3 should be editorially reviewed and corrected.

Appendix H, Section 2.3: Should footnote "3" referenced in the box be footnote "c"?

Appendix K, Page K-1: This discussion should include the ability to use the "indistinguishable from background" methodology as discussed in NUREG 1505 as a release criterion for a Partial Site Release.

Appendix I, Section 2.1: In the third paragraph, add, "which will be remaining" after "systems and equipment".

Appendix I, Item 2: Is well written and appropriate. It is important that the conditions anticipated at the time of FSS and site release be the conditions addressed.

Appendix I, Section 2.2: Should the reference to Section K.2.3 be to I.2.3?

Appendix I Section 3.3.3.5: This section is unnecessarily confusing.

Additional guidance would be helpful on how DandD (or RESRAD) is used to determine area factors.

Table I.4: It would be helpful to know why some of the items listed as potentially being incompatible with DandD assumptions are listed. This would help licensees to evaluate whether an under estimation may occur and provide the requested rationale. Also, are the 4<sup>th</sup> and 17<sup>th</sup> items the same?

Appendix I, Section 5.3.2: The last two paragraphs of this section are confusing. Is it acceptable to use the dose conversion factors in RESRAD, RESRAD – BUILD, and DandD without an exemption?

Appendix I, Section 5.3.3: It would be helpful if the guidance better explained the difference between deterministic and probability codes.

Appendix I, Section 5.3.4: There is no Section I.2.3.3 which is referenced in this section.

Appendix I, Section 5.3.6: Should “RESRAD Version 3” be “RESRAD – BUILD Version 3?”

Appendix I Section 7.3.1: Clarify in the last paragraph whether DandD is used to run Monte Carlo analyses itself.

Appendix I, Section 7.3.2.2: Please clarify this section, especially the information in the box.

Appendix I, Section 7.5: In general this section is confusing. It appears to be a surface smattering of statistics that is not written for a non-statistician to understand, or a statistician to fully use.

Appendix I, Section 7.5.2.1: An example graph would be helpful to explain this section.

Appendix I, Section 7.5.2.3: The use of symbols is different between the formula and the listing of coefficients

Appendix J, Section 1 and 2: These sections are rather generic and repetitive summary level sections. They do not cover the appendix topic and could be deleted.

Appendix J, Section 1-2: Section 1-2 does not identify the six key components credited to it.

Appendix J, Section 2: Please clarify how Subpart E demonstrates what the last paragraph in this section states that it does.

Appendix J, Section 3: The reference to Section 2.9 should be to Section 3.9.

Appendix J, Section 5.2: Identify the terms “SA” and  $T_w$ ” used in the formula.

Appendix K, Section 1.3: The discussion of offsite sources and how they impact PSR and how they are under the licensee’s control should be clarified in this section.

Appendix K, Section 2.5.2: If a group is both using the PSR area and another impacted area, it is time they could receive total doses above Subpart E dose limit. However, if the impacted area they are using is under control of the licensee, then that part of the dose should be occupational exposure and not added to the PSR area dose for comparison to Subpart E.

Appendix M: This is the most user friendly section in the consolidated guidance.

Appendix M, Figures M.3, M.5, M.6, M.7, M.8, M.9, and M.10: Arrow between Resident Farmer – No Groundwater (or similar block) and “Remove Agricultural Pathway” should be deleted.

Appendix M, Figure M.11: Arrow between Urban Resident with Garden and “Remove Garden Pathway” should be deleted.

Appendix M, Section 5.2.2.1: Box following Table M.12 should be moved to end of Section M.5.2.1.4.

Appendix M, Section 4.1: The version of the DandD code used for the examples should be updated since DandD 1.0 is not recommended for use.

Appendix N, Section 1.1: On p N-5, the “8” should be  $\lambda$ .

Appendix N, Section 1.4: The “8” should be a  $\lambda$ .

Appendix N, Section N.5: The first formula on p N-17 did not print properly. “Btotal” should be “ $B_{total}$ ” on p N-18.

Appendix O: In the second paragraph of the introduction, it states that seven Q&A have been found acceptable by NRC staff and are included. However, only No.’s 1, 2, 6, and 8 are included.