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DATE: Febraury 13, 1996

TO: Greta P. Davis, Ecology B5-18

FROM: Ellen M. Mattlin, *EM* A5-15

Telephone: 376-2385

cc: Distribution

SUBJECT: Additional Page Changes for the 4843 AMSF Closure Plan, Revision 1

Attached are additional page changes to the 4843 Alkali Metal Storage Facility Closure Plan, Revision 1. (A set of page changes had been sent out on January 3, 1996.) The current changes respond to comments received informally from Ecology.

Please incorporate the enclosed page changes into your copies of the 4843 ASMF Revision 1, transmitted on October 27, 1995.



## PART A PERMIT APPLICATION

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4 As a result of storing dangerous waste, a *Resource Conservation and*  
5 *Recovery Act of 1976* Part A permit application was submitted to the Washington  
6 State Department of Ecology in November 1987. The Part A, Form 1, for the  
7 Hanford Facility originally was submitted to the Washington State Department  
8 of Ecology in November 1987 and most recently was updated in January of 1995.  
9

10 The original Part A, Form 3 (Revision 0), for the 4843 Alkali Metal  
11 Storage Facility was submitted to the Washington State Department of Ecology  
12 in September 1987. Revision 0 contained only the U.S. Department of Energy,  
13 Richland Operations Office certification signature.  
14

15 Revision 1 of the *Resource Conservation and Recovery Act of 1976* Part A  
16 Permit Application, Form 3, was prepared to designate Westinghouse Hanford  
17 Company as a 'co-operator' of the 4843 Alkali Metal Storage Facility to  
18 correspond to its signatory designation on the permit application; the  
19 U.S. Department of Energy, Richland Operations Office is designated as the  
20 owner/operator of the 4843 Alkali Metal Storage Facility. Revision 1 was  
21 prepared to ensure agreement between the waste types and annual waste  
22 quantities identified in the Part A, Form 3 (Revision 0), and those reported  
23 in the Hanford Site Annual Dangerous Waste Report submitted in May 1988 to the  
24 Washington State Department of Ecology.  
25

26 The Part A, Form 3 (Revision 2), included here, contains four additional  
27 dangerous waste codes: D001 - Ignitability, D002 - Corrosivity,  
28 WT01 - Extremely Hazardous Waste, and WT02 - Dangerous Waste (if less than  
29 600 grams [4 pounds]), and updates of other descriptive information.  
30 In addition, new interior photographs and an additional figure have been added  
31 to more accurately describe the 4843 Alkali Metal Storage Facility.  
32 Revision 2 included in this permit application consists of 11 pages of Form 3,  
33 3 figures, and 3 photographs.

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### 7.3.2 Decontamination of the Walls

The walls of the 4843 AMSF were not used for the storage of waste. Also, because of the nature of the waste stored at the 4843 AMSF, spills that could result in airborne contamination are not expected. Thus, the type of waste and the way the waste was handled suggest that there is no basis to suspect that the walls or ceiling will be contaminated.

Verification of the absence of contamination on the walls will be accomplished using a radiation survey and visual inspection. The walls were part of the radiological survey conducted on May 15, 1995 (see Appendix C). The walls were smear surveyed and no measurable amounts of radiation were detected, therefore, the walls will be visually inspected for carbonate deposits. It is very unlikely that the walls will be contaminated with carbonate. If, however, the walls are found to be contaminated with carbonates, they will be decontaminated as described in Section 7.4.

### 7.3.3 Decontamination of the Concrete Floor

The floor of the 4843 AMSF consists of poured concrete with an area of approximately 150 square meters (1,613 square feet) as shown in Figure 2-3 in Chapter 2.0. There are visible seams where 3.18-millimeter (.125-inch)-wide and 6.35-millimeter (.25-inch)-deep saw-cut control joints were cut to allow the concrete to expand and contract to help prevent cracking of the slab. The floor does have some small fractures in it, but, due to the nature of the waste stored at the 4843 AMSF, the number of spills documented, and the thickness of the concrete floor (up to 12 inches thick), these fractures are not seen as likely pathways for dangerous waste to enter the environment.

The 4843 AMSF was divided by a rope into two storage areas: the dangerous alkali metal storage area and the mixed alkali metal storage area. To date, two containers that were located within the mixed alkali metal storage area are known to have leaked (Appendix D). These spills released a small amount of sodium carbonate and sodium hydroxide on the concrete floor, which was visible by the eye. (Sodium hydroxide reacts with carbon dioxide in the air to form sodium carbonate.) The spills were cleaned according to existing procedures, and the floor was released for use. The two reported spills have left no etching or scarring of the concrete surface and cannot be distinguished by visual inspection of the floor and are considered to be below the action level of 10 weight percent for lithium and sodium carbonates.

The floor was surveyed on May 15, 1995, and no measurable amounts of radiation were found. Afterwards, the floor was swept and visually inspected for carbonate deposits. No carbonates were seen. All material that was generated during sweeping of the floor was collected and analyzed with EPA Method 300.7, Ion Chromatography, to determine levels of sodium and lithium; the generated material then will be disposed accordingly. Results from the sample of the sweepings reported at less than 10 parts per million (detection limit) for lithium and a reading of 95 parts per million for sodium. Both the readings for lithium and sodium are well below the Hanford Site Background levels (DOE-RL 1994); therefore it can be concluded that the sweepings are a nonregulated material and can be disposed of accordingly. No further action

1 will be required to decontaminate the concrete floor and the floor will be  
2 deemed free of contamination.  
3  
4

