POLICY ISSUE
NOTATION VOTE

July 5, 2006 SECY-06-0143

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations

SUBJECT: STAKEHOLDER COMMENTS AND PATH FORWARD ON DECOMMISSIONING GUIDANCE TO ADDRESS LICENSE TERMINATION RULE ANALYSIS ISSUES

PURPOSE:

To request Commission approval of staff recommendations for finalizing draft decommissioning guidance, which addresses the License Termination Rule (LTR) Analysis issues, and to provide the results of stakeholder comments on the draft guidance, as directed by the Commission in the November 17, 2003, Staff Requirements Memorandum (SRM) on SECY-03-0069 ("Results of the License Termination Rule Analysis," May 2, 2003).

SUMMARY:

This paper provides a discussion of the stakeholder comments on draft decommissioning guidance, which addresses the LTR Analysis issues, and the staff's plans for addressing these comments and finalizing decommissioning guidance. The staff's plans include two policy-level changes, as a result of these comments, and this paper requests Commission approval to:

CONTACTS: Duane W. Schmidt, NMSS/DWMEP
(301) 415-6919

Kristina L. Banovac, NMSS/DWMEP
(301) 415-5114

(1) finalize guidance on onsite disposal of radioactive material under 10 CFR 20.2002 to state that disposals that result in doses no greater than a few millirem per year are generally acceptable to staff and that other dose criteria will be evaluated based on specific conditions; and (2) finalize guidance on restricted use and institutional controls to clarify that, when a long-term control (LTC) license is used to provide the institutional control for restricting future site use, the policy is to change an operating license to an LTC license by amendment, in lieu of terminating the operating license and issuing an LTC license.

BACKGROUND:

In 2003 and 2004, the staff provided the Commission with the results of the staff's analysis of issues associated with implementing the Nuclear Regulatory Commission's (NRC's) LTR in 10 CFR Part 20, Subpart E, and recommended options to resolve these issues (in SECY-03-0069; and in followup SECY-04-0035, "Results of the License Termination Rule Analysis of the Use of Intentional Mixing of Contaminated Soil," March 1, 2004). In the November 17, 2003, SRM, the Commission approved the staff's recommendations in SECY-03-0069, including revising existing decommissioning guidance to address the issues identified in the LTR Analysis. The SRM directed the staff to gather comments from stakeholders on the recommended actions on restricted use and institutional controls and share the results with the Commission before issuing final guidance. In the May 11, 2004, SRM on SECY-04-0035, the Commission approved the staff's recommendation to include guidance on intentional mixing of contaminated soil in the decommissioning guidance.

As part of this guidance development, the staff issued Regulatory Issue Summary 2004-08, "Results of License Termination Rule Analysis," on May 28, 2004, to inform stakeholders of the LTR Analysis, the Commission direction on how the LTR Analysis issues can be addressed, the schedule of future actions, and the opportunities for stakeholder comment. In April 2005, the staff discussed and obtained stakeholder input on the LTR Analysis issues at the staff's Decommissioning Workshop. The staff met with NRC's Advisory Committee on Nuclear Waste (ACNW) in June 2005, to obtain early input from an ACNW working group on the issues. The staff also established a State working group, consisting of Agreement and non-Agreement State representatives and NRC staff, to assist with development of the draft guidance.

Draft guidance was published for public comment in September 2005 in NUREG-1757, Draft Supplement 1, "Consolidated NMSS Decommissioning Guidance: Updates to Implement the License Termination Rule Analysis." Draft Supplement 1 included guidance on the following LTR Analysis issues: (1) restricted use and institutional controls; (2) onsite disposal of radioactive materials under 10 CFR 20.2002; (3) realistic scenarios; (4) intentional mixing of contaminated soil; and (5) removal of material after license termination. Draft Supplement 1 also provided new and revised guidance on other issues. One issue of note is the topic of engineered barriers, which was not explored in the LTR Analysis nor in the associated SRM. However, as the topic is related to restricted use and institutional controls, the staff supplemented the existing guidance on engineered barriers to describe a risk-informed graded approach to evaluation of engineered barriers, in accordance with the Commission's direction to further risk-inform the program and provide more flexibility.

