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Guidance Document for Alternative Disposal Requests

Comment On: NRC-2017-0198-0004
Revision of the Guidance Document for Alternative Disposal Requests

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General Comment

The U.S. Army Corps of Engineers Radiation Safety Support Team is submitting the attached comments for consideration on the draft revision of 'Guidance for the Reviews of Proposed Disposal Procedures and transfers of Radioactive Material Under 10 CFR 20.2002 and 10 CFR 40.13(a)'. These comments are submitted in response to the U.S. Nuclear Commission (NRC) request on October 19, 2017 in the Federal Register [82 FR 48727] and the subsequent FR notice reopening the comment period on December 21, 2017 [82 FR 60632]. These comments do not necessarily reflect the official position of the U.S. Army Corps of Engineers.

Please see attached and contact Mr. David Hays at david.c.hays@usace.army.mil if you have any questions.

Attachments

(18)
82FR 48727

RSST Comments to GUIDANCE FOR THE REVIEWS OF PROPOSED DISPOSAL ACTIONS 12/21/2017

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The U.S. Army Corps of Engineers Radiation Safety Support Team is submitting these comments for consideration on the draft revision of 'Guidance for the Reviews of Proposed Disposal Procedures and Transfers of Radioactive Material Under 10 CFR 20.2002 and 10 CFR 40.13(a)'. These comments are submitted in response to the U.S. Nuclear Commission (NRC) request on October 19, 2017 in the Federal Register [82 FR 48727] and the subsequent FR notice reopening the comment period on December 21, 2017 [82 FR 60632]. These comments do not necessarily reflect the official position of the U.S. Army Corps of Engineers.

1. Section 1 state the purpose of the procedure: "The purpose of this procedure is to provide guidance for U.S. Nuclear Regulatory Commission (NRC) staff and describe the process for documenting, reviewing, and approving (on a case-by case basis) requests received from licensees, license applicants, and other entities for alternative disposal of licensed material. The staff may authorize these requests under the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 20.2002 and 10 CFR 40.13(a)."

Comment: It is unclear who "other entities" would be as both 10 CFR 20.1001 and 20.1002 specifically refer to licensees and licensed material. Additionally, 10 CFR 40.1 and 40.2 also seem to limit the applicability of this regulation to licensing.

Recommendation: Other entities should be specifically defined and examples provided as to when this guidance would be required by those entities.

2. Section 3 states: "The disposal mechanisms within the scope of 10 CFR 20.2001 include decay in storage, release into sanitary sewerage, incineration, release in effluents, and use of a land disposal facility."

Comment: Each of these stated disposal mechanisms may have a different dose constraint. This equates to multiple disposal action release dose criteria in addition to those discussed herein for 20.2002 and 40.13(a) actions. This is complicated at best and difficult to explain to the public. As an example, a licensee can discharge, without any remaining controls, materials causing 10 to 50 mrem/year exposure to the public but if desiring to place material in a regulated, monitored, and controlled non licensed landfill, must limit potential doses to a few mrem/yr or 25 mrem/yr. This is further complicated by the exemption of this guidance to discrete sources of Radium which may result in doses exceeded the limits herein. Additionally, the same isotopes from a non-licensed entity may be disposed of at levels that would exceed the standards proposed in this guidance.

Recommendation: The NRC should take this opportunity to harmonize its regulations with regard to disposal rather than continue to keep them split into categories each with their own or without a dose limit. A single disposal dose constraint based on 100 mrem/yr (as discussed in section 7.2.1) or perhaps the maximum current disposal dose constraint (50 mrem/yr from effluent disposal) should be considered.

3. Section 3 also states: "The regulation in 10 CFR 40.14 states that the Commission may, upon application of any interested person or upon its own initiative, grant

exemptions from the requirements of the regulations in Part 40 as authorized by law, and upon determination that the exemptions will not endanger life or property or the common defense and security and are in the public interest."

