



NUCLEAR ENERGY INSTITUTE

SEP 16 PM 12:48

RECEIVED

September 16, 2011

7/18/2011

76 FR 42074



Ralph L. Andersen, CHP  
SENIOR DIRECTOR  
RADIATION SAFETY &  
ENVIRONMENTAL PROTECTION  
NUCLEAR GENERATION DIVISION

Ms. Cindy K. Bladey  
Chief, Rules, Announcements, and Directives Branch (RADB)  
Office of Administration  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Subject:** Comments on the Consideration of Rulemaking to Address Prompt Remediation of Residual Radioactivity During Operations (Docket ID NRC-2011-0162)

**Project Number: 689**

Dear Ms. Bladey:

The Nuclear Energy Institute (NEI)<sup>1</sup> is pleased to provide these comments on the Draft Proposed Technical Basis dealing with prompt remediation of residual radioactivity during operations. The NRC published a request for comment in the *Federal Register* on July 18, 2011 (76 Fed. Reg. 42,074), explaining that it was considering a rulemaking that would explicitly require remediation of residual radioactivity during operations in order to "avoid [] complex decommissioning challenges that can lead to legacy sites." 76 Fed. Reg. 42,075. NEI believes that the rulemaking being contemplated has significant regulatory and policy implications and appreciates the NRC's efforts to obtain stakeholder input early in the process.

The nuclear industry is firmly committed to planning, funding, and conducting decommissioning of licensee facilities safely, efficiently, and in a manner protective of public health and the environment. The nuclear industry believes that NRC regulations should, and currently do, contain appropriate requirements to provide reasonable assurance that legacy sites will be prevented. While we are not necessarily opposed to properly justified improvements in the regulatory framework that would simplify decommissioning, we do not believe that the rulemaking identified in the Draft Proposed Technical Basis constitutes such an improvement.

<sup>1</sup> NEI is responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory, financial, technical and legislative issues. NEI members include all companies 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.

E-RIDS = ADM-03

SUNSI Review Complete  
Template = ADM-013

Call = C. Glenn (2591)

The stated purpose of the rulemaking being considered is to "minimize the creation of legacy sites." See Draft Technical Basis, at pg. 1. But, in light of the NRC's current regulatory framework, the Draft Technical Basis does not provide sufficient information on the potential for the creation of legacy sites in the first instance. For example, the current proposal is supported by vague statements, such as: "Staff experience in the decommissioning of nearly 100 sites demonstrates that un-remediated contamination, especially in the subsurface can, over time, migrate and contaminate large volumes of the surrounding area and resources." During the July 25<sup>th</sup> webinar, NEI requested that the staff share specific decommissioning cases demonstrating that there is an actual, or even potential, generic legacy site problem supporting selection of its preferred approach. In response to that request, the staff directed NEI to a memorandum from Daniel Gillen, Deputy Director in the Division of Waste Management and Environmental Protection entitled "Guidance for Inspections and Enforcement to Prevent Future Legacy Sites, Integrated Decommissioning Improvement Plan (IDIP), Revision 1, Item 4.2" dated September 23, 2005 (ML052630421). The list provided in Table 1 of that document identifies 82 sites at which either surface or ground water contamination was detected during decommissioning. But there is no indication of whether the contamination delayed or otherwise prevented successful decommissioning of any of the identified sites. Thus, NEI does not believe that this document provides an adequate basis for making the regulatory changes proposed in the Staff's preferred option. This is very similar to the concern that industry expressed regarding the basis for the recently promulgated decommissioning planning rule, which, in our view, was never adequately addressed by the NRC. Ultimately, without a clear delineation of the problem that the NRC seeks to address in this potential rulemaking, it will be difficult to develop a rule or other regulatory tools that provide properly tailored and effective solutions.

NEI also believes that the contamination thresholds identified in the Draft Proposed Technical Basis are inappropriate. Specifically, if the goal is to prevent creation of legacy sites – *i.e.*, sites that cannot be decommissioned due to technical or financial issues – then any triggers that would require prompt remediation should be directly tied to the dose limits provided in the license termination rule (LTR) (Subpart E to 10 C.F.R. Part 20). To the contrary, the soil screening criteria identified in the Draft Proposed Technical Basis document (see NUREG-1757, Appendix H) are very conservative, generic screening values designed to be used at simple sites. According to the NUREG-1757, because of their conservative nature, these generic screening criteria are expected to be more restrictive than site-specific decommissioning criteria developed by individual licensees. These soil screening criteria are designed to save licensees time and effort at simple sites, by providing levels of contamination that, if met, would allow a licensee to forgo a more intensive site-specific evaluation. Thus, the soil screening values are not an appropriate threshold upon which to base remediation during operation, even if the licensee is given the option to perform a more extensive analysis to justify a delay in clean-up.