The staff received 12 comment letters from various stakeholders: two licensees; four States; four public interest groups; one solid waste industry association; and one private citizen. A list of the stakeholder comment letters and the associated references in the Agencywide Documents Access and Management System is provided in Enclosure 1. On March 22, 2006, the staff briefed the ACNW on the stakeholder comments and the staff's considerations for addressing the comments and finalizing the guidance and obtained input from the ACNW and its consultants. In a June 9, 2006, letter (Enclosure 2), the ACNW provided observations and recommendations on the staff's plans to finalize the guidance.

DISCUSSION:

Based on its evaluation of the stakeholder comments, the staff plans numerous revisions to finalize the guidance in Draft Supplement 1. The staff considers two of these planned revisions to be policy issues warranting Commission approval. First, the staff recommends one change to guidance on dose criteria for approving onsite disposals under 10 CFR 20.2002. Second, the staff recommends revising the guidance on institutional controls to clarify the policy of amending an operating license to an LTC license for restricted use decommissioning. These two recommended changes are discussed below.

The staff also is providing the Commission with a summary of the results of stakeholder comments on the other guidance in Draft Supplement 1. The more significant comments and the staff's plans to revise the guidance are described in enclosures to this paper. The planned revisions described in the enclosures do not change previously approved options in the LTR Analysis. Though some of the less significant stakeholder comments are not addressed in these enclosures, the staff will consider all comments in finalizing the guidance and will develop responses to all comments. In response to the SRM on SECY-03-0069, Enclosure 3 addresses the significant stakeholder comments on the issue of restricted use and institutional controls. Enclosures 4–6 address the other LTR Analysis issues of (a) realistic scenarios; (b) intentional mixing of contaminated soil; and (c) removal of material after license termination, respectively.

Onsite Disposal under 10 CFR 20.2002

SECY-03-0069 (in its Attachment 4) discussed the issue of onsite disposal, under 10 CFR 20.2002. The regulation does not establish a clear standard for approving onsite disposals, but allows Agency discretion to approve such disposals, on a case-by-case basis, as long as the disposal results in doses that are maintained as low as is reasonably achievable (ALARA) and within the limits of 10 CFR Part 20. Part 20 includes the public dose limit of 1 millisievert per year (mSv/yr) [100 millirem per year (mrem/yr)] and the LTR criteria for license termination for unrestricted use [dose constraint of 0.25 mSv/yr (25 mrem/yr) and ALARA]. As all of the radioactive material disposed onsite would be accounted for under the LTR at the time of license termination, an onsite disposal resulting in higher doses [up to 1 mSv/yr (100 mrem/yr)] would need to be remediated for a site to meet the radiological criteria for unrestricted use in the LTR. Furthermore, as the Timeliness Rule in 10 CFR 30.36, 40.42, 70.38, and 72.54 also applies to onsite disposals, materials licensees may have to remediate the approved onsite disposals before license termination.

The Commission approved three dose criteria options for onsite disposals, per SECY-03-0069 and the associated SRM. SECY-03-0069 recommended continuing the current practice of approving onsite disposals with a dose criterion of a "few millirem" per year (Option 1), which is consistent with the staff's goal of preventing future legacy sites. SECY-03-0069 also recommended approving onsite disposals using a dose criterion of 1 mSv/yr (100 mrem/yr), provided additional financial assurance was available to remediate the burial to the LTR criteria at the time of license termination (Option 2). The SRM on SECY-03-0069 approved the above options and directed the staff to also allow mainly short-lived material, which will significantly decay in a few years, to be disposed onsite with a maximum dose of 0.25 mSv/yr (25 mrem/yr) without requiring additional financial assurance, if the likelihood of creating a legacy site is low (Option 3). The staff included all three options in Draft Supplement 1.

