Association of State and Territorial
ASTSWMO
Solid Waste Management Officials

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October 26, 2009

Chief, Rulemaking and Directives Branch
Division of Administrative Services, Office of Administration
U.S. Nuclear Regulatory Commission
Mail Stop TWB 5B01M
Washington, DC 20555–0001

RE: Potential Rulemaking for Safe Disposal of Unique Waste Streams Including Significant Quantities of Depleted Uranium [NRC–2009–0257-0001]
Federal Register / Vol. 74, No. 120 / Wednesday, June 24, 2009 / Notices FR pg 30175

Dear Sir/Madam:

Members of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Federal Facilities Research Subcommittee and Radiation Focus Group developed these comments regarding the Nuclear Regulatory Commission's (NRC's) "Potential Rulemaking for Safe Disposal of Unique Waste Streams Including Significant Quantities of Depleted Uranium" [NRC-2009-0257-0001]. The comments have not been reviewed or adopted by ASTSWMO's Board of Directors, and therefore, the word "States" throughout this document refers to the members of the ASTSWMO Radiation Focus Group. In addition, individual State programs may submit comments directly to you conveying their own perspectives.

We agree that depleted uranium (DU) is a unique waste and that, due to its characteristics, should have enhanced performance assessments as compared to typical low-level radiological solid wastes. Ideally the process should discriminate out unsuitable sites for uranium disposal and enhance environmental protection on remaining suitable sites. The in-growth of progeny and the "perpetual" half life of the uranium parents dictate this process.

The renal toxicity of uranium should be considered in performance assessments. The Toxicological Profile for Uranium states that "natural and depleted uranium are primarily chemical hazards" (ATSDR, 1999). Modeling done thus far for disposal of large quantities of DU appears to be radiation dose focused for all pathways modeled. The NRC's regulations in 10 CFR 20 Appendix B consider the chemical toxicity for soluble uranium in an occupational exposure scenario, and the EPA's relatively new regulation for community drinking water supplies limits uranium concentrations to 30 micrograms per liter (30 ug U/L). The Nuclear Regulatory Commission (NRC), or an Agreement State, needs to ensure that long-term migration of DU from a disposal cell and the potential impact of uranium on ground water are considered in light of chemical toxicity, as well as radiation dose. Performance assessments should also include air dispersion and chemical toxicity of uranium to intruders, as well as from groundwater ingestion. These are "out-year" considerations exceeding current 10CFR61 performance assessments.

Long-term replacement of covering caps and radon barriers on DU shallow land disposal sites dictates the need for perpetual care funding. Installation of radon barriers is needed only after significant in growth of radium with potential for radon inhalation. Under current rules, this occurs after the typical period of control for a low-level waste disposal facility. Economy would dictate a graded engineering approach for the protective cap since the radiological hazard from DU disposal is only magnified in "out years." Realize that, by mass, even the residual amounts of U-234 in DU can generate radon earlier than much greater concentrations of U-238.

The need for long-term replacement of covering caps and radon barriers on DU shallow land disposal sites dictates the need for perpetual care funding. The alternative is geologic disposal.

Some DU in the Department of Energy (DOE) system is the byproduct of recycled returns from reactors. These DU wastes are potentially contaminated with transuranics and fission products. Deconversion of UF6 tails may filter out any contaminates. Any performance assessment should include anomalous DU contaminants that remain. Thorough characterization of unique wastes for disposal is imperative.

If this progresses to rulemaking, the ASTSWMO Federal Facilities Research Subcommittee and Radiation Focus Group desire to participate in related forums and discussions. The workshop transcripts illustrate the complexity of related issues. We did not repeat the many substantive comments posted in the transcripts. If there are questions, please call Dale Rector, Tennessee Department of Environment and Conservation, ASTSWMO Radiation Focus Group Chair, at 865-483-4510 or dale.rector@tn.gov.

Sincerely,

Clarence L. Smith, Chair
ASTSWMO Federal Facilities Research Subcommittee

CC: ASTSWMO Radiation Focus Group
Priya Yadav, U.S. Nuclear Regulatory Commission
Dan Schultheisz, U.S. Environmental Protection Agency