The use of EPA's Maximum Contaminant Level (MCL) as a threshold for groundwater contamination is also inappropriate. During development of the LTR, the Commission considered and rejected incorporation of the groundwater MCLs into the rule. See 62 Fed. Reg. 39,058, 39,075 (July 21,

Ms. Cindy K. Bladey  
September 16, 2011  
Page 3

1997). Although the NRC agreed to use the MCLs as triggers that would require consultation with EPA (see 2002 EPA-NRC MOU, "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites"), the Commission declined to incorporate those pathway-specific limits into the LTR – concluding that the all-pathways, dose-based standards in Subpart E are protective of public health and safety. Using EPA's groundwater MCLs as a regulatory trigger for prompt remediation would be a major and unwarranted shift in Commission policy on this issue.

Finally, the Draft Technical Basis states that "there are currently no NRC regulations that require licensees to promptly remediate radiological contamination during operations, *regardless of the volume or contaminant concentration levels.*" See Technical Basis, at 7 (emphasis added). As contamination volume and concentration will necessarily affect the dose consequences of any releases, this statement seems to ignore the dose limits currently contained in 10 CFR Part 20, as well as the ALARA requirements that are currently in place. Any examination of the need for regulatory changes to require prompt remediation must include a thoughtful analysis of whether and how compliance with the existing dose limits, applicable during operation, ensure that contamination will not inhibit the licensee's ability to decommission the site. Also, any requirement to remediate a site during operation for the purpose of preventing creation of a legacy site must recognize the options available to licensees under the LTR – including restricted release (10 CFR 20.1403) and decommissioning in accordance with alternate criteria (10 CFR 20.1404). Specifically, promulgation of a rule that requires remediation to unrestricted release limits during operation would effectively remove the flexibility that was deliberately built into the LTR.

Although, as explained above, NEI does not believe that the basis for the rulemaking under consideration has been adequately explored and analyzed, in order to be responsive to the NRC's request for comment, specific responses to the nine questions presented in the *Federal Register* notice are included in the attachment to this letter. If you have any questions or concerns regarding these comments, please feel free to contact me at [rla@nei.org](mailto:rla@nei.org) or 202 739-8111.

Sincerely,

A handwritten signature in black ink, appearing to read "Ralph Andersen".

Ralph L. Andersen, CHP

Attachment

**SPECIFIC QUESTIONS SOLICITING STAKEHOLDER INPUT ON CONSIDERATION  
OF RULEMAKING TO ADDRESS PROMPT REMEDIATION OF RESIDUAL  
RADIOACTIVITY DURING OPERATIONS**

To assist the NRC in developing a comprehensive technical basis document for a potential rulemaking requiring prompt remediation, the NRC is seeking stakeholder input on the following questions:

**1. Should the NRC conduct rulemaking to address remediation of residual radioactivity during the operational phase? Why or why not?**

No. Rulemaking to address remediation of residual radioactivity during facility operations is not needed.

The stated purpose of the rulemaking being considered is to "minimize the creation of legacy sites." (see Draft Technical Basis, at pg. 1). But the Draft Technical Basis does not provide sufficient information on the potential for the creation of legacy sites, given the current regulatory framework. Industry's experience has been that sites operating pursuant to the NRC's current regulations have successfully accomplished decommissioning, including those instances in which contamination has been identified beyond initial expectations. Examples previously cited by the NRC as justification for the decommissioning planning rule generally relate to licensees that had been operating long before the current regulations, comprehensive guidance, and discipline in reviewing license applications, contemporary licensee practices and awareness, and current decommissioning funding requirements were in place.

