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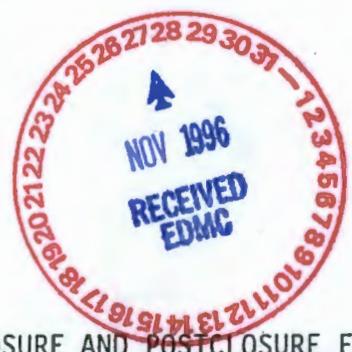
Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

97-EAP-039

OCT 30 1996

Mr. Moses N. Jaraysi  
200 Area Unit Supervisor  
Nuclear Waste Program  
State of Washington  
Department of Ecology  
1315 West Fourth Avenue  
Kennewick, Washington 99336-6018

Mr. Joseph J. Witczak  
Unit Supervisor  
Regulatory and Technical Support  
Nuclear Waste Program  
State of Washington  
Department of Ecology  
P.O. Box 47600  
Olympia, Washington 98504-7600



Dear Messrs. Jaraysi and Witczak:

PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND POSTCLOSURE FOR HANFORD FACILITY TREATMENT, STORAGE, AND/OR DISPOSAL UNITS

Conditions II.H.1. and II.H.2. of the Hanford Facility Resource Conservation and Recovery Act Permit (RCRA Permit), Dangerous Waste Portion (DW Portion), require the annual reporting of projections of anticipated costs for closure and postclosure, including postclosure monitoring and maintenance, for treatment, storage, and/or disposal (TSD) units incorporated into Part III (Unit-Specific Conditions for Operating Units) or Part V (Unit-Specific Conditions for Units Undergoing Closure) of the DW Portion. The first Annual Projections of Anticipated Closure Costs (Annual Report), submitted on October 31, 1994, addressed five TSD units. The second Annual Report addressed an additional eight TSD units that were incorporated into the RCRA Permit, DW Portion, over Fiscal Year 1995. Because of the scheduling of the RCRA Permit modification, the third Annual Report will be an update of the same TSD units contained in the second Annual Report.

The organization of the Annual Report is consistent with the approach approved by Moses N. Jaraysi of the State of Washington Department of Ecology (Ecology) at the Hanford Facility RCRA Permit Steering Committee Meeting held on October 3, 1995, and confirmed in an Ecology memo dated January 12, 1996. This approach entails the reporting of projections of anticipated closure costs for the 13 TSD units incorporated into the RCRA Permit, DW Portion, in accordance with the status of a TSD unit, categorized in the attached report.

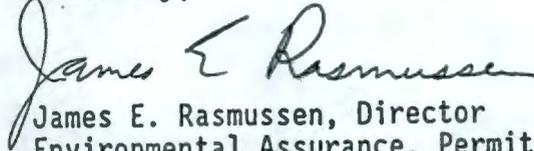
The owner/operator and co-operator certification appears in the Annual Report attached. The certification contains the co-operator signatures for Westinghouse Hanford Company (WHC) for the TSD units co-operated by WHC during the time period encompassing this Annual Report, which is FY 1996. Fluor Daniel Hanford, Inc. (FDH) is transmitting this Annual Report in accordance with its function as the current Hanford Site integrating contractor.

Messrs. Jaraysi and Witczak  
96-EAP-039

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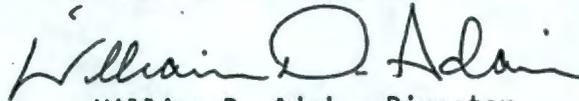
Should you have any questions, please contact Ellen M. Mattlin, U.S. Department of Energy, Richland Operations Office, on (509) 376-2385; Wayne E. Toebe, FDH, on (509) 372-2359; Harold T. Tilden II, Pacific Northwest National Laboratory, on (509) 376-0499; or Roger J. Landon, Bechtel Hanford Inc., on (509) 372-9209.

Sincerely,

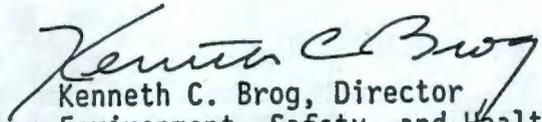


James E. Rasmussen, Director  
Environmental Assurance, Permits,  
and Policy Division  
DOE Richland Operations Office

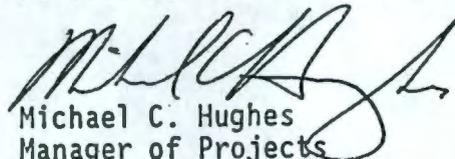
EAP:EMM



William D. Adair, Director  
Environmental Protection  
Responsible Party for  
Fluor Daniel Hanford, Inc.



