

BACKGROUND

The safe and environmentally conscious performance of work is a fundamental core value of the Hanford Advisory Board. The Department of Energy (DOE) in seeking to move forward with the cleanup at Hanford faces many unique challenges. Among these challenges large, heavy hazardous waste debris that is highly contaminated with radioactive material that require disposal in a compliant manner. These highly contaminated waste forms pose not only a direct radiological exposure risk to the workers, they also pose a risk of releasing radiological contamination to the environment.

For some of these waste forms the appropriate treatment standard per the land disposal restrictions (LDRs) is macroencapsulation. Macroencapsulation is defined by 40 CFR 268.42 as "... surface coating materials such as polymeric organics (e.g., resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container according to 40 CFR 260.10."

The RCRA LDRs require treatment of RCRA hazardous waste prior to placement in land disposal units. The RCRA LDRs are a key cornerstone of the RCRA regulatory program and are considered applicable or relevant and appropriate (ARARs) for the purposes of a CERCLA response action. The ERDF is an on-site CERCLA disposal unit designed and constructed to meet the RCRA hazardous waste landfill requirements.

The Department of Energy (DOE) is seeking a CERCLA ARAR waiver to treat this debris to EPA standards (RCRA LDRs) after the waste is placed in an on-site disposal cell. The waiver would allow for treatment by macroencapsulation, of certain wastes inside the ERDF facility and will be based on the CERCLA waiver where site conditions suggest "compliance with ARAR requirements will result in greater risk to human health and the environment."

The proposed waiver will result in a waste form that meets the required treatment standard while reducing the number of times these large items would be handled at ERDF and reducing both worker exposure and potential opportunities for airborne release to the environment.

ADVICE

The HAB advises the Environmental Protection Agency to amend the Record of Decision for the ERDF landfill to allow limited macroencapsulation of wastes within the disposal trench for items where macroencapsulation prior to moving into the trench would result in an increase cumulative worker exposure in excess of 0.1 man-rem or a potential airborne release to the environment of 0.01 mrem/year. This will achieve environmental protection while reducing worker exposure and reduce the potential release of radioactivity to the environment by reduced handling of these heavy and irregular shaped materials at ERDF.