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Ms. Cindy Bladey
Chief, Rules, Announcements, and Directives Branch
Office of Administration
Mail Stop: 3WFN-06-A44MP
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Draft Standard Review Plan for Conventional Uranium Mill and Heap Leach Facilities, NUREG-2126; Docket ID NRC-2014-0178

Dear Ms. Bladey:

Enclosed are U.S. Department of Energy, Office of Legacy Management (DOE-LM) comments on the U.S. Nuclear Regulatory Commission's (NRC's) draft *Standard Review Plan for Conventional Uranium Mill and Heap Leach Facilities*. DOE-LM understands this standard review plan (SRP) serves as guidance for staff reviewers in NRC's Office of Nuclear Material Safety and Safeguards in performing safety reviews of license applications associated with developing uranium recovery operations using conventional uranium mills or heap leach facilities. The SRP addresses new applications, license renewals, and amendments of existing licenses. Upon closure, DOE-LM understands that these reclaimed Uranium Mill Tailings Radiation Control Act (UMTRCA) Title II disposal sites are transferred to DOE-LM (or the host state) for perpetual custody and long-term care under the NRC-issued general license at 10 *Code of Federal Regulations* 40.28.

Because of DOE-LM's likely future custodial role at these sites, DOE-LM focused our review on aspects of the new guidance that may be relevant to or may impact the sites following closure and transfer to DOE-LM for long-term care. This included those portions of the guidance that discuss site selection and characterization (Section 2), design aspects of constructing uranium mill tailings surface impoundments (Section 3.3), waste management (Section 3.5), and site reclamation and decommissioning plans (Section 7). DOE-LM found little discussion within the new guidance regarding reclamation, closure, and transfer of these UMTRCA Title II disposal sites to the long-term custodian. DOE-LM understands that NRC guidance regarding these topics is contained in NUREG-1620. However, regulatory decisions made during application, construction, and operation of these UMTRCA Title II uranium recovery sites are of interest to DOE-LM because of the potential impact these decisions may have on long-term management following closure.

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E-RIDS= ADM-03
Add= D. Mandeville (DTM)



Ms. Cindy Bladey

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March 17, 2015

Please call me at (970) 248-6073 or email me at Richard.Bush@lm.doe.gov if you have any questions. Please address any correspondence to:

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Sincerely,



Richard P. Bush
UMTRCA Sites Program Manager

Enclosure

cc w/ enclosure:

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**U.S. Department of Energy (DOE) Office of Legacy Management Comments
(Re: Draft Standard Review Plan for Conventional Uranium Mill and Heap Leach
Facilities – NUREG-2126; Docket ID NRC-2014-0178)**

General Comments

- (1) DOE understands that this new NRC guidance focuses primarily on the regulatory requirements a new applicant (and applicants of license renewals and amendments) must adhere to when applying to NRC for the licensing and subsequent operation of a conventional or heap leach uranium processing facility under Title II of UMTRCA. DOE further understands that reclamation, protection of human health and the environment, and closure (including license termination and transfer to the long-term custodian) of these UMTRCA Title II sites are not specifically addressed in detail within this new guidance, but rather are addressed in existing NRC guidance (NUREG-1620).
- (2) DOE understands that, in accordance with 10 CFR 40.28(a), the uranium recovery sites addressed in this new NRC guidance will transfer to DOE following closure and be subject to long-term surveillance and care under the authority of NRC's general license at 10 CFR 40.28.
- (3) DOE understands that NUREG-1620 remains the most relevant NRC guidance with respect to reclamation, closure, and transfer of UMTRCA Title II disposal sites to DOE for long-term management.