Kenneth C. Brog, Director  
Environment, Safety, and Health  
Pacific Northwest National Laboratory



Michael C. Hughes  
Manager of Projects  
Bechtel Hanford, Inc.

Attachment:

Table 1, Status of TSD Units  
in the Hanford RCRA Permit,  
DW Portion, Rev. 2  
Projections of Anticipated Closure  
Costs for TSD Units included in  
the RCRA Permit, DW Portion

cc w/attach:

EDMC, H6-08  
D. Bartus, EPA  
E. Flores, PNNL  
R. Jim, YIN  
R. Landon, BHI  
G. McNair, PNNL  
D. Powaukee, NPT  
D. Sherwood, EPA  
W. Toebe, FDH  
J. Wilkinson, CTUIR

cc w/o attach:

E. Greager, RFSH  
R. Cordts, Ecology  
M. Hughes, BHI  
P. Mackey, BHI  
L. Mihalik, BHI  
S. Price, FDH  
H. Tilden II, PNNL  
J. Winterhalder, RFSH

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**ENCLOSURE**

Consisting of 20 pages,  
including cover page

**Table 1**  
**Status of Treatment, Storage, and/or Disposal Units (TSD)**  
**in the Hanford Resource Conservation and Recovery Act (RCRA) Permit,**  
**DW Portion, Rev. 2**

TSD Unit Name (Co-operator Name)	RCRA Permit Rev.	Previously Provided; Escalation Factor Only	Only Administrative Costs Remaining	Clean-Closed; No Estimate Needed	Projections of Anticipated Closure Costs Based on FY 1996 costs
616 Nonradioactive Dangerous Waste Storage Facility (WHC)	Rev. 0	X			\$1,700,723.00
305-B Storage Facility (PNNL)	Rev. 0	X			\$1,721,982.00
183-H Solar Evaporation Basins (BHI)*	Rev. 0	X*			\$534,145.00
105-DR Large Sodium Fire Facility (WHC)	Rev. 2		X**		\$300.00
218-E-8 Borrow Pit (WHC)	Rev. 1			X	\$0.00
200 West Area Ash Pit (WHC)	Rev. 1			X	\$0.00
2101-M Pond (WHC)	Rev. 1			X	\$0.00
Hanford Patrol Academy Demolition Site (WHC)	Rev. 2			X	\$0.00
304 Concretion (WHC)	Rev. 2			X	\$0.00
300 Area Solvent Evaporator (WHC)	Rev. 0			X	\$0.00
2727-S Nonradioactive Dangerous Waste Storage (WHC)	Rev. 0			X	\$0.00
Simulated High Level Waste Slurry Treatment/Storage (PNNL)	Rev. 1			X	\$0.00
216-B-3 Expansion Ponds (WHC)	Rev. 1			X	\$0.00
<b>TOTAL</b>					<b>\$3,957,150.00</b>

\* For the 183-H Solar Evaporation Basins (Chapter 1, Part V, DW Portion), co-operated by Bechtel Hanford, Inc. (BHI), the carryover of last year's estimate for FY 1997 planned waste disposal activities is provided, instead of an escalation factor applied to last year's projection of anticipated costs.

\*\* For the 105-DR Large Sodium Fire Facility (Chapter 10, Part V, DW Portion), co-operated by Westinghouse Hanford Company (WHC) during FY 1996, the costs in this table are associated with the parts of this TSD unit being clean closed. Other parts will be closed during the decommissioning and decontamination of the 105-DR Reactor. When costs for this decommissioning and decontamination become available, they will be included in a future annual report.

**PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND POSTCLOSURE****FOR****TREATMENT, STORAGE AND/OR DISPOSAL UNITS INCLUDED IN THE HANFORD FACILITY  
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT, DANGEROUS WASTE PORTION****DEVELOPMENT DESCRIPTION**

Conditions II.H.1. and II.H.2. of the Hanford Facility Resource Conservation and Recovery Act Permit (RCRA Permit), Dangerous Waste Portion (DW Portion), require the annual reporting of projections of anticipated costs for closure and postclosure, including postclosure monitoring and maintenance, for treatment, storage and/or disposal (TSD) units incorporated into Part III (Unit-Specific Conditions for Operating Units) or Part V (Unit-Specific Conditions for Units Undergoing Closure) of the RCRA Permit, DW Portion.

Certification of the Projections of Anticipated Closure Costs for the TSD Units, in accordance with Condition I.F. of the RCRA Permit, DW Portion, is provided on Page 22.

A generic interpretative description also is provided with this Projection of Anticipated Closure Costs. A description of the general basis for the projected costs is presented in the section of this report enclosure entitled "Closure Activities."

For the following discussion, it may be helpful to refer to Table 1 of this enclosure. For ease of reference in the following text, the co-operator appears in brackets following the name of the TSD unit for which they had responsibilities during FY 1996; Bechtel Hanford, Inc. (BHI), Pacific Northwest National Laboratory (PNNL), or Westinghouse Hanford Company (WHC). Information on each TSD unit can be found in this enclosure in order of appearance below.

Three brief projections are included in this report for the TSD units that have been incorporated into the RCRA Permit, DW Portion, for which the original strategy of pursuing closure has not been changed. Complete cost estimates were submitted for these TSD units in the Projection of Anticipated Costs submitted on October 31, 1994, and October 27, 1995. The first two of these units have no closing date currently identified, and the current update uses an escalation factor only. The third unit has undergone a modified clean closure during FY 1996, and a carryover estimate for planned waste disposal activities is provided:

- 616 Nonradioactive Dangerous Waste Storage (Part III) [WHC];
- 305-B Storage Facility (Part III) [PNNL]; and
- 183-H Solar Evaporation Basins (Part V) [BHI].

One brief projection is included for the TSD unit that has been incorporated into the RCRA Permit, DW Portion, during FY 1995 and which has only administrative costs left to accomplish closure. The TSD unit is:

- 105-DR Large Sodium Fire Facility (Part V) [WHC].

**PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND POSTCLOSURE**

**FOR**

**TREATMENT, STORAGE AND/OR DISPOSAL UNITS INCLUDED IN THE HANFORD FACILITY  
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT, DANGEROUS WASTE PORTION**

**DEVELOPMENT DESCRIPTION**

Parts of this TSD unit are being clean closed; other parts will be closed during the decommissioning and decontamination of the 105-DR Reactor. When costs for this decommissioning and decontamination become available, they will be included in a future annual report.

In addition to the Projection of Anticipated Costs discussed in the previous paragraphs, the following nine TSD units are currently incorporated into the RCRA Permit and have been accepted by the Washington State Department of Ecology (Ecology) as clean closed. No further costs are anticipated; therefore none are presented in this report:

- 218-E-8 Borrow Pit Demolition Site (Part V) [WHC];
- 200 West Area Ash Pit Demolition Site (Part V) [WHC];
- 2101-M Pond (Part V) [WHC];
- Hanford Patrol Academy Demolition Site (Part V) [WHC];
- 304 Concretion Facility (Part V) [WHC];
- 300 Area Solvent Evaporator (Part V) [WHC];
- 2727-S Nonradioactive Dangerous Waste Storage Facility (Part V) [WHC];
- Simulated High Level Waste Slurry Treatment and Storage (Part V) [PNNL];
- and
- 216-B-3 Expansion Ponds (Part V) [WHC].

**Closure Activities:**

The Projections of Anticipated Closure Costs are developed using Hanford Facility expertise and costs, the assumption being that third party costs would be similar to that expended by the Hanford Site workforce. Projections of the Anticipated Closure Costs take into consideration, where appropriate, labor and equipment; contractors for offsite treatment and disposal of dangerous waste; TSD unit and equipment decontamination; equipment removal; sampling and analysis of concrete and soil; and oversight of all closure activities by an independent registered professional engineer. These projections do not include costs that have already been incurred; costs are projected from October 1, 1996, forward.

