START

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

7601 W. Clearwater, Suite 102 • Kennewick, Washington 99336 • (509) 546-2990

NUCLEAR AND MIXED WASTE MANAGEMENT PROGRAM
HANFORD PROJECT
DANGEROUS WASTE COMPLIANCE INSPECTION
224-T TRANSURANIC WASTE STORAGE AND ASSAY FACILITY (TRUSAF)

1. **Introductory information**:

Name and Address of Owner:
U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352

ID Number: WA7890008967

Operator:
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Date and Time of Inspection(s):
November 18, 1993 0900-1500 hours
November 22, 1993 1130-1500 hours

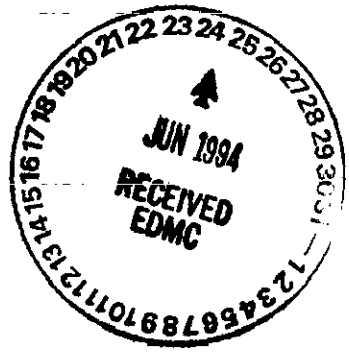
Phone Number and Contact:
Mr. Matt LaBarge, WHC
(509) 376-0842

Date of Inspection Report:
December 10, 1993

Type of and Reason for Inspection:

Inspection conducted to determine compliance with interim status requirements under Chapter 173-303 Washington Administrative Code (WAC) for hazardous and/or mixed waste and to status current activities with respect to the Dangerous Waste Part B Permit Application.

Report prepared by: Laura Russell



Inspection conducted by: Laura Russell
Bob Wilson
Donavon Dorsey
Alisa Huckaby

Laura Russell, RCRA Compliance

Bob Wilson, RCRA Compliance

Donavon Dorsey, RCRA Compliance

Alisa Huckaby, RCRA Permitting

Personnel contacted during this inspection include:

Matt LaBarge, WHC RCRA Compliance
Jeff Pratt, WHC, Acting Manager, TRUSAF
Steve Kennelly, WHC Nuclear Process Operator (NPO)
D.R. Benson, WHC Health Physics Technician
Paul Hapke, WHC, Manager, Solid Waste
Kent McDonald, WHC, Solid Waste
Ben Valerio, Jr., WHC NPO
Roger Szelmeczka, WHC, Environmental Compliance Officer
Mike Aichele, WHC Solid Waste
Keith Kline, DOE, TRUSAF Facility Representative
Jeff Schorzman, WHC Supervisor, Solid Waste Burial Grounds

2. **Background**

The 224-T TRUSAF is located adjacent to T-Plant in the 200 West Area. The primary mission of TRUSAF is to store transuranic (TRU) and TRU mixed waste while awaiting eventual disposal at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico, and/or treatment/reprocessing at Hanford's Waste Receiving and Processing Facility (WRAP).

The inspection was conducted to determine compliance with interim status requirements under Chapter 173-303 WAC for hazardous and/or mixed waste and to status current activities with respect to the Dangerous Waste Part B Permit Application.

U.S. Department of Energy (USDOE) and Westinghouse Hanford Company (WHC) have scheduled work to seal the floors in TRUSAF's storage areas in an effort to meet secondary containment requirements under WAC 173-303-630(7). Until the sealant has been applied and compliance determined, containers holding free liquids are required to be stored on secondary containment systems or equivalent manner that meets WAC requirements.

3. **Description of Inspection**

November 18, 1993

Alisa Huckaby, Bob Wilson, Donavon Dorsey, and I arrived at the WRAM station at approximately 0910 hours. We completed the Solid Waste Operations Facility Orientation course required for entry into TRUSAF (Attachment 1). We arrived at TRUSAF at approximately 1000 hours.

I explained the purpose of our visit was to determine compliance with interim status requirements under Chapter 173-303 WAC for hazardous and/or mixed waste and to status current activities with respect to the Dangerous Waste Part B Permit Application.

FIRST FLOOR:

Three drums from the Backlog Waste Program failed the real-time radiography (RTR) assessment and were being stored directly on the floor (Photo #1) (Drums #BL-0852-00-MAP, BL-1835-00-MAP, BL-0919-00-MAP). Documentation for two of the drums (#BL-0919-00-MAP and #BL-0852-00-MAP) indicated they contained free liquids. Another drum (#BL-1824-00-MAP) containing free liquids was being stored on a portable secondary containment system. Mr. Aichele explained that four drums remained from the first lot of drums sent to TRUSAF from the Central Waste Complex (CWC) under the Backlog Waste Analysis Plan (WAP). (NOTE: By 1345 hours, drum #BL-0852-00-MAP had been moved to a portable secondary containment system; #BL-0919-00-MAP had not.)

WAC Violation
Failure to store drums #BL-0919-00-MAP and #BL-0852-00-MAP within a compliant secondary containment system per WAC 173-303-630(7).

In the receiving area, Mr. Kennelly explained to Bob that drums remain on the truck until the generator's shipping papers are reviewed and the drum visually inspected. If no inconsistencies are found, the drums are offloaded onto plastic secondary containment systems until the absence of free liquids can be confirmed. The drums are then weighed and moved to the RTR area for assessment (Photo #2). Mr. Kennelly stated that after RTR assessment, the drums are either shipped back to the generator if they failed the RTR assessment, or placed in storage arrays on the second or third floors according to the radiological and hazardous constituents. Mr. Kennelly also said that if drums are first assayed and found to be low level waste (rather than TRU waste) the RTR process is not applied. The drums are stored for transfer to the Low Level Burial Grounds.

Permit Discrepancy
Portable secondary containment systems were not provided for three incoming containers (Drums #RHZ-212-A22794, #RHZ-212-A22795, and #RHZ-212-A22796) prior to confirming the absence of free liquids, per section 4.1.1.3. of the Part B permit application (Photo #3).

Alisa asked about containment of waste if a spill occurred in the elevator (Photos #4 and #5). Mr. Aichele explained that a concrete basement existed under the elevator and a Hazardous Waste Permit would "potentially" be required to address spilled material in the pit. *He stated that a written procedure does not exist for retrieving spills from this area.*

SECOND FLOOR:

Drum # RHZ-212-A19448 was located under a "RETURN TO GENERATOR-ACIDS" sign (Photos #6 & #8). The "Traveler Checklist" attached to the container indicated the drum was received at TRUSAF in May 1989 (Attachment 2). On May 9, 1989, Mr. Aichele wrote on the checklist: "Hold-contains nitric crystals. Need better definition. May be mixed waste." On May 12, 1989, Mr. Aichele signed and dated the checklist and added the following remarks: "Return to PFP. Nitric Crystals listed on CIS. Mixed waste."

The drum had no hazardous waste label. I asked Mr. Aichele why the drum was not being managed as mixed waste. He said that an inhouse integrated audit was recently performed to determine if the waste should be managed as mixed waste. I informed him that if he suspects it to be mixed, then it should be managed as mixed.

WAC Violation
Failure to label Drum # RHZ-212-A19448 with hazardous waste label per Chapter 173-303-630(3).

Drum #RHZ-213-A21723, stored under an "OXIDIZER-FAILED X-RAY" sign, had free liquids identified on the associated documentation; however, the drum was not stored within a secondary containment system (Photo #9)(Attachment 3).

Drum #HRO-92-0000204, stored next to the entry door, had free liquids identified on the associated documentation; however, the drum was not stored within a secondary containment system (Photo #10)(Attachment 4).

WAC Violation
Failure to store drums #RHZ-213-A21723 and #HRO-92-0000204 with a compliant secondary containment system per WAC 173-303-630(7).

THIRD FLOOR:

The third floor contained radioactive and mixed waste storage arrays (Photos #11 through #20). A group of three arrays of mixed wastes at the north end were segregated due to high dose rate. Approximately a third of the floor was devoted to storage of wastes designated for disposal at WIPP.

Wastes originally shipped to TRUSAF as strictly radioactive, then, through the real-time radiography (RTR) process, discovered to contain a suspect and/or confirmed dangerous waste component (e.g., lead lined gloves, paint, free liquids, etc.) were not managed as radioactive mixed waste (e.g., hazardous waste labels were not applied, major risks were not identified, secondary containment was not provided, etc), or returned to the generator for proper designation and management. Violations were determined after

reviewing associated documentation that identified container contents as containing free liquids or containing a hazardous/dangerous component. Many containers bearing hazardous waste labels with waste codes identified did not have associated major risks marked on the containers.

We performed an initial inspection of the containers in the morning. At 1200 the group broke for lunch and agreed to reassemble at 1300 to resume the inspection. After lunch, Alisa, Bob, Don, and I accompanied UDSOE and WHC staff to MO-720 where we reviewed some WHC internal audit records from internal inspections performed at TRUSAF. (See section 4 of this inspection report.) I noted that a response to WHC audit findings and verification of corrective action was requested in the September 1, 1993, audit performed by Mr. Raja Ranade, WHC Environmental Compliance Assurance. WHC staff searched the files and reported that no response had been provided.

During our lunch break, Alisa, Bob, Don, and I decided that a detailed summary of the violations was necessary and that we would pursue such information upon return to TRUSAF. Upon return to TRUSAF, we went back to the third floor.

THIRD FLOOR:

Some of the drums, stacked two high, had no visible documentation attached (Photo #19). Mr. Kennelly stated that the top drums had been stacked on top of the paperwork for the bottom drums. Mr. Kennelly moved one drum by hand to reveal the container log on the lid of the lower container.

WAC Violation
Failure to label drums with hazardous waste labels and/or in a manner which adequately identifies the major risk(s) associated with the contents of the containers per Chapter 173-303-630(3).

Failure to store containers within a compliant secondary containment system per WAC 173-303-630(7).

Attachment 5 is a summary of the container violations found on the third floor.

We left the third floor and returned to the first floor where we had a closeout meeting. Mr. LaBarge, Mr. Szelmeczka, Mr. McDonald, Mr. Windsor, Mr. Kline, Bob, Donavon, Alisa, and I were in attendance. I identified three areas of concern: 1) lack of secondary containment systems for containers holding free liquids, 2) deficient hazardous waste labeling practices, and 3) deficient major risk identification on containers. I said that we will return to our office, write a report, and prepare a written response to USDOE and WHC as soon as possible.

We left the facility at approximately 1500 hours.

November 22, 1993

Alisa, Bob, and I arrived at the WRAM station at approximately 1130 hours. The WRAM operators were at lunch so we went to MO-720 to review and request records. We arrived at TRUSAF at approximately 1300 hours. WHC personnel present were Mr. Schorzman, Mr. Benson, Mr. Valerio, Mr. LaBarge, and Mr. Kennelly. Mr. Kline was present for USDOE.

I explained the purpose of our visit was to complete our investigation to determine compliance with interim status requirements under Chapter 173-303 WAC for hazardous and/or mixed waste and to status current activities with respect to the Dangerous Waste Part B Permit Application.

FIRST FLOOR:

We observed drums located in the north end of the first floor. They were stored close together without any aisle space. Mr. LaBarge said that the containers were all TRU waste, not TRU mixed, and therefore had no aisle space requirements under the Dangerous Waste Regulations. He said that the containers were stored in this location based on their gram loading/fissile content. If the fissile content is < 100 nCi/g, the container is stored in the north end of the first floor. If the fissile content is over > 100 nCi/g, the container is stored in the north end of the third floor. Upon closer inspection of the containers, we discovered that some of the containers did have mixed waste and were properly labeled and marked. Alisa asked Mr. Kennelly if any of the drums contained lead or free liquids. Mr. Kennelly said yes. Some drums were on secondary containment systems. We could not inspect most TRU containers due to inadequate aisle space (Photos #21 & #22).

We returned to the TRUSAF office area on the first floor and discussed documentation associated with the waste containers. Mr. Kennelly explained that the following documents accompany the waste containers:

- o Storage/Disposal Approval Record (SDAR), TRU Waste Storage Record
- o Onsite Radioactive Shipment Record (RSR)
- o Manifest, if mixed waste
- o WIPP Certification
- o Contents inventory sheet
- o Drum inspection checklist or equivalent
- o Traveler Sheet (generated while at TRUSAF)

Mr. Kennelly explained the waste management process.

1) An SDAR or TRU Waste Storage Record is approved by Acceptance Services and given to the generator.
2) Generator prepares manifest (if applicable), WIPP certification, contents inventory sheet, onsite RSR, and TRU waste storage record.
3) Before accepted at TRUSAF, operators inspect the integrity of drum, seal, etc.
4) TRUSAF operator signs generator's paperwork.
5) Drum is offloaded onto secondary containment pallets at TRUSAF.
6) Drums are weighed in the receiving room.
7) TRUSAF operator generates a Traveler Checklist. Drum weight is recorded.
8) Paperwork is copied and separated (copy to Solid Waste Engineering, copy for TRUSAF file, copy on drum).
9) Assay and RTR are performed.
10) Containers are sent to appropriate storage module.

Mr. Kennelly reported that Mr. Mike Purcell, WHC Analytical Laboratory representative, checks all Traveler Checklists after the assay and RTR has been completed and determines drum storage destinations within TRUSAF.

Mr. Kennelly reported that if the RTR cannot penetrate, finds lead, finds free liquids, etc., the drum is "put on hold." The drum's documentation and Traveler Checklist is forwarded to Mr. Aichele, Mr. Mike Purcell, or Ms. Nancy Shoemaker, who interprets the associated data, and decides what to do with the waste and where to store it. Mr. Kennelly reported that prior to storage and awaiting documentation review, the drums must stay in the assay room, x-ray room, or receiving room.

Alisa asked about the waste filing system. Mr. Kennelly reported that CWC personnel update the Solid Waste Information Tracking System (SWITS) to document waste transfers. *He said that no one within TRUSAF is currently entering data on SWITS to document drum movement/status while at TRUSAF.* Mr. Kennelly stated that container records are filed in the TRUSAF office based on date received, not PIN number. In order to locate a specific container file, one must first locate the drum within the facility, review the paperwork for date received, then backtrack to the container file. In other words, one has no means of locating a specific container file within TRUSAF unless the date received is first known.

Alisa and I selected three containers at random for container record review. One of the three records selected could not be found in the record file: Drum #RHZ-213-A21768, a mixed waste drum located on the third floor. The other two container files requested were found in the files.

WAC Violation
Failure to maintain operating records in a manner sufficient to locate wastes within the facility per WAC 173-303-380(1)(b).

I asked Mr. Kennelly for a copy of the building emergency/contingency plan. He produced document #WHC-IP-0263-224T (Attachment 6). Section 5.2 identifies and describes the emergency equipment provided. (Note: Section 5.4.2 states that the equipment is to be used for nonradioactive hazardous material spills. The waste at TRUSAF is exclusively radioactive waste.)

Alisa, Bob, and I performed a physical inspection of the facility to confirm the presence of the emergency equipment as dictated by the emergency/contingency plan. Upon inspection, little emergency equipment was found. No respirators or filtered masks were found (Section 5.2.3). No equipment identified under Section 5.2.4 was found on the third floor, as indicated in the plan. Some of the emergency equipment required under Section 5.2.4 was located in a cabinet near the entrance on the first floor, and two overpack drums with absorbent were located on the second floor. Fire extinguishers and the sprinkler system were in place. The following emergency items identified as required by the plan were not found within the TRUSAF facility: Hand-operated rotary pump, face shields, rubber coveralls, non-sparking shovels, radiation rope, respirators, and contaminated surface signs.

WAC Violation
Failure to maintain emergency equipment required under WAC 173-303-350(3)(e) in accordance with the facility Contingency Plan.

I asked Mr. LaBarge about environmental oversight for the TRUSAF facility. He said that Mr. Szelmeczka is the Environmental Compliance Officer for TRUSAF as well as for the 616 Building, CWC, and the burial grounds, and *it is difficult for him to cover all four facilities to the degree necessary to ensure full compliance.*

Ecology staff conducted an exit interview. I reiterated the items of concern from the November 18, 1993, inspection (i.e., secondary containment, container labeling, major risks identification), and added the concern over lack of required emergency equipment. Mr. Kline stated that the emergency equipment would be acquired and in place as soon as possible. I said that after review of our notes and preparation of the inspection report, Ecology would be responding back to USDOE and WHC in writing regarding noncompliant issues discovered during the inspection.

We left the facility at 1500 hours.

4. Documentation Assessment

WHC has performed several internal audits at the TRUSAF facility:

o Date: October 27, 1993
Performed by: Matt LaBarge, WHC RCRA Compliance Support
Deficiencies included:

- Inadequate major risks labeling (WAC 173-303-630(3)).

(Attachment 7)

o Date: September 1, 1993
Performed by: Raja Ranade, WHC Environmental Compliance Assurance
"Conditions" included:
- Need for detailed analysis on drums received as TRU and found to be suspect mixed (WAC 173-303-300)
- Suspect mixed drums are not being managed as mixed waste during storage.
- Suspect mixed containers are being stored with inadequate aisle space.

(Attachment 8)

o Date: March 23-25, 1993
Performed by: R.W. Tucker, et al., WHC Special Disposal Programs
"Action Items" included:
- Re-mark/label suspect TRU waste containers that have been designated as low level radioactive mixed waste and are known to contain free liquids from the non-destructive examination, and process as mixed waste before shipping to TSD facility.

(Attachment 9)

o Date: June 4-7, 1991
Performed by: J.D. Anderson, et al., Solid Waste Engineering Support
"Observations" included:
- Waste that is shipped to TRUSAF, assayed, and then shipped to the CWC or Burial Ground as low level waste may not meet all the low level waste criteria . . . . Procedures are not in place to provide assurance that this waste meets the low level waste and/or radioactive mixed waste requirements of WHC-EP-0063-2, "Hanford Site Radioactive Solid Waste Acceptance Criteria."

(Attachment 10)

Past internal assessments have shown a history of awareness regarding the problem of managing suspect radioactive mixed waste containers that were received at TRUSAF as strictly radioactive waste.

5. Summary of Violations

WAC 173-303-400 Interim status facility standards. (a) Interim status standards shall be standards set forth by the Environmental Protection Agency in 40 CFR 265 Subparts F through R . . . and: (i) . . . the facility requirements of WAC 173-303-280 through 173-

303-440; (ii) WAC 173-303-630(3) for containers. In addition, for container storage, the department may require that the storage area include secondary containment in accordance with WAC 173-303-630(7) . . . .

WAC 173-303-350 Contingency plan and emergency procedures.

- failure to maintain emergency equipment required under WAC 173-303-350(3)(e) in accordance with the facility contingency/emergency plan.

WAC 173-303-380 Facility recordkeeping.

- failure to maintain operating records in a manner sufficient to locate wastes within the facility per WAC 173-303-380(1)(b)

WAC 173-303-630 Use and management of containers.

- failure to label containers with hazardous waste labels and/or in a manner which adequately identifies the major risk(s) associated with the contents of the containers per WAC 173-303-630(3)

- failure to store containers within a compliant secondary containment system per WAC 173-303-630(7).

6. Additional Information

I received a telephone call from Mr. LaBarge on Wednesday, December 1, 1993. He said that Mr. Hapke, WHC, reported to him that all drums containing free liquids had been placed on secondary containment systems. (Mr. LaBarge said he had not been out to TRUSAF to visually verify Mr. Hapke's reported actions). Mr. LaBarge said that Mr. Hapke also reported that emergency equipment is now in place or on order. Mr. Hapke also said that his staff is working on plans to put hazardous waste labels on drums and mark with major risks as needed.

On December 6, 1993, Bob, Donavon, and I returned to TRUSAF to verify Mr. LaBarge's December 1, 1993, report. Upon arrival at the WRAM station, Mr. Szelmeczka said that Mr. LaBarge miscommunicated with Ecology (i.e., the drums containing free liquids had not all been placed on secondary containment systems). Mr. Kline, Mr. Szelmeczka, Donavon, Bob, and I proceeded to TRUSAF where we were met by Mr. Pratt. Mr. Pratt explained that the second floor sealant project was progressing and that the plan was to move containers from the third floor to the second floor once the second floor sealant was complete. At that time, the third floor would be sealed. Once complete, the containers could be returned to the third floor for storage.

Mr. Pratt said that the emergency equipment had almost all been acquired. He showed us an emergency kit stocked with items located by the first floor elevator.

I spoke with Mr. Mike Purcell on December 9, 1993. Mr. Purcell clarified that he is responsible for review of assay results; that Mr. Aichele and Ms. Shoemaker decide designation and disposition of waste containers.

I spoke with Mr. Raja Ranade on December 7, 1993. He confirmed to me that he had yet to receive the requested response for the audit he performed at TRUSAF on September 1, 1993 (Attachment 8).

7. Attachments

1) Course Completion Roster, Solid Waste Operations Facility Orientation, dated November 18, 1993
2) Operating record for container #RHZ-212-A19448
3) Operating record for container #RHZ-213-A21723
4) Operating record for container #HRO-92-0000204
5) Summary of violations found on third floor
6) Building Emergency Plan for 224-T TRUSAF, dated August 24, 1993
7) WHC RCRA Compliance Support Self-Assessment No. 93RCS-162 TRUSAF, report dated October 27, 1993
8) WHC Integrated Audit/Appraisal Audit Report, dated September 1, 1993
9) WHC Fiscal Year 1993 Low Level Waste Management Assessment for the Solid Waste Management, assessment date March 23-25, 1993
10) WHC Fiscal Year Waste Management Audit of Solid Waste Operations, assessment date June 4-7, 1991
11) Example of Traveler Checklist from Procedure SW-100-020
12) Example of Solid Mixed Waste Storage/Disposal Facilities Inspection Checklist
13) Inspection Checklists, April 18, 1988, February 26, 1992, January 25, 1993, February 2, 1993
14) WHC Training Administration, WHC-CM-5-34, dated April 30, 1993
15) Radiological Work Permit No. SW-013, Rev. 3.
16) Photo log

Attachment 1

COURSE COMPLETION ROSTER, SOLID WASTE OPERATIONS FACILITY ORIENTATION,
DATED NOVEMBER 18, 1993

COURSE COMPLETION ROSTER

Records Use Only

PLEASE TYPE OR PRINT ALL ENTRIES (EXCEPT SIGNATURES) IN BLACK BALL-POINT PEN.

The following personnel have attended the course as documented.

Course Number	Course Title	Date Completed	Date Expires
300700	Swp Facility Orientation	11/18/93	11/18/93

	Payroll No. or SSN	Last Name (Print)	Initials	Employee Signature	Company if not WHC/BCSR	Supervisor
0	EXAMPLE 8XX-XX-0000	Brown	J.D.		N/A	J.R. Smith
1	407-76-8490 GG926	Huckaby	A.D.	A.D. Huckaby	ECOLOGY	Morris Jaques
2	218-54-7076 TR261	Wilson	R.W.	Robert Wilson	ECOLOGY	Tom Tebb
3	482-42-0348 TG933	DORSEY	D.D.		ECOLOGY	TOM TEBB
4	569251159 66059	RUSSELL	LE	L Russell	"	"
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17						
18						
19						
20						

Comments:

Authorized Authenticator (Print/Type) Pete Sanger | MSIN T4-03 | Telephone 3-2216

Authorized Authenticator (Signature)

ORIGINAL TO TRAINING RECORDS, G6-60.