#### 5 7.3.4 Field Logbook 6

7 All field activities will be recorded in a field logbook according to the  
8 protocols outlined in EII 1.5, "Field Logbooks" (WHC 1988). All entries will  
9 be made in ink, signed, and dated. Photographs should be taken of  
10 decontamination locations and of any unusual circumstances encountered during  
11 the investigation.  
12  
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#### 14 7.3.5 Reporting 15

16 After completion of the decontamination effort, verification documents  
17 will be produced by the Field Team Leader and the Hanford Technical Lead to  
18 provide for actual decontamination locations and specific methods used for  
19 decontamination.  
20  
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#### 22 7.3.6 Site Safety 23

24 Site safety during all closure activities will involve planning,  
25 training, and approved standard procedures.  
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27 **7.3.6.1 Health and Safety Plan.** A health and safety plan (HASP) is  
28 required for all dangerous waste sampling sites. The HASP is intended to  
29 specify information pertinent to field assignments and to be a guide in  
30 unusual situations or emergencies. A site-specific version of the general  
31 *Resource Conservation and Recovery Act of 1976 (RCRA)/Comprehensive*  
32 *Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)*  
33 investigation health and safety manual will be developed and used for sampling  
34 at the 4843 AMSF. This plan will be developed and completed before initiation  
35 of sampling activities in accordance with EII 2.1 "Preparation of Hazardous  
36 Waste Operations Permits" (WHC 1988).  
37

38 **7.3.6.2 Personnel Training.** All personnel involved with the closure  
39 activities at the 4843 AMSF will receive a minimum level of dangerous waste  
40 training. Personnel generally are placed into the following job categories:  
41

- 42 • Managers and supervisors, who are responsible for supervising,  
43 coordinating, and directing the closure activities and personnel  
44
- 45 • Nuclear Process Operators and Decommissioning and Decontamination  
46 workers, who are responsible for sampling, packaging, and handling  
47 of both dangerous and mixed waste  
48
- 49 • HPTs, who are responsible for surveying for radiological and  
50 dangerous waste contaminants  
51
- 52 • Crafts personnel, who are responsible for specialized work. The  
53 various crafts include carpenters, electricians,  
54 ironworkers/riggers, heavy equipment operators, crane operators,  
55 millwrights, pipefitters, and painters.

## APPENDIX C

## HISTORICAL WASTE INVENTORY

This appendix contains a historical record of the waste inventory stored at the 4843 Alkali Metal Storage Facility (4843 AMSF) as well as the final Radiological Survey Plan and Radiological Survey Report conducted after all waste had been removed from the building. As waste drums (both radioactive mixed and nonradioactive dangerous waste) were received into the 4843 AMSF, they were numbered in a chronological order. As time passed, 39 drums of radioactive mixed waste were repackaged into 10 drums, 4 drums became 2, etc. The total amount of waste has remained constant, but the number of containers was reduced. The duplicate containers were not included on the all-time inventory because it would have artificially increased the amount of waste stored at the 4843 AMSF. Waste container No. 77 was generated at the 4843 AMSF during repackaging of lithium contaminated pipe into a new container. Specifically, a piece of piping was cut with the stub end containing about 57 grams (2 ounces) of lithium metal going into Container No. 77.

Radioactive mixed waste inventory . . . . .	APP C-1
Nonradioactive waste . . . . .	APP C-12
Radiological Survey Plan No.: X-95-001 . . . . .	APP C-15
Radiological Survey Report No.: 205838 . . . . .	APP C-18
State of Washington Department of Ecology Letter, August 15, 1995 . . . . .	APP C-21
State of Washington Department of Health Letter, August 3, 1995 . . . . .	APP C-22

## Terms:

FFTF = Fast Flux Test Facility  
 NOS = not otherwise specified  
 LSA = low specific activity  
 DM = drum metal  
 GW = gross weight.

Note: Information provided in Section 2.0 of the Radiological Survey Plan, page C-15, is in error. Spills have occurred in the building, as is discussed in Appendix D and in Section 3.5 of the closure plan. Also, the alkali metal came from various sources, including FFTF, as described in Section 2.2 of the closure plan.

## 4843 BUILDING INVENTORY

Page 01 of 13

#/PSN/LABELS/MARKINGS	SOURCE	DESCRIPTION	ACCUMULATION RECEIVED SHIPPED
Radioactive Mixed Waste			
44-Radioactive Material, N.O.S. Flammable Solid, Dangerous When Wet-D001,D002,D003,WT01 UN2982	FFTF Operations Waste	1-55 gal DM Pipe & Small can of sodium 5 gal of Na	A-5-30-86 R-4-15-87
47-Radioactive Material, N.O.S. Flammable Solid, Dangerous When Wet-D001,D002,D003,WT01 UN2982	437-FFTF P-39 related-5 gal buckets	1-55 gal DM contaminated sodium-drip cup meltout- refueling ops- 120 mr/hr-120 mCi-GW	A-11-13-87 R-11-13-87
49-Radioactive Material, N.O.S. Flammable solid, Dangerous When Wet-D001,D002,D003,WT01 UN2982	437-FFTF P-39 related-small cans	1-30 gal DM contaminated sodium-drip cup meltout- refueling ops- 70 mr/hr-70 mCi- GW	A-11-13-87 R-11-13-87
50-Radioactive Material, N.O.S. Flammable Solid, Dangerous When Wet-D001,D002,D003,WT01 UN2982	437-FFTF P-39 related-small cans	1-30 gal DM contaminated sodium-drip cup meltout- refueling ops- 90 mr/hr-90 mCi- GW	A-5-13-87 R-11-13-87

APP C-2