Projections of Anticipated Closure Costs assume that workers have received hazardous waste site worker training in dangerous waste cleanup in compliance with Occupational Safety and Health Administration Standards [29 Code of Federal Regulations (CFR) Part 1910.120(e)] and/or job-specific training for a particular task. Further, it is assumed that outside consultants (i.e., Professional Engineers) will possess the demonstrated experience in closure of TSD units and cleanup of dangerous waste sites.

PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND POSTCLOSURE (CONT'D)

**PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND POSTCLOSURE**  
**FOR**  
**TREATMENT, STORAGE AND/OR DISPOSAL UNITS INCLUDED IN THE HANFORD FACILITY**  
**RESOURCE CONSERVATION AND RECOVERY ACT PERMIT, DANGEROUS WASTE PORTION**  
**DEVELOPMENT DESCRIPTION**

**Cost Basis:**

Projections of Anticipated Closure Costs were developed, wherever possible, using actual operations, closure, and experience on the Hanford Site. These costs were obtained from personal interviews, memorandums, and financial planning records. Other sources used include the R.S. Means Estimating Guide 1995 and the Kaiser Financial Information of Craft Labor Rates. No costs for salvage value of equipment nor non-dangerous or dangerous wastes have been incorporated into these projections.

**Inventory Elimination Costs:**

Projections of Anticipated Closure Costs for treating, transporting, and offsite disposal of remaining inventory, after waste is no longer accepted at the TSD unit, are based on the maximum waste inventory for that specific TSD unit.

**Updating of Projections of Anticipated Closure Costs:**

Projections of Anticipated Closure Costs are based on previously submitted cost estimates and the latest revision of the closure plans, adjusted for inflation for FY 1996. Projections of Anticipated Closure Costs also will be updated if a change to the closure plan increases the cost of closing the unit. These projections will be updated on an annual basis, to reflect the current status of the TSD unit in terms of closure plan documentation or actual closure activities.

**616 NONRADIOACTIVE DANGEROUS WASTE STORAGE FACILITY**

The closure strategy/approach has not changed for this TSD unit. The costs for this TSD unit are further adjusted by an inflation factor of 2.8 percent for FY 1996 from the estimate submitted in 1995. This factor would not take into account changes in specific cost elements included in the October 31, 1994, estimate. This TSD unit is not scheduled for closure within the next five years. Complete updated estimates will be included in future reports if the closure strategy/approach should significantly change, or if a closure date is established.

**305-B STORAGE FACILITY**

The closure strategy/approach has not changed for this TSD unit. The costs for this TSD unit are further adjusted by an inflation factor of 2.8 percent for FY 1996 from the estimate submitted in 1995. This factor would not take into account changes in specific cost elements included in the October 31, 1994, estimate. This TSD unit is not scheduled for closure within the next five years. Complete updated estimates will be included in future reports if the closure strategy/approach should significantly change or if a closure date is established.

**183-H SOLAR EVAPORATION BASINS**

1. The original Projection of Anticipated Closure Costs was developed using the 183-H Solar Evaporation Basins, Chapter 1, Part V, "Dangerous Waste Portion, Hanford Facility RCRA Permit," Revision 2, August 1995.
2. The Primavera scheduling/Parade costing system was used in creating the original cost projection. Unit cost data relied upon expert opinion, R.S. Means Estimating Guide 1995 (Means is a registered trademark), Sitewide Historical Cost Data, and onsite disposal costs.
3. The costs for this TSD unit currently consist of a carryover of \$534,145.00 from the estimate submitted in 1995 for planned waste disposal activities for FY 1997. Also included in this estimate are the costs associated with preparation and issuing a postclosure plan.
4. Groundwater monitoring costs associated with the postclosure plan have not yet been formulated. When these costs become available, they will be included in a future report.

**105-DR LARGE SODIUM FIRE FACILITY**

The only remaining costs associated with closure for the parts of this TSD unit that have been clean closed are administrative costs, supporting the submittal of the revised Part A Form for the unit. The estimated remaining closure cost is approximately \$300.00.