*U.S. GPO: 1992-693-507/60030

Attachment 2

OPERATING RECORD FOR CONTAINER #RHZ-212-A19448

[illegible]

COUNTING TIME IS 200.15 SECONDS

DETECTOR	COUNT	RATE	DETECTOR	COUNT	RATE
BARE DOOR	47075.	235.22	SHLD DOOR	[illegible]	[illegible]
BARE RIGHT	45292.	226.63	SHLD RGHT	11[illegible]	[illegible]
BARE BACK	43592.	217.83	SHLD BACK	11[illegible]	[illegible]
BARE LEFT	43810.	218.91	SHLD LEFT	[illegible]	[illegible]
BARE TOP	19814.	99.00	SHLD TOP	[illegible]	[illegible]
BARE BOTM	21861.	109.23	SHLD BOTM	[illegible]	[illegible]
FLUX MONITOR	23.	.12	2ND FLUX MONITOR	180.	[illegible]

SYSTEM TOTALS RATE 1595.73 SHIELDED TOTALS RATE 357.65 [illegible]

NEUTRON COINCIDENCES

SHIELDED TOTALS	[illegible]	[illegible]
SYSTEM TOTALS	[illegible]	[illegible]
1ST H LONG [illegible]	[illegible]	
1ST H SHORT [illegible]	[illegible]	
10 MHZ CLOCK PULSES	[illegible]	
TOTAL CLOCK PULSES	[illegible]	
1ST H GATED SHORT TOTALS	[illegible]	
1 MHZ CLOCK GATED WITH SHORT	[illegible]	
1ST H GATED LONG TOTALS	[illegible]	
1MHZ CLOCK GATED WITH LONG	[illegible]	

LONG GATE LIVE TIME [illegible] SEC

SHORT GATE LIVE TIME [illegible]

NET COINCIDENT NEUTRONS/LONG GATE [illegible]E-01 +/- [illegible]

NET COINCIDENT NEUTRONS/SHORT GATE [illegible]E-02 +/- [illegible]

SYSTEM TOTALS RATE 1595.7 +/- 2.8577

SHIELDED TOTALS RATE 357.65 +/- 1.3663

NET COINCIDENT LONG GATE NEUTRONS/LIVE TIME 14.458 +/- 2.[illegible]

NET COINCIDENT SHORT GATE NEUTRONS/LIVE TIME .[illegible] +/- .13721

9445227.1780

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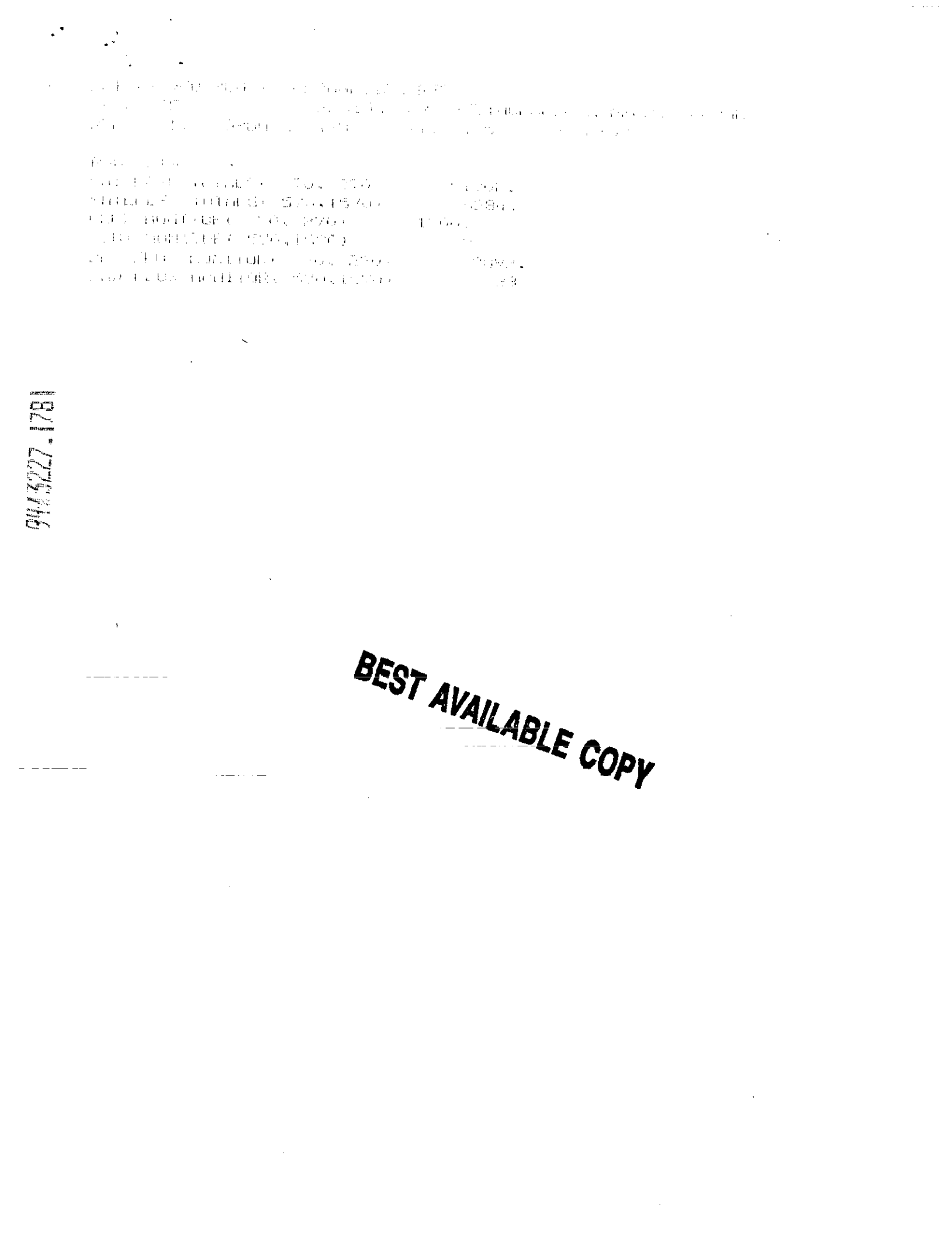

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[illegible]	[illegible]
[illegible] CORRECTION FACTOR	[illegible]
[illegible] CORRECTION FACTOR	[illegible]
[illegible] CORRECTION FACTOR	[illegible]
[illegible] COINC CORR FACTOR	1.2311
[illegible] COINC CORR FACTOR	1.[illegible]
[illegible] RATE CORR FACTOR	1.1[illegible]
[illegible] RATE CORR FACTOR	1.[illegible]
[illegible] ISOTOPIC CORR FACTOR	1.[illegible]
[illegible] ISOTOPIC CORR FACTOR	1.[illegible]
[illegible] MCI/G FACTOR	[illegible]

[illegible] MASS	[illegible]	[illegible]	+/-	[illegible]
PASSIVE MASS	[illegible]	[illegible]	+/-	[illegible]

SUMMARY REPORT

RUN NUMBER	11	DISK ID	[illegible]	CONTENT CODE	[illegible]
PRIMARY ID	[illegible]		SECONDARY ID		[illegible]
TIME AND DATE OF ACTIVE	[illegible]		[illegible]		
TIME AND DATE OF PASSIVE	[illegible]		[illegible]		
PASSIVE COUNT TIME	[illegible]		NO OF ACTIVE PULSES		[illegible]

SYSTEM TOTALS RATE	[illegible]	+/-	2.4577
SHIELDED TOTALS	[illegible]	+/-	1.9069
2? USEC COINC RATE	.74248	+/-	.1[illegible]
250 USEC COINC RATE	14.[illegible]	+/-	2.[illegible]
SHIELDED ACTIVE SIGNAL	[illegible]		
SHIELDED ACTIVE BACKGRD	[illegible]		
FLUX MONITOR	[illegible]		
CORRECT FLUX MONITOR	[illegible]		

PERCENT PU-239		94.00 CONTAINER WEIGHT(KG)	
PASSIVE MASS(G)	[illegible]	+/-	[illegible]
ACTIVE MASS(G)	[illegible]	+/-	[illegible]
MCI/G	[illegible]	+/-	[illegible]
TOTAL ALPHA ACT (CI)	[illegible]		
THERMAL POWER (WATT)	[illegible]E-01		
[illegible]	[illegible]E-02		

9111327.1783

TRAVELER CHECKLIST

(✓) STORAGE AREA #1
(   ) STORAGE AREA #2

DRUM ID. RH2-212-A19478

ASSAY

1. NORMAL RUN ✓ OK*
2. ABSORBER INDEX <15 ✓ OK ____ HOLD
3. DETECTORS AGREE ✓ OK*
4. ASSAY + +/- >100 nCi/g ✓ TRU
5. ASSAY + +/- >100 nCi/g (ROOM WASTE ONLY) ____ RETURN TO GENERATOR
6. ASSAY + +/- ≤100 nCi/g ____ LOW-LEVEL
7. IF ACTIVE ASSAY IS >141 GRAMS, BUT <287 GRAMS, NOTIFY SUPERVISION AND SEGREGATE DRUM IN DESIGNATED 3rd FLOOR STORAGE AREA.

   ________ TIME SUPERVISION NOTIFIED
8. IF ACTIVE ASSAY IS >287 GRAMS, STOP ALL OPERATIONS AND NOTIFY SUPERVISION. DO NOT REMOVE DRUM FROM ASSAYER.

   ________ TIME SUPERVISION NOTIFIED
9. PRELIMINARY ASSIGNMENT:

   ✓ TRU (CERTIFIED) ____ TRU (STORAGE PADS)

   ____ LOW-LEVEL ____ HOLD ____ RETURN TO GENERATOR

OPERATOR'S INITIALS BDW Barnes DATE 5-2-89

APPROVAL, ANALYTICAL LAB REP. Rek DATE 5-9-89

*IF "OK" CANNOT BE CHECKED, NOTIFY SUPERVISION OR LABORATORY REP.

RTR LOG 1428

X-RAY

1. TAPE NUMBER 179 FOOTAGE 621
2. DETERMINED TO X PASS ____ FAIL ____ BE ON HOLD
3. REMARKS: ________

________ SIGNATURE WHNelson DATE 5-8-89

DESTINATION Return to PFP TRUSAF MANAGER M. D. [illegible] 5-12-89
SIGNATURE/DATE

Nitric Crystals listed on CIS, [illegible]

Hold - contains Nitric Crystals, need better definition, MS be mixed correctly, [illegible] 5-9-89

Document No.	Rev/Mod	Page
TO-100-020		

16001

ITEM ID TAG HERE
UNDER PAPER
IN PRINTER

A 19448

ITEM COUNT STARTED AT 10.9144 HOURS ON DAY 55 OF 1989
BY: E MAUER

PU GROSS COUNT	11430	FP GROSS COUNT	791
-PU BKG COUNT	874	-FP BKG COUNT	519
PU NET COUNT	10556	FP NET COUNT	272

CALIBRATION CURVE USED: LOW DENSITY COMBUSTIBLE DRUM

ITEM WEIGHT = 85.4546 KGS (188 POUNDS)

PLUTONIUM CONTENT = 23.2784 GRAMS
SEND DRUM TO 27362B FOR REMEASUREMENT

FISSION PRODUCT COUNT WITHIN ACCEPTABLE LIMITS

Measurement invalid
no Bkg/Std after.
RAH 2-27-89

9M4227.1789

IDENTIFY THIS CONTAINER: ? RHZ-212-A19448

INPUT YOUR LAST NAME? KING
ESTIMATE WT % PU-240: ? 6
MULTIPLE SCANS? N
START 2736-ZB LARGE TABLE ROTATION

ITEM ID #: RHZ-212-A19448

PASS 1 OF 1 DONE AT 12:33:15 ON 09-MAR-89
USING 2736-ZB LARGE TABLE GEOMETRY # 1

SEG #	TRANSMISSION	CORR FACTOR	CORR COUNTS
1	0.051	2.809	16.2
2	0.024	3.405	35.8
3	0.110	2.258	35.3
4	0.232	1.776	31.5
5	0.281	1.662	24.9
6	0.175	1.952	23.1
7	0.075	2.524	23.1
8	0.049	2.841	20.2
9	8.99817E-03	4.205	16.2
10	0.198	1.874	6.0
11	0.188	1.907	7.0
12	0.271	1.683	5.5
13	0.242	1.751	3.0
14	0.203	1.858	5.9
15	0.410	1.449	3.6
16	0.353	1.532	4.2
17	0.333	1.564	2.9
18	0.620	1.236	2.9
19	0.690	1.184	0.9
20	0.765	1.136	0.1
21	0.236	1.765	0.3

TOTAL GRAMS PU239 = 27.8 +- 0.7 (2.4 % UNCERTAINTY @ 95% CL)
TOTAL GRAMS PU = 29.8 +- 0.7 GMS

WRITING RESULTS TO SGSAS.DAT FILE RECORD # 72 . 928 RECORDS LEFT.

PUSH RED BUTTON TO STOP ROTATION
** ASSAY ITEM READY FOR UNLOADING **

INSPECTION SHEET
FOR TRU WASTE DRUM OR LARD CAN

A. EMPTY CONTAINER

_____ 50-lb Lard Can ✓ 55-Gal Drum

89-234 Drum Trace Number

Instructions: Fill in blanks. Use check mark to indicate satisfactory condition. If damage is observed, describe damage. If item does not apply, record N/A.

DOT-17C stamped on bottom ✓
Surface integrity (no dents, scratches, holes, cracks) ✓
Lid, gasket, roundness ✓
Lockring, bolt ✓
Rivets on handle (lard can only) N/A
Trace number applied ✓

Accepted ✓ Rejected _____

Operator's Signature M R Peterson Date 12-13-88

QC Signature Ed Spivey for Date 12-13-88

B. FILLED, SEALED DRUM

Instructions: Note any damage observed. Use check mark to indicate satisfactory condition. Enter Drum No., Seal No., signatures and dates.

Lid ✓
Gasket ✓
Drilled bolt ✓
Vent Clip installed ✓
Catalyst packet in place ✓
Bolt properly torqued Burt 2-17-89
Locknut tightened against threaded by ✓
Exterior surface undamaged ✓
Drum number applied _____ Drum No. RH2-212-A19448
Gross weight applied ✓ Gross Wt. 188 lbs 88 KGS
Rockwell package label completed, signed, affixed ✓
Security seal applied TLW ✓ Seal No. WHC 40959
Contents Inventory Sheet attached ✓

Operator's Signature D L C Date 3-3-89

Reviewer's Signature R P Oler Date 3/3/89

OFFICIALLY RELEASED 26A ODM

Document No.	Rev/Mod	Page
ZO-170-016	D-2	4

ED-6400-083.2 (N-8-82)

TRACE # 89-234
Seal # W 40959

WIPP CERTIFICATION CHECKLIST

CONTAINER NUMBER RH2-212A19448 DATE CONTAINER SEALED 3-3-89

YES	NO	WASTE ACCEPTANCE CRITERIA
☑	☐	DOT Type A Container.
☑	☐	Heavy or bulky items are blocked to prevent shifting.
☑	☐	Container is free of defects.
☑	☐	Waste contains less than 1% by weight powders.
☑	☐	Waste does not contain any free liquids.
☑	☐	Waste does not contain any explosives or compressed gases.
☑	☐	Waste does not contain any organic peroxides, oxidizers, flammable solids or metal fines.
☑	☐	Waste does not contain any sludges with pH ≤ 4.0.
☑	☐	Waste contents will not react with each other or with container.
☑	☐	Surface contamination is ≤ 50 pCi (100 dpm) / 100 sq cm alpha and ≤ 450 pCi (1000 dpm) / 100 sq cm beta-gamma.
☑	☐	Proper labeling has been applied.
☑	☐	Hazardous and corrosive co-contaminants are identified on Contents Inventory Sheet.
☑	☐	Gross weight is less than qualified DOT Type A limit (658 kg)
☑	☐	Pu-239 Fissile Gram Equivalent content is less than WIPP specified limit (200 g)
☑	☐	Pu-239 equivalent TRU activity (PE-Ci) is less than the WIPP specified limit of 1000 PE-Ci.
☑	☐	Surface dose rate is ≤ 200 mrem/hr (beta, gamma and neutron) at any point.
☑	☐	Neutron dose rate contribution is ≤ ~~50~~ 25 mrem/hr

The waste package described above is unclassified and meets all WIPP Waste Acceptance Criteria

☑ With no exceptions

☐ With the following exceptions:

RP Olson 3/3/89
Plant Operations Authority signature and date

[signature] 3/24/89
Independent Reviewer signature and date

Document Review Only [signature] 4/27/89

White - SWP&DO, 2750E, 200-E
Yellow - TFO, 272WA, 200-W
Pink - Return Shipper

BC-6400-132 (7-85)

RHF27.1787

CONTENTS INVENTORY SHEET

(1) Page 1 of 2

(2) Waste Generator/Location WHC 236-Z Corr 14

Trace No 89-2-30
Seal # - WHC 40959
(3) Container No. R42-212 A18448

(4) Container Type 55 gal Drum

Initials (5)	Initials (5)	Article Description	Content Code (7)	Mass of Organics (Kgs) (8)	Volume of Organics ☐ Ft3 ☒ M3 (9)	Hazardous Material Name (10)	Hazardous Material Qty. Kgs. (11)	Radioactive Content TRU Isotopes (12)	Radioactive Content Grams (13)
AP	SD	2 Pipe Wrench 15%; 1 Rachet Screwdriver (Tools) 3%; Drill Bits 5%; Sample Bottle 10%; Tubing Tygon ½" 53%; Nut & Bolt (Tools) 5%; Tubing ½ Teflon Kelly Chiller 7% 1%		~~40 lbs~~ 2	.01	None	Ø	Pu 239 94%	13 gram
JMS	SD	Plastic 25%; Wrench 5; Zip Bottle 10; Stainless Steel 20; Kelly Ken 38		~~10 lbs~~ 1	.005 HO 1-6-89				5 | 18
Q / Q	JE / JE	Outter Ring 90% metal Plastic 10%; Outter Ring 90% Plastic 10%		.25 / .25	.0025 / .0025				0 | 18; Ø | 18
TM	MM	Stainless steel piping and 75%; Cloth tape and pipe cutter - 10%; plastic - 15%		.5	.005	—	Ø SO 1-11-89		11 | 29
Q	TLW	1 Glass Window 80%; 10% Paper 10% Plastic		.5	.0025				Ø | 29; Ø | 29
PB	MS	1 Glass window 80%; 10% Paper 10% Plastic		.5	.0025				Ø | 29
PB	MS	1 Glass window 85%; 10% Paper 10% Plastic		.5	.0025				
Q	TW	80% Cloth Rags 10% Plastic 10% D.E.		2	.005	HO 1-18-89			0 | 29
		Page Total		(14) 7.5 Kgs	(16) ~~.0325~~		(18) Ø		(20) 29 g
		Total (all pages)		(15) 10.5 Kgs	(17) .0585		(19) Ø Kgs		(21) 35 g

(22) RP Olen 3/3/89
Plant Operations Authority, Signature/Date

(23) E. Harvey 3/24/89
Independent Reviewer, Signature/Date

(24) Other Radioactive Content None

(25) Gr wt Kgs 88 lbs. 188

Distribution: White – WASU, 2750E, 200E Canary – TF&O, 272WA, 200W Pink – Retain - Shipper

BC-6400-131 (07/87)

9113222.1788

CONTENTS INVENTORY SHEET

(1) Page 2 of 2

(2) Waste Generator/Location WHC 2345 13th East

Trace 87-234

SEAL # - WHC 40959

Container No. (3) RLF-212A 19448

Container Type (4) 55 Gal Drum

Initials	Initials	Article Description	Content Code	Mass of Organics (Kgs)	Volume of Organics ☐ Ft3 ☒ M3	Hazardous Material Name	Hazardous Material Qty. Kgs.	Radioactive Content TRU Isotopes	Radioactive Content Grams
(5)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Q	WHC	3 55 Ball valves 15% 4 55 couplings 1" 10% Paper Ice Cream Cartons 5% Plastic Bags 23% 1 nut driver 7/16" 2%	N/A	1	.005	NONE	0	Pu 239 94%	1 30 (Total)
DRT	WHC	4 poly jars cemented (80% 20% plastic) NITRIC CRYSTALS		.5	.005				0 30
RET	WHC	4 poly jars cemented (80%) Nitric Crystals plastic-20%		.5	.005				0 30
Q	RLS	1/2" SS Tubing several pieces (88%) ~24" Long. 2-SS Valves Paper - Plastic Dirt-Earth 2% 8% 2%		1.0	.005				3 33
A Q	WHC	1 EMV 80% Plastic 15% Dirt Earth 5%			.001	NO-2-3-89			2 35
		Page Total		(14) 3 Kgs	(16) .021		(18) 0		(20) 6 g
		Total (all pages)		(15) 10.5 Kgs	(17) .0585		(19) 0 Kgs		(21) 35 g

(22) RPAder 3/3/89
Plant Operations Authority, Signature/Date

(23) E Whitney 3/24/89
Independent Reviewer, Signature/Date

(24) Other Radioactive Content None

(25) Gr. wt. Kgs 88 +35

Distribution: White – WASU, 2750E, 200E Canary – TF&O, 272WA, 200W – Pink – Retain - Shipper

BC-6400-131 (07/87)

0827 222 WHC

Trace# 89-234

Westinghouse Hanford Company

SOLID WASTE STORAGE /DISPOSAL RECORD

Page 1 of 1

Waste Designation ☒ TRU ☐ LLW ☐ MW ☐ Classified

SWSDR No. (Do Not Write In This Space)

STORAGE/DISPOSAL SITE (This portion to be completed by WHC at storage disposal site)

I certify that a physical inspection of the waste packages to the extent possible and a cross check of the applicable documentation have been performed in accordance with approved Westinghouse Hanford Procedures

Signature-Acceptance [signature] Date 5-1-89

Temporary Storage Location 224-T

☒ Check here if acceptance copy of this form is sent to SSWESU

Disposition of Waste ☐ Pad/trench storage ☐ Disposal ☐ Building Storage ☐ Compaction

Area | Facility | Unit | Tier

Beginning Coordinates N____ W____ Ending Coordinates N____ W____

Signature-Storage/Disposal Date

WASTE GENERATOR WHC

Charge Code K6-Z

DOE Authorization No. (WRM) None

Name of Contact E.C. MINCEY

Address/Phone 234-5Z 200 West 3-4160

I certify that: (1) No capital property is included in this storage/disposal unless documented by a Property Disposal Request and described below. (2) The waste package description below is complete and accurate, and the waste package meets the requirements of WHC-EP-0063 and the approved Storage/Disposal Approval Record (SDAR). (3) Unless designated as MW, this waste contains no hazardous constituents as defined by TSCA, RCRA, WAC 173-303, or other state or federal regulation. (4) I have been trained in procedures for the identification and management of mixed waste. (5) The charge code is correct.

Signature [signature] Date 3/24/89

SDAR Approval No. 1-1B-2D-3

Uniform Haz. Waste Manifest No. None

Comments

ZB-89- 04-21

WASTE PACKAGE INFORMATION SWSDR ( )

PIN RHZ-212-A19448

CONTAINER 55 gal. drum

CONTAINER VOL. Seal#W 40959 .21 ☐ FT³ ☒ M³

LxWxH N/A

GROSS WEIGHT 89 kg 188 ☒ LBS 88 ☒ KG

POINT OF ORIGIN 234-5Z 200 West

DOSE RATE AT 1 cm. = <1 mrem/hr.

AT 1 m. = mrem/hr.

DOE-NRC 741 NO. HUD-VUC- 215

PROPERTY DISPOSAL REQ. NO. None

PHYSICAL DESCRIPTION Individual packages, double wrapped w/dia. earth

THERMAL POWER (W/FT³) 0.1 watts or less, vented w/catalyst pack.