Specific Comments

- (1) Section 2.7.1.2, Review Procedure 1c (p. 2-22): This guidance indicates that “the saturated zone created [by leakage] from conventional uranium mill or heap leach operations would not be considered an aquifer unless the zone is, or potentially is (i) hydraulically interconnected to a natural aquifer, (ii) capable of discharge to surface water, or (iii) reasonably accessible because of migration beyond the vertical projection of the boundary...” Therefore, for saturated zones created as a result of milling activities at UMTRCA Title II sites, DOE understands that unless at least one of these conditions applies, long-term groundwater monitoring would not be required following closure and transfer to DOE. Please clarify whether this would also apply to similar artificially produced saturated zones at UMTRCA Title I processing and disposal sites. Can it also be assumed that these saturated zones are not considered aquifers and do not require monitoring unless any of the three criteria are met?
- (2) Section 2.7.1.2, Review Procedure 6 (p. 2-23): DOE agrees that requiring the assessment of adjacent activities, such as mining (including uranium in-situ recovery operations), is important to ensure that those activities do not negatively impact the approved groundwater remedy at a conventional or heap leach uranium extraction facility. DOE would also like to point out that many other non-mining activities could also affect approved groundwater remedies (e.g., irrigation wells, water supply wells). DOE therefore requests NRC require specific licensees to consider all plausible land and water uses when estimating the potential for plume migration and establishing the long-term care boundary for a site. DOE also notes that before a site transfers to DOE, NRC

consider requiring the licensee to determine the need for institutional controls to restrict activities that might interfere with the groundwater remedy.

- (3) Section 2.7.1.2, Review Procedure 7 (p. 2-23): While groundwater modeling is not required as part of a license application, DOE recognizes that models are frequently used by the specific licensee, particularly in establishing alternate concentration limits and long-term site boundaries. DOE agrees that requiring the license applicant to validate any modeling used to support a license application or license renewal or amendment is important, but also recognizes the difficulty in actually achieving this requirement. For this reason, DOE recommends empirical data collection for an appropriate length of time following reclamation and before site transfer to DOE, whether or not groundwater modeling is performed. This length of time will likely be site-specific, but should be sufficient to establish that site constituents are trending appropriately, that critical site assumptions continue to hold, that model predictions (if used) are reasonable, that the site appears to be stable, and should be sufficient to ensure that offsite migration of site-related contamination in groundwater will not occur under long-term management.
- (4) Section 3.3.4, 2nd paragraph, 2nd sentence (p. 3-30): Recommend changing "...in compliance with 10 CFR 40.27(b)(2)..." to "...in compliance with 10 CFR 40.28 (b)(2)..." because this new NRC guidance applies to UMTRCA Title II sites (i.e., byproduct material) and not to UMTRCA Title I sites (i.e., residual radioactive material).
- (5) Section 3.3.4, 6th paragraph, 2nd sentence (p. 3-31): Same as previous comment, i.e., recommend changing 10 CFR 40.27(b)(2) to 10 CFR 40.28 (b)(2).
- (6) Section 3.4.1, 3rd paragraph, 1st sentence (p. 3-39): It is clear within the draft SRP that NRC regulates only uranium processing operations and not uranium ore mining operations (as discussed in the Executive Summary, p. xii, 3rd paragraph). Furthermore, NRC states that its regulatory authority is "limited to situations where hazardous materials have a potential effect on radiological health and safety." DOE understands that for NRC to exercise its regulatory authority (e.g., require corrective action), these hazards must exceed a certain threshold (i.e., standards, as discussed in section 3.5). DOE therefore concludes that NRC's regulatory authority and DOE's obligation as the long-term custodian for a former Title II processing site extends only to uranium processing-related materials with concentrations that exceed standards and pose a potential threat to human health and the environment. Furthermore, DOE understands that when the ownership of such materials is transferred to DOE, the materials should be in a condition that is protective of human health and the environment.
- (7) Section 7.1.1, 3rd criterion (p. 7-4): DOE recommends that NRC revise the sentence as follows: "Verify that the charge for performing long-term surveillance is sufficient to cover the NRC-accepted scope as presented in the site-specific long-term surveillance plan, along with any land stewardship activities the specific licensee performed prior to transfer to maintain the site and remain compliant with all applicable local, State, and Federal laws and regulations." DOE understands this to be consistent with NRC policy and in accordance with NRC guidance and regulations.