In 1996, Ecology (Letter, M. W. Wilson, Ecology to J. E. Rasmussen, U.S. Department of Energy, Richland Operations Office, and E. F. Lojka, Westinghouse Hanford Company, dated July 16, 1996) accepted clean closure of Areas 1, 3, and 7 and released these areas from the requirements of the Resource Conservation and Recovery Act (the RCRA) and Chapter 173-303 of the Washington Administrative Code (WAC). Also, the letter identified that Area 6, as defined by Part V, Chapter 10 of the Hanford Facility RCRA Permit, DW Portion, is believed not to have received dangerous waste and is considered closed for the purposes of Chapter 173-303 WAC. Areas 2, 4, and 5, as defined by Part V, Chapter 10 of the RCRA Permit, DW Portion, remain regulated by the RCRA and Chapter 173-303 WAC. Closure of these areas is expected to occur during decommissioning and decontamination of the 105-DR Reactor. These decommissioning and decontamination costs for the reactor have not yet been formulated. When these costs become available, they will be included in a future annual report.

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**218-E-8 BORROW PIT DEMOLITION SITE**

This TSD unit was clean closed during FY 1996. There are no anticipated costs remaining for closure.

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**200 WEST AREA ASH PIT DEMOLITION SITE**

This TSD unit was clean closed during FY 1996. There are no anticipated costs remaining for closure.

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**2101-M POND**

This TSD unit was clean closed during FY 1996. There are no anticipated costs remaining for closure.

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**HANFORD PATROL ACADEMY DEMOLITION SITE**

This TSD unit was clean closed during FY 1996. There are no anticipated costs remaining for closure.

9713540.2826

**304 CONCRETION FACILITY**

This TSD unit was clean closed during FY 1996. There are no anticipated costs remaining for closure.

9713540.2827

**300 AREA SOLVENT EVAPORATOR**

This TSD unit was clean closed during FY 1995. There are no anticipated costs remaining for closure.

9713540.2828

**2727-S NONRADIOACTIVE DANGEROUS WASTE STORAGE FACILITY**

This TSD unit was clean closed during FY 1995. There are no anticipated costs remaining for closure.

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**SIMULATED HIGH LEVEL WASTE SLURRY TREATMENT AND STORAGE**

This TSD unit was clean closed during FY 1995. There are no anticipated costs remaining for closure.

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**216-B-3 EXPANSION PONDS**

This TSD unit was clean closed during FY 1995. There are no anticipated costs remaining for closure.

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**CERTIFICATION OF THE PROJECTIONS OF ANTICIPATED CLOSURE  
COSTS FOR TSD UNITS, IN ACCORDANCE WITH  
CONDITION I.F. OF THE RCRA PERMIT**

PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND/OR POSTCLOSURE  
FOR  
TREATMENT, STORAGE, AND/OR DISPOSAL UNITS INCLUDED IN THE HANFORD FACILITY  
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT, DANGEROUS WASTE PORTION,  
REVISION 2

CERTIFICATION

The following certification, required by WAC 173-303-810(13), is hereby included:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

John D. Wagoner  
Owner/Operator  
John D. Wagoner, Manager  
U.S. Department of Energy  
Richland Operations Office

10/30/96  
Date

A. LaMar Trego  
Co-operator\*  
A. LaMar Trego, President  
Westinghouse Hanford Company

9/27/96  
Date

William J. Madia  
Co-operator\*\*  
William J. Madia, Director  
Pacific Northwest National Laboratory

10/10/96  
Date

Joseph F. Nemece  
Co-operator\*\*\*  
Joseph F. Nemece, President  
Bechtel Hanford, Inc.

10/21/96  
Date

- \* Westinghouse Hanford Company has responsibilities for the following treatment, storage, and/or disposal (TSD) units on the Hanford Facility and is signing for the information on these TSD units only: 616 Nonradioactive Dangerous Waste Storage Facility, 105-DR Large Sodium Fire Facility, 218-E-8 Borrow Pit, 200 Area Ash Pit, 2101-M Pond, Hanford Patrol Academy Demolition Site, 304 Concretion Facility, 300 Area Solvent Evaporator, 2727-S Storage Facility, and 216-B-3 Expansion Ponds.
- \*\* Pacific Northwest National Laboratory has responsibility for the following Hanford Facility TSD units and is signing for the information on these TSD units only: 305-B Storage Facility, and Simulated High Level Waste Slurry Treatment and Storage.
- \*\*\* Bechtel Hanford, Inc. has responsibility for the following Hanford Facility TSD unit and is signing for the information on this TSD unit only: 183-H Solar Evaporation Basins.