During the July 25, 2011 webinar, NEI requested that the NRC provide the list of the nearly 100 sites demonstrating "that un-remediated contamination, especially in the subsurface, can, over time, migrate... and has the potential to result in additional legacy sites." (Draft Technical Basis, at pg 6). In response to that request, the staff has since directed NEI to a memorandum from Daniel Gillen, Deputy Director in the Division of Waste Management and Environmental Protection entitled "Guidance for Inspections and Enforcement to Prevent Future Legacy Sites, Integrated Decommissioning Improvement Plan (IDIP), Revision 1, Item 4.2" dated September 23, 2005 (ML052630421)(Gillen Memorandum). The list provided in Table 1 of that document identifies 82 sites where either surface or groundwater contamination was detected during decommissioning. But there is no indication of whether the contamination delayed or otherwise prevented successful decommissioning of any of the identified sites. In fact, the Gillen Memorandum states that in developing Table 1 "the staff did not note whether or not the levels or concentrations were above or below any regulatory standards, limits, or guidelines."<sup>1</sup> Because the table provided in the Gillen Memorandum does not provide information on whether the contamination is routinely present at levels that could challenge successful decommissioning, NEI does not believe that this document

---

<sup>1</sup> Gillen Memorandum, at pg. 2, FN 2.

provides an adequate basis for the regulatory changes proposed in the Staff's preferred alternative. For example, in the case of the nuclear power plants, each facility has achieved or is expected to achieve successful license termination in full compliance with the NRC's requirements.

Without a clear delineation of the problem that the NRC seeks to address in this potential rulemaking, it will be difficult to develop a rule or other regulatory tools that provide properly tailored solutions.

- The NRC has existing regulations that require licensees to control licensed material and maintain doses to ensure protection of public health and safety and the environment. Specifically, the dose limits contained on 10 CFR Part 20 (e.g., §§ 20.1301(a)(TEDE of 100 millirem/year) and 20.1301(e))(annual doses from all fuel cycle activities limited to 25 millirem whole body, 75 millirem thyroid, 25 millirem any other organ) apply during operation. All licensees maintain ALARA programs per 10 CFR 20.1101. In addition, reactor licensees must comply with the requirements contained in §§ 50.36a (technical specifications on effluent releases). Indeed, all nuclear power plant licensees have incorporated the ALARA guidelines contained in Appendix I to Part 50 into their licensing basis documents or Technical Specifications. These guidelines state that the calculated annual total quantity of all radioactive material above background released to unrestricted areas should not result in an estimated annual dose or dose commitment from liquid effluents in excess of 3 millirem to the total body or 10 millirem to any organ. Under the public radiation safety cornerstone of the NRC's regulatory oversight process, a licensee is required to self-report any release that exceeds any or all of the Appendix I design objectives.
- With respect to unintended releases that have occurred to date, the NRC has consistently found that "doses from these releases are generally below the radiation dose limits for operational facilities in 10 CFR Part 20 that would initiate regulatory action." (See Draft Technical Basis, at pg. 3). Further, the NRC's 2006 "Liquid Radioactive Release Lessons Learned Taskforce Final Report" stated:
  - o "The most significant conclusion of the task force regarded public health impacts. Although there have been a number of industry events where radioactive liquid was released to the environment in an unplanned and unmonitored fashion, based on the data available, the task force did not identify any instances where the health of the public was impacted." (Taskforce Final Report, at pg. i.)
  - o "When considering recommendations to be made as the result of the task force review, the task force members were challenged to weigh the likely benefit of implementing recommendations against the cost. The task force concluded that the relative potential benefit to protection of public health would generally be

low, because the realistic potential for long term undetected radioactive leakage resulting in a more than minor radiation dose to members of the public is low.” (Taskforce Final Report, at pg. ii).

- Thus, it is unclear how a rule requiring remediation during operation, in situations where these dose limits are not exceeded, would be consistent with a risk-informed regulatory scheme. Also, any requirement to remediate a site during operation must recognize the options available to licensees under the existing LTR – including restricted release (10 CFR 20.1403) and alternate criteria (10 CFR 20.1404). Specifically, promulgation of a rule that requires remediation to unrestricted release limits during operation would effectively remove the flexibility that was deliberately built into the LTR.
- Similarly, the industry is not aware of any circumstance where “...safety practices may be relaxed as operating hazards decrease, key personnel relocate and management focus changes...” and has resulted in creating an instance where the licensee has been unable to complete decommissioning because of technical or financial issues. (Draft Technical Basis, at pg. 7).
- If a separate rulemaking is undertaken to address prompt remediation, there is the potential to create inconsistent, and possibly conflicting regulations as licensees implement as low as reasonably achievable (ALARA) programs to control occupational and public doses to meet 10 CFR 20 subpart B, the license termination regulations in 10 CFR 20 subpart E, the decommissioning planning rule regulations that will take effect in December 2013, and now the potential regulations for prompt remediation. The NRC has found consistently that the existing regulations are fully protective of public health and safety; the NRC has not provided a clear and convincing justification in the draft proposed technical basis that rulemaking is needed for prompt remediation during operation.