Comment: Given the exemption in 40.13a; it would seem to make sense that NRC use 40.14 to exempt disposal facilities from licensing, that only handle exempt materials and reguest such an exemption. As such, disposal of an unimportant quantity of source material at such facilities would be exempt from licensing and dose constraints would not be required by the NRC. These facilities and their worker protection fall under other federal agency regulations such as 29 and 49 CFR. This would save significant costs for licensees to demonstrate compliance with a dose limit and the costs for NRC to review and approve these applications as well as be consistent with how this material is regulated if not being disposed. This approach also seems to be supported by the statement in section 9.2 which states: "The regulations in § 40.51(b)(3) provide licensees a mechanism for transfer of unimportant quantities of source material, which are exempt from licensing under 40.13(a)." Additionally, see comment number nine. The facility is in the best position to understand the combined dose of the disposal actions at the facility. A licensee or the NRC likely will not understand all radiological exposures at the facility. Permitted disposal facilities perform performance assessments to support their waste acceptance criteria (isotopes and activities). The NRC could utilize these assessments to establish what waste isotopes and activities could be exempted from licensing at each permitted facility and eliminate waste management by pedigree rather than by actual hazard.

Recommendation: The NRC should consider granting disposal facilities (meeting appropriate requirements) to utilize the exemption from licensing (including for disposal) for unimportant quantities of source materials and potentially any isotopes covered in the permitting performance assessment or at least call out this as an option in this guidance.

4. Section 3 also states "The regulations in 10 CFR 70.17 state that the Commission may, upon application of any interested person or upon its own initiative, grant exemptions from the requirements of the regulations in this part as authorized by law, and upon determination that the exemptions will not endanger life or property or the common defense and security and are in the public interest."

Comment: Similar to comment number three, the provisions of 10 CFR 70.17 could be utilized to exempt specific disposal facilities from licensing for disposals of very low levels of SNM. As an example USE-Idaho has in its RCRA permit a waste acceptance criteria for special nuclear material. It is not clear if that is the result of a 70.17 request or other action but this is an example that the NRC could use as an activity limit and discuss within the guidance.

Recommendation: The NRC should consider granting disposal facilities (meeting appropriate requirements) an exemption from licensing based on a very low level of SNM or at least call out this as an option in this guidance.

5. Section 7.1.2 states: "The analyst should ensure that potential exposure groups are evaluated for each stage of the off-site disposal, such as workers transporting radioactive materials to the disposal facility, and disposal workers at the receiving site."

Comment: If transported in commerce, the dose to workers transporting radioactive materials to the disposal facility should be adequately addressed under the existing provisions of 49 CFR. Further constraint is not necessary and seems burdensome given that if the licensee had decided to send the same exact material to a licensed facility the dose to the transporter would not have been a consideration. In some cases the transport company may be the same regardless of destination. If the transportation is not in commerce (e.g. done within the boundary of the disposal facility) then doses to those transport workers should be considered as with other facility workers.

Recommendation: The guidance should rely on existing regulations (e.g. 49 CFR) when applicable and clearly define when/what transport workers are to be included in dose assessments.

6. Section 7.1.1 Onsite Disposal states: "In most cases, because doses from on-site disposals are expected to be a small fraction of the dose limit for unrestricted use of a site found in § 20.1402, the analyst does not need to consider potential dose from radon from source material, byproduct, or special nuclear material, consistent with the statements of consideration for the LTR found in Subpart E of 10 CFR Part 20 (62 FR 39083; July 21, 1997)." However, Section 7.1.2 states: "Radon from source, byproduct or special nuclear material should be considered, as appropriate, for off-site disposals."

Comment: The statements of consideration cited in 62 FR 39083; July 21, 1997 for excluding Rn in the License Termination Rule (LTR) would seem to be applicable regardless of offsite or onsite disposal. The FR states: "The variations in radon levels described above make it very difficult to distinguish between naturally occurring radon and radon resulting from licensed material. In addition, it is impractical to predict prospective doses from exposure to indoor radon due to problems in predicting the design features of future building construction. Because of these variations and the limitation of measurement techniques, the Commission believes that it is not practical for licensees to distinguish between radon from licensed activities at a dose comparable to a 0.25 mSv/y (25 mrem/y) dose criterion and radon which occurs naturally. Therefore, in implementing the final rule, licensees will not be expected to demonstrate that radon from licensed activities is indistinguishable from background on a site-specific basis. Instead this may be considered to have been demonstrated on a generic basis when radium, the principal precursor to radon, meets the requirements for unrestricted release, without including doses from the radon pathway." It would follow that it is less practical to distinguish sources of Rn at doses comparable to a few mrem/yr than those at 25 mrem/yr. Given this, requiring Rn dose assessments for offsite disposal actions seems burdensome and impractical. Exposure to site workers from Rn generated from handled material may be more practical.

