



6450-01-P

DEPARTMENT OF ENERGY

Notice of Availability of Draft Waste Incidental to Reprocessing Evaluation for the Concentrator Feed Makeup Tank and Melter Feed Hold Tank at the West Valley Demonstration Project for West Valley, New York

AGENCY: Office of Environmental Management, U.S. Department of Energy

ACTION: Notice of Availability

SUMMARY: The Department of Energy (DOE) announces the availability of a draft evaluation which shows that the concentrator feed makeup tank and melter feed hold tank (the vessels) which were used in conjunction with vitrifying waste from reprocessing of spent nuclear fuel and certain treatment material at the West Valley Demonstration Project (WVDP), located at the Western New York Service Center in West Valley, New York, are waste incidental to reprocessing and thus are not high-level radioactive waste (HLW) and may be managed and disposed of offsite as low-level waste (LLW). DOE prepared the draft evaluation pursuant to DOE Manual 435.1-1, *Radioactive Waste Management Manual*. DOE is consulting with the Nuclear Regulatory Commission (NRC) before finalizing this evaluation. Although it is not required by DOE Manual 435.1-1, DOE is making the draft evaluation available for public and state review and comment during the NRC consultative review period. DOE will make its final evaluation and determination as to whether the vessels are HLW, or are waste incidental to reprocessing which can be managed and disposed of as LLW, after consideration of any public, state, and NRC comments on this draft evaluation.

DATES: The comment period will end [INSERT DATE **45** DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Comments received after that time will be considered to the extent practicable.

ADDRESSES: The draft waste evaluation is available on the Internet at http://www.wv.doe.gov/Document_Index/vessels.pdf, and is publicly available for review at the following location: U.S. Department of Energy, West Valley Demonstration Project Public Reading Room located at the Ashford Office Complex, 9030 US Route 219, Ashford, NY 14171-9799, during the office hours of Monday through Thursday, 8:00 a.m. - 5:00 p.m., phone: (716) 942-4601. Written comments should be submitted to: Mr. Daniel Sullivan, U.S. Department of Energy, West Valley Demonstration Project, 10282 Rock Springs Road, West Valley, New York 14171-9799. Alternatively, comments may also be filed electronically by email to vessels@wv.doe.gov or by fax at (716) 942-4703.

FOR FURTHER INFORMATION CONTACT: For further information about this draft waste evaluation, please contact Mr. Daniel Sullivan at the mailing address or website listed in ADDRESSES.

SUPPLEMENTARY INFORMATION: The vessels were used in the vitrification process to prepare and temporarily store pre-treated HLW slurry supplied to the vitrification melter. They were used as part of the process to solidify the HLW which had been generated by commercial reprocessing of spent nuclear fuel at the Western New York Nuclear Service Center in West Valley, New York, by Nuclear Fuel Services, Inc., from 1966 through 1972. DOE undertook the

solidification activities pursuant to DOE's responsibilities under the WVDP Act. To solidify the waste, DOE vitrified the waste (combined it at a high temperature with borosilicate glass) and transferred the molten glass-waste mixture into specially developed stainless steel canisters where the mixture hardened into a solid glass waste form.

DOE operated the vitrification system between 1996 and 2002. In 2002, prior to shut down, the vessels were flushed with high pressure demineralized water so as to remove key radionuclides to the maximum extent technically and economically practical. The vessels with their remaining residual waste were characterized for radioactivity and determined to have radionuclide concentrations that do not exceed concentration limits for Class C LLW. They were removed from the vitrification cell in 2004 and are presently safely stored at the WVDP in transportation containers that meet Department of Transportation Industrial Package 2 requirements. The vessels were further stabilized by filling them with cement grout. As explained in the draft evaluation, they would be disposed of at a suitable off-site LLW waste disposal facility, either the Area 5 Radioactive Waste Management Site at DOE's Nevada National Security Site (NNSS) in Nevada or the Waste Control Specialists Federal Facility Waste Disposal Facility near Andrews, Texas. DOE would dispose of the vessel waste packages in accordance with applicable waste acceptance criteria using specific waste profile documentation.

DOE Manual 435.1-1, which implements DOE Order 435.1, *Radioactive Waste Management*, contains a rigorous evaluation process which DOE uses to determine whether or not certain waste from the reprocessing of spent nuclear fuel is incidental to reprocessing and therefore is

not HLW and can be managed as LLW. This process, in relevant part, requires demonstrating that:

(1) Key radionuclides have been removed to the maximum extent that is technically and economically practical;

(2) The waste will be managed to meet safety requirements comparable to the performance objectives set out in 10 Code of Federal Regulations (CFR) Part 61, Subpart C, *Performance Objectives*; and

(3) The waste will be managed, pursuant to DOE's authority under the *Atomic Energy Act of 1954*, as amended, and in accordance with the provisions of Chapter IV of DOE Manual 435.1-1, provided the waste will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C LLW as set out in 10 CFR 61.55, *Waste Classification*.

The draft waste-incident-to-reprocessing evaluation summarizes DOE's analysis and shows that the vessels:

(1) Have had key radionuclides removed to the maximum extent technically and economically practical;

(2) Will be managed to meet safety requirements comparable to the NRC performance objectives at 10 CFR Part 61, Subpart C; and

(3) Will be in a solid physical form that does not exceed concentration limits for Class C LLW and will be managed and disposed of pursuant to DOE's authority under the Atomic Energy Act

of 1954, as amended, and in accordance with applicable provisions of Chapter IV of DOE Manual 435.1-1.

Accordingly, the draft evaluation demonstrates using the waste-incident-to-reprocessing evaluation process that the West Valley vessel waste packages may be managed and disposed of as LLW. The vessel waste packages will meet the applicable waste acceptance criteria for the selected offsite LLW disposal facility, either the NNS Area 5 Radioactive Waste Management Site or the Waste Control Specialists Federal Facility Waste Disposal Facility in Texas. The vessel waste packages have been approved for disposal by the NNS in case a final decision is made to send the waste package to that site for disposal.

DOE is consulting with the NRC before finalizing this evaluation. Although not required by DOE Manual 435.1-1, DOE is making the draft evaluation available for public and state review and comment during the NRC consultative review period. DOE plans to issue a final determination as to whether the vessels are HLW or can be managed and disposed of as LLW following review and consultation with the NRC and consideration of public and state comments.

DOE's decision on the disposal site to be used is not within the scope of this draft evaluation. Any DOE decision on the facility to which the vessel waste packages would be sent would be made after the final DOE evaluation and determination, following consideration of NRC and public comments on this draft evaluation, and after DOE confers with appropriate State officials in the state where the waste packages may be disposed.

Issued in Washington, DC, on June 20, 2012.

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Waste Management
Office of Environmental Management

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