**2. If the NRC implements 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? For example, should the NRC screening criteria be used to establish threshold levels for soil contamination? Should the EPA’s maximum contaminant levels be used for drinking water?**

As previously stated, there does not appear to be a sound technical basis for the NRC’s proposed rulemaking to require prompt remediation at all licensed facilities.

The proposed thresholds (the NRC’s screening values in soil for unrestricted use after license termination [DCGLs] and the EPA’s maximum contaminant levels [MCLs] for drinking water) have inherent challenges:

- During the development of the license termination rule, the NRC correctly rejected the use of MCLs in drinking water as decommissioning criteria due to a variety of factors, not least of which is the fact that the DCGLs are based on an all-pathway analysis that already encompasses potential dose contributions through a drinking water pathway. Specifically, in the Final License Termination Rule the Commission stated:
  - o "The Commission agrees with the commenters that exposures from drinking contaminated groundwater need to be controlled; with the EPA's groundwater protection principles contained in the document "Protecting the Nation's Groundwater: EPA Strategy for the 1990's," 212-1024 (July 1991); and with the EPA position that the environmental integrity of the nation's groundwater resources needs to be protected. Nonetheless, it is the Commission's position that protection of public health and safety is fully afforded by limiting exposure to persons from all potential sources of radioactive material by means of a TEDE at a decommissioned facility. There is, therefore, no compelling reason to impose a separate limit on dose from the drinking water pathway, and the rule has been modified to delete a separate groundwater standard. To make clear NRC's concern over the importance of protecting this resource as a source of potential public exposure, the rule has also been modified to include a direct reference to the groundwater pathway in the all-pathways unrestricted use dose criterion in §20.1402." 62 Fed. Reg. 39058, 39,075 (July 21, 1997)
  - o "As described in some detail in Sections IV.A-IV.E, the Commission believes that the overall approach to license termination in this final rule (that includes unrestricted and restricted use dose criteria, alternate criteria, and ALARA considerations) protects public health and safety, and that the approach to drinking water protection in the final rule provides an appropriate and more consistent level of protection of public health and safety than use of MCLs." 62 Fed. Reg. 39,081 (July 21, 1997).
- The soil screening criteria identified in the Draft Technical Basis document (see NUREG-1757, Appendix H) are very conservative, generic screening values designed to be used at simple sites. According to the NUREG-1757, because of their conservative nature, these generic screening criteria are expected to be more restrictive than site-specific decommissioning criteria developed by individual licensees. These soil screening criteria are designed to save licensees time and effort at simple sites, by providing levels of contamination that, if met, would allow a licensee to forgo a more intensive site-specific evaluation and would result in calculated doses for the critical receptor below the NRC's license termination criterion of 25 mrem/year.

- Derived values for ground water based on the NRC's license termination rule screening criteria are higher than the EPA's MCLs. It is unreasonable to apply more conservative remediation thresholds during plant operation than would be required at decommissioning and release of a site. It is also not appropriate to apply screening values that are based on a resident farmer exposure scenario after license termination to occupational workers during plant operation.
- Different dose methodologies are used to derive the DCGLs and MCLs. The DCGLs are based on the more recent ICRP30 methodology and calculate the TEDE. The MCLs use the 1960s-1970s methodology in ICRP2 and calculate whole body and organ dose. The two dose methodologies do not rely on a common scientific understanding of the biological effects of ionizing radiation on humans and, as such, the calculated values cannot be readily compared and would not collectively form a coherent regulatory approach.
- EPA's MCLs are not unilaterally scientifically defensible as indicative of concentrations that represent a public health and safety issue. In particular, the maximum dose contribution resulting from 20,000 pCi/liter of tritium in drinking water would result in just over 1 mrem/year, rather than the 4 mrem/year stated dose standard for the MCLs.
- EPA's MCLs apply directly to "public water systems" (see 40 CFR 141.2). There are few, if any, instances in which ground water beneath an industrial facility is used as a public drinking water supply.
- It is not clear whether the rulemaking being considered would require comparison of the concentrations in soil or ground water at the time of discovery with the DCGLs at decommissioning. For example, would the licensee be allowed to consider natural radioactive decay of the licensed material, soil retardation characteristics, and the presence (or absence) of an actual critical receptor, as part of the remediation decision making protocol? The draft proposed technical basis does not appear to recognize that characterization of the plume and identification of the source can typically take a year or more – not a few months. Without this understanding of the situation, a licensee's attempt to clean-up a site will not be fully informed and may have unintended consequences.