ORGANIC MATL. WT. (kg) 10.58

ORGANIC MTL. VOL.% 32

WASTE CONTENTS DESCRIPTION

WASTE CATEGORIES	WASTE DESCRIPTION	WT. (kg.)	COMBUSTIBLE VOL.%	NON-COMB VOL.%
☐ BW	Paper / Plastic	1 / 5.68	6 / 16	
☐ CE	Cloth	1.5	6	
☐ DO	Rubber	2.32	4	
☒ DS	Metal	25.5		36
☐ SS	Cement / Glass	15 / 7		20 / [illegible]
☐ NC	Dia. Earth	1		<1
	TOTALS	58	32	68

HAZARDOUS CONSTITUENTS

WASTE NO.	ITEM DESCRIPTION	WT. (kg.)
N/A	None	0
	TOTALS	0

RADIOACTIVE MATERIAL CONTENT TRU only

ELEMENT	DISTRIBUTION (wt%)	WT./Ci	PU 239-FGE	PE-Ci	ALPHA Ci
pu 239	94	28 / 14	28	14	14
pu 240	6	2 / 1	<1	1	1
TOTALS		30 / 15	28	15	15

Distribution: White – Site Solid Waste Engineering Support Unit, 2750E, R1-51 Canary – Tank Farms Scheduler, 272WA, T4-01
Pink – Return to Shipper Goldenrod – Acceptance Copy – Send to Site Solid Waste Engineering Suport Unit, 2750E, R1-51

54-6000-226 (08

9422.1290

☆ U.S. GOVERNMENT PRINTING OFFICE: 1989—691

Attachment 3

OPERATING RECORD FOR CONTAINER #RHZ-213-A21723

TRAVELER CHECKLIST

(✓) STORAGE AREA #1
( ) STORAGE AREA #2

DRUM ID. RH7-213-A21723

ASSAY

1. NORMAL RUN ___OK*

2. ABSORBER INDEX <15 ___OK _____HOLD

3. DETECTORS AGREE ___OK*

4. ASSAY + +/- >100 nCi/g ___TRU

5. ASSAY + +/- >100 nCi/g (ROOM WASTE ONLY) ___RETURN TO GENERATOR

6. ASSAY + +/- ≤100 nCi/g ___LOW-LEVEL

7. IF ACTIVE ASSAY IS >141 GRAMS, BUT <287 GRAMS, NOTIFY SUPERVISION AND SEGREGATE DRUM IN DESIGNATED 3rd FLOOR STORAGE AREA.
_____TIME SUPERVISION NOTIFIED

8. IF ACTIVE ASSAY IS >287 GRAMS, STOP ALL OPERATIONS AND NOTIFY SUPERVISION. DO NOT REMOVE DRUM FROM ASSAYER.
_____TIME SUPERVISION NOTIFIED

9. PRELIMINARY ASSIGNMENT:

____#3 TRU (CERTIFIABLE) ____#4 PNL CERTIFIABLE
____#5 LOW-LEVEL ____#6 HOLD ____#7 RETURN TO GENERATOR

OPERATOR'S INITIALS _____ DATE _____

APPROVAL, ANALYTICAL LAB REP _____ DATE _____

*IF "OK" CANNOT BE CHECKED, NOTIFY SUPERVISION OR LABORATORY REP.

RTR LOG 1911

X-RAY

1. TAPE NUMBER 255 FOOTAGE 000 - 217

2. DETERMINED TO ____ PASS X FAIL ___ BE ON HOLD

3. REMARKS: Free Liquid AND CANNOT penetrate bottles

SIGNATURE KM Jones DATE 2-25-92

DESTINATION Third Floor TRUSAF MANAGER M M Rhoades 5-13-92
SIGNATURE/DATE

OX edge
Failed X-Ray

Document No.	Rev/Mod	Page

9H-4227-1792

(1925)

PLA A 21722 HERE
SLI R PAPER
DO NOT INTER

ITEM COUNT STARTED AT 18.0628 HOURS ON DAY 52 OF 1991
SA SNOOK

PU GROSS COUNT	3305	FP GROSS COUNT	662
-PU BKG COUNT	942	-FP BKG COUNT	557
PU NET COUNT	2363	FP NET COUNT	105

CALIBRATION CURVE USED: LOW DENSITY COMBUSTIBLE DRUM

ITEM WEIGHT = 73.6364 KGS (162 POUNDS)

PLUTONIUM CONTENT = 5.14451 GRAMS

FISSION PRODUCT COUNT WITHIN ACCEPTABLE LIMITS

9114227.793

PLA A 21723 HERE
SLI R PAPER
DO NOT INTER

ITEM COUNT STARTED AT 18.1606 HOURS ON DAY 52 OF 1991
BY: SA SNOOK

PU GROSS COUNT	2598	FP GROSS COUNT	641
-PU BKG COUNT	942	-FP BKG COUNT	557
PU NET COUNT	1656	FP NET COUNT	84

CALIBRATION CURVE USED: LOW DENSITY COMBUSTIBLE DRUM

ITEM WEIGHT = 109.091 KGS (240 POUNDS)

PLUTONIUM CONTENT = 3.60142 GRAMS

FISSION PRODUCT COUNT WITHIN ACCEPTABLE LIMITS

INSPECTION SHEET
FOR TRU WASTE DRUM OR LARD CAN

A. EMPTY CONTAINER \ 50-lb Lard Can X 55-Gal Drum

88-675 Drum Trace Number

Instructions: Fill in blanks. Use initials to indicate satisfactory condition. If damage is observed, describe damage. If item does not apply, record N/A.

DOT 17C stamped on bottom ✓

Surface integrity (no dents, scratches, holes, cracks) ✓

Lid, gasket, roundness ✓

Lockring, bolt ✓

Rivets on handle (lard can only) N/A

Filtered vent installation N/A

Trace number applied ✓

Accepted ✓ Rejected

Operator's Signature Scott Lucas Date 1-25-91

QC Signature/Stamp B Rahm Date 1-25-91

INSPECTION SHEET
FOR TRU WASTE DRUM OR LARD CAN

B. FILLED, SEALED DRUM _____ 50-lb Lard Can ✓ 55-Gal Drum

88-675 Drum Trace Number

Instruction: Note any damage observed. Use initials to indicate satisfactory condition. Enter Drum No., Seal No., signatures and dates.

Lid ✓

Gasket ✓

Drilled bolt ✓

*Vent Clip installed ✓

*Catalyst packet in place ✓

Bolt properly torqued [illegible] 7-30-91 840-88-01-047 7-16-92

Locknut tightened against threaded lug ✓

Filtered Vent properly torqued ✓

Exterior surface undamaged ✓

Drum number applied ✓ Drum NO. RHZ-213-A21723

Gross weight applied ✓ Gross Wt. 240 lbs

Westinghouse package label completed, signed, affixed ✓

Security seal applied ✓ Seal No. W50534

CONTENTS INVENTORY SHEET attached ✓

Operator's signature [signature] Date 7-30-91

Reviewer's Signature [signature] Date 7-30-91

*Not required if filtered vent is present on drum lid.

WIPPCALC (PFP) Ver. 11-5-90

ITEM: A 21723

DATE MEASURED: 2 - 21 - 91

MEASUREMENT SYSTEM: NaI PACKAGE COUNTER

GRAMS PU: 4

THE FOLLOWING VALUES ARE BASED ON PU/AM-241 RELATIVE ABUNDANCES

APPROVED BY PFP PROCESS ENGINEERING

ISOTOPE	WT%	GMS	CI	FGE	PECI	ALCI	WATTS
PU-238	0.0298	0.0012	0.0204	0.0001	0.0185	0.0204	0.0007
PU-239	93.7219	3.7489	0.2325	3.7489	0.2325	0.2325	0.0072
PU-240	5.7074	0.2283	0.0518	0.0051	0.0518	0.0518	0.0016
PU-241	0.5213	0.0209	2.1555	0.0469	0.0415	0.0001	0.0001
PU-242	0.0196	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000
AM-241	0.0554	0.0022	0.0076	0.0000	0.0076	0.0076	0.0003
TOTALS			2.4677	3.8011	0.3518	0.3123	0.0098

THERMAL POWER DENSITY = 0.0013 WATTS/CU FT

WIPP CERTIFICATION CHECKLIST

Container number RH2-213-A21723 Date Container Sealed 07/30/91

YES	NO	WASTE ACCEPTANCE CRITERIA
☑	☐	DOT Type A Container.
☑	☐	Heavy or bulky items are blocked to prevent shifting.
☑	☐	Container is free of defects.
☑	☐	Waste contains less than 1% by weight powders.
☑	☐	Waste does not contain any free liquids.
☑	☐	Waste does not contain any explosives or compressed gases.
☐	☑	Waste does not contain any organic peroxides, oxidizers, flammable solids or metal fines.
☑	☐	Waste does not contain any sludges with pH ≤ 4.0.
☑	☐	Waste contents will not react with each other or with container.
☑	☐	Surface contamination is ≤ 50 pCi (100 dpm) / 100 sq cm alpha and ≤ 450 pCi (1000 dpm) / 100 sq cm beta-gamma.
☑	☐	Proper labeling has been applied.
☑	☐	Hazardous and corrosive co-contaminants are identified on Contents Inventory Sheet.
☑	☐	Gross weight is less than qualified DOT Type A limit (678 kg).
☑	☐	Pu-239 Fissile Gram Equivalent content is less than WIPP specified limit (200 g).
☑	☐	Pu-239 equivalent TRU activity (PE-Ci) is less than the WIPP specified limit of 1000 PE-Ci.
☑	☐	Surface dose rate is ≤ 200 mrem/hr (beta, gamma and neutron) at any point.
☑	☐	Neutron dose rate contribution is ≤ 20 mrem/hr.

The waste package described above is unclassified and meets all WIPP Waste Acceptance Criteria

☐ With no exceptions

☑ With the following exceptions:

OXIDIZER - Aluminum Nitrohydrate Nitrate (ANN)

nt Operations Authority
ina'ure and date

10/21/91

Independent Reviewer
signature and date

10/22/91

ite - WASU, 2750E, 200-E
low - TFS, 272WA 200-W
k - Retain, Shipper

BC-6400-132 (11-87)

WASTE INVENTORY SHEET

SWSDR Serial No 30842 PIN No RHZ-213-A21723 Manifest No 10937 Manifest Date 10/23/91

Initials	Article Description	Volume %	Weight (kg)	Radionuclide	Curies	Weight (g)	Hazardous Constituents	Designation	Weight (kg)	Waste No.	Hazard Class
	2/21/91 255-B2										
SS	14- 4 liter plastic jars	20%	25K	Pu 238, 239, 240 241, 242,	2.4601	3.9978	Aluminum Nitrate	RmwEHW	3.0	D001 WT01	OXIDIZER
	3- .5 liter plastic jars	5%	1K	Am 241	.0076	.0022	Nonahydrate	—	—	—	—
	Diatomaceous Earth	28%	20K	↓							
	28-plastic bags	6%	4K				Chromium	Rmw-EHW	.02	D007	—
	Cloth Tape	.4%	.8K								
	10-mil Liner	2%	.25K								
	Conwed Pads	16.5%	20K								
MR	1- 4 l. polyjar - Plastic	5%	1.8K				Aluminum Nitrate	Rmw-EHW	.90	D001 WT01	OXIDIZER
	Diatomaceous Earth	10%	1K				Nonahydrate	—	—	—	—
	2 plastic bags	2%	.2K								
	Cloth Tape	.1%	.01K				Chromium	Rmw-EHW	.02	D007	—
				↓							
	(57% organic wt. - .12 (m3) Volume)										
	(53.06 Kgs organic)										
	Ann (ABSORBED - see Haz. Const.)	5%	3.94								
Page Totals		100%	78K	Pu 238, 239, 240, 241, 242, Am 241	2.4677	4g.	Aluminum Nitrate Nonahydrate, Chromium D001, D007, WT01		3.94	OXIDIZER, D007, D001 WT01	
Total All Pages		100%	78K		2.4677	4g.			3.94		

Verification Signature [illegible] Date 10/ 91

9116222.1298

S 00-578 (09-90)

30842

SOLID WASTE STORAGE/DISPOSAL RECORD

8 Page 1 of 2

Storage/Disposal Site

I certify that a physical inspection of the waste packages to the extent possible and a cross check of the applicable documentation have been performed in accordance with SW-100-050 or SW-100-110.

2. Signature - Acceptance: J. Tolsma — Date: 10-23-91

3. Area: 2 W. — 4. Facility: 224-T — 5. Unit:

6. Storage Location (S01)

Module: — Tier: — Position:

7. Disposal Location (D81)

Beginning Coordinates N W

Ending Coordinates N W

9. Waste Designation ☒ TRU ☐ LLW ☒ RMW ☐ C+ ☐ Classified

1. SWSDR No. (DO NOT WRITE IN THIS SPACE)

10. Waste Generator WHC

11. Charge Code, SO No., or MPO No. KK-Z

12. WRM No. N/A

13. Name of Contact (Type or Print Clearly) Joe Estey

14. Address/Phone 234-5Z, 200 W 3-2388

I certify that: (1) No capital property is included in this waste unless documented by a Property Disposal Request and described below. (2) To the best of my knowledge, the information entered below is complete and accurate, and the waste package is in compliance with WHC-EP-0063 and the Storage/Disposal Approval Record (SDAR). (3) Unless designated as Radioactive Mixed Waste (RMW), this waste is not a dangerous waste as defined by Chapter 173-303 WAC or other applicable state or federal regulation governing the management of hazardous waste. (4) The charge code is correct.

15. Signature — Date 10/22/91

WASTE PACKAGE INFORMATION

16. PIN RHZ-213-A 21723 — 17. POINT OF ORIGIN 234-5Z, 200W

18. CONTAINER TYPE DOT 7C 55gal. — 19. L x W x H OR D x L N/A

20. CONTAINER VOLUME (m^3) .208 (m^3) — 21. EMPTY TARE WEIGHT OF CONTAINER (kg) 31 Kg (109)

22. DATE PACKAGED 07/30/91 — 23. GROSS WEIGHT (kg) 109 Kg (240 lb)

24. THERMAL POWER ☐ <0.1 W/ft³ — 25. ORGANIC MATL. VOL % 57% — 26. ORGANIC MATL. WT. (kg) ▲ 12 (m^3) (53.06 Kg)

27. Dose Rate (mrem/hr) <.5 at Contact — NEUTRON (>20 mrem/hr) N/A

28. Physical Description of Waste and Comments

Dried ANN crystals in Diatomaceous Earth, Contaminated pads, plastic bags and plastic sheets.

manifest - 10937 (item A)

RMW-EHW (WA5034)

REFERENCES

29. DOE/NRC 741 NO. HWD-WHC- — 30. RSR NO. (HANFORD ONSITE WASTE GENERATORS ONLY) 4498C

31. PROPERTY DISPOSAL REQUEST NO. N/A — 32. SDAR NO. 14-1H-2Am-0641

WASTE CONTENTS DESCRIPTION

33. WASTE CATEGORY (CHECK ONE): ☐ BW ☐ CE ☐ DD ☒ DS ☐ SS ☐ NC

34. WASTE CODE (CHECK ONE): ☐ FW ☐ CL ☐ SL ☐ CM ☒ DM ☐ PB ☐ LM ☐ HM ☐ WD ☐ GL ☐ TW ☐ SO ☐ NC ☐ PA

35. WASTE DESCRIPTION	36. VOLUME %	37. WEIGHT (kg)
Plastic bottles, bags	40%	32.25 K
Cloth Type	.5%	.81 K
Contam'd Pads	16.5%	20.0 K
Diatomaceous Earth	38%	21.0K
Absorbed Ann/Chromium	5%	3.94K
TOTALS	100%	78 Kg

39. LAND DISPOSAL RESTRICTED ☒ — SOURCE OF RESTRICTION — E-LISTED ☐ — RCRA WASHINGTON STATE EHW ☒

38. FISSION/ACTIVATION RADIONUCLIDES (Do not include Uranium, Thorium, or TRU elements)

RADIONUCLIDE	Ci	RADIONUCLIDE	Ci
		TOTAL	

40. TRU/FISSILE/SOURCE MATERIAL (Uranium, Thorium, and TRU elements)

40a. ELEMENT	40b. ISOTOPIC DISTRIBUTION (Weight %)	40c. WEIGHT (g)	TRU WASTE ONLY: 40d. PU 239 - FGE	40e. PE - Ci	40f. ALPHA Ci
Pu	238 (.0241), 239&243 (72.14), 240 (5.1074), 241 (.5213) 242 (.0196)	3.4978	3.8011	.3442	.3047
Am	241 (.0554)	.0022	.0400	.0076	.0076
TOTALS		4 Grams	3.8011	.3518	.3123

R.T.R failed drum sheet

Date 2-25-92

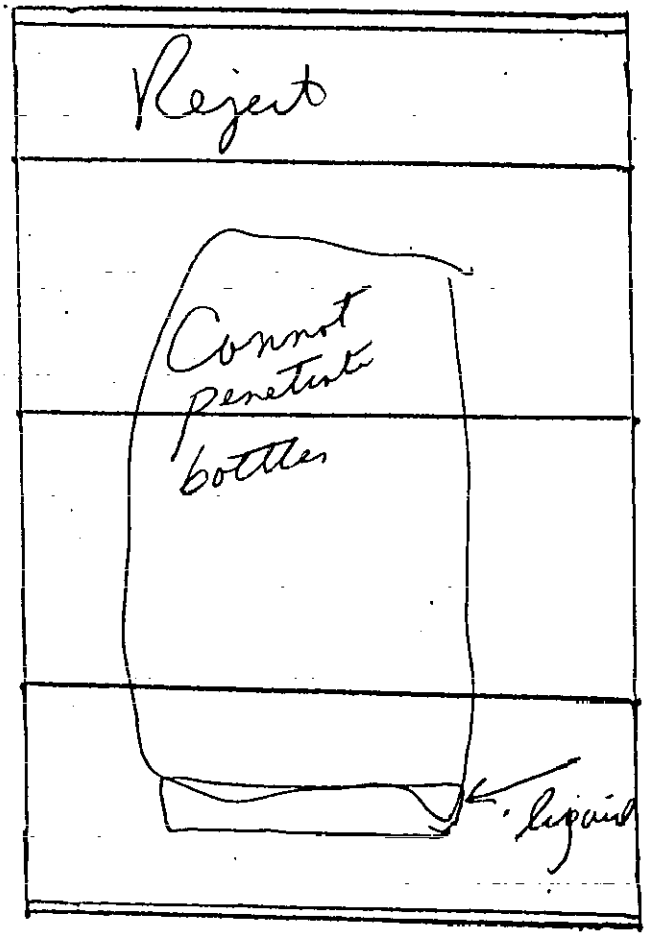
Drum ID. number: RN2-2B-A21723

R.T.R. ID. number: 1911

R.T.R. operator: RM Tourtt

Tape Number: 255

Footage: 000 - 217



Possible in Drum bottom or in a bottle botton

REMARKS

Attachment 4

OPERATING RECORD FOR CONTAINER #HRO-92-0000204

TRAVELER CHECKLIST

7.7 (✓) STORAGE AREA #1
7.7 ( ) STORAGE AREA #2
ASSAY

DRUM ID. HRO-92 ~~0204~~ 0000204

1. NORMAL RUN ___OK*
2. ABSORBER INDEX <15 ___OK _____HOLD
3. DETECTORS AGREE ___OK*
4. ASSAY + +/- >100 nCi/g ___TRU
5. ASSAY + +/- >100 nCi/g (ROOM WASTE ONLY) ___RETURN TO GENERATOR
6. ASSAY + +/- ≤100 nCi/g ___LOW-LEVEL
7. IF ACTIVE ASSAY IS >141 GRAMS, BUT <287 GRAMS, NOTIFY SUPERVISION AND SEGREGATE DRUM IN DESIGNATED 3rd FLOOR STORAGE AREA.
   _____TIME SUPERVISION NOTIFIED
8. IF ACTIVE ASSAY IS >287 GRAMS, STOP ALL OPERATIONS AND NOTIFY SUPERVISION. DO NOT REMOVE DRUM FROM ASSAYER.
   _____TIME SUPERVISION NOTIFIED
9. PRELIMINARY ASSIGNMENT:

   ____#3 TRU (CERTIFIABLE) ____#4 PNL CERTIFIABLE
   ____#5 LOW-LEVEL ____#6 HOLD
   ____ #7 RETURN TO GENERATOR

OPERATOR'S INITIALS _____ DATE _____

APPROVAL, ANALYTICAL LAB REP _____ DATE _____

*IF "OK" CANNOT BE CHECKED, NOTIFY SUPERVISION OR LABORATORY REP.

RTR LOG 1959

_____X-RAY

1. TAPE NUMBER 262 FOOTAGE 239-392
2. DETERMINED TO ____ PASS X FAIL ___ BE ON HOLD
3. REMARKS: Free Liquid in bottom 2nd floor OMW (Free Liquid)

SIGNATURE Ron Fourth DATE 6-3-92 DESTINATION Hold Cannot penetrate

TRUSAF MANAGER Ron Phoenix DATE 6-5-92

9W4227.1802

R.T.R failed drum sheet

Date 6-3-92

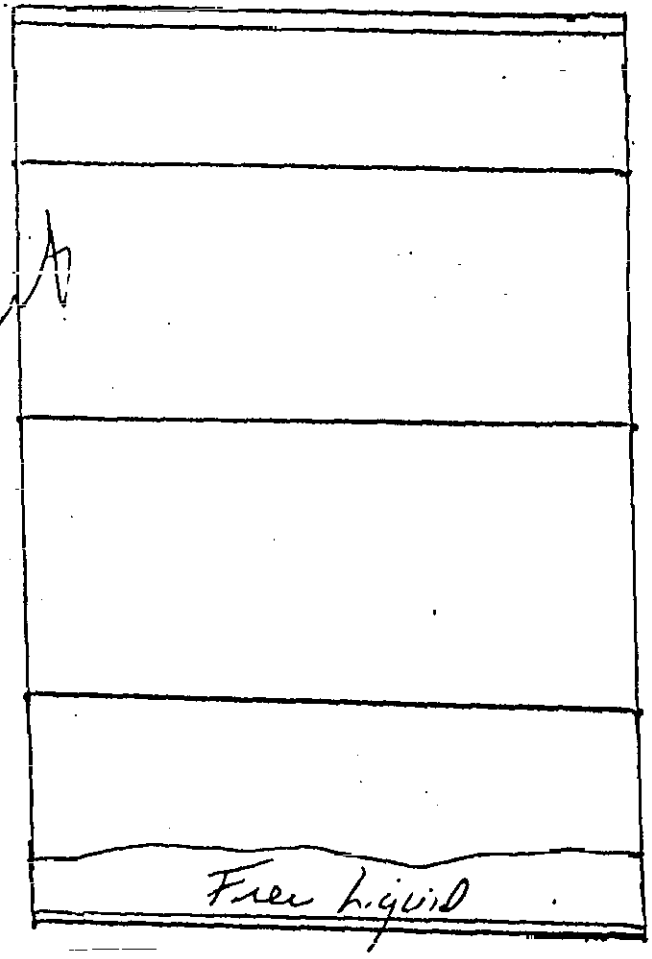
R.T.R. operator: RM Towitz

Drum ID. number: NRO-92-0000204

Tape Number: 262

R.T.R. ID. number: 1959

Footage: 239 - 392



REMARKS

TRANSURANIC WASTE STORAGE RECORD (REV 0, 9/1/91)

7. PAGE 1 OF 2

Storage/Disposal Site Information

I certify that a physical inspection of the waste package to the extent possible and a cross check of the applicable documentation have been performed in accordance with SW-100-050 or SW-100-110.

2. Signature-Acceptance [signature] Date 5-13-92

3. Area 2W 4. Facility 224-T 5. Unit

6. Storage Location (SOI)

Module | Tier | Position

REFERENCES

15. RSR No 46809 16. SDAR No. 06-IH-25M-030A

17. DOE/NRC 741 No. NA 18. PDR. No. NA

WASTE PACKAGE INFORMATION

19. PIN HRO-92-0000204 20. Tare Weight (kg) 31

21. Container Type 55 Gal Drum 22. Gross Weight (kg) 111 KG 111

23. Organic Mtl. Vol. % 0 24. Point of Origin 201C-241-CX-70

25. Organic Mtl. Wt. (kg) 0 26. LxWxH or DxL NA

27. Cont. Vol. (m^3) .208 28. Thermal Power ☒ <0.1 W/ft^3

29. Date Packaged 12/20/91 30. Seal Number NA

1. SWSDR No. (DO NOT WRITE IN THIS SPACE)

8. Waste Designation ☒ RMW ☐ Classified

9. Waste Generator Westinghouse Hanford Company

10. Charge Code, SO No., or MPO No. UE3LE

11. WRM No. NA

12. Name of Contact Doug Dunon

13. Address/Phone 2750E/200E/R2-77 3-3482

I certify that: (1) No capital property is included in this waste unless documented by a Property Disposal Request and described below. (2) To the best of my knowledge, the information entered below is complete and accurate, and the waste package is in compliance with WHC-EP-0063 and the Storage/Disposal Approval Record (SDAR). (3) Unless designated a Radioactive Mixed Waste (RMW), this waste is not a dangerous waste as defined by Chapter 173-303 WAC or other applicable state or federal regulation governing the management of hazardous waste. (4) The charge code is correct.

