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Duane W. Schmidt, Project Manager
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Mail Stop T-7F27
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Federal Register / Vol. 67, No. 187 / Pages 60707-60708;
Comments on Draft NUREG-1757, Volume 2;
"Consolidated NMSS Decommissioning Guidance: Characterization, Survey, and Determination of Radiological Criteria"

Gentlemen:

The Illinois Department of Nuclear Safety (Department) hereby provides comments on the above-identified draft NUREG. The U.S. Nuclear Regulatory Commission (NRC) is proposing to publish NUREG-1757 to consolidate, into one document, decommissioning guidance that is currently found in multiple NRC documents.

Summary of Proposed NUREG-1757, Volume 2

As part of its redesign of the materials licensing program, the U.S. Nuclear Regulatory Commission (NRC) Office of Nuclear Material Safety and Safeguards (NMSS) is consolidating and updating numerous decommissioning guidance documents into this three-volume NUREG-1757. Specifically, the three volumes address the following topics:

(1) Decommissioning Process for Materials Licensees;

(2) Characterization, Survey, and Determination of Radiological Criteria; and

(3) Financial Assurance, Recordkeeping, and Timeliness.

Volume 2 of NUREG-1757 provides guidance on compliance with the radiological criteria for license termination. Specifically, Volume 2 provides guidance relevant to demonstrating compliance with 10 CFR 20, Subpart E. This guidance takes a risk-informed, performance-based approach to the demonstration of compliance. When published as a final report, licensees should use this guidance in preparing decommissioning plans, license termination plans, final status surveys, and other technical decommissioning reports for NRC submittal. NRC staff will use the final guidance in reviewing these documents and related license amendment requests. When this three-volume guidance is complete, it will replace NUREG-1727 *(NMSS Decommissioning Standard Review Plan)* and NUREG/BR-0241 *(NMSS Handbook for Decommissioning Fuel Cycle and Materials Licensees).*

The NRC staff is reviewing and considering approximately 80 documents related to decommissioning for consolidation into this NUREG report. Those documents that have been superseded by Volume 2 of this NUREG report, and the specific sections of the SRP that have been incorporated into this document are set forth in Volume 2. A final list of consolidated documents will be provided in Volume 3.

This volume, when issued in final, will supersede the guidance documents listed below, and the superseded documents should no longer be used.

NRC memorandum - Draft Staff Guidance for Dose Modeling of Proposed Partial Site Releases (09/28/2001)

BTP - Draft Branch Technical Position on Site Characterization for Decommissioning (11/1994)

NUREG-1500 - Working Draft Regulatory Guide on Release Criteria for Decommissioning: NRC Staff's Draft for Comment (08/1994)

NUREG/CR-5849 - Manual for Conducting Radiological Surveys in Support of License Termination (06/1992)

There has been some minor editing to remove redundancy and use consistent terminology in NUREG-1757, Volume 2, but the essential information is the same. This volume of the NUREG also incorporates and updates numerous portions of the SRP *(Standard Review Plan, NUREG-1727.)* While chapters and appendices have been incorporated into this NUREG, they are not superseded until completion of the NUREG-1757 series. The three-volume NUREG series will, when complete, supersede both NUREG/BR-0241 and NUREG-1727 in their entirety.

Comments

Section 1.1 points out that this document does not address releases of solid materials from licensee control. It is unfortunate that NRC continues to regulate each of the issues associated with decommissioning on a piecemeal basis. What is really needed is a comprehensive, coherent approach to release of land, buildings and materials from a licensee's control - all to the same dose-based standard.

Section 2 correctly states that there is a balance to consider related to the flexibility available in demonstrating compliance with the license termination criteria. IDNS suggests that this balance has not been achieved by this NUREG. Far too much flexibility has been afforded by this guidance. Both NRC and the states have invested much time and effort into developing and learning standard tools (such as DandD, RESRAD and MARSSIM) for the licensees to use. This will prove to be a poor investment if NRC encourages licensees NOT to use them. Given that each of these models has its own inherent uncertainty associated with it, NRC seems to be setting the stage for inconsistent cleanup results, which are highly dependent on the dose modeling employed.

