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Remediation of Residual Radioactivity During Operations

Comment On: NRC-2011-0162-0017
Consideration of Rulemaking to Address Prompt Remediation of Residual Radioactivity During Operation;
Notice of Public Webinar and Request for Comment

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Submitter Information

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General Comment

On behalf of the National Institutes of Health (NIH), Department of Health and Human Services, I am submitting these comments in response to your targeted questions in this proposed rulemaking process. Thank you for the opportunity to provide these comments.

Attachments

2016 July DRS response to NRC proposed rulemaking-prompt remediation of contamination prior to decommissioning

SUNSI Review Complete
Template = ADM - 013
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Add= M. Vaaler (mgv)

NIH/DRS Response to NRC Consideration of Rulemaking To Address Prompt Remediation of Residual Radioactivity During Operation (Docket ID NRC-2011-0162)

- 1. Given the information on site radiological contamination gained as a result of the implementation of the Decommissioning Planning Rule, should the NRC proceed with additional rulemaking to address remediation of residual radioactivity during the operational phase? Why or why not?**
- 2. Based on the information on site contamination obtained from facilities that have entered decommissioning, should the NRC proceed with additional rulemaking to address remediation of residual radioactivity during the operational phase? Why or why not?**

NIH is not expected to be affected by the proposed regulations as stated in the September 23, 2005 memorandum to Daniel AM. Gillen, subject: GENERAL GUIDANCE FOR INSPECTIONS AND ENFORCEMENT TO PREVENT FUTURE LEGACY SITES, INTEGRATED DECOMMISSIONING IMPROVEMENT PLAN (PDIP), REVISION 1, ITEM 4.2 (the Sept. 23, 2005 memo). NIH's position is that the NRC should not proceed with additional rulemaking to address **mandatory** remediation of residual radioactivity during the operational phase. Any proposal that includes remediation should provide options to the licensee to avoid immediate remediation if they provide suitable justification and adjust their decommissioning funding plan.

The NRC has current decommissioning regulations that require licensees to document incidents and identify areas that would require a licensee to increase their decommissioning funding plan. Enforcement of these regulations should minimize the potential for legacy sites. The NRC should focus their efforts on enhanced oversight to prevent and/or identify subsurface contamination, and trigger an adjustment in the decommissioning funding plan.

- 3. If the NRC does implement a rule that requires prompt remediation of radioactive spills and leaks, what concentration, dose limits, or other threshold limits should trigger prompt remediation? Should the thresholds differ for soil versus groundwater contamination?**

The Sept. 23, 2005 memo acknowledged that some NRC sites had subsurface contamination that would be affected by this proposed rule, even though the levels may not immediately affect worker or public dose constraints. This suggests a licensee could comply with current exposure limits, yet be required to remediate to decommissioning standards. A licensed, operating facility should not be required to meet decommissioning standards unless they are voluntarily ceasing all operations or their license is revoked. Licensees should only be required to remediate to meet occupational dose limits, member of the public dose limits and constraints, or any other license condition. Hence, thresholds for soil versus groundwater contamination should not differ.

- 4. Should the NRC allow licensees to justify delaying remediation under certain conditions when the contaminant level exceeds the threshold limit? If yes, then what conditions should be used to justify a delayed remediation?**

Yes, the NRC should allow delayed remediation if the licensee adjusts their decommissioning funding plan or demonstrates that immediate remediation would not be safe, cost beneficial, or would have a negative impact on operations.

- 5. Should factors such as safety, operational impact, and cost be a basis for delaying remediation?**

Yes.

- 6. If the NRC implements a rule that allows licensees to analyze residual radioactivity to justify delaying remediation, then what should the licensee's analysis cover? For example, what kind of dose assessment, risk assessments, and/or cost-benefit analyses should be performed to justify delayed remediation? What other types of analyses are relevant to this process?**

A licensee should be able to justify delaying remediation if they can demonstrate that contamination will not affect areas outside of their control, and the licensee has met all effluent limits and constraints on dose to members of the public. For example, the licensee must be able to demonstrate that soil contamination is not very likely to reach ground water and/or migrate outside the licensee's property. Again, current member of the public dose limits should apply.

Here are some cost-benefit analyses to consider as a justification of delayed remediation: the cost of immediate remediation without the ability to use decommissioning funds vs. the cost of waiting until decommissioning vs. worker and public dose; the cost of immediate remediation vs. the expected time of decommissioning. For example, it would not be cost effective for a licensee to remediate immediately if they intend to decommission and remediate in the not-too-distant future; the cost of immediate remediation on a smaller scale vs. the cost of delayed remediation on a potentially larger scale; the cost of immediate remediation using existing technology vs. the cost of delayed remediation using better emerging technology. This proposed rule could have a multiplier effect on a licensee's overall cost and this should also be taken into consideration.

- 7. If the NRC implements a rule that allows licensees to analyze residual radioactivity to justify delaying remediation, what role should the cost of prompt remediation versus remediation at the time of decommissioning play in the analysis? What are the overall costs and benefits of prompt remediation of residual radioactivity?**

Licensees are not to use decommissioning funds for remediation according to current regulations, so the licensee should be able to select the most cost beneficial option since operating funds would likely have to be diverted. This is providing they comply with members of the public dose limits and ALARA.

The best case for prompt remediation is the cost may likely be lower vs. waiting and risking a larger scale remediation at the time of decommissioning, assuming operations are not disrupted.

- 8. If the NRC implements a rule that allows licensees to analyze residual radioactivity to justify delaying remediation, what standards or criteria should a licensee use to demonstrate to the NRC that a sufficient justification to delay remediation has been met?**

The current dose limits and constraints to members of the public in 10 CFR 20.

- 9. Are there any other alternatives beyond those discussed in the Draft Regulatory Basis document that the NRC should have considered to address prompt remediation?**

The NRC may want to consider allowing decommissioning funds to be used for prompt remediation if the licensee can demonstrate those funds would no longer be required after immediate remediation.

- 10. What other issues should the NRC staff consider in developing a technical basis for a potential rulemaking to address prompt remediation of residual radioactivity during site operation?**

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The NRC should take into consideration when a licensee is planning to decommission all or clear part of a facility using an approved decommissioning methodology, since decommissioning only applies to entire buildings.