14. Signature Douglas K Dunon Date 5-13-92

31. Waste Category (Check One)
☐ BW ☒ DS ☐ DD ☐ NC ☐ CE ☐ SS

32. Waste Code (Check one)
☐ FW ☐ HM ☐ CL ☐ WD ☐ SL ☐ GL ☐ CM ☐ TW ☐ DM ☐ SO ☐ PB ☒ NC ☐ LM ☐ PA

WASTE CONTENTS DESCRIPTION

33. Article Description	34. Est. Vol. %	35. Est. Wt. (kg)
90 mil Liner and Lid (Plastic)	5	7
(Wood) Bracing	13	14
Cleanup III (Diatomaceous Earth)	41	36
DOT 47E 16 Gallon Drum	7	6
11e.2. Constituents (Chromium, Selenium)	5	.094
Soil, Dehydrated Solids, Crystals	29	16.906
Total Liquid Volume (Liters) 0 TOTALS	100	80

FISSION/ACTIVATION NUCLIDES (Do not list Uranium, Thorium, or TRU Elements)

36. Nuclide	37. Curies	Nuclide	Curies
Sr-90	.477		
Y-90	.477		
Cs-137	$2.67E^{-2}$		
Ba-137	$2.67E^{-2}$		
		TOTAL	1.007

TRU/FISSILE/SOURCE MATERIAL (Uranium, Thorium and TRU Elements)

38. Element	39. Isotopic Distribution	40. Wt. (g)	41. FGE	42. PE-Ci	43. Alpha Ci
Pu	239 (95%) 240 (5%)	.0092	$5.506E^{-3}$	$5.247E^{-3}$	$4.032E^{-4}$
Am	241 (100%)	.0643	$4.0E^{-5}$	$2.147E^{-3}$	$7.73E^{-3}$
U.	238 (100%)	$3.021E^{3}$			

RADIOACTIVE MIXED WASTE ATTACHMENT SHEET (REV 0, 9/1/91) RKD 5-11-92 Page 2 of 2

2. PIN HRO-92-~~0204~~ 0000204	3. Manifest No. 20453	4. Manifest Date 5-11-92
5. XX Land Disposal Restricted Source of Restriction XX RCRA, ☐ F-Listed, ☐ EHW		6. Waste Designation ☐ EHW XX DW

7. Waste numbers that apply to this package: D007, ~~D0010~~ D010 RKD 5-11-92

WASTE DESCRIPTION

8. Hazardous Constituent	9. Weight (kg)	10. Physical Properties
Chromium (5400 ug/gr)	.086	
Selenium (500 ug/gr)	.008	
TOTAL WEIGHT (Kg)	.094	

~~11. Estimated Liquid Volume (Liters)~~ ZERO

9117322.1815

9413227.1806

CONTENTS INVENTORY SHEET

(1) Page 1 of 1

(2) Waste Generator/Location WHC-HRO-201C-241-CX-70

Container No. (3) 0000204 HRO-92-~~0204~~ JK

Container Type (4) DOT 17C - 55 Gal.

Initials	Initials	Article Description	Content Code	Mass of Organics (Kgs)	Volume of Organics ☐ Ft3 ☐ M3	Hazardous Material Name	Hazardous Material Qty. Kgs.	Radioactive Content TRU Isotopes	Radioactive Content Grams
(5)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
CAR	GUW	90 mil Liner and Lid (7 Kg) Wood Bracing (12 Kg) Cleanup IV (61 Kg) DOT 47E 16 Gallon Drum (6 Kgs) Soils, Dehydrated Solids and Crystals from Tank 241-CX-70	114			Chromium Selenium	.086 .008	Pu^{239} ~~68.15%~~ 98% Pu^{240} 3.59% ~~5%~~ Am^{241} 28.26% 100%	.0080 .00116 .0643
		Page Total		(14) 0 Kgs	(16) 0		(18) .094		(20) .07346 g
		Total (all pages)		(15) 0 Kgs	(17) 0		(19) .094 Kgs		(21) .07346 g

(22) Dwayne R Lee 5-11-92
Plant Operations Authority, Signature/Date

(23) M K Thomas 5-11-92
Independent Reviewer, Signature/Date

(24) Other Radioactive Content Ba^{137} & Cs^{137} $5.34E^{-2}$ ci
Sr^{90} & Y^{90} .954 ci
U^{238} $3.021E^{2}$ g

(25)

ARD 5-11-92

WIPP CERTIFICATION CHECKLIST

Container number 6000204 HRO-92-0204 SK Date Container Sealed 12-20-91

YES	NO	WASTE ACCEPTANCE CRITERIA
☒	☐	DOT Type A Container.
☒	☐	Heavy or bulky items are blocked to prevent shifting.
☒	☐	Container is free of defects.
☒	☐	Waste contains less than 1% by weight powders.
☒	☐	Waste does not contain any free liquids.
☒	☐	Waste does not contain any explosives or compressed gases.
☒	☐	Waste does not contain any organic peroxides, oxidizers, flammable solids or metal fines.
☒	☐	Waste does not contain any sludges with pH ≤ 4.0.
☒	☐	Waste contents will not react with each other or with container.
☒	☐	Surface contamination is ≤ 50 pCi (100 dpm) / 100 sq cm alpha and ≤ 450 pCi (1000 dpm) / 100 sq cm beta-gamma.
☒	☐	Proper labeling has been applied.
☒	☐	Hazardous and corrosive co-contaminants are identified on Contents Inventory Sheet.
☒	☐	Gross weight is less than qualified DOT Type A limit (658 kg).
☒	☐	Pu-239 Fissile Gram Equivalent content is less than WIPP specified limit (200 g).
☒	☐	Pu-239 equivalent TRU activity (PE-Ci) is less than the WIPP specified limit of 1000 PE-Ci.
☒	☐	Surface dose rate is ≤ 200 mrem/hr (beta, gamma and neutron) at any point.
☒	☐	Neutron dose rate contribution is ≤ 20 mrem/hr.

The waste package described above is unclassified and meets all WIPP Waste Acceptance Criteria

☒ With no exceptions

☐ With the following exceptions:

Plant Operations Authority signature and date: [signature] 5-11-92

Independent Reviewer signature and date: [signature] 5-11-92

White - WASU, 2750E, 200-E
Yellow - TFS, 272WA 200-W
Pink - Retain, Shipper

BC-6400-132 (11-87)

Attachment 5

SUMMARY OF VIOLATIONS FOUND ON THIRD FLOOR

A-5

TRUSAF FACILITY INSPECTION
SUMMARY OF CONTAINER VIOLATIONS FOUND ON THE THIRD FLOOR
ATTACHMENT 5

THIRD FLOOR:

DRUM NUMBER	LOCATION/SIGN	COMMENTS/VIOLATIONS
BP-189007	PNL-ALMOST CERT. HOLD/RETURN - OMW	HW Label: D008, WTO1 Markings: OMW, MW-EHW No major risks on drum
BP-89011	"	HW Label: D006, D008, D009, WT01, WC02 Markings: OMW, TRU Waste No major risks on drum
PNL-188013	"	HW Label: WC01, D006, WT02 Markings: TRU No major risks on drum
PNL-188005	"	HW Label: D008, WT01 Markings: TRU No major risks on drum
RHZ-103-A15486	SUSPECT NON-MIXED RETURN TO GENERATOR	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-102-A15110	"	Lead gloves and free liquids identified on paperwork No HW label on drum No major risks on drum No secondary containment
RHZ-102-A14967	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-102-A15270	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum

RHZ-102-A15389	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-241-A19347	"	Mercury thermometer identified on paperwork No HW label on drum No major risks on drum
RHZ-103-A15028	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-213-A17573	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-103-A14985	"	Lead gloves and free liquids identified on paperwork No HW label on drum No major risks on drum No secondary containment
RHZ-102-A15488	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-102-A14836	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-102-A15266	"	Lead gloves and free liquids identified on paperwork No HW label on drum No major risks on drum No secondary containment
RHX-103-A14857	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum

RHZ-111-A15633	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-212-A18517	RETURN TO GENERATOR OMW (Note: The 8 containers located under this sign in the morning were placed on portable secondary containment systems during our lunch break)	HW Label: WT01, WP01, WC01 Markings: Liquid Organic Waste, RMW-EHW, OMW No major risks on drum No secondary containment
RH-A-87-067	"	Paint identified on paperwork Markings: "Need label" No HW label on drum No major risks on drum
RHZ-212-A18446	"	Free liquids identified on paperwork HW Label: WC01, WP-1, WT01 Markings: EHW No major risks on drum No secondary containment
RHZ-212-A19731	"	Free liquids identified on paperwork HW Label: WT01, WC01, WP01 Markings: Liquid Organic Waste, RMW-EHW, FP > 200F, OMW No major risks on drum No secondary containment
RH-A-85-071 (TRU only)	"	Free liquids identified on paperwork No secondary containment

RHZ-212-A18496	"	Free liquids identified on paperwork HW Label: WT01, WC01, WP01 Markings: Liquid Organic Waste, RMW-EHW, FP > 200F, OMW No major risks on drum No secondary containment
RHZ-212-A18497	"	Free liquids identified on paperwork HW Label: WT01, WC01, WP01 Markings: Liquid Organic Waste, RMW-EHW, FP > 200F No major risks on drum No secondary containment
RHZ-213-A21768	"	Free liquids identified on paperwork HW Label: WC02, D007, WT01, D008, D002, D009, EHW Markings: RMW-EHW, TCLP Toxic No secondary containment
RH-A-87-060	HOLD-CANNOT PENETRATE-OMW	Free liquids identified on paperwork HW Label: D008 No major risks on drum No secondary containment
RHZ-212-A19715	"	Lead gloves, D008, WT01 identified on paperwork HW Label: incomplete No major risks on drum
RH-A-87-027	"	HW Label: D008 Markings: MW-DW, OMW No major risks on drum
RH-A-88-009	"	HW Label: D008 Markings: MW-DW, OMW No major risks on drum

RHZ-212-19446	"	HW Label: D008, WTO1, EHW Markings: RMW-EHW, OMW No major risks on drum
RH-A-90-022	"	HW Label: D008 Markings: RMW-DW, OMW No major risks on drum
RH-A-90-002	"	HW Label: D008 Markings: RMW-DW, OMW No major risks on drum
RH-A-91-001	"	HW Label: D008 Markings RMW-DW, ORM-E No major risks on drum
RHZ-212-A19931	"	HW Label: D008, WT01 Markings: RMW-EHW, OMW No major risks on drum
RH-A-88-006	"	HW Label: D008 Markings: "Corrosive label?" MW-DW No major risks on drum
RHZ-212-A19135	"	HW Label: D008, WT01 Markings: RMW-EHW, OMW No major risks on drum
RH-A-88-023	"	HW Label: D008 Markings: OMW No major risks on drum
RHZ-213-A19574	"	HW Label: D008, WTO1, EHW Markings: RMW-EHW, OMW No major risks on drum
RH-A-87-026	"	HW Label: D008 Markings: MW-DW, OMW No major risks on drum
RHZ-212-A19296	"	HW Label: D008, WT01, EHW Markings: RMW-EHW, OMW No major risks on drum

RHZ-212-A17094	SUSPECT NON-MIXED RETURN TO GENERATOR	Free liquids identified on paperwork No secondary containment No major risks
RHZ-212-A17986	"	Free liquids identified on paperwork No secondary containment No major risks
RHZ-212-A17453	"	Free liquids identified on paperwork No secondary containment No major risks
RHZ-212-A17257	"	Lead identified on paperwork No major risks
RHZ-212A-17275	"	Lead identified on paperwork No major risks
RHZ-220-A16369	"	Lead identified on paperwork No major risks
RHZ-213-A17407	"	Lead identified on paperwork No major risks
RHZ-212-A17393	"	Lead identified on paperwork No major risks
RHZ-212-A17049	"	Lead identified on paperwork No major risks
RHZ-212-A17087	"	Lead identified on paperwork No major risks
RHZ-213-A17470	"	Lead identified on paperwork No major risks
RHZ-213-A17486	"	Lead identified on paperwork No major risks
RHZ-213-A21917	"	Lead identified on paperwork No major risks
RHZ-102-A14837	"	Lead identified on paperwork No major risks

RHZ-212-A20498	"	Lead identified on paperwork No major risks
RHZ-103-A15485	"	Lead identified on paperwork No major risks
RHZ-102-A14799	"	Free liquid and lead identified on paperwork No major risks No secondary containment
RHZ-103-A14541	"	Lead identified on paperwork No major risks
RHZ-102-A14800	"	Lead identified on paperwork No major risks
RHZ-105-A14862	"	Lead identified on paperwork No major risks
RHZ-103-A14318	"	Free liquid and lead identified on paperwork No major risks No secondary containment
RHZ-102-A14053	"	Lead identified on paperwork No major risks
RHZ-102-A14968	"	Free liquid and lead identified on paperwork No major risks No secondary containment
RHZ-103-A15015	"	Lead identified on paperwork No major risks
RHZ-103-A15025	"	Lead identified on paperwork No major risks
RHZ-103-A15013	"	Lead identified on paperwork No major risks
RHZ-213-A17471	"	Lead identified on paperwork No major risks

RHZ-103-A15278	"	Free liquid and lead identified on paperwork No major risks No secondary containment
RHZ-213-A17568	"	Lead identified on paperwork No major risks
RHZ-212-A19567	HOLD-CANNOT PENETRATE	Lead identified on paperwork No major risks
RHZ-212-A19845	"	Lead identified on paperwork No major risks
RHZ-212-A21030	"	Lead identified on paperwork No major risks
RHZ-212-A20576	"	Lead identified on paperwork No major risks
RHA-88021	"	Lead identified on paperwork No major risks
RHA-88004	"	Lead identified on paperwork No major risks
RHZ-220-A20834	"	Lead identified on paperwork No major risks
RHA-89004	"	Lead identified on paperwork No major risks
RHZ-212-A20499	"	Documentation not visible
RHZ-212-A19843	"	Documentation not visible
RHZ-212-A21410	"	Documentation not visible
RHZ-212-A18445	"	Documentation not visible
RH-A89007	CAUSTIC-RETURN TO GENERATOR	Free liquid identified on paperwork No major risks No secondary containment

RH-A87032	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A87047	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A87050	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A87051	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A88022	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A87062	"	Free liquid identified on paperwork No major risks No secondary containment

Attachment 6

BUILDING EMERGENCY PLAN FOR 224-T TRUSAF, DATED AUGUST 24, 1993

INTERNAL PUBLICATION

Title	WHC-IP-0263-224T	Rev. No. 4	Page 1 of
BUILDING EMERGENCY PLAN FOR 224-T TRANSURANIC WASTE STORAGE AND ASSAY FACILITY	Date 08/24/93	Copy No.	RIDS* GRS18-27
			Impact Level 4

Author	Responsible Manager N. M. Shoemaker
C. S. Thibault	N M Shoemaker 8/25/93 Signature Date Approved

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(Place an 'X' in the box that applies)

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Signature _____ Date _____

[ ] NONE OF THE ABOVE. (REVIEW BY RESPONSIBLE MANAGER IN ACCORDANCE WITH WHC-CM-3-4 REQUIRED BEFORE THIS BOX CAN BE CHECKED.)

N M Shoemaker 8/25/93
Signature Date

INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP

Stamp is required before release. Release is contingent upon resolution of mandatory comments.

APPROVED FOR RELEASE OFFICIAL DOCUMENT Date 9/13/93

Date Cancelled | Date Disapproved

*RIDS = Records Inventory and Disposition Schedule, contact Records Management for assistance.

This plan covers the following buildings and structures:

224-T, Transuranic Waste Storage and Assay Facility (TRUSAF)

Approved:

Building Emergency Director	8-19-93 Date
Emergency Preparedness	8/20/93 Date
Health and Safety Assurance	8/20/93 Date
RCRA Compliance	8/20/93 Date
Hanford Fire Department	8/20/93 Date

This document will be reviewed and updated at least annually by the Building Emergency Director and approved by the Manager of Emergency Preparedness or delegate.

TABLE OF CONTENTS

LIST OF FIGURES

1.0 INTRODUCTION

The 224-T Transuranic Waste Storage and Assay Facility (224-T TRUSAF) Building Emergency Plan (Plan) provides a system of planned responses to minimize risks to personnel, equipment, buildings, and the environment in the event of an emergency. This Plan applies to the entire facility identified in Section 1.1, including all employees and visitors.

This Plan, in conjunction with WHC-CM-4-1, Emergency Plan, WHC-EP-0564, Hanford Facility Contingency Plan, and the Department of Energy-Richland Field Office (DOE-RL) Emergency Plan and procedures manual, is intended to meet all applicable requirements for facility emergency plans and the Washington State requirements for hazardous and dangerous waste contingency plans. The building emergency director, as mentioned throughout this plan, has the duties described in Washington Administrative Code [WAC], Chapter 173-303, Dangerous Waste Regulations of the Emergency Coordinator.

The emergencies considered for 224-T TRUSAF and identified as requiring emergency response plans are identified in Sections 3.2 through 3.7. The six categories of emergencies considered are:

- Operational emergencies (including security events)
- Natural hazards
- Nonradioactive hazardous material hazards
- Radioactive material
- Criticality
- Explosive materials/munitions.

Planned responses are those activities that are intended to provide direction to control a fire, to minimize the immediate effects of an explosion, to contain a spill or release, and to minimize the effects of a criticality incident. These responses include, for example, notification of personnel, emergency organizations, and the building emergency director.

This plan also provides guidance for notifying personnel to take cover, to evacuate, or to take other appropriate actions, as determined by the particular circumstances.

The planned responses also provide for formal notification and reporting, investigation of the incident, cleanup, and restoration.

224-T TRUSAF is located in the 200 West Area on the Hanford Site. The Hanford Site covers approximately 560 square miles (1,450 Kilometers) of semi-arid land that is owned by the U.S. government and managed by the U. S. Department of Energy Richland Field Office.

A discussion of the 224-T TRUSAF operation is contained in Section 1.4.

1.1 FACILITY NAME:

U. S. Department of Energy Hanford Site
224-T Transuranic Waste Storage and Assay Facility

1.2 **FACILITY LOCATION:** Benton County, Washington; within the 200 West Area of the Hanford Site.

The building covered by this Plan is: 224-T Transuranic Waste Storage and Assay Facility

1.3 **OWNER/OPERATOR:** U. S. Department of Energy
Richland Field Office
825 Jadwin Avenue
Richland, Washington

CO-OPERATOR: Westinghouse Hanford Company
P. O. Box 1970
Richland, Washington

1.4 DESCRIPTION OF THE FACILITY AND OPERATIONS

224-T TRUSAF currently is used for receipt, assay, and storage of transuranic (TRU), transuranic mixed waste (TRU-MW), and low-level mixed waste (LL-MW). This includes both drums containing newly-generated TRU waste and drums retrieved from the Low-Level Burial Grounds. Transuranic waste is defined by DOE Order 5820.2A as any waste, regardless of source or form, that is contaminated with alpha-emitting transuranic radionuclides with half-lives greater than 20 years and in concentrations greater than 100 nanocuries per gram of the waste matrix at the time of assay. Transuranic radionuclides are those radionuclides with an atomic number greater than 92 (uranium). Also included are radium sources and uranium-233 in concentrations greater than 100 nanocuries per gram of waste matrix because the hazards are similar to those of transuranic radionuclides. Transuranic mixed waste is transuranic waste with dangerous waste constituents as defined in WAC 173-303-040.

Figures 1, 2, and 3 show the various storage areas on the three floors of 224-T TRUSAF.

1.5 BUILDING EVACUATION ROUTING (BUILDING LAYOUT)

Figures 4 and 5 identify the emergency evacuation routes from 224-T TRUSAF to the staging areas.

1.5.1 Building Evacuation Routes (Building Layout, and Exits)

Figures 4 and 5 provide identification of emergency evacuation routes. Evacuation alarms are described in Section 5.4 and responses to alarms are given in Sections 6.1 and 6.2.

1.5.2 Building Evacuation Routes (Building to Staging Area)

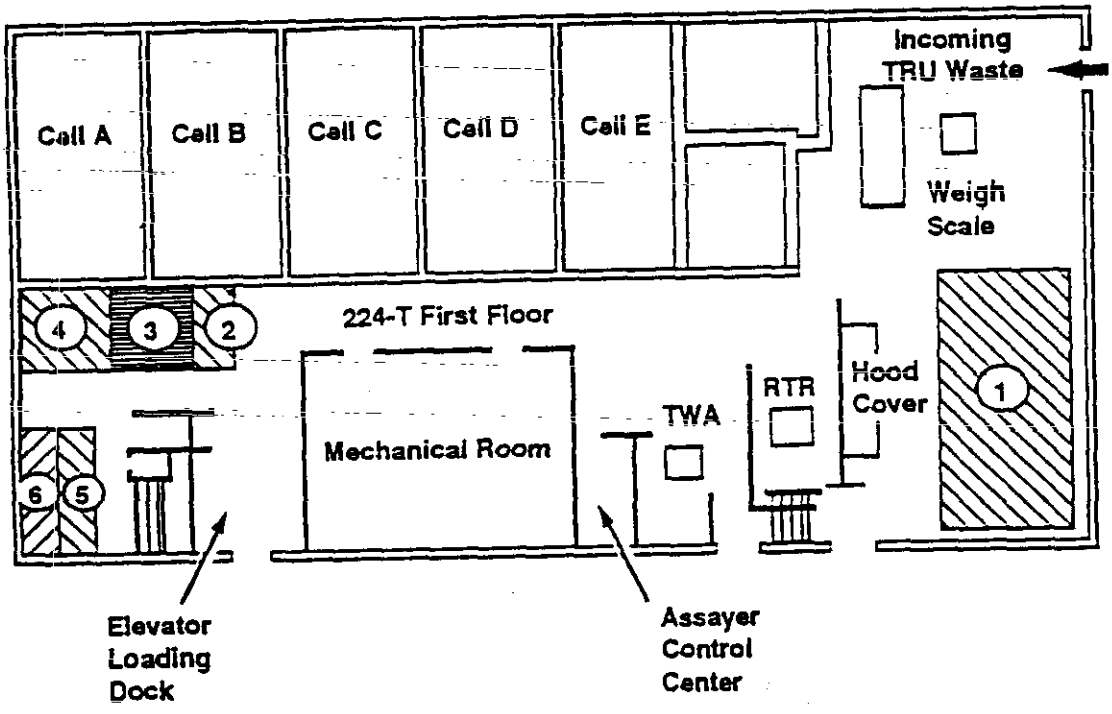
The staging area for 224-T TRUSAF is located south of the 224-T TRUSAF Building. An alternate area is located west of the 221-T Building at the south end of the parking lot in front of office annex 271-T. (Figure 5.)

During an evacuation, all personnel should report to the nearest staging area (upwind) for a head count. Personnel wearing Special Work Permit clothing should group themselves apart from those persons wearing normal personal clothing.

If it becomes necessary to evacuate the primary staging areas, the staging area manager or building emergency director shall instruct personnel to proceed to the alternate staging area or an alternate destination, depending on the nature of the emergency. Personnel shall be informed of the evacuation routes to be used and instructed to evacuate using private or government vehicles, as appropriate.