Section 3.4 points out that compliance with the Subpart E dose limit does not eliminate the requirement for meeting other applicable Federal regulations. This section should be updated to reference the NRC-EPA MOU on this matter, should describe the limitations of the MOU and should clearly point out that the MOU is invalid in Agreement States. Each Agreement State will have to negotiate a similar MOU with EPA if the state chooses to do so.

Appendix I provides additional guidance on the use of site-specific dose modeling applicable to the most complex sites. Section I.3.4.1 describes how a licensee might justify removing the shallow aquifer from the dose model. This section suggests that just because there is a deep aquifer available which is more likely to be used, the licensee may drop the pathway from calculation and consideration. How can this be justified without any institutional controls? This approach offers no assurance at all that the contamination will not reach a water supply.

Section 3.5 - Engineered Barriers

The NRC's license termination rule (LTR) allows radioactive contamination to remain in place following the license termination provided it meets established criteria. In addition, the NRC requires institutional controls and/or engineered barriers to limit public exposure. Institutional controls are administrative mechanisms, which may include physical controls. Engineered barriers are passive man-made structures or devices intended to improve the facility's ability to meet the performance objectives.

Generally, the greater the amount of residual radioactivity left on-site, the more robust the engineered barrier that is required. Certain types of decommissioning processes will leave greater amounts of contamination on-site, such that the engineered barriers are comparable to those of a licensed radioactive waste disposal facility. The distinction between leaving contamination onsite following decommissioning and the onsite disposal of radioactive waste becomes quite subjective and that breakpoint is keyed to the protective measures required, such as institutional and physical controls and engineered barriers. The required use of engineered barriers to meet the performance requirements clearly defines the activity as disposal.

Engineered barriers are designed to limit or prevent the contact of water with the contaminated material or to limit the radiation exposure to an inadvertent intruder. If these barriers are required in order that the performance objectives are met, then the contaminated material should not be left on-site due to substandard geologic or hydrologic conditions, the presence of environmentally mobile radionuclides or excessive concentrations of radioactivity. Rather this material should be excavated and disposed in a licensed disposal facility. Adopting this type of protocol would not prevent a license termination with residual contamination and some type of institutional control. Rather it would only allow it to occur in areas that are technically suitable or with contamination that is not mobile or overly concentrated.

Allowing the use of engineered barriers at decommissioned sites leads to undesirable land uses such as the rubblization and entombment of nuclear facilities and the onsite disposal of the associated radioactive waste. These decommissioning practices leave a significant amount of contaminated material onsite that will present public health concerns for centuries. Providing engineered barriers to limit contact with water or to protect inadvertent intruders are the same protective measures implemented at a licensed waste disposal facility. The underlying principle of isolating the waste from the biosphere using engineered barriers at a site decommissioned under the LTR is the same principle in designing, constructing and operating a disposal facility under 10 CFR 61.

Though NRC has decided to defer its rulemaking on entombment, we should point out that Illinois considers NRC authorization of the use of such engineered barriers in an Agreement State to be contrary to the Atomic Energy Act and the Low-Level Radioactive Waste Policy Act. The Atomic Energy Act mandates that the NRC retain the authority and responsibility to regulate the construction and operation of nuclear power plants, and that mandate does not include the disposal of LLRW generated at those plants. In an Agreement State, it is the Agreement State, not the NRC, that has jurisdiction over the disposal of LLRW at a nuclear reactor site. This jurisdiction includes the authority over the entombment of LLRW. The Low-Level Radioactive Waste Policy Act confers to regional compacts the authority to determine how LLRW will be managed within their

region. NRC authorization of onsite disposal of LLRW at a decommissioned facility without the express approval of the host compact is clearly contrary to the Policy Act.

Should you have any questions regarding the Department's concerns, please contact me at (217) 785-9947.

Sincerely,

Joseph G. Klinger, Chief
Division of Radioactive Materials

JGK:GWM:DSP

cc: Jim Lynch, State Agreements Officer
Josie Piccone, Deputy Director, Office of State and Tribal Programs