

October 14, 2005

MEMORANDUM TO: Scott Flanders, Deputy Director
Environmental & Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Nuclear Materials Safety
and Safeguards

THRU: Anna Bradford, Chief **/RA/**
Low-Level Waste Section
Environmental & Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Nuclear Materials Safety
and Safeguards

FROM: Xiaosong Yin, Project Manager **/RA/**
Low-Level Waste Section
Environmental & Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Nuclear Materials Safety
and Safeguards

SUBJECT: OCTOBER 4, 2005 MEETING SUMMARY: MEETING WITH U.S.
DEPARTMENT OF ENERGY TO OVERVIEW WASTE
DETERMINATION SUBMITTAL

On October 4, 2005, The U.S. Department of Energy (DOE) presented an overview to the U.S. Nuclear Regulatory Commission on a DOE waste determination submittal for the Idaho National Laboratory. The meeting summary is attached for your use.

Enclosures:

1. Summary of Meeting
2. Attendee List
3. DOE Presentation Slides

cc: K. Picha/DOE

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OFFICE	DWMEP:PM	DWMEP:SC
NAME	XYin	ABradford
DATE	10/14/05	10/14/05

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SUMMARY OF OCTOBER 4, 2005, OPEN MEETING
REGARDING U.S. DEPARTMENT OF ENERGY
WASTE DETERMINATION SUBMITTAL FOR THE
IDAHO NATIONAL LABORATORY

Introduction

On October 4, 2005, the U.S. Department of Energy (DOE) presented an overview to the U.S. Nuclear Regulatory Commission (NRC) on a DOE waste determination submittal for the Idaho National Laboratory (INL) under the National Defense Authorization Act (NDAA) of 2005. This open meeting was held at NRC Headquarters in Rockville, Maryland.

In addition to NRC and DOE staff, attendees included representatives of the Idaho Department of Environmental Quality, Duratek, Inc., and Weapons Complex Monitor.

The list of attendees is included as Enclosure 2, and the presentation slides are included in Enclosure 3.

Discussion

The purpose of the meeting was to allow DOE to provide an overview on the Draft Section 3116 Determination, Idaho Nuclear Technology and Engineering Center Tank Farm Facility (draft 3116 determination) and address any NRC staff questions concerning the draft 3116 determination.

The DOE submitted its draft 3116 determination to NRC for consultation in September 2005. To better assist NRC staff with review of its submittal, this overview focused on: 1) the history of the generation of Idaho Nuclear Technology and Engineering Center Tank Farm Facility (TFF) waste; 2) the development of estimates of residual waste; 3) waste with highly radioactive radionuclides removal activities and results; 4) the radionuclide concentrations of stabilized waste; and 5) whether the waste will be disposed of in accordance with performance objectives in 10 CFR 61, Subpart C. This overview also provided the current site conditions and TFF tank cleaning status.

The TFF has been used for the storage of a variety of radioactive wastes, including wastes resulting directly from spent fuel reprocessing and other ancillary wastes. Spent fuel reprocessing wastes and other ancillary facility wastes were sent to the TFF until 1992 and the TFF contains eleven 300,000-gallon tanks plus their surrounding vaults, four 30,000-gallon tanks, interconnecting transfer piping and secondary containment components for the transfer piping. Seven of the eleven 300,000 gallon tanks and all four small tanks have been cleaned. The TFF closure date is estimated to be in 2012.

In evaluating the concentration of the residual waste, samples were collected and analyzed for each tank. A unique situation of TFF is that there were basically all liquid wastes with very

limited amount of solid wastes collected from the tanks. A computer code ORIGEN2 model was introduced to estimate those radionuclides that are hard to detect. A quantitative estimate of the waste inventories was also presented. In addressing NDAA Section 3116(a)(2), *has had highly radioactive radionuclides removed to the maximum extent practical*, DOE used screening criteria to eliminate radionuclides with short half lives ($T_{1/2} < 5$ year) in short decay chains and radionuclides with very long half lives that have insignificant dose contributions. Percentages of highly radioactive radionuclides removed was presented in the overview as well.

The DOE overview also included a final projected stabilized waste concentration estimate and its strategies and practices to clean and close the TFF tanks. Sums of the fractions of these concentrations using 10 CFR 61.55 were provided and discussed. The DOE's overview and the draft 3116 determination, however, did not specify whether the waste will or will not meet Class C concentration limits. An updated Performance Assessment (PA) was presented in the review. This PA has been modified from previous PA with consideration of the NRC's recommendations. The overview also addressed that the waste in TFF will be disposed of in accordance with performance objectives in 10 CFR 61, Subpart C.

The DOE's overview concluded that "[t]he stabilized TFF residual and TFF tank system are not high level waste based on the considerations set forth in Section 3116 (a) of the NDAA and may be disposed of as low level waste (LLW) at the INL site in accordance with Section 3116 of the NDAA".

Public Comment

None

Closing Remarks and Follow-up

The NRC and DOE staff agreed that the meeting was useful and productive.

Note

The Enclosure 3: The DOE Presentation Slides are slightly different from the ones used during the overview on October 4, 2005, due to a wording error on page 20. The DOE wasn't intending to make the statement that the waste does not exceed concentration limits for Class C LLW, as stated in the original slides. The attached slides were submitted to NRC after the meeting, after DOE corrected the wording.

NRC and DOE Idaho Meeting
October 4, 2005

NAME	AFFILIATION	PHONE NUMBER
Michele	NRC/NMSS/DWMEP	301-415-6659
Anna Bradford	NRC/NMSS/DWMEP	301-415-5228
Cynthia Barr	NRC/NMSS/DWMEP	301-415-4015
Xiaosong Yin	NRC/NMSS/DWMEP	301-415-7640
Mark Thaggard	NRC/NMSS/DWMEP	301-415-6971
David Esh	NRC/NMSS/DWMEP	301-415-6705
Jim Shaffner	NRC/NMSS/DWMEP	301-415-5496
Ken Picha	DOE HQ/EM	202-586-9726
Scott Flanders	NRC/NMSS/DWMEP	301-415-6717
Mark Gilbertson	DOE HQ/EM	202-586-5042
Randy Kaltreider	DOE HQ/EM	301-903-4259
Keith Quigley	CWI	208-526-3779
Keith Lockie	DOE ID	208-528-6608
Nick Stanisich	Portage	208-528-6608
Dave McIntyre	NRC/OPA	301-415-8206
Willis Bixby	Duratek, Inc.	410-312-5700
Mike Nartker	Weapons Complex Monitor	
Shelby Perkins	DOE/OGC	202-586-8078
Linda Suttora	DOE HQ/EM	301-903-7921
Kathy Martin	DOE/OGC	202-586-4467

Conference Line		
Dave Turner	CNWRA	
Lane Howard	CNWRA	
Steve Thomas	DOE SRS	
Sheri Ross	DOE SRS	
Kathleen Trevor	Idaho Department of Environmental Quality	
Burce Solenik	Idaho Department of Environmental Quality	
Doug Hintze		
Linda Lehman	DOE ORP	
Marty Letourneau	DOE HQ/EM	
Don Woodrich	DOE ORP	