Figure 1
First Floor, 224-T TRUSAF

224-T First Floor



Storage Areas

1. Certifiable waste
2. Certifiable TRU waste to go upstairs
3. Pacific Northwest Laboratory certifiable waste to go upstairs
4. Low level
5. Hold
6. Return to generator

First Floor Storage Notes

1. Stacked drums are limited to 2 drums high and 2,500 lb per stack
2. Maximum allowable weight on the elevator is 8,000 lb

TWA = transuranic waste assayer

RTR = real time radiograph

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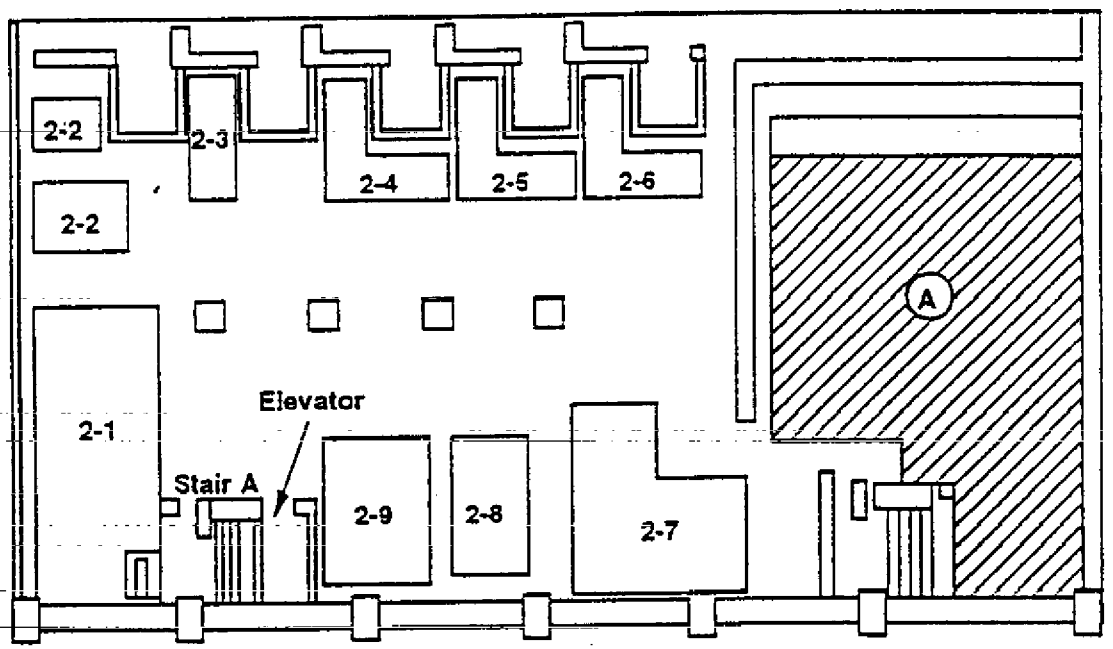
Figure 2
Second Floor, 224-T TRUSAF

224-T, Second Floor, Temporary and TRU Interium Storage



Second Floor Storage Notes

1. Each drum limited to 600 lb gross weight.
2. Stacked drums are limited to two drums high and 600 lb per stack.
3. Maintain a 44-in.-wide fire lane.
4. Do not block access to continuous air monitors.

Storage Areas

Modules 2-1, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, and 2-9 are for WIPP certified radioactive nonmixed waste.

Module 2-2 is for WIPP certified radioactive mixed waste (acids).

A is for storage of noncertified waste as designated by supervision.

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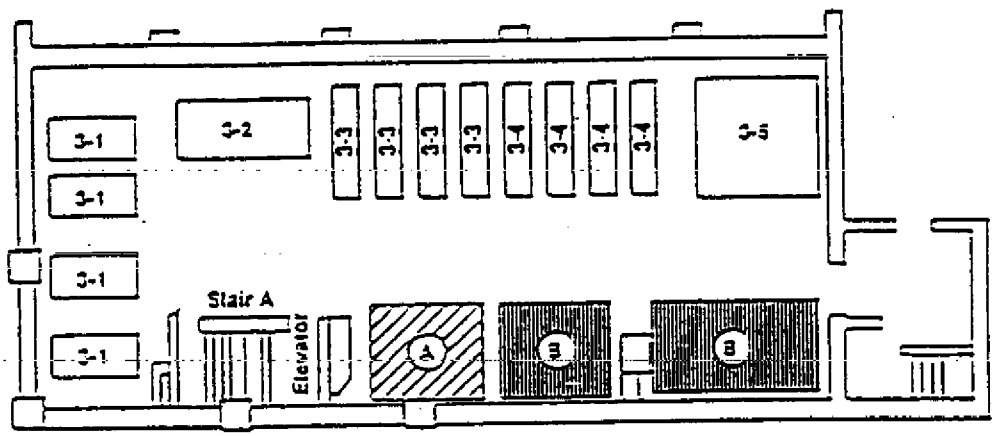
Note

WIPP = Waste Isolation Pilot Plant

Figure 3
Third Floor, 224-T TRUSAF



Third Floor Storage Notes

1. Each drum limited to 800 lb gross weight.
2. Stacked drums are limited to two drums high and 800 lb per stack.
3. Maintain a 44-in.-wide fire lane.
4. Do not block access to continuous air monitors.

Note

WIPP = Waste Isolation Plant
TRU = transuranic waste
PNL = Pacific Northwest Laboratory

Storage Areas

Module 3-1 is for WIPP certified radioactive TRU mixed waste (caustics, lead, and others).

Module 3-2 is for WIPP certified radioactive TRU nonmixed waste.

Module 3-3 and 3-4 are for temporary storage of TRU mixed waste that failed X-ray and will be returned to the generator (i.e., caustic, lead).

Module 3-5 is for PNL certifiable nonmixed waste.

A - Designated temporary storage area for drums where the active assay is >141 but <287 grams fissile.

B - Used for temporary storage of TRU waste that the X-ray could not penetrate. Supervision will designate waste drums to be placed in this storage area.

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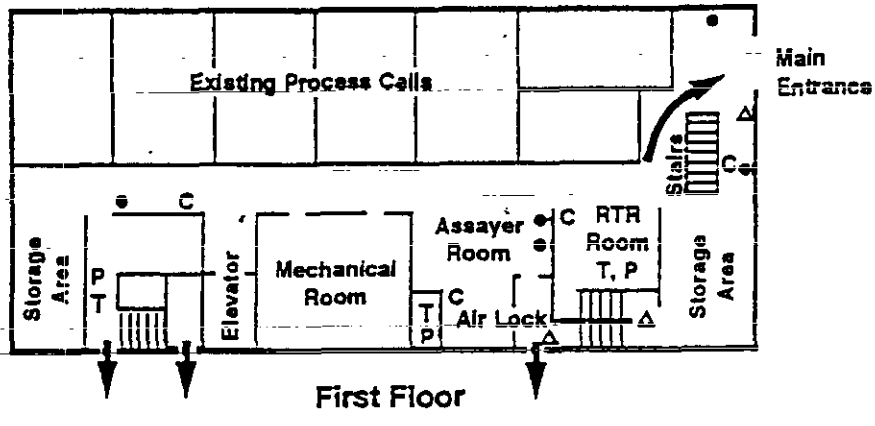
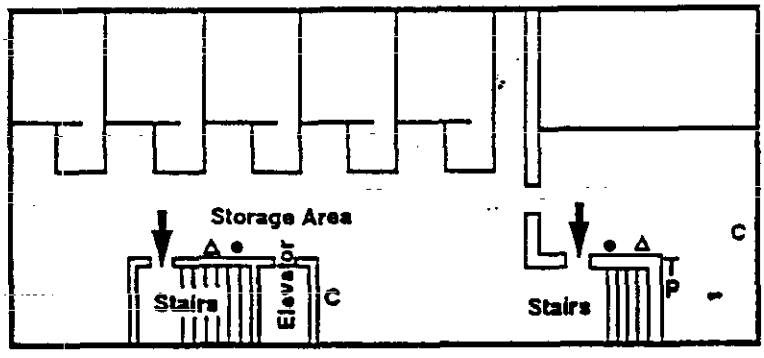
Figure 4
Safety Equipment Locations and Evacuation Routes, 224-T TRUSAF

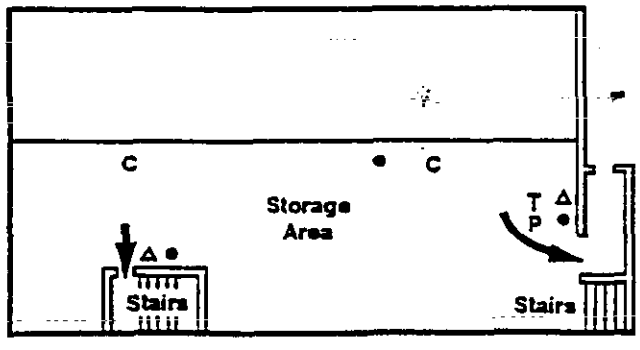
Safety Equipment Locations and Evacuation Routes, 224-T (TRUSAF)



First Floor



Second Floor



Third Floor

Safety Equipment

- • Fire extinguisher
- △ Fire alarm pull box
- T Telephone
- P Building PA system
- C CAM

Note

Staging Area located in Evacuation Bus Parking Area south of 224-T Building

RTR = real time radiograph

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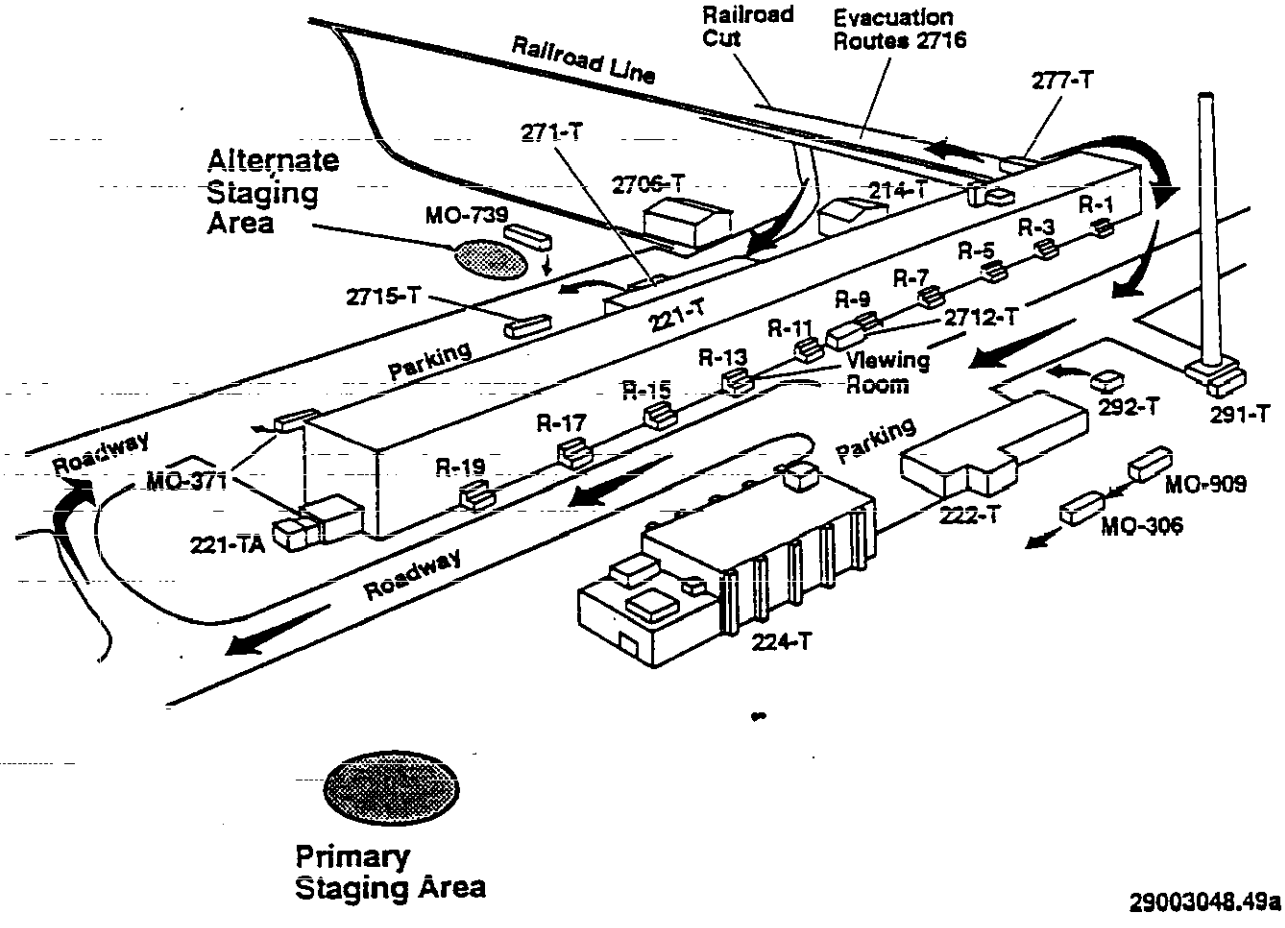
Figure 5
Emergency Evacuation Routes and Staging Areas



2.0 PURPOSE

2.1 PURPOSE OF PLAN

The purpose of the Plan is to provide employees and visitors with the information necessary to respond to emergencies and to ensure the following:

- Maximize employee safety, minimize the risk to life, and provide prompt and efficient treatment for injured persons
- Ensure continuity of leadership at all times and in all emergencies
- Minimize the effects of an accident on the health and safety of the general public and to the environment
- Minimize property damage
- Ensure prompt internal and external communications with responsible authority.

2.2 EMPLOYEE REQUIREMENTS

Personnel assigned to 224-T TRUSAF are required to annually review applicable sections of this Plan and document that review using the "Facility Emergency and Hazard Information Checklist" (form number A-6000-784), as defined in WHC-CM-4-1, Emergency Plan.

3.0 POTENTIAL EMERGENCY CONDITIONS

This section provides a general idea of the types and amounts of hazardous materials stored and used in 224-T TRUSAF.

Job safety analyses, radiation work procedures, and/or material safety data sheets provide the basis for safe use of hazardous materials in the workplace. Each employee shall know the appropriate actions to take in case of a spill or unwanted release (where specified).

Solid Waste Operations line managers should contact the Industrial Safety and Nuclear Safety Manager before responding to an operating anomaly. If life-saving entry or emergency entry is deemed necessary by the building emergency director, responders shall don Level 1 clothing and control emergency entry exposure limits as designated in Section 4.3.

3.0.1 Assessment Factors

After identifying the source and nature of the incident, the building emergency director shall assess any hazards to human health or the environment. Knowledge of these factors is vital to a practical assessment of such hazards and this knowledge includes the following:

- Origin of the leak, fire, or explosion (if known)
- Conditions of the source (e.g., controllable/uncontrollable leak or fire, easily moved/immovable)
- Materials involved
- Physical state of materials present (e.g., solid, liquid, or gas)
- Evidence of reaction(s) (e.g., fumes, flames, evolved gases)
- Odor and color of materials

3.0.2. Assessment Objectives

The assessment factors gathered at the scene, in conjunction with the detailed information available about materials involved, provide enough data to assess the probability of further hazards resulting from the emergency and to determine the appropriate response actions necessary.

Any emergency assessment should consider the potential for each of the following (as appropriate to the emergency conditions present):

- Spread of fire
- Explosion or further chemical reaction
- Increase in spill volume
- Generation of new compounds and their hazards
- Generation or spread of toxic, irritating, or asphyxiating gases
- Identification of exposure and/or release pathways
- Effect of exposure and appropriate safety precautions
- Contaminated run-off from spilled chemicals, response chemicals and/or fire, explosion, or reaction residues
- Impacts beyond the immediate area involved
- Damage to any stored records (including designated repositories, file cabinets, computer record storage files, computer magnetic media, etc.)

NOTE: In cases involving soil contamination, assessment requires that sampling be performed to determine the lateral and vertical extent of contamination. The building emergency director is responsible for coordinating onsite characterization activities, which will be performed by qualified Hanford Site organizations.

3.1 EVACUATION AND TAKE COVER

Evacuation alarms at 224-T TRUSAF should be activated due to the following:

- A release of hazardous material (radioactive or nonradioactive) at this facility or at another facility impacting this facility
- Loss of utilities
- A protective response to emergencies affecting ability to inhabit this facility.

Take cover alarms at this facility should be activated due to the following:

- Release of hazardous material outside of a facility
- Attack by hostile factions
- Protective response to emergencies affecting the facility or personnel

3.2 OPERATIONAL EMERGENCIES

The following emergencies are those considered credible for 224-T TRUSAF, unless determined to be Not Applicable (N/A). The types and extent of credible events are described. The response plan for each type is listed in Section 6.0 of this plan.

The following sections include a description of the "worst case" accident anticipated for each of the identified credible emergencies. This information typically is derived from the facility safety analysis report, hazards evaluation, or risk assessment for the facility.

3.2.1 Bomb Threat

Bomb threats could pose a fire or an explosion hazard at 224-T TRUSAF. Fire or explosion from a bomb could lead to the release of hazardous constituents or radioactive materials and exposure to employees and visitors.

3.2.2 Industrial Accidents

The processes conducted at 224-T TRUSAF involve the use of forklifts to move drums and the operation of the real-time radiography and transuranic waste assayer units. Hazards associated with industrial accidents include injuries resulting from accidents with moving equipment, Real-Time Radiography and Transuranic Waste Assayer operation and power sources, falls, or radiological or chemical exposure from spills.

There are also confined spaces in the 224-T TRUSAF area and the required posting and air quality testing shall be performed.

3.2.3 Loss of Electricity

Emergency conditions occur when the continuous air monitors and exhaust fans lose power. Emergency power is not provided for this equipment. Loss of electrical supply will result in loss of operation of the following:

- Transuranic waste assayer
- Real-time radiography
- Scales
- Hoists
- Building air supply fans
- Building exhaust fans
- Compressed air unit.

3.2.4 Loss of Water

Loss of water would not constitute an emergency nor interfere with operations in 224-T TRUSAF.

3.2.5 Loss of Ventilation

Walls in 224-T TRUSAF are known to give off significant amounts of radon gas. The ventilation system also is designed to remove any airborne contamination accidentally released from drums in storage. If the ventilation system fails, an excessive buildup of radon gas could occur.

3.2.6 Loss of Steam

Loss of steam does not, in itself, constitute an emergency at 224-T TRUSAF. However, annual winterization activities are performed to avoid facility equipment damage when heat is not available.

3.2.7 Loss of Air

Loss of compressed air to 224-T TRUSAF could potentially result in a failure to modulate the dampers on the exhaust ventilation system, causing the decrease or loss of differential pressure.

3.2.8 Fire

Fire hazards include smoke inhalation, burns, and potential airborne release of radionuclides or hazardous constituents.

3.2.9 Major Process Upset - N/A

There is no process conducted at 224-T TRUSAF.

3.2.10 Pressure Hazards - N/A

High pressure steam is not used at 224-T TRUSAF.

3.2.11 Security Event

A security event might involve personal injury, fire, explosions, or environmental damage.

3.2.12 Records Damage/Loss

Records for 224-T TRUSAF that must be safeguarded from loss/damage are located in the 224-T TRUSAF office. These records could be damaged by the following events:

- Fire/smoke (Records stored in fireproof file cabinets)
- Water discharge/leak
- Contamination (radioactive/nonradioactive)

3.3 NATURAL HAZARDS EMERGENCIES

The following emergencies are those applicable to facilities on the Hanford Site. Response plans for each are contained in Section 6.5 of this plan.

3.3.1 Seismic Event

A seismic event might involve hazards caused by falling objects, damage to containers, and the subsequent release of radionuclides.

3.3.2 Volcanic Eruption/Ashfall

Hazards associated with a volcanic eruption and ashfall might include potential interference with the building ventilation system.

3.3.3 High Winds/Tornado

Potential hazards associated with high winds or a tornado might include loss of power, damage caused by flying objects, and pressure differentials associated with tornadic conditions.

3.3.4 Flood - N/A

224-T TRUSAF is situated more than 175 feet (53.34 meters) above the probable maximum flood (PMF) postulated by the U.S. Army Corps of Engineers. The PMF would require a combination of the most severe climatic conditions coupled with a failure of the Grand Coulee Dam.

3.3.5 Range Fire

If a range fire reaches 224-T TRUSAF, it might pose the same hazards as described in Section 3.2.8.

3.4 HAZARDOUS MATERIALS AND MIXED WASTE SPILLS/RELEASES

This section addresses the spill and/or release of hazardous materials, including nonradioactive hazardous materials and mixed waste (radioactively contaminated hazardous materials).

Hazardous material use, storage, and control is controlled by plant operating procedures and material safety data sheets, which are located in the first floor control room. Spills or releases might result in the following conditions: potential exposure to radioactive, corrosive, and toxic material, as well as potential environmental damage.

3.4.1 Spill of Hazardous Material

Hazards associated with a spill include potential exposure to radioactive, corrosive, and toxic material, as well as potential environmental damage.

3.4.2 Fires and/or Explosions Involving Hazardous Material

A fire and/or explosion in 224-T TRUSAF could result in the release of hazardous or radioactive constituents to the air or soils.

3.4.3 Toxic Fumes Hazards

Volatization of solids during a fire might generate toxic fumes and airborne particles contaminated with radionuclides or hazardous constituents.

3.4.4 Reactive Chemical/Corrosive Material Hazards

Corrosive and reactive wastes stored at 224-T TRUSAF could cause chemical burns.

3.4.5 Thermal Reactions/Hazards

Skin burns could result from contact with hot steam pipes.

3.4.6 Flammable Material/Liquids Hazards

Flammable liquids are not stored at 224-T TRUSAF.

3.4.7 Asbestos Release

Asbestos can be found in many older buildings on the Hanford Site such as 224-T TRUSAF. An unplanned release of friable asbestos to the environment or within the building is possible and would result in a health hazard.

3.5 RADIOACTIVE MATERIALS

Radioactive materials are used and stored in 224-T TRUSAF. The credible types of, and extent of, emergencies caused by the use and storage of radioactive materials are described here, unless identified as not applicable (N/A). The response plan for each type of emergency is listed in Section 6.7 of this Plan.

3.5.1 Gaseous Effluent Discharges (Stack Releases)

Normal emission of radon is not considered a hazard. It is possible that the air blower discharge (ventilation exhausters 296-T-11 and 296-T-12) might become contaminated with radionuclides or hazardous constituents in the event of a spill or fire.

3.5.2 Liquid Effluent Discharges - N/A

The only liquid discharges at 224-T TRUSAF are from the evaporative cooling unit and the sanitary water. However, it is possible that the discharge might become contaminated with radionuclides or hazardous constituents in the event of a spill or fire.

3.5.3 Significant Contamination Spread/Releases

Significant contamination spread or releases might involve hazards including exposure to radioactive, toxic, and corrosive materials. The major cause of spread or release would be a fire that might disperse contaminated materials.

3.6 CRITICALITY

Only contact-handled radioactive materials are assayed and stored at 224-T TRUSAF. However, it is possible that a misrepresented shipment of high-activity waste may be received. Procedures for handling waste exceeding 200 grams of fissile materials (as identified by assay) are established to prevent a criticality incident.

3.7 EXPLOSIVE MATERIALS/MUNITIONS HAZARDS - N/A

Munitions are not handled at 224-T TRUSAF.

4.0 DESCRIPTION OF WHEN AND HOW BUILDING EMERGENCY PLAN WILL BE IMPLEMENTED

4.1 IMPLEMENTATION

This emergency plan will be used whenever the building emergency director determines that one of the incidents listed in Sections 3.2 through 3.7 has, or will, occur and that the severity is, or will be, such that there is a potential to endanger human health or the environment. The building emergency director shall assess each incident to determine the response necessary to protect the personnel, the building, and the environment.

If assistance from Hanford Patrol, the Hanford Fire Department, or ambulance units is required, the Hanford Site emergency response number (911) should be used to contact the Patrol Operations Center and request the desired assistance.

To request other resources or assistance from outside 224-T TRUSAF, the Patrol Operations Center business number is used (373-3800) to contact the Emergency Duty Officer. Facility personnel may handle minor incidents under the direction of the building emergency director and/or line management.

4.2 IDENTIFICATION OF HAZARDOUS MATERIALS

The building emergency director should be aware of the location, types, and general amounts of all hazardous or dangerous materials or waste in 224-T TRUSAF. If there is an emergency and the materials or wastes involved are unknown, identification is as follows:

- Question witnesses or individuals familiar with the operations or area where the incident occurred or is occurring.
- Check the container for labels or markings that are visible from a safe distance.
- Check documents that might reveal the materials involved. (For example, in a waste storage or accumulation area, note the location of containers involved and check those locations against the waste inventory log, chemical waste disposal analysis letter file, waste transfer manifest file, or the accumulation area record file.)

