

## **Position on the use of lead shielding for the Disposal of Low Level Radioactive Waste at the Nevada Test Site**

Generators that currently ship Low Level Radioactive Waste (LLRW) to the Nevada Test Site (NTS) inquired about the acceptable use of lead shielding for disposal of LLRW at the NTS. Through these inquiries two scenarios for using lead shielding have been identified. This position paper is intended to provide the regulatory justification and establish a position on the acceptable use of lead shielding for LLRW disposal at the NTS. Specifically, two scenarios are presented: 1) the use of lead-lined containers for disposal of LLRW, and 2) the use of bulk lead as shielding in containers for disposal of LLRW.

For the first scenario, EPA's position on the use of lead-lined containers is well documented, most notably in OSWER Directive 9432.00-2, dated October 4, 1989. The subject guidance addresses the issue of identifying if lead container liners whose primary use is for shielding in disposal operations are hazardous waste under RCRA. The response found in the subject directive is that while lead container liners may exhibit the hazardous characteristic for lead, those containers whose primary use is for shielding in low-level waste disposal operations are not considered solid waste and thus, not subject to the hazardous waste rules.

Under the second scenario, bulk lead introduced into LLRW packages would also not be considered a hazardous waste under RCRA as long as the lead was necessary for radiation protection during disposal operations and it was not radioactively contaminated when introduced.

RCRA has specific treatment standards and disposal requirements for radioactively contaminated lead (radioactive lead solids). The dispositioning of radioactively contaminated lead as shielding in LLRW containers would be inconsistent with these requirements. This position is documented in Issue 6 of the "Position Paper on the Proper Characterization and Disposal of Sealed Radioactive Sources", June 1996, and is consistent with practices at commercial disposal facilities. The acceptance of the June 1996 position paper is documented in the August 7, 1996 letter from Runore C. Wycoff to distribution.

Based on the above reasoning, and with the State of Nevada concurrence, the use of lead for shielding in containers for the disposal of LLRW should be an acceptable practice provided the shielding is necessary for radiation protection and not radioactively contaminated when introduced. The addition of lead shielding to LLRW where additional radiation protection is not required is prohibited by RCRA.