The staff received stakeholder comments from four State agencies and two public interest groups. Comments were generally opposed to the draft guidance on onsite disposal. One State commenter was opposed to all onsite disposals and believed that onsite disposals are inconsistent with the objective of preventing future legacy sites. That commenter also believed that the issue of onsite disposal should be addressed through rulemaking, rather than through issuing guidance. One commenter observed that financial assurance seems to be the principal focus to prevent legacy sites and suggested that having adequate financial assurance alone may not prevent future legacy sites. Another State was opposed to Option 2, because that option would allow for the burial of material that will require remediation in the future.

The staff has reevaluated the guidance for dose criteria for onsite disposals, in its consideration and review of stakeholder comments on Draft Supplement 1. The staff has focused on whether options other than the current practice (a few millirem per year) are appropriate to provide in the final guidance.

The first staff consideration is whether onsite disposals at doses greater than a few millirem per year are needed or desired by licensees. In Draft Supplement 1, the staff specifically requested comment on whether licensees desire or have a need for onsite disposals at higher dose criteria [i.e., up to 1.0 mSv/yr (100 mrem/yr)]. No stakeholder comments were received on this request, so the staff reviewed recent requests for onsite disposal under 10 CFR 20.2002. Since 2000, only four requests have been submitted for onsite disposal under 10 CFR 20.2002, and these are summarized in Enclosure 7. In these requests, licensees calculated potential doses that are generally within a few millirem per year. Based on the review of these recent requests, the staff expects requests for onsite disposals resulting in doses greater than a few millirem per year to occur infrequently.

The second staff consideration is whether dose criteria greater than a few millirem per year are reasonable to provide in the final guidance for onsite disposal. The decommissioning guidance in NUREG-1757 is generally written as a standard review plan, which provides approaches that are generally acceptable to NRC staff. Licensees are not required to follow the approaches provided, and approaches other than those presented in the guidance would be considered by the staff to evaluate compliance with NRC regulations. Regarding reasonableness of criteria greater than a few millirem per year, there are two issues of concern to the staff: (1) the potential for future legacy sites (including the inability to achieve unrestricted use) and uncertainty about sufficient financial assurance; and (2) potential conflicts with requirements of the LTR and the Timeliness Rule.

Onsite disposals resulting in doses greater than a few millirem per year have associated uncertainties, which provide the potential for creating a future legacy site. For example, the amount of additional financial assurance for Option 2 might be underestimated because of uncertainties associated with the burial performance and potential releases of contamination, transport of contamination in the subsurface environment, cleanup costs of subsurface contamination, and future disposal costs. An uncertainty associated with Option 3 is the timing of decommissioning and license termination, where an earlier than expected decommissioning could result in insufficient time for decay of the short-lived materials before license termination. Given these uncertainties, the staff supports a more cautious use of these options on a site-specific basis, rather than encouraging routine use of these two options.

As previously noted, the Timeliness Rule applies to onsite disposals at materials facilities. The Timeliness Rule requires that if a separate disposal area is inactive for two years and the material is such that the dose criteria of the LTR would be exceeded, then licensees must begin decommissioning the area or request an extension of the decommissioning timeframe if this extension is not detrimental to the public health and safety and is otherwise in the public interest. The intent of the Timeliness Rule was, in part, to avoid future problems resulting from delayed cleanup of contaminated inactive facilities (59 *Federal Register* 36026, July 15, 1994). If onsite disposals that result in doses greater than the unrestricted use criterion of the LTR are approved, then, under the timeliness requirements, licensees may need to clean up the disposal before license termination. The staff believes that approval of onsite disposals at doses greater than the LTR's unrestricted use criterion is in conflict with the intent of the Timeliness Rule and LTR. In addition, because an entire site, including onsite disposals, must eventually meet the LTR criteria, the staff believes it would be sound to generally constrain doses from routine onsite disposals to a few millirem per year, to account for multiple sources of residual radioactivity at sites. The staff also notes that this approach would be consistent with the staff's current practice for offsite disposals of solid materials under 10 CFR 20.2002, where requests resulting in doses no greater than a few millirem per year are generally acceptable.