If the waste cannot be identified, call the Hazardous Materials Response Team (911). The Hazardous Material Response Team will sample the waste in accordance with sampling and testing methods specified in WAC 173-303-110 and/or SW-846 (EPA 1990). The samples will be packaged and taken to an analytical laboratory for analysis and identification (following proper chain-of-custody procedures).

4.3 EMERGENCY DOSE LIMITS

These limits only apply in an emergency. Every effort must be made to maintain doses as low as reasonably achievable (ALARA).

Dose Limit (Whole Body)	Activity Performed	Conditions
5 rem	All	
10 rem	Protecting Major Property	Where lower dose limit is not practicable
25 rem	Lifesaving or protection of large populations	Where lower dose limit is not practicable
>25 rem	Lifesaving or protection of large populations	Only on a voluntary basis to personnel fully aware of the risks involved

4.4 FACILITY ACCESS FOR DISABLED PERSONS

Management shall make provisions that address assignment and/or temporary access of disabled persons and others who might have difficulty in exiting a facility safely in the event of an emergency. These shall include individuals who might have less obvious disabilities (such as severe emphysema, respiratory impairment or heart ailments).

Provisions shall be made to review the assignment of an individual who might be temporarily disabled and reassign the individual to a facility that provides for easier evacuation in emergencies.

Line management, building emergency director, Industrial Safety, and the individual concerned shall review the assignment of the individual to the facility, and must consider, at a minimum the following:

- The degree and type of disability
- Location of the workplace within the facility
- Facility operational status
- Existing provisions for emergency evacuation
- Purpose of the assignment and/or availability of alternate locations for conducting business within the facility or in other facilities
- Availability of another individual who could aid in emergency evacuation

- The need for a sign-in/sign-out personnel accountability.

5.0 EMERGENCY RESOURCES

5.1 BUILDING EMERGENCY ORGANIZATION

The personnel listed in Attachment A to this plan are the minimum recommended emergency staff of the Building Emergency Response Organization. Home telephone numbers are available through the Occurrence Notification Center, as needed.

In an emergency in which this Plan is used, the acting building emergency director has the authority to commit the resources required to respond, including money, manpower, and/or equipment.

The roles and responsibilities of building emergency response organization members are described in WHC-CM-4-1, Emergency Plan and WHC-EP-0564, Hanford Facility Contingency Plan.

5.2 IDENTIFICATION AND DESCRIPTION OF EMERGENCY EQUIPMENT

A summary of the 224-T TRUSAF building fixed and portable emergency equipment is provided in the following sections:

5.2.1 Fixed Emergency Equipment

224-T TRUSAF Building Fixed Emergency Equipment		
TYPE	LOCATION	CAPABILITY
Dry-pipe overhead sprinkler system	Throughout 224-T	Fire control

5.2.2 Portable Emergency Equipment

224-T TRUSAF Building Portable Emergency Equipment		
TYPE	LOCATION	CAPABILITY
Fire Extinguishers	First Floor: near main entrance, assay area, and in storage area Second and Third Floors: Near stairways	Fire control: A, B, & C
Dry Chemical	First Floor: near main entrance, assay area, and in storage area Second and Third Floors: Near stairways	Fire control: A, B, & C
Halon	Near rear entrance	Class C fires

5.2.3 Protective Equipment

224-T TRUSAF Protective Equipment		
TYPE	LOCATION	CAPABILITY
Special Work Permit Clothing	224-T	Radiation protection
Respirators	224-T	Protection from airborne hazards
Filtered Masks	224-T	Protection from airborne particulates
Self-Contained Breathing Apparatus	616 Building	Breathing air supplied for work in hazardous atmospheres
Acid Suit	616 Building	Protection when working with caustics/acids

5.2.4 Spill Control Equipment

Spill control equipment to be used for nonradioactive hazardous materials during an emergency and/or recovery phase has been identified.

224-T TRUSAF Spill Control Equipment		
TYPE	LOCATION	CAPABILITY
2 Bags absorbents Hand-operated rotary pump Face shields Saranex suits Tyvek Suits Non-sparking shovels Rubber coveralls Overpack Drums Radiation rope Contaminated Surface signs Nylon strap with hooks PCB gloves Green tape	Third Floor 224-T	Containing/cleaning up hazardous spills

5.2.5 Emergency Monitoring Kit

224-T TRUSAF Emergency Monitoring Kit		
TYPE	LOCATION	CAPABILITY
Silver suitcase type	221-T Men's change room and Pipe gallery	Used during emergencies to provide radiation detection equipment, protective clothing, and respiratory protection

5.3 EMERGENCY NOTIFICATIONS

5.3.1 Notification to Personnel Within The Facility

Facility personnel must be notified immediately if any conditions that affect facility occupants or operations are discovered.

If you discover an emergency:

1. LEAVE THE IMMEDIATE AREA if you may be harmed.

2. ACTIVATE THE NEAREST FIRE ALARM if you discover a fire.

3. GO TO A SAFE PLACE AND CALL 911 or 373-3800. Speak slowly and clearly and provide the following:

   - Your name
   - The nature of the emergency
   - Exact location of the emergency.

   Have the person answering the call repeat the message back to you.

4. Notify the building emergency director.

Depending on the severity of the incident, personnel in the facility, area, or Hanford Site will be notified about the emergency, using one or more of the emergency warning systems discussed below.

Building Public Address System (PAX). Used for incidents that affect only a limited area near the incident.

Hanford Site Standard Emergency Signals. These siren alerts are summarized in Section 5.4.1 of this Plan and described in Section 6.0 of WHC-CM-4-1, Emergency Plan and in Sections 4.4 through 4.5 of WHC-EP-0564, Hanford Facility Contingency Plan.

Crash Alarm Telephone System. A telephone system used to disseminate emergency messages; dialing a single number connects the initiator to a predetermined number of telephones. Crash Alarm Telephones are identified with a black and white label on the handle. The 224-T Crash Alarm Telephone is in the Building Office (373-2411).

5.3.2 Notifications to Personnel and Organizations Outside of the Facility

Once the Emergency Action Coordinating Team (EACT) is activated, the DOE-RL is responsible for all notifications to organizations or agencies other than DOE-HQ and onsite contractors. Before the EACT is activated, the Occurrence Notification Center is responsible for these notifications.

The Occurrence Notification Center (376-2900) also is responsible for reporting any release of hazardous or dangerous waste or materials (regardless of quantity) to the Washington Department of Ecology, and reporting releases

of hazardous or dangerous materials above reportable quantities to the National Response Center.

In there is a fire or explosion, the building emergency director or line management must immediately call 911 to notify the Patrol Operations Center.

If there is any unplanned release of hazardous or dangerous wastes or materials, the building emergency director must immediately notify the onsite contractor's Environmental Protection organization at 373-1716. The Environmental Protection organization notifies the Occurrence Notification Center. The Occurrence Notification Center (376-2900) must be notified of the release as soon as possible, not more than two hours after the release is discovered. The building emergency director or line management must document the emergency in accordance with specific reporting procedures.

Tell the Occurrence Notification Center:

- Name, telephone number, and contractor of person reporting
- Location of the release
- Date and time of the release
- Type and amount of material released
- Reportable quantity of the material
- Cause of the release
- Health and environmental impact of the release
- Clean up action in progress or required
- Whether a press release will be made
- Agencies requiring notifications.

5.4 EMERGENCY ALARMS AND WHEN/HOW THEY WILL BE ACTIVATED

5.4.1 Standard Emergency Alarms

SIGNAL	MEANING	ACTIONS
STEADY TONE OR SIREN (3-5 MINUTES) OR BUILDING P.A. SYSTEM OR AT MANAGER'S REQUEST.	AREA EVACUATION: RADIOACTIVE MATERIAL RELEASE, HAZARDOUS MATERIAL RELEASE, BOMB THREAT.	GET CAR KEYS, IF TIME PERMITS, AND GO TO EVACUATION STAGING AREA.
WAVERING TONE OR SIREN (3 TO 5 MINUTES)	TAKE COVER: HAZARDOUS MATERIALS RELEASE, OR SECURITY EVENT WHERE EVACUATION CANNOT BE COMPLETED IN A TIMELY MANNER.	TAKE COVER IN NEAREST BUILDING, SHUT DOORS AND WINDOWS AND SHUT OFF VENTILATION.
HOWLER (AH-OO-GAH)	CRITICALITY, NUCLEAR EXCURSION.	RUN AWAY FROM ALARM SOUND AND GO DIRECTLY TO A DESIGNATED STAGING AREA AS IDENTIFIED IN THE BUILDING EMERGENCY PLAN.
GONG	FIRE	EVACUATE UNLESS DIRECTED NOT TO DO SO BY THE BUILDING EMERGENCY DIRECTOR.
CONTINUOUS RINGING BELL AND FLASHING RED LIGHT.	POTENTIAL AIRBORNE RADIOLOGICAL CONTAMINATION.	HOLD YOUR BREATH AND PLACE ONE BARRIER BETWEEN YOU AND ALARM.
CRASH ALARM (200, 300, 400 AREAS) STEADY RINGING TELEPHONE.	EMERGENCY COMMUNICATIONS.	PICK UP PHONE AND LISTEN. RELAY MESSAGE TO BUILDING.
EMERGENCY DIRECTOR ANNOUNCEMENT	ALL CLEAR SIGNAL FOR ANY OF THESE ALARMS OR SIGNALS WILL BE PASSED BY VOICE. THE FACILITY PUBLIC ADDRESS SYSTEM OR CRASH ALARM PHONES MAY BE USED FOR THIS PURPOSE.	THE ALL CLEAR SIGNAL.

5.4.2 Facility Specific Emergency Alarms

SIGNAL	MEANING	ACTIONS
Beacon light, steady bell tone	Continuous air monitor-potential contamination	Restrict breathing and move at least one barrier away

Facility-specific emergency alarm/equipment locations may be found on Figure 4.

6.0 EMERGENCY RESPONSE PLANS

This section contains Emergency Response Guides that pertain to 224-T TRUSAF.

6.1 EVACUATION (Hanford Standard: STEADY SIREN)

6.1.1 Building Evacuation

If an evacuation is ordered or the evacuation siren sounds in 224-T TRUSAF, employees should proceed to the:

224-T TRUSAF STAGING AREAS	AREA	LOCATION
PRIMARY STAGING AREA	200 West	South of 224-T
SECONDARY STAGING AREA	200 West	West of 271-T

6.1.2 Area Evacuation

The building emergency director or staging area manager directs this procedure during an evacuation; however, to ensure that evacuations may be conducted promptly and safely, all employees should be familiar with the evacuation procedure outlined in the following pages. The order to evacuate will normally be passed via the Crash Alarm Telephone system.

When possible, the following steps should be conducted concurrently and directed by the building emergency director, if possible. Area evacuations are either rapid or controlled; differences between them are pointed out as follows:

AREA EVACUATION PROCEDURE
Halt any operations or work and place the building in a safe condition. Use emergency shutdown procedures for rapid evacuation.
Use whatever means are available (PA system, bullhorns, runners, etc.) to pass the evacuation information to employees.
Sound the facility's evacuation siren (if available), or issue the order to evacuate by any available means.
Evacuate personnel to the staging area.
Conduct personnel accountability (controlled evacuations only). Report personnel accountability results to your Area Emergency Control Center (ECC) (373-3876, 373-1786, or 544-8055).
Segregate personnel into four groups: Special Work Procedure clad personnel, persons with keys to immediately available private vehicles, persons with keys to government vehicles, all others.
Relay pertinent evacuation information (routes, destination etc.) to personnel with vehicle keys.
Direct evacuation drivers to warm up vehicles.
Load personnel in civilian clothes into private and government vehicles, separate from load SWP clad personnel and try to provide reserve transportation for people with late shutdown duties.
Dispatch private and government vehicles as soon as the vehicles are loaded.
Load remaining people into evacuation vehicles, maintaining segregation if possible.
Dispatch vehicles and instruct drivers to pick up pedestrians along their route. If possible, provide drivers with portable radios so that they can communicate with the Emergency Control Center.
Report status to the Emergency Control Center, request additional transportation if required and report if any people remain who are performing late shutdown duties.

6.2 TAKE COVER (Hanford Standard Emergency Signal: WAILING SIREN)

6.2.1 Take Cover Response

When the Take Cover Alarm is activated, personnel should take cover in the nearest building or trailer. The following actions should be taken or considered:

- Shut doors and windows and wait for further instructions.
- Report your location to your manager or the building emergency director.
- If possible, reduce ventilation and turn off unnecessary electrical equipment. The supply fan may need to be shut down.

6.2.2 Attack by Hostile Factions - Take Cover

Normally, this facility will be alerted of an impending attack via the Crash Alarm Telephone in the 224-T Building Office (373-2411).

6.3 BOMB THREAT RESPONSE GUIDES

A bomb search kit is found at MO-371 (Women's Change Trailer). This kit contains some or all of the following.

- Flashlights
- Bump hats, and gloves
- Set of maps
- Marking pens (for marking up search plans on maps)
- Mirrors and extension handles
- Crescent wrenches (for mirror adjustments)
- Thread or string (to mark paths to objects for investigation)
- Green tape (for repairs, holding string, etc.)
- Masking tape (for taping off areas searched)

6.3.1 Actions if You Get a Telephoned Bomb Threat

If you get a telephoned bomb threat, respond as follows:

NOTE: Attempt to engage the caller in conversation on the telephone as long as possible, and get as much information as you can. Use the Bomb Threat Checklist for questions to ask.

1. Record as much information about the call (threat, caller mannerisms and voice features, background noise, etc.) on a Bomb Threat Checklist (Form BD-9100-201R).
2. Initiate facility evacuation.
3. Notify the building emergency director.

4. Notify the Patrol Operations Center (911) once the call is over.

6.3.2 Actions if You Get a Written Bomb Threat

If you get a written bomb threat, respond as follows:

1. Handle the letter as little as possible to preserve fingerprints and avoid smudging.

2. Immediately notify the Patrol Operations Center (911) and the building emergency director. Tell no one else.

3. Record all details of the receipt (i.e., where found, how delivered, when found, etc.)

4. Release the letter only to Security personnel or to a person authorized by Security.

6.3.3 Actions if You Discover a Bomb or Suspicious Object

If you discover a bomb or suspicious object, respond as follows.

1. Clear the immediate area of personnel. Do not transmit on a radio near the object.

2. Immediately notify the Patrol Operations Center (911) and the building emergency director.

3. Ensure that no one enters the area by standing guard in a sheltered location at the maximum possible distance.

6.4 OPERATIONAL EMERGENCY RESPONSE PLAN

The following sections contain response plans for each type of emergency or hazard identified in Sections 3.2 through 3.7 of this Plan.

6.4.1 Utility Disconnect Plan For 224-T TRUSAF

Use these steps to place the utilities in a safe and secure condition when an emergency has been declared, or when directed by the building emergency director. Refer to Figure 6 for utility shutoff locations.

6.4.1.1 Heating, Ventilation, and Air Conditioning (HVAC).

1. Proceed to Room 3.

2. Locate heating, ventilation, and air conditioning control panel labeled Main Supply Fan K1-7-1.

3. Place switch in OFF position.

6.4.1.2 Electrical.

NOTE: This building should be shut down only in extreme emergency.

1. Proceed outside the building to the two panels located at the west end by the utilities (See Figure 6).
2. Open applicable cut-out switches using hot sticks, as needed.
3. Contact Electrical Dispatch on 373-2123.

6.4.1.3 Fire Sprinkler System.

Interior Shutoff

1. Proceed to Assay Control Room on the first floor (See Figure 6).
2. Locate fire system valves.
3. Close valve.

Exterior Shutoff

The 224-T TRUSAF sanitary water supply system is located just inside the entrance gate.

6.4.1.4 Sanitary Water/Sewer.

1. Proceed inside the building on the southeast end of the first floor (See Figure 6).
2. Locate main valve labeled 4-24.
3. Turn valve until CLOSED.

6.4.1.5 Process Water. - N/A

6.4.1.6 Steam.

1. Proceed northwest outside the building.
2. Locate main valve labeled H-28359.
3. Turn valve until CLOSED.

6.4.2 Industrial - N/A

6.4.3 Loss of Electricity

Emergency conditions occur at 224-T when the continuous air monitors and exhaust fans lose power.

6.4.3.1 Immediate Action

1. Evacuate all personnel.

2. Notify the building supervision and a Health Physics technician.

3. Notify the Patrol Operations Center on 373-3800 if assistance is required.

4. Ensure that the Health Physics manager and the electrical manager have been contacted.

5. Restart systems according to normal operating procedures when power is restored and restart is recommended after consulting with support organizations such as Health Physics in determining the following:

   - Who may enter
   - When entry is permitted
   - Protective clothing required
   - When restart is authorized

6.4.4 Loss of Water

Loss of water to a fire supression system is classified as an Emergency Impairment. See WHC-CM-4-41, Section 4.3 for response to Emergency Impairments.

6.4.5 Loss of Ventilation

If both ventilation exhausters fail simultaneously, 224-T TRUSAF shall be immediately evacuated.

NOTE: Loss of air supply to the building is not an emergency as long as exhaust fans continue to operate and maintain negative pressure. However certain functions might require closer management monitoring. This leads to the caution status defined in the following section.

6.4.5.1 Loss of Air Supply Only (Caution Status)

Immediate Actions

Notify building supervision and the Health Physics organization.

Building Emergency Director

Review operations in progress with building supervision and a Health Physics representative and upgrade to Emergency if warranted.

6.4.5.2 Loss of Exhaust Ventilation (Emergency)

6.4.5.2.1. Immediate Actions

1. Evacuate all personnel.

2. Notify building emergency director and Health Physics.

3. Determine cause of ventilation loss. If due to electrical failure, refer to Section 6.4.3.

6.4.5.2.2 Building Emergency Director

1. Notify the Patrol Operation Center on 373-3800.

2. Ensure that the Health Physics representative and the electrical manager have been contacted.

3. Restart fans using normal operating procedures after consulting with support organizations such as Health Physics, as applicable.

6.4.5.2.3 Reentry

Reentry to the building will be at the discretion of the Health Physics representative who will determine the following:

- Who may enter
- When entry is permitted
- Protective clothing required
- When restart is authorized

6.4.6 Loss of Steam

NOTE: Loss of heating to the building is not an emergency as long as cold weather conditions would not cause damage to the facility. However, certain functions are required to better monitor the conditions of the facility. This leads to the caution status defined in the following sections:

6.4.6.1 Loss of Heating Supply (Caution Status)

Immediate Actions

1. Notify building supervision and Solid Waste Process engineering.

2. Heat trace and insulate the water feed line. Ensure that the heat trace is operable by observing that the pilot light is ON.

3. Review operations in progress with building supervision and upgrade to Emergency if warranted.

6.4.6.2 Loss of Heating Supply (Emergency Status)

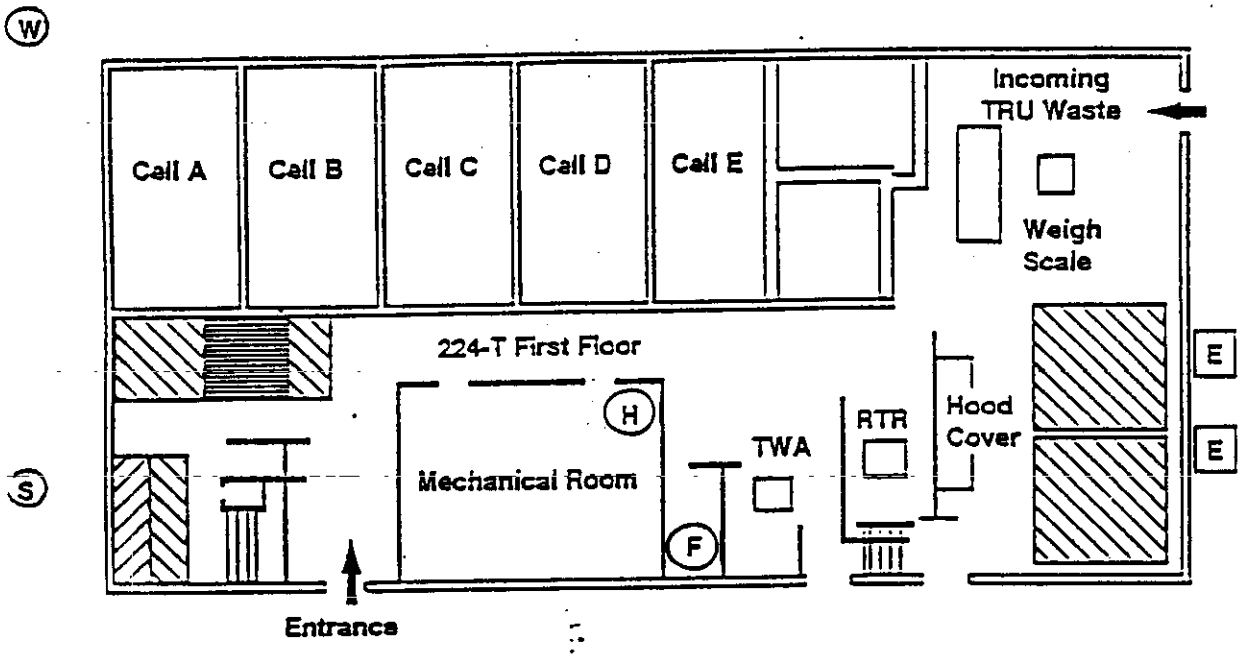
Immediate Actions

1. Notify building supervision.
2. Drain sprinkler system.
3. Turn off water supply.
4. Open valves on the sanitary water line.

6.4.7 Loss of Air

1. Notify appropriate maintenance personnel for repair as soon as possible.
2. Loss of compressed air does not constitute an emergency except that loss of exhaust ventilation system and/or differential pressure might occur.

Figure 6
Utility Disconnect Locations



● Interior Shutoff Sanitary Water Supply

(F) Fire Sprinkler System

[E] Electrical Cut-Out Switches

(H) Heating, Ventilation, and Air Conditioning (HVAC)

(W) Sanitary Water/Sewer Exterior Shutoff

(S) Steam Valve

29303039.1

6.4.8 Fire

Fire fighting in 224-T TRUSAF is complicated by the presence of large amounts of radioactive material, which might cause contamination or criticality. It is extremely important to avoid breaching containment in this facility.

The building emergency director (or alternate) is responsible for ensuring that the following actions are performed; however, all personnel are responsible for the initial steps and for notifying others if a fire is detected or an explosion occurs at this facility.

Person discovering a fire or near an explosion

- Alert personnel to evacuate the facility. Activate the nearest fire alarm box.
- Call 911 and request the Hanford Fire Department.
- Notify the building emergency director.

Building emergency director

- Confer with Health Physics and Nuclear Facility Safety for criticality/contamination controls and area postings.
- Assign someone to meet Hanford Fire Department personnel and direct them to the alarm or fire.
- Go to the scene, assess the situation, and request necessary help.

Facility occupants

- Evacuate the facility and stand by for further instructions.

Hanford Fire Department

- Goes to the scene and initiates actions to control the incident in coordination with the building emergency director.
- Establishes an incident command post in a safe location and requests assistance as necessary.
- Remove injured personnel to a safe area, provide immediate first aid, and prepare the injured for transport to a full-service medical facility for medical treatment.
- Establish roadblocks to prevent unauthorized personnel from entering as necessary.

Once the fire is controlled and/or extinguished or the cause of the explosion has been eliminated AND there is no longer an imminent threat to human health, the balance of this procedure is implemented.

Building emergency director

- Announce an "all clear" signal.
- Isolate any hazardous materials and stabilize the materials until the materials can be removed in a non-emergency mode and properly treated or disposed.
- Clean and repair emergency equipment and return the equipment to a condition fit for reuse.
- Replace all expendable supplies.

6.4.9 Major Process Disruption - N/A

No industrial processes are conducted at 224-T TRUSAF.

6.4.10 Pressure Hazards Emergency Response - N/A

Pressurized systems are not used at 224-T TRUSAF.

6.5 NATURAL HAZARDS RESPONSE PLAN

6.5.1 Volcanic Eruption/Ash Fall

Volcanic eruptions and ash fallout from the Cascade Mountain Range is a possibility. The Crash Alarm Telephone system is used to notify the facilities if ash fallout is imminent. Take the following actions if notified that an ash plume will reach the Hanford Site.