**3. 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's documents provided to date on this potential rulemaking appear to equate remediation with active clean-up. The NRC's preferred approach as currently described does not appear to recognize monitored natural attenuation as an acceptable alternative.



Monitored natural attenuation<sup>2</sup> is recognized by many regulatory agencies, including the EPA, as a viable alternative to reduce concentrations of contaminants, minimize environmental impacts that might otherwise occur during active site clean-up, and, in the case of licensed material, keep occupational doses ALARA. Specifically, clean-up should not be required in situations where:

- There is no critical receptor who would receive a dose above an existing regulatory limit (e.g., 100 millirem/yr TEDE under 10 CFR 20, 25 millirem/year whole body under 40 CFR 190) and (in the case of reactor licensees) compliance with their license basis documents or Technical Specifications is achieved.
- The licensee can demonstrate that the licensed material will not migrate off-site prior to the planned decommissioning of the facility. This approach allows for monitored natural attenuation of the licensed material to further reduce concentrations.
- The draft proposed technical basis lists (1) risk to human health and safety, (2) facility operational safety, (3) contaminant characteristics, and (4) cost as considerations for delayed remediation (page 8 of 17). Industry agrees that these, as a minimum, should be considerations for justifying delayed remediation.

The NRC should also consider the financial implications for requiring prompt remediation during operation if they proceed with rulemaking. Currently, remediation actions taken during the operational phase cannot be funded through the use of decommissioning funds.

#### **4. Should factors such as safety, operational impact, and cost be considered for delaying remediation?**

Yes. In addition to safety, operational impact, cost, ALARA, the presence or absence of a critical receptor, industrial safety, cost to customers, and dose significance should all be considered. The draft proposed technical basis document describes "lower hazard" and "higher hazard" sites but does not appear to recognize the "no hazard" sites, which would be a more accurate characterization of the unintended leaks and spills identified to date and the NRC's findings in their review of those incidents.

Work practices for remediation activities should meet a prudence standard as well. If the source of contamination has been contained and appropriate monitoring measures are in

---

<sup>2</sup> The term "monitored natural attenuation" refers to "the reliance on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by other more active methods." (see "Monitored Natural Attenuation of Inorganic Contaminants in Ground Water: Volume 3. Assessment for Radionuclides Including Tritium, Radon, Strontium, Technetium, Uranium, Iodine, Radium, Thorium, Cesium, and Plutonium-Americium" EPA/600/R-10/093, September 2010, and EPA Directive 9200.4-17P, "Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites," 4/21/1999)

place, performing clean-up activities during operation may be duplicative of future actions during decommissioning. Under existing MARSSIM guidance, any area that could have a reasonable possibility of residual contamination from facility operations must be classified as "impacted" and surveyed to demonstrate that it meets release criteria. As needed, remediation is performed during decommissioning to ensure that the site meets the NRC's radiological criteria at license termination. Practically, clean-up during facility operation will be spatially limited due to on-going operation and the presence of structures and underground utilities. Once facility operations have ceased, the majority of these constraints will be removed and surveys of previously inaccessible areas can be performed. For an area affected by a spill or leak, remediation of those previously inaccessible areas would also involve the area that would have been remediated during operation, duplicating those earlier efforts. The incurred costs for clean-up during operation would result in higher costs for electricity to customers and could, for regulated utilities, be questioned as to prudence.

**5. 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?**

Other analyses that could be used to justify delayed clean-up of a site should consider the potential for off-site migration of the licensed material that would result in a dose to a member of the public above the existing regulatory limit in 10 CFR 20 (e.g., 100 millirem/yr TEDE under 10 CFR 20, 25 millirem/year whole body under 40 CFR 190 technical specifications). As previously noted, all licensees maintain ALARA programs per 10 CFR 20.1101 and nuclear power licensees are further committed to meet the design objectives in Appendix I to 10 CFR 50. These dose constraints ensure protection of public health and safety and the environment.

The effects of active clean-up of subsurface contamination on the plant's operation and on the industrial safety of personnel should also be valid criteria for deferring clean-up to some future decommissioning date for the site.