Based on the above considerations in reviewing stakeholder comments, the staff recommends finalizing decommissioning guidance to include only Option 1 (onsite disposals resulting in doses no greater than a few millirem per year) as the approach which is generally acceptable to NRC staff. The guidance would also state that staff would approve requests to use other dose criteria based on the goal of preventing future legacy sites. The staff's review of these requests to use other dose criteria would be based on the following considerations: (a) time of potential dose impacts, based on half-lives of the material and the time until license termination; (b) mobility of the radioactive material to be disposed; (c) additional financial assurance that the licensee may provide to ensure necessary cleanup can be completed for license termination; and (d) other aspects that ensure that the facility will not become a future legacy site. The staff also plans to revise the guidance to emphasize that licensees should evaluate doses to workers and to the public exposed to the current condition of the site (at time of the disposal), as well as potential doses to critical groups of people exposed after the license is terminated.

The staff is currently developing a rule and associated guidance to prevent future legacy sites, as directed in the SRM to SECY-03-0069. As onsite disposals can have the potential to create future legacy sites, the rulemaking will consider the issue of onsite disposal, and this will be completed within existing budget and resource constraints. The staff notes that the outcome of the rulemaking could change the guidance for onsite disposal.

In addition to finalizing the guidance in NUREG-1757, guidance on onsite disposal will be included in appropriate volumes of the operational guidance for materials sites in NUREG-1556, "Consolidated Guidance About Materials Licenses." In SECY-06-0056 ("Improving Transparency in the 10 CFR 20.2002 Process," March 9, 2006), the staff informed the Commission that the staff intends to formalize and document a procedure for reviewing 10 CFR 20.2002 requests. The staff intends to include the revised guidance on onsite disposal in this procedure as well. The staff plans to accomplish both of these activities within existing budget and resource constraints, making changes as part of periodic updates of NUREG-1556 and as part of the planned formalization and documentation of the 10 CFR 20.2002 procedure.

Restricted Use and Institutional Controls

The guidance in Draft Supplement 1 describes new institutional control options that include NRC long-term oversight, for restricted use sites that cannot arrange other legally enforceable institutional controls. One of these options is the LTC license, a new type of possession-only license that functions as a legally enforceable institutional control after remediation is completed and all the restricted use requirements of the LTR have been met. Although an existing license could be terminated and a new LTC license established at the end of the decommissioning process, the staff believes that amending the license is administratively more efficient and helps preserve a single Agency record for the site. Through the license amendment process, the operational or decommissioning conditions in the license would be removed and new conditions for long-term control added. Both SECY-03-0069 and the draft guidance indicate that NRC may implement the LTC license through amendment of an existing license.

A stakeholder questioned why, for this option, the license is not actually terminated. The commenter noted that a restricted use site that uses the LTC license as an institutional control should not be considered "decommissioned," because decommissioning includes termination of the license.

The definition of "decommission" in 10 CFR Part 20 states, "Decommission means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits — (1) release of the property for unrestricted use and termination of the license; or (2) release of the property under restricted conditions and the termination of the license." As the Part 20 definition notes that decommissioning includes reducing residual radioactivity to a level that *permits* release and termination of the license, the staff considers a site with an LTC license to be decommissioned (even though the license is not actually terminated), given all of the applicable restricted use requirements in the LTR have been met.

The stakeholder's comment is related to another concern regarding the conditions under which the Commission might require additional cleanup at a decommissioned site where an LTC license is used as an institutional control. Part 20 contains a finality provision for decommissioning, in 10 CFR 20.1401(c), which states, "After a site has been decommissioned

and the license terminated in accordance with the criteria in this subpart ... the Commission will require additional cleanup only, if based on new information, it determines that the criteria of this subpart were not met and residual radioactivity remaining at the site could result in significant threat to public health and safety." Although this provision includes the words "and the license terminated," the staff believes that because a site with an LTC license would have met all the applicable LTR requirements for restricted use, the provision of 10 CFR 20.1401(c) is relevant to the site (i.e., NRC would require additional cleanup only if, based on new information, it determined that the LTR criteria were not met and residual radioactivity could result in a significant threat to public health and safety).