Building emergency director

- Contact the Emergency Control Center and obtain meteorology data necessary to estimate time of arrival for the ash plume
- Decide whether to evacuate or initiate Take Cover emergency response.

Follow the "Evacuation" response in Section 6.1 or the "Take Cover" response in Section 6.2

- Protect supply air inlets and reduce ventilation flows as appropriate.
- Evaluate necessity of shutting down some or all of the processes. If required, notify appropriate personnel to begin shutdowns.
- Maintain communication with the emergency duty officer or the Area Emergency Control Center to discuss building condition and changing fallout conditions.

6.5.2 Seismic Event Response

The onsite emergency response organization's primary role in a seismic event is coordinating the initial response to injuries, fires and fire hazards, and acting to contain or control radioactive and/or toxic material releases.

6.5.2.1 Seismic Event Response During the Event.

Each building emergency organization must be ready to respond following a seismic event affecting the Hanford Site and the operating environmental contractor's facilities, personnel, and property.

The following guidelines identify the responses (by appropriately trained individuals) necessary to respond to a seismic event at 224-T TRUSAF.

- Promptly assess post-earthquake emergency needs
- Act as necessary to protect building personnel and those onsite and offsite
- Report needs to 911 or the Area Emergency Control Center
- Search for injured or trapped employees
- Conduct accountability
- Render first aid
- Search for fires and other hazards
- Fight fires
- Turn off water, gas, and electricity
- Perform facility inspection
- Consider shutdown of operating systems
- Arrange for rescue of personnel
- Form a recovery plan
- Perform cleanup

6.5.2.2 Response During a Seismic Event

During an earthquake, building personnel should:

- Remain calm
- Stay away from steam lines
- Respond to all emergency signals
- Avoid objects that could fall or release hazardous material.

6.5.2.3 Response After a Seismic Event.

After an earthquake:

- Follow the building emergency director's instructions
- Check others for injuries and administer first aid
- Call 911 for emergency assistance; notify plant management
- Do not use matches or lighters
- Do not touch downed power lines or objects touched by downed wires
- Do not use the telephone or public/address system (except for emergency communications)
- Establish damage assessment teams for the local area and areas beyond the facility
- Determine if release of inventories of hazardous material (radioactive or nonradioactive) is occurring or likely to occur
- Determine current local meteorology
- Warn adjacent facilities of event using: crash alarm, radios, telephone, runners, and/or Hanford Patrol rover vehicles
- Initiate road closures (Highway 240, and/or onsite roadways) to reduce potential exposures
- Provide resources and personnel assistance to other affected personnel and facilities.

6.5.3 High Winds/Tornado

- Take cover until the event subsides, as directed
- Assess and identify damage to 224-T TRUSAF
- Contact the Patrol Operation Center at 911 or the Emergency Duty Officer at 373-3800, as appropriate.

6.5.4 Flood - N/A

6.5.5 Range Fire

If a range fire should reach 224-T TRUSAF, the fire might have the potential to volatize materials, create hazardous fumes, and create airborne dispersal of radionuclides and hazardous constituents. Follow response procedures described in Section 6.4.8, "Fire."

6.6 HAZARDOUS MATERIALS/MIXED WASTE RESPONSE PLAN

Anyone may discover a nonradioactive hazardous material or mixed waste spill. In addition to following the required notification procedures, personnel should respond to hazardous material/mixed waste spills in accordance with the appropriate direction as follows:

6.6.1 Spill Response Plan

- Activate the emergency alarms and/or use telephones, radios, or word-of-mouth to notify personnel to evacuate the spill area or the entire facility, as appropriate.
- Safely assess the severity of the situation and contact the building emergency director or line manager, providing as much detailed information as possible (i.e., type of material, location, fire, etc.).
- For leaking containers, supervision shall determine whether to contact the Hanford Fire Department Hazardous Materials Response Team (HAZMAT) at 373-2301 or 373-2745 for assistance with the spill containment and stabilization.
- If HAZMAT assistance is required, direct an individual to meet and direct them to the event scene.
- For small leaks and other minor container abnormalities, supervision will specify and coordinate corrective actions. If the BED or line manager determines that the release can be contained safely and promptly, do so.
- Based upon the material involved in the spill, choose the proper protective clothing and gear. If the material is unknown, assume the worst.
- Stop the spill from spreading, especially before it can contaminate any water source.
- Stop the spill at the source, if possible.
- Once the spill is under control, re-assess and develop an action plan for cleanup.
- Clean up the spill in accordance with the action plan and properly dispose of any contaminated material.

- Decontaminate the spill location, personnel, and equipment, returning them to usable condition. Replace all expendable supplies.

- Announce an ALL CLEAR signal once the release is contained and controlled AND there is no longer an imminent threat to human health.

- Complete any required spill or incident reports in accordance with approved procedures.

6.6.2 Fire and Explosion Associated with Hazardous Materials

Explosions might cause or result from a fire, or might be totally disassociated. For this Plan, fire and explosion are treated simultaneously. Special chemical hazards are addressed in the Fire Department "Pre-Fire Plans," located by the main fire alarm panel near the restroom at the northwest corner of the 224-T Building.

Discoverer of a Fire Involving Hazardous Materials

- Avoid inhaling smoke, fumes, or vapors, even if no hazardous waste is involved.

- Activate the nearest fire alarm and call 911.

- Notify the building emergency director or operations shift office. Provide as much information as possible without personal risk.

- Move and keep people away from fire scene.

- Identify the character, exact source, amount, and extent of any released materials. Request support from Solid Waste Process Engineering for this effort.

- If the emergency involves a hazardous waste storage area, contact the 224-T TRUSAF Hazardous Waste Coordinator to identify the materials involved.

- Contact the Patrol Operations Center at 911 or 373-3800 and provide as much information as possible. Request additional assistance as required.

- Evacuate part or all of the building. Ensure that the staging area remains safe.

- Consider requesting Hanford Patrol to evacuate personnel along adjacent streets and roadways.

- Ensure that the Hanford Fire Department Hazardous Material Response Team has been notified.

- Relay pertinent information, including telephone number and proposed location of the technical support center.

- Establish a command post in a safe location.

6.6.3 Toxic Fume Release

Anyone might discover a hazardous material toxic fume release. Rapid communication is vital in warning personnel and notifying appropriate response personnel.

Discoverer of a Toxic Fume Release

- TREAT ALL FUME RELEASES AS TOXIC, UNLESS ABSOLUTELY KNOWN TO BE HARMLESS

- Avoid inhaling smoke, fumes, or vapors, even if no hazardous waste is involved

- Do not assume that gasses or vapors are harmless just because they lack an odor

- Contact the building emergency director or operations shift office immediately and provide as much information as possible without personal risk

- Keep people away from the area of the release.

Building emergency director

- Identify the character, exact source, amount, and extent of any released materials

- Refer to the Material Safety Data Sheets for information necessary to determine what type of respiratory and personnel protective equipment should be used to isolate the spill area and/or stop the leak

- If the emergency involves a hazardous waste storage area, contact the plant hazardous waste coordinator to identify the materials involved

- Notify the Patrol Operations Center at 911 and request that the Hanford Fire Department Hazardous Material Response Team be dispatched if assistance is required. Provide as much information as possible

- Assign someone to meet the Hazardous Material Team and direct them to the spill

- Assess hazards to human health and the environment (considering direct, indirect, immediate, and long-term effects) that might result from the spill
- Contact Pacific Northwest Laboratories Meteorology Station on 373-2716 to determine the wind speed, direction, and plume stability
- Take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste at the facility
- Where applicable, stop processes and operations, collect and contain released waste, and remove or isolate containers
- Evaluate evacuating part or all of the building; consider the location of the spill and ensure the safety of the evacuation staging area
- Consider shutting down the intake air supply system, and/or retain personnel inside the building.

6.6.4 Reactive Corrosive or Chemical Hazard

Spills of reactive corrosive waste should be handled according to Section 6.6.1. Vapors released by fuming corrosives should be handled according to Section 6.6.3.

6.6.5 Thermal Reaction

In the event of an escaping steam hazard, personnel should take the following actions:

1. Leave the area of the hazard
2. Shut off steam supply
3. Warn others in the immediate area of the hazard
4. Notify the building emergency director
5. Inform appropriate maintenance personnel for repairs.

6.6.6 Flammable Liquids/Materials N/A.

6.6.7 Asbestos Release

Asbestos containing materials normally are well encapsulated to ensure that asbestos fibers do not become airborne. An asbestos hazard emergency condition arises when a large portion of the encapsulation is damaged and the asbestos containing material is dispersed in the area (for example, burst

steam piping or vehicle collision with overhead steam lines). If an asbestos release occurs:

- Evacuate all personnel from the affected area
- Isolate and post the area
- Contact Industrial Safety and Fire Protection to determine remedial action
- Contact the building warden and provide information
- Identify a recovery/cleanup plan (at the direction of Industrial Safety and Fire Protection and a trained asbestos worker/supervisor).

6.7 RADIOACTIVE MATERIALS RESPONSE PLAN

6.7.1 Radioactive Gaseous Effluent Discharge - Stack Alarm

All potentially contaminated gaseous effluent discharges are continuously monitored and/or periodically sampled to determine radioactivity.

If a continuously monitored stream exceeds the limit, alarms are activated and sound both inside and outside of 224-T TRUSAF.

6.7.2 Radioactive Liquid Effluent Discharge

There are no potentially contaminated liquid discharges from 224-T TRUSAF that either are continuously monitored or routinely sampled and analyzed for alpha and beta-gamma radioactivity content. This is because the 224-T TRUSAF ordinarily does not discharge radioactive liquid effluent. However, the cooling water and sanitary discharges will be halted in the event of high radiation contamination.

6.7.3 Significant Contamination Spread

Typically this is indicated by a continuous air monitor alarm.

Respond to a continuous air monitor alarm by:

- Restrict breathing and move at least one barrier away from the affected area.
- Contact Health Physics and stand by for survey and contamination status. If the room is found to be contaminated, Health Physics will place the room on airborne contamination status.
- Notify immediate manager and the building emergency director.

6.8 CRITICALITY RESPONSE PLAN

As a limited control facility, the form or distribution of fissionable material ensures that a safe mass cannot be exceeded. Procedures for handling waste exceeding 200 grams of fissile materials (as identified by assay) are established to prevent a criticality incident.

6.9 EXPLOSIVE MATERIALS/MUNITIONS HAZARDS RESPONSE PLAN - N/A

6.10 PREVENTING RECURRENCE OR SPREAD OF FIRES, EXPLOSIONS, OR RELEASES

To ensure that fires, explosions, or releases do not occur, reoccur, or spread, facility operations have been reviewed to identify potential hazards and Plant Operating Procedures have been developed to minimize the occurrence of unplanned incidents.

Safety systems such as automatic fire sprinklers, automatic process shutdown controls, spill containment structures, and contaminated waste stream diversion systems have been installed to ensure that if an emergency occurs, the affected area will be kept to a minimum.

Once the emergency response to an incident is complete, the building emergency director is responsible for analyzing the events that lead to the incident and for conducting a critique to determine the circumstances of the occurrence, including cause(s), impacts, and lessons learned from the incident.

The requirements of DOE Order 5484.1 must be followed to ensure that all appropriate parties are aware of, and participate in decisions on the best course(s) of action to take to prevent or minimize the possibility of future occurrences.

Specific steps that might be taken for a particular incident could include:

- Isolating the area of the initial incident to minimize the spread of a release and/or the potential for a fire or explosion (by shutting off power, closing off ventilation systems, etc.). Inspecting containment structures for cracks or leaks
- Removing released material and waste remaining inside of containment structures as soon as possible
- Containing and isolating residual waste material using dikes and absorbents
- Covering or otherwise stabilizing areas where residual released materials remain, to prevent wind or precipitation runoff from causing the material to spread
- Installing new buildings, systems, or equipment to enable better management of hazardous or dangerous waste or materials.

6.11 RECORDS RECOVERY

The 224-T TRUSAF building emergency director shall ensure that the actions necessary to recover records or prevent further damage to records shall be taken as follows:

- Contact the Patrol Operations Center via 911 or 373-3800 or the Occurrence Notification Center via 376-2900 and request that the records restoration officer be contacted.
- The records restoration officer shall review the records inventory data base and determine if records storage areas exist in or near the affected area.
- If records have been damaged or could be damaged, the records restoration officer will act to recover or prevent damage to stored records in accordance with established procedures.

7.0 TERMINATION OF EMERGENCY

Normally, it is the building emergency director's responsibility to declare the termination of an emergency; however, once the operating environmental contractor's emergency response organization is activated, only the area emergency director or the WHC Emergency Director shall declare that an emergency has ended.

If the DOE-RL Emergency Action and Coordination Team is activated, only the DOE-RL Director shall officially terminate the emergency.

NOTE: In all cases, however, the building emergency director must be consulted before reentry is initiated.

8.0 ACCIDENT RECOVERY

The recovery phase of the accident is handled according to a recovery plan developed for the specific event, not emergency criteria.

Facility managers establish emergency response organizations that encompass all required aspects of engineering, operations, maintenance, and functional support, with direction provided by the Hazardous Waste Unit and the Industrial Hygiene and Safety Department.

Recovery includes making proper notifications to proper agencies (such as the U.S. DOE, U.S. Environmental Protection Agency, or Washington State Department of Ecology).

Recovery also includes recapture (where possible), storage, and disposal of any released material, and storage and disposal of any contaminated soil or surface water (or any other material) that results from a spill, toxic fume generating event, fire or explosion.

No waste that might be incompatible with the released material may be treated, stored, or disposed of until cleanup is completed.

All emergency equipment shall be cleaned and prepared for reuse immediately following an emergency.

Consult WHC-CM-4-43, Emergency Management Procedures, Section G-3.06, "Recovery Following Emergency Events at Westinghouse Hanford Company Facilities," and WHC-EP-0564, Hanford Facility Contingency Plan, for further information on recovery following emergencies.

9.0 POST-EVENT ANALYSIS AND REPORTING REQUIREMENTS

Damage assessments shall be made at the conclusion of the emergency phase and the results of these assessments shall be communicated to the Emergency Control Centers. The Building Emergency Director shall designate a recovery manager responsible for determining the steps necessary to return the facility to an operational status. The following items shall be considered:

- Building structures (walls, ceilings, systems, etc.)
- Utilities
  - electricity
  - water
  - gas
  - steam
  - telephone
- Hazardous materials/processes
  - radioactive systems or equipment
  - chemical system
  - toxic
  - reactive
  - corrosive
  - explosive
  - pressure systems
  - compressed gas lines
  - pressure vessels
- Waste systems
  - process sewer line
  - process water line
  - sanitary water line
  - fire sprinklers
  - liquid metal
  - cryogenic
- Heating, ventilation, and air conditioning

- Safety Systems

  - safety eyewash/safety shower
  - fire alarm
  - crash alarms
  - sirens & alarms.

ATTACHMENT A: ASSIGNMENTS
BUILDING EMERGENCY RESPONSE ORGANIZATION LISTING

A.1 BUILDING EMERGENCY DIRECTOR

Building Emergency Director	NAME	LOCATION	PHONE
PRIMARY	N. M. Shoemaker	MO-721 224-T	373-2465 373-2411
ALTERNATE	M. D. Aichele	MO-720	373-4585
ALTERNATE	D. R. Pyzel	MO-720	373-5187

A.2 STAGING AREA MANAGERS

Staging Area Managers	NAME	LOCATION	PHONE
PRIMARY	M. D. Aichele	MO-720	373-4585
ALTERNATE	D. R. Pyzel	MO-720	373-5187
ALTERNATE	J. T. Schorzman	MO-720	373-5722

A.3 VOLUNTEER BOMB SEARCH TEAM MEMBERS

Bomb Search Team	NAME	LOCATION	PHONE
PRIMARY	N. M. Shoemaker	MO-721 224-T	373-2465 373-2411
ALTERNATE	D. R. Pyzel	MO-720	373-5187

A.4 ENGINEERING SUPPORT

Engineering Support	NAME	LOCATION	PHONE
PRIMARY	D. B. Powell	MO-720	373-9240

A.5 MAINTENANCE SUPPORT

Maintenance Support	NAME	LOCATION	PHONE
PRIMARY	J. D. Adrian	MO-720	373-4179

ATTACHMENT B: RESOURCE CONSERVATION AND RECOVERY ACT REGULATED UNIT CONTINGENCY PLAN

B.1 INTRODUCTION

This attachment is supplemental to the 224-T Transuranic Waste Storage and Assay Facility (224-T TRUSAF) Building Emergency Plan and provides specific information and response plans for the Resource Conservation and Recovery Act regulated unit. Because of the nature of this regulated unit, special plans identified here are required for response to emergencies at this location.

B.1.1 Facilities Covered by this Plan

This Contingency Plan covers the 224-T TRUSAF facility.

B.1.2 Location of the Facilities

The 224-T TRUSAF facility is located in Benton County, Washington; within the 200 West Area of the Hanford Site.

B.1.3 Description of Facilities and Operations

224-T TRUSAF currently is used for receipt, assay, and storage of transuranic (TRU), transuranic mixed waste (TRU-MW), and low-level mixed waste (LL-MW). This includes both drums containing newly-generated TRU waste and drums retrieved from the Low-Level Burial Grounds. Transuranic waste is defined by DOE Order 5820.2A as any waste, regardless of source or form, that is contaminated with alpha-emitting transuranic radionuclides with half-lives greater than 20 years and in concentrations greater than 100 nanocuries per gram of the waste matrix at the time of assay. Transuranic radionuclides are those radionuclides with an atomic number greater than 92 (uranium). Also included are radium sources and uranium-233 in concentrations greater than 100 nanocuries per gram of waste matrix because the hazards are similar to those of transuranic radionuclides. Transuranic mixed waste is transuranic waste with dangerous waste constituents as defined in WAC 173-303-040.

B.2 PURPOSE OF THE PLAN

The purpose of this emergency and contingency plan is to lessen the potential impact on the public health and environment in the event of an emergency circumstance, including a fire, an explosion, or an unplanned sudden or nonsudden release of dangerous waste or dangerous waste constituents to air, soil, surface water, or groundwater at 224-T TRUSAF.

B.3 DESCRIPTION OF POTENTIAL EMERGENCIES

Potential emergencies involving the regulated storage areas in 224-T TRUSAF are described in Sections 3.2 through 3.7 of the Building Emergency Plan. Specifically, fire is addressed in Section 3.2.8 and explosion in Section 3.4.2. Unplanned sudden or nonsudden releases of dangerous waste and constituents are addressed in Section 3.4.

B.4 DESCRIPTION OF WHEN THE PLAN WILL BE IMPLEMENTED

This Plan will be implemented as described in Section 4.0 of the Building Emergency Plan.

B.5 EMERGENCY RESPONSE PLAN

B.5.1 Building Emergency Response Organization (Specific)

The Building Emergency Response Organization is given in Appendix A. The building emergency director has the duties described in WAC 173-303, Dangerous Waste Regulations, for the Emergency Coordinator. Appendix A identifies the primary and alternate building emergency directors in the order in which the individuals will assume responsibility.

B.5.2 Identification and Description of Specialized Emergency Equipment

Section 5.2 of the Building Emergency Plan provides a listing of all specialized emergency equipment at 224-T TRUSAF including locations, capabilities, and physical descriptions.

B.5.3 Emergency Plan

Plans for responding to emergencies are located in Section 6.0 of the Building Emergency Plan. Fire and explosion associated with hazardous materials are addressed in Section 6.6.2. Unplanned sudden or nonsudden releases of dangerous waste constituents are addressed in Section 6.6.1. Section 6.6.3 addresses releases of toxic fumes.

Additional elements of the emergency plan that apply to units regulated by RCRA/Ecology, and to dangerous or mixed waste, are discussed in the following section.

Waste, accompanied by a manifest, is transported to 224-T TRUSAF, both from onsite generating units and from offsite generators. Actions to be taken regarding a damaged shipment per WAC 173-303-350(b), Contingency Plan and Emergency Procedures, are described in the following paragraph.

Strict administrative controls are in place to ensure that containers received are in good condition and do not contain any free liquids or high-level radioactive waste. These controls include packaging and marking requirements and inspections of onsite generating unit and off-site generators

to evaluate the manifested waste sent to 224-T TRUSAF. Any containers received in damaged condition will be repackaged or placed into overpack drums that are stored at 224-T TRUSAF and the Hanford Central Waste Complex. Any spills resulting from a damaged container will be managed as follows:

Anyone may discover a nonradioactive hazardous material or mixed waste spill. In addition to following the required notification procedures, personnel should respond to hazardous material/mixed waste spills in accordance with the appropriate BED or line management direction as follows:

- Activate the emergency alarms and/or use telephones, radios, or word-of-mouth to notify personnel to evacuate the spill area or the entire facility, as appropriate.
- Safely assess the severity of the situation and contact the BED or line manager, providing as much detailed information as possible (i.e., type of material, location, fire, etc.).
- For leaking containers, the BED or line management shall determine whether to contact the Hanford Fire Department Hazardous Materials Response Team (HAZMAT) at 373-2301 or 373-2745 for assistance with the spill containment and stabilization.
- If HAZMAT assistance is required, direct an individual to meet and direct them to the event scene.
- For small leaks and other minor container abnormalities, supervision will specify and coordinate corrective actions. If the BED or line manager determines that the release can be contained safely and promptly, do so.
- Based upon the material involved in the spill, choose the proper protective clothing and gear. If the material is unknown, assume the worst.
- Stop the spill from spreading, especially before it can contaminate any water source.
- Stop the spill at the source, if possible.
- Once the spill is under control, re-assess and develop an action plan for cleanup.
- Clean up the spill in accordance with the action plan and properly dispose of any contaminated material.
- Decontaminate the spill location, personnel, and equipment, returning them to usable condition. Replace all expendable supplies.

- Announce an ALL CLEAR signal once the release is contained and controlled AND there is no longer an imminent threat to human health.

- Complete any required spill or incident reports in accordance with approved procedures.

A description of the arrangements agreed to by hospitals, state and local agencies, and governments is located in WHC-EP-0564, Hanford Facility Contingency Plan.

The evacuation plan for 224-T TRUSAF is located in Sections 1.5 and 6.1 of the Building Emergency Plan.

Copies of this Plan are maintained at 224-T TRUSAF and by onsite emergency organizations. The U.S. Department of Energy Richland Field Office is responsible for distributing this Plan to all local police departments, fire departments, hospitals, and state and local emergency response teams that might be called upon to provide emergency services.

Amendments to this Plan will be made annually or in one of the following situations, if needed:

- Whenever applicable regulations or the facility permit are revised

- The plan fails in an emergency

- The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents

- The facility changes in a way that changes the response necessary in an emergency

- The list of emergency equipment changes.

Attachment 7

WHC RCRA COMPLIANCE SUPPORT SELF-ASSESSMENT NO. 93RCS-162 TRUSAF,
REPORT DATED OCTOBER 27, 1993

Westinghouse
Hanford Company

Int
Memo

From: RCRA Compliance Support 88410-93-233
Phone: 376-3132 H6-30
Date: October 29, 1993
Subject: RCRA COMPLIANCE SUPPORT SELF-ASSESSMENT NO. 93RCS-162
TRANSURANIC WASTE STORAGE AND ASSAY FACILITY (TRUSAF)

To: P. L. Hapke T4-05

cc: M. D. Aichele T4-04
M. J. Brown H6-20
B. G. Erlandson H6-20
M. J. La Barge H6-21
N. M. Shoemaker T4-04
R. W. Szelmeczka T4-06
Assessment File
EMG/LB

References: 1. WHC-CM-7-5, Section 7.10, REV 0, "Treatment, Storage, and Disposal Facilities."

2. WHC-CM-1-4, Section 7, REV 0, Corrective Action Management Manual

RCRA Compliance Support recently has assisted in a RCRA Compliance Self-Assessment (RCS) of TRUSAF. The assessment was conducted with the help of Nancy Shoemaker of your staff. The assessment has identified deficiencies that need to be corrected. The deficiencies, any observations, and recommended corrective actions are included on the attached RCS Summary Report Form.