**6. 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 an analysis to justify delayed remediation?**

Costs should be a consideration given that - absent any dose implications or risk to public health and safety - the timing for remediation is most appropriately a business decision. It is unclear, however, how the NRC expects licensees to be able to predict "an interest rate to

represent the weighted average cost of borrowing for the licensee..." (Draft Technical Basis, at pg 10)

The NRC's discussion of cost (page 10) in the draft proposed technical basis appears to focus primarily on remediation costs. There does not appear to be a meaningful discussion or recognition of operational impacts, including the cost of replacement generation in certain situations.

The industry needs more information from the NRC on the timeframe for estimating remediation costs. Licensees can use current disposal, labor, and transportation costs to estimate prompt remediation costs but it is difficult to estimate remediation costs at decommissioning due to unknowns about disposal capacity, treatment technologies, or even dose methodologies that might be in effect at that time.

The NRC should also consider the financial implications for requiring prompt remediation during operation if they proceed with rulemaking. Similar to the allowances for SAFSTOR, certain decontamination and decommissioning activities will result in less dose consequences and therefore less expense when delayed. In some situations, requiring prompt remediation could result in costs being incurred for remediation during operation and also being incurred during decommissioning for cleaning up the same area, which is not cost effective. It is unclear whether costs of remediation today will be less than in the future since work conducted at an operating nuclear plant will likely be far less efficient because the safety of operations will require additional permitting and oversight in addition to possibly limiting the scope if work is too close to a vital plant area or component.

**7. 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?**

Existing regulations require licensees to promptly evaluate all instances of unintended releases of licensed material to the environment. They are also required to document residual contamination that could affect decommissioning planning and to retain those records. The definition of residual radioactivity includes those formerly licensed materials that were released as part of planned, controlled radioactive effluents. In some instances, the definition may also include storm water runoff or accumulation of sediment in a lagoon or basin. Existing NRC regulations (10 CFR 50.75(g) for nuclear power plants, 10 CFR 40.36(f) for source and 10 CFR 30.35 for byproduct licensees, and 10 CFR 70.25(g)(3) for fuel cycle licensees) already require licensees to keep records of information important to the decommissioning of a facility which would include areas that might have become contaminated during facility operations. Areas such as these that contain residual licensed material do not pose any risk to the public because they are within the licensee's control and

oversight and the licensee is subject to the dose limits and standards contained in NRC regulations. To demonstrate these areas meet the NRC's screening criteria for unrestricted release during ongoing operations would require extensive (and expensive) characterization and modeling for no added benefit. Subsurface soil under existing structures would be extremely difficult to characterize and model.

Licensees should be able to defer remediation if they can demonstrate that they have met both of the regulatory requirements described above and show that the contamination will not exceed public dose limits in 10 CFR 20 and that contamination in excess of applicable limits will not migrate off-site prior to decommissioning actions.

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

- The NRC should consider clarifying existing requirements for prompt evaluation to ensure that regulatory limits for public and occupational exposures are not exceeded. Given that the current regulatory scheme requires licensees to perform surveys to ensure the control of licensed materials and to ensure adequate funds are available to perform decommissioning to meet the license termination rule, it is highly unlikely that legacy sites are being created unless the facility has been in operation prior to the current rules being created.
- The NRC could also consider allowing licensees the option of establishing site-specific DCGLs and still have the option to defer immediate clean-up using the same considerations (dose, risk assessment, cost)

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

None of the instances of leaks or spills of licensed material identified to date has presented a risk to public health and safety or the environment. Thus, the staff should address how the proposed rulemaking is consistent with the NRC's philosophy of risk-informed regulation.

Other issues that the staff should consider include:

- The presence or absence of a critical receptor during plant operation should also be considered. In the absence of a critical receptor, the licensee should be allowed to defer active clean-up until decommissioning.

- Potential conflicts with existing regulations by imposing overly conservative limits during operation that would not apply during decommissioning. Licensees should be given the option of developing site-specific values to serve as a threshold for taking action that are not based on a resident farmer exposure scenario.
- Potential inconsistencies appear likely between a prompt remediation rulemaking and emerging regulations such as the decommissioning planning rule. At this time, it is impossible for industry to provide meaningful comments on the proposed prompt remediation rule since the NRC has not issued the draft regulatory guidance for surveys and monitoring under the decommissioning planning rule and the implications of implementing that guidance are unknown.