The staff recommends including the above discussion in the final decommissioning guidance, to clarify that, when an LTC license is used to provide the institutional control for restricting future site use, the policy is to change an operating license to an LTC license by amendment, in lieu of terminating the operating license and issuing an LTC license. This would resolve future questions about completion of decommissioning and relevance of 10 CFR 20.1401(c) for a site with an LTC license.

COMMITMENTS:

The actions the staff has committed to in this paper are as follows:

1. Continue actions to finalize guidance on the LTR Analysis issues;

2. Incorporate guidance on onsite disposals into operational guidance (internal 10 CFR 20.2002 procedure and periodic updates of NUREG-1556); and

3. Consider the issue of onsite disposal as a potential contribution to the creation of future legacy sites in the rulemaking to prevent future legacy sites.

RECOMMENDATIONS:

The staff recommends that the Commission approve:

1. Finalizing guidance on onsite disposal of radioactive material under 10 CFR 20.2002 to state that disposals that result in doses no greater than a few millirem per year are generally acceptable to staff and that other dose criteria will be evaluated based on specific conditions;

2. Finalizing guidance on restricted use and institutional controls to clarify that, when an LTC license is used to provide the institutional control for restricting future site use, the policy is to change an operating license to an LTC license by amendment, in lieu of terminating the operating license and issuing an LTC license.

RESOURCES:

The combined resources needed for these commitments are less than 1 full-time equivalent. The resources for fiscal years (FY) 2006–2007 have already been budgeted, and the resources for FY 2008 are included in the proposed FY 2008 budget. Finalizing the guidance is scheduled to be completed in September 2006, as stated in "Performance Budget: Fiscal Year 2006" (NUREG-1100, Volume 21).

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

/RA/

Luis A. Reyes
Executive Director
for Operations

Enclosures:
1. List of Stakeholder Comments on NUREG-1757, Draft Supplement 1
2. June 9, 2006, ACNW letter (ML061640324)
3. Restricted Use and Institutional Controls
4. Realistic Scenarios
5. Intentional Mixing of Contaminated Soil
6. Removal of Material After License Termination
7. Summary of Recent Requests for Onsite Disposals

RESOURCES:

The combined resources needed for these commitments are less than 1 full-time equivalent. The resources for fiscal years (FY) 2006–2007 have already been budgeted, and the resources for FY 2008 are included in the proposed FY 2008 budget. Finalizing the guidance is scheduled to be completed in September 2006, as stated in "Performance Budget: Fiscal Year 2006" (NUREG-1100, Volume 21).

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

/RA/

Luis A. Reyes
Executive Director
for Operations

Enclosures:
1. List of Stakeholder Comments on NUREG-1757, Draft Supplement 1
2. June 9, 2006, ACNW letter (ML061640324)
3. Restricted Use and Institutional Controls
4. Realistic Scenarios
5. Intentional Mixing of Contaminated Soil
6. Removal of Material After License Termination
7. Summary of Recent Requests for Onsite Disposals

ML061110228

OFC	DWMEP:PM	DWMEP:PM	TechEd	DWMEP:SC	DWMEP:SC	DWMEP:DD
NAME	KBanovac	DSchmidt	EKraus	JBuckley for CCraig	APersinko	DGillen
DATE	4/21/2006	4/24/2006	4/24/2006	4/24/2006	4/27/2006	4/28/2006

OFC	OGC	NRR	CFO	DWMEP:D	NMSS:D	EDO
NAME	STreby	BBoger for JDyer	LBarnett	LCamper	MFederline for JStrosnider	LAReyes
DATE	5/31/2006	6/2/2006	6/7/2006	5/9/2006	6/21/2006	07/05/2006

OFFICIAL RECORD COPY

ENCLOSURE 2:

Advisory Committee on Nuclear Waste Ltr. re:
Revised Decommissioning Guidance to Implement
the License Termination Rule

ML061640324