Recommendation: The guidance should be consistent with its approach to Rn dose assessment requirements regardless of on or offsite disposal actions. Rn to site workers should be considered but future and offsite receptor dose assessment requirements should be as in the LTR.

7. Section 8 states: "The EA for disposal requests is prepared by the PM, technical staff, regional staff, or Environmental Review Branch (ERB) staff."

Comment: If the licensee is a federal agency it too would be required to perform an Environmental Assessment (EA) and as written, two EAs would be required at an increased cost to the government. Additionally, if a CERCLA decision document is completed for an action would the NRC still have to prepare an EA?

Recommendation: The guidance should be written to allow the NRC to utilize the EA prepared by a federal licensee to satisfy the requirement.

8. Section 12.2 states: "Approvals of ADRs apply to NRC licensees and non-licensees."

Comment: The section goes on to provide an example of a non-licensee. It is unclear if this is the only example or if other non-licensees would be impacted by these requirements. The section therefore is vague as written. As an example a site being remediated under CERCLA has similar requirements to demonstrate the protectiveness of similar radioactive material disposal actions. EPA refers to these evaluations as Stennett Evaluations and are the equivalent to Safety Evaluation Reports discussed in in the guidance, but rely on risk rather than dose assessments. Additionally, some projects are or involve AEA exempted materials (e.g. under Section 91B of the AEA). It is unclear if this guidance and the NRC would consider these projects as non-licensees bound by this guidance.

Recommendation: The guidance should specify when a non-licensee would be subject to its requirements or specify what non-licensees are subject to it. Note: If the recommendation in comment 3 is considered it may be appropriate to include the disposal facility as a non-licensee.

9. Section 7.2.1 states: "The NRC typically approves § 20.2002 requests that will result in a dose to a member of the public (including all exposure groups) that is no more than "a few millirem/year." Section 7.1.1 states: "The NRC will also consider requests for onsite disposals, using dose criteria other than a few millirem per year; however, ADRs with projected doses significantly greater than a few millirem per year should be carefully reviewed to ensure that the benefit of approval outweighs the risk of creating a future legacy site." Additionally section 7.1.2 states "In those cases, ADRs with doses above a few millirem per year may be acceptable considering the likelihood of the scenario (e.g., doses may be higher than a few millirem for less likely but plausible scenarios).

Comment: The dose criterion and added flexibility is appreciated, and the criterion for on-site disposal is appropriate given the discussions in section 7.1.1. Use of the criterion for offsite disposal may be unduly limiting for several reasons. One such reason is that as stated in section 7.1.2 ("Licensees or applicants may request approval of off-site disposals at a disposal facility permitted by a State or Federal agency that is not a low-level waste disposal facility.") the disposal facility must be permitted by a State or Federal agency. The non-licensed facilities permitted by States to receive radioactive material are very limited in number and most are RCRA Subtitle C facilities. The design and monitoring requirements of these facilities (for the radioactive wastes they can accept) is arguably as protective as the design requirements for a licensed facility but is likely to be much more protective than the design of an onsite disposal cell that is to be a part of an unrestricted release under the LTR. Additionally, these facilities operate in accordance with 49 CFR and 29 CFR 1910.1096 to train, monitor, and protect workers from radiological exposures accordingly. Limiting offsite disposal to the same dose criterion as on-site disposals is therefore not appropriate, causes increase in costs to both the industry and the Government, and provides little additional protection for these facility workers.

Recommendations: 1. The NRC appropriately requires offsite disposal facilities to be permitted. This requirement should be further strengthened to require the permit specifically address the disposal of radioactive materials. 2. The NRC should not use the same dose criterion for on and off site alternate disposal requests. The guidance should allow consideration of the State's permitting process and other federal agency standards (e.g. OSHA and DOT) that serve to limit exposures to site workers as well as facility design and controls that serve to limit exposures to members of the public.