As the manager, you are responsible for evaluating the assessment results to determine whether identified deficiencies and proposed corrective actions (per Reference 2) should be entered into the Quality, Environmental, and Safety Trending (QUEST) System. Matt La Barge of RCRA Compliance Support is available to participate in the Corrective Action Evaluation Group to assist in assigning appropriate PPG values to identified deficiencies. The RCRA Compliance Support group is also available to help you in correcting the deficiencies identified in the attached RCS Summary Report.

Please call me on 376-3132 or Matt La Barge on 376-0842 if you have any questions or if we can be of assistance.

Eric M. Greager
Eric M. Greager
Manager

rlm

Attachment

RCRA Compliance Support

RCRA COMPLIANCE SELF-ASSESSMENT SUMMARY REPORT

RSA No.: 93RCS-162 Date: October 27, 1993

Performed by: M. J. La Barge Signature:

Activity or Facility Assessed: Transuranic Waste Storage and Assay Facility (TRUSAF)

Basis for Assessment: WAC 173-303-630(3) and 40 CFR 265 "Interim Status Standards"

Item No.	Deficiencies
1.	The job titles and written job descriptions provided in the TRUSAF Part B permi application are out of date (40 CFR 265.16(d)(2)).
2.	There are many mixed waste containers being stored at TRUSAF that do not have a appropriate major risk label identified on the containers (WAC 173-303-630(3)).

Item No.	Recommended Corrective Action:
1.	Ensure that the Part B permit application contains and/or references an accurat list of job titles and job descriptions for personnel involved with waste management at TRUSAF.
2.	Ensure every container being stored at TRUSAF bares a label identifying the appropriate major risk(s). It was noted that many of the containers missing t major risk labels were backlog waste containers. The appropriate major risk labels will be applied to these containers prior to final acceptance at the Central Waste Complex.

9417277.1817

Attachment 8

WHC INTEGRATED AUDIT/APPRAISAL AUDIT REPORT, DATED SEPTEMBER 1, 1993

Westinghouse
Hanford Company

Internal
Memo

From: Environmental Compliance Assurance 35400-93-196R1
Phone: 376-1449 B2-16
Date: September 2, 1993
Subject: IAA-93-0009, INTEGRATED AUDIT/APPRAISAL AUDIT REPORT

To: W. H. Hamilton Jr. N3-10
T. B. Veneziano L4-96

cc:

M. D. Aichele	T4-05	T. Nishioka	T3-03
R. A. Fell (3)	L0-17	A. A. Omel	B5-20
R. J. Giroir	T4-05	R. H. Palmer	R2-58
P. L. Hapke	T4-05	D. G. Ranade	B2-16
A. R. Hawkins	L4-85	M. T. Schanke	B2-16
K. S. Kline	T4-01	W. L. Smoot	B2-18
J. A. Lauck	B5-20	L. N. Sutton	R2-58
D. W. Lindsey	R3-45	D. J. Swaim	B3-51
R. L. Martin	T3-03	M. E. Zarate	B2-16
H. E. McGuire	B3-63	IAA-93-0009 File	B2-16
D. W. Medley	L0-24	WDB File (2)	
R. D. Moerman	B5-20	JAR LB	

Reference: Internal Memo, J. A. Rivera to W. H. Hamilton Jr., "IAA-93-0009, Solid/Liquid Waste Disposal Audit Plan."

The attached Integrated Audit/Appraisal (IAA) is for Solid Waste Disposal (SWD) pursuance. There are no actions required by Liquid Waste Disposal (LWD) as a result of the IAA.

All condition reports are the responsibility of SWD Management to respond to within 30 days of receipt of this report. IAA-93-0009 report page 5 of 37 indicates the issuing oversight organization and the responsible oversight manager and MSIN your response should by addressed to. Utilization of the condition report forms is required with a signed response from the assigned SWD manager.

We wish to thank you and your staff's for the outstanding cooperation we have received.

If you have any questions regarding this memo, please contact the Audit/Appraisal Team Leader, Walter D. Blair, at 376-5392.

J. A. Rivera
Manager

hal

Attachment

QUEST CONDITION INPUT FORM

ATTACH A COPY OF THE ORIGINAL REPORT TO THIS FORM, IF THIS IS NOT THE ORIGINAL.

1. QUEST Document No.	2. Original Document No.	3. Date Issued
IAA-93-0009-EAU-C-1	IAA-93-0009	September 1, 1993
4. Condition No.	**5. Originator/Organization Code**	**6. Lead Auditor**
1	Environmental Compliance Assurance/35400	D. G. Ranade
7. Risk Value	**8. Requirements Documents**	
5.1	40 CFR, Part 265.13 (a)(1), WAC 173-303-300 (2), WAC 173-303-630 (5)(c), WHC-CM-7-5, Sections 7.7.1.3, 7.7.2.1, and 7.10.2.15.1, Rev. 0	
9. System ID	**10. Equipment ID**	**11. Equipment Manufacturer**
N/A	N/A	N/A
12. Correspondence Control Number		**13. Program/Project**
14. Area	**15. Facility**	**16. Building**
200 WEST AREA	TRUSAF	224T

17. Subject Code

AD-08

18. Condition Summary/QUEST Subject (65 characters only)

GENERATOR CHARAC WASTE/CONTENTS SUSPECTED BY & STORED AT TRUSAF

18a. Condition Detail

Some containers that were characterized by the generators as TRU Waste only, are suspected to also contain waste other than TRU during the Real Time Radiography (RTR) and Radiological Assay (RA). These suspect containers are being stored at this facility. 40 CFR 265.13 (a)(1) and WAC 173-303-300 (2) both state that a facility owner or operator must obtain a detailed chemical, physical, and/or biological analysis of a hazardous/dangerous waste before he stores, treats, or disposes of it. WHC-CM-7-5, Section 7.7.1.3, Rev. 0 requires that a generator be responsible for characterizing mixed wastes for both the dangerous waste component(s) and the radioactive waste component(s). Additionally, wastes should be identified for listed waste and/or land disposal restrictions.

When the nature of the waste is not fully known, it should be managed in the most conservative manner. In this case, the waste should be handled as mixed waste during storage. This includes suspect waste currently stored at the facility and any suspect waste received in the future.

WHC-CM-7-5, Section 7.7.2.1 states that mixed waste shall be managed in accordance with the requirements of RCRA, Subtitle C, as implemented in WAC 173-303. WHC-CM-7-5, Section 7.10.2.15.1 and WAC 173-303-630 (5)(c) require a 30 inch separation between isles of containers holding dangerous waste with rows being no more than 2 drums wide. The suspect containers are being stored at this facility in blocks of 5 to 6 drums wide and deep.

19. Condition Owner/Signature	20. Organization Code	21. Response Due Date
M. D. Aichele	87620	September 17, 1993

22. Root Cause Code(s)

87250 ---------- For Responsible or Actionee Org: 87250 -- SOLID WASTE MGMT ENGINEERING (WIIC) ---------- 87250, Page 4

PART A ---------- PART A -- ITEMS WHERE 87250 IS THE "SUBJECT RESPONSIBLE" ORGANIZATION ---------- PART A, Page 4
DUE: 61-90 DAYS ---------- Items Due In: 61-90 DAYS ---------- DUE: 61-90 DAYS, Page 1

SUBJECT IDENTIFIER	ACTION ID	PPG VAL	RESPONSIBLE ORG & PRSN or ACTIONEE ORG & PRSN	SUBJECT TITLE / ACTION TITLE	DUE DATE	STATUS	ORIG or DELIVERABLE ORG & PERSON
IAA-93-0009-EAU-C-1	(Cond)	5.10	RSP-87250-POWELL,DB	SOLID WASTE DISPOSAL/LIQUID WASTE DISPOSAL	02/01/94	OPEN	35400-RANADE,DG

Attachment 9

WHC FISCAL YEAR 1993 LOW LEVEL WASTE MANAGEMENT ASSESSMENT FOR THE SOLID WASTE MANAGEMENT, ASSESSMENT DATE MARCH 23-25, 1993

FISCAL YEAR 1993
WASTE MANAGEMENT ASSESSMENT
REPORT

ON-SITE GENERATOR: Solid Waste Management

ASSESSMENT NUMBER: SWA-93-0015

ASSESSMENT DATES: March 23-25, 1993

ASSESSMENT TEAM: Team Leader: RW TUCKER
Team Member: B WARN
Team Member: VT DUNNETT
Team Member: ER SMITH

OBSERVERS: None

ASSESSMENT PURPOSE AND SCOPE:

The purpose of this assessment was to ensure that Low Level Waste (LLW) sent to the Hanford Site Central Waste Complex (CWC) and Burial Ground meets the requirements of WHC-EP-0063-3, *Hanford Site Solid Waste Acceptance Criteria.* The scope of the assessment addressed only the LLW and low-level Radioactive Mixed Waste program. The assessment covered an on site inspection of the generator's waste management program, plans, procedures, and records, in addition to a tour of the Solid Waste Management (SWM) facilities.

COMMENDABLE PRACTICES:

1. The LLW Certification Plan is being revised on a timely bases to keep SWM LLW activities current with present requirements.

2. The completeness and application of training for LLW management personnel indicates a high degree of interest and coordination on SWM's part.

3. SWM has the necessary guidance in place to reduce and prevent the generation of waste as much as possible. Waste minimization goals are being consistently achieved.

OBSERVATIONS:

Observation #1: Part K of Procedure SW-100-020 "STORE/DISPOSE OF TRU WASTE" does not include a verification step for reclassified waste (Transuranic [TRU] to LLW). (This observation is a repeat from the FY 1992 Assessment.)

Discussion: Because there are differences in requirements for TRU and LLW (i.e., void space, venting, internal packaging, markings), specific requirements and prohibited items are called out in Storage/Disposal Approval Records (SDAR). There should be a step in the procedure to verify that the non-TRU waste, packaged as suspect TRU waste and coming from the Transuranic Waste Storage and Assay Facility (TRUSAF), is acceptable at the CWC under the existing SWM SDAR. If it is not acceptable the procedure should require a new SDAR.

87360-93-035

ATTACHMENT

5 PAGES

ASSESSMENT #: SWA-93-0015

Westinghouse Hanford Company

Intern
Mem

From: Special Disposal Programs 8736
Phone: 6-4294 N3-13
Date: May 27, 1993
Subject: FISCAL YEAR 1993 LOW-LEVEL WASTE MANAGEMENT ASSESSMENT FOR THE SOLID WASTE MANAGEMENT

To: H. L. Hapke T4-05

cc:

M. D. Aichele	T4-04	J. B. Maier	T4-06
H. R. Benzel	N3-13	H. E. McGuire	B3-63
J. H. Eide	G2-02	J. M. Nielsen	T4-04
R. J. Giroir	T4-05	R. W. Tucker	N3-13
W. H. Hamilton, Jr.	N3-10	N. P. Willis	N3-11
G. R. Hanson	N3-13	NPE File/LB	

Reference: WHC-EP-0063-3, *Hanford Site Solid Waste Acceptance Criteria*, dated September 1991.

The Fiscal Year 1993 Waste Management Assessment of the Solid Waste Management (SWM) solid Low-Level Waste (LLW) handling activities was conducted on March ~~April~~ 23-25, 1993. As a result of this assessment, the approval status of the SWM as a LLW generator is "APPROVED". During the course of the assessment, there were eight observations and four findings documented. The observations identified areas where improvements to the waste management program should be made. The attached report documents this assessment.

The assessment generated four action items that require resolution. To assist in resolving and tracking waste management assessment action items, Special Disposal Programs recommends that SWM consider using the QUEST system. To gain access to the QUEST system, contact Mr. D. P. Trott at 6-2517.

Should you have questions and/or require additional information, please contact Mr. R. W. Tucker on 6-7647.

N. P. Emerson
Acting Manager

rjs

Attachment

Observation #2: Procedures SW-100-003 and SW-100-030 need revision with respect to the U.S. Department of Transportation (DOT) regulations. (This observation is a repeat from the FY 1992 Assessment.)

Discussion: There are too many revisions to list in this observation. Transportation Logistics (now known as Hazardous Material Operations) provided SWM marked-up copies of both procedures for revision.

Observation #3: Procedure SW-100-020, "Store/Dispose of TRU Waste," does not include a step to ensure that a new Uniform Hazardous Waste Manifest (UHWM) is used to ship waste from the TRUSAF, when it has been determined that the waste is non-TRU. (This observation is a repeat from the FY 1992 assessment.)

Discussion: The manifest number used to ship a drum of suspect TRU mixed waste to the TRUSAF cannot be reused to ship out Low-Level Radioactive Mixed Waste (LLRMW).

Observation #4: Plant Operating Procedure SW-100-003 "Prepare/Complete/Review Radioactive Records" does not clearly explain or define radioactive record preparation.

Discussion: The procedure provides instructions for operators to complete shipping papers rather than the shipper. Pagination of pages and the sample forms required correction. Page 11 step 3 suggests that any certified shipper may sign OFF-Site RSR's, while actually only Transportation and Packaging personnel are authorized to sign these documents. Page 11 step 3 also says that this same signature certifies that materials on the form are properly classified, described, packaged, and so forth. The certification of this information is actually the signature identified in step E.12 of the same page. Section F gives instructions on how to fill out a Routine Radioactive Shipping Record. This function is exclusively the responsibility of Transportation and Packaging personnel. Page 32 requires that the wastes described on the UHWM total 100 percent. It is not clear as to what the 100 percent refers to, since it has nothing to do with filling out the form. In conclusion, SWM should revise procedure SW-100-003 to reflect current record preparation practices. SWM may consider having Transportation and Packaging personnel verify the accuracy of any plant operation procedure containing DOT guidelines.

Observation #5: Plant Operation Procedure SW-100-020 "Receive/Assay/Store TRU Waste at 224T" is not current with present requirements of waste regulations; nor is the procedure clear about the movement of LLRMW.

Discussion: The procedure has incorporated the M-181 regulation drum designation UN-1A2, but did not address the new requirements pertaining to segregation of waste containers. For example, after October 1, 1993, class 7 and 3 waste containers are to be segregated and elevated from class 8 items including subsidiary hazards. Also, page 35 of the procedure is clear concerning the movement of (LLW) material to the Burial Grounds, but is not clear about the movement of LLRMW to the CWC.

Observation #6: Plant Operating Procedure SW-100-030 "Package and Transport Radioactive Waste" does not clearly define LL-MW and radiological applications for documentation and shipping requirements.

Discussion: The procedure needs to expound on the requirements of transporting LLRMW, including the mandatory use of the UHWM. The procedure needs to address the use of Radioactive Material Waste Attachment Sheets with the Low-Level Waste Storage Disposal Record (LLWSDR) when the waste is mixed. Smearable criteria for release need to be updated to satisfy the requirements of WHC-CM-2-14. The note after Section C #4 should read that a checklist is required for all shipments type A and above as required by WHC-CM-2-14. Finally, Step #5 is no longer required.

Observation #7: Plant Operating Procedure SW-100-050 "Receive and Store and/or Bury Radioactive Waste" does not require the use of a UHWM when transporting mixed waste.

Discussion: Mixed waste shipments require the use of a UHWM. Page #3 middle of the page should read ALL mixed waste received must be accompanied by a UHWM.

Observation #8: Shipping paper dose rates were missing and weight entries are inconsistent.

Discussion: A review of shipping papers for mixed waste (PINs CWC-92-00001, 00002, and 00003) generated at the MWSP showed three B-25 containers weighing exactly the same; but, the weight of the materials within the boxes are different. This raises the question, "Were the boxes weighed properly?" The required dose rate at contact for these containers were not documented on the shipping papers. Finally, the fact that the comparison of different materials from box to box found it questionable that the activity in each box comes out exactly the same.

Observation #9: SWM routinely assays TRU waste received at the TRUSAF facility to verify that it is actually TRU waste. In some instances it is determined that the waste is actually LLW, whereupon SWM completes a LLWSDR and disposes of the waste as LLW. SWM should consider having the generator co-sign the LLWSDR.

Discussion: When SWM signs the LLWSDR in the certification block they are certifying the waste to be something different than the generator has certified it to be. Specifically, the generator has certified the waste to be TRU, and SWM is certifying the waste to be LLW. This confuses the issue of liability and the actual identification of the waste. Special Disposal Programs (SDP) suggests that it would be appropriate to have the generator co-sign the certification to establish concurrence with the new waste description.

FINDINGS:

Finding #1: Drums of LLRMW are being moved from TRUSAF to CWC without a valid UHWM or a unique shipping number.

Discussion: Some drums of TRU-MW that have been sent to TRUSAF, and after assay are reclassified as LLRMW, are shipped to CWC as MW without a new UHWM and unique shipping number. The regulations that govern shipping papers can be found in 49 Code of Federal Regulations (CFR) 171.3, 171.8, 172.205, and 40 CFR 262 in item #1. WHC-CM-2-14 "Hazardous Material Packaging and Shipping" Part II "Responsibilities and Procedures for All Hazardous Material Shipments" states that onsite packaging and shipping shall be conducted according to the DOT regulations or, if not technically or economically practicable, provide an equivalent degree of safety.

Finding #2: SWM uses Real-Time-Radiography (RTR) to verify the contents of TRU waste drums received at the TRUSAF Facility. In some instances the RTR identifies the possibility of unknown or suspect waste. SWM then requires the generator to retrieve the suspect waste and repackage it before returning it to TRUSAF. SDP requests that SWM procedures require SWM to contact SDP whenever a waste is returned to the generator.

Discussion: A waste is typically returned to the generator when there is a suspicion that the waste does not comply with the applicable SDAR. It is SDP's responsibility to assess the generator's waste management program to ensure that waste will comply with the applicable SDAR. If the waste needs to be returned, it suggests that SDP should consider re-evaluating the generator's waste management program.

Finding #3: TRUSAF is using a singular LLWSDR for several containers of waste.

Discussion: A LLWSDR prepared by TRUSAF dated November 20, 1992 for 25 containers of re-designated TRU waste was shipped on Radioactive Shipment Request (RSR) 43785. The practice of SWM using a singular LLWSDR for more than one waste container does not satisfy the documentation requirements of WHC-EP-0063-3 or the administrative controls of the applicable SDAR. WHC-EP-0063-3 section 2.5.2 require the preparation of a LLWSDR for each LL waste container, and section 4.8 require that documentation shall be prepared accurately and completely by the waste generator for each LL waste package accepted for storage or disposal at the Hanford Treatment, Storage, or Disposal (TSD) facility. The applicable SDAR (12-10-2T-0301) also requires a LLWSDR for each waste package.

Finding #4: SWM procedures pertaining to waste management require updating.

Discussion: Observations 1 through 7 provide examples of needed revisions to procedures SW-100-003, 020, 030, and 050.

AUDIT OUTCOME:

APPROVAL STATUS: As a result of the assessment of the SWM LLW Certification program, SWM's status as a LLW generator is "APPROVED." SWM is approved to ship LLW and RMW to the Hanford Site solid waste, TSD facilities. The "APPROVED" status is good for one year from the date of the assessment.

RATIONALE: SWM's LLW Certification Program addressed the following elements; waste characterization, waste designation, waste minimization, waste packaging, waste inventory, waste segregation, quality assurance and training. The assessment team reviewed SWM's LLW Certification Plan, implementing procedures, and associated record documents. These documents coupled with the facility tour, clearly demonstrated that SWM has a complete and effective LLW Certification Program, and that the program provides a high-level of confidence that their waste will meet applicable requirements of the Hanford waste acceptance criteria. Although the findings and observations documented some problems, they were not significant enough to doubt the accuracy of SWM's certification of their waste.

ACTION ITEMS:

1. Insure UHWM and unique shipping numbers are used to ship LLRMW from TRUSAF to CWC.

2. Re-mark/label suspect TRU waste containers that have been designated as LLRMW and are known to contain free liquids from the NDE, and process as mixed waste before shipping to TSD facility.

3. Use a LLWSDR for each waste container as required by WHC-EP-0063-3 and approved SDARs, or revise the SDAR to allow one LLWSDR for each multiple container shipment.

4. Revise low-level related plant operating procedures to reflect current requirements and operating practices.

Please provide a written response to this report within 30 days of receipt. Formal responses to findings are mandatory. Observations do not require a formal response, however the generator is encouraged to address each observation to enhance Special Disposal Programs' understanding of the generator's waste management program. Please provide formal responses to N. P. Emerson, Manager, Special Disposal Programs, N3-13.

SWO 4'. waste FY 93 (ssessment

ENTRANCE

3-23-93

	ORG	TITLE	Tel.
Roger Tucker	Special Disposal Programs	Team Leader	6-
Allison Crowell	DOE/SWT	LLW/Haz Prog. Eng	2
Eicele RW	SWOE	Plant Eng	3-4
M.D. (MIKE) AZCHELE	SWM	MANAGER/FACILITIES	3
LW Roberts	SWM	DEPUTY MGR/SWM	3-
D. G. HAY	SWM	MANAGER	3-3
HB Hall	IEI Environmental Trng.	Instructor	2-37
J.M. Waddoups	IEI Environmental Training	Instructor	2-371
J.M. NIELSEN	SWO	MANAGER	3-39
E.R. Smith	HMO	Trans. Specialist	6-99
J.B. MAIER	SWMOE	Mgr	3-42
B. Warn	Acceptance Svcs.	Team Member	6-735
V.T. Dunnett	"	" "	6-4

[1] From: G Ray Hanson at ~WHC212 3/18/93 1:03PM (789 bytes: 8 ln)
To: Roger W Tucker at ~WHC180, Brian Warn, Virginia T (Gina) Dunnett,
Julie M Waddoups at ~WHC58, John B Hall at ~WHC58, Eli R Smith at ~WHC157,
G Ray Hanson
Subject: SWO ASSESSMENT
---------- Message Contents ----------
An assessment of SWO waste management program will be conducted on 3/23-25/93. The first day (3/23) will start at 9AM in building HO-720 main conference room. Access requirements for this assessment consists of a five chip dosimeter, 24 hour RCRA treatment, storage, and disposal Facility Hazardous Waste Operator Training, and WHC-CM-4-10, section 7, Training Requirements. If there are any questions please contact me at 6-4393.

Ray

Westinghouse
Hanford Company

Internal
Memo

From: Solid Waste Management Operations Engineering 87280-JBM-93-016
Phone: 3-4222 T4-06
Date: March 16, 1993
Subject: FISCAL YEAR 1993 LOW-LEVEL WASTE MANAGEMENT ASSESSMENT ANNOUNCEMENT FOR SOLID WASTE OPERATIONS

To: G. R. Hanson N3-11

cc:

M. D. Aichele	T4-04	J. M. Nielsen	T4-04
H. R. Benzel	N3-13	J. B. Maier	T4-06
R. R. Durfee	T4-06	D. B. Powell	T4-03
J. H. Eide	G2-02	D. R. Pyzel	T4-04
R. J. Giroir	N3-13	L. W. Roberts	T4-05
W. H. Hamilton, Jr.	N3-10	R. J. Roberts	N3-13
D. G. Hay	T4-05	N. P. Willis	N3-11
		JBM File/LB	

Reference: Internal Memo, R. J. Giroir to D. G. Hay, Same Subject, dated January 12, 1993

In response to the reference request for a meeting place on March 23, 1993, the main conference room at MO-720/200 West has been reserved from 9:00 a.m. to 1:00 p.m. for your use.

The training requirements for the Solid Waste Management Facilities are as follows:

- Five chip dosimeter
- 24 Hour RCRA Treatment, Storage, and Disposal Facility Hazardous Waste Operator Training
- WHC-CM-4-10, section 7, Training Requirements

If you have any questions, please contact me at 3-4222.

James B Maier ER Smith

J. B. Maier
Manager

kah

Brian: (

SWO ASSESSMENT NOTES

12)
Is a facility-specific training plan and program addressing the mixed and radioactive waste activities in place?

Yes. The training program is geared towards specific job descriptions for workers who do their jobs at various locations within Solid Waste Operations; training is sufficient to guarantee that both mixed and radioactive activities are properly covered.

Are personnel associated with handling radioactive waste material, hazardous materials, and mixed waste trained according to the requirements in Washington Administrative Code 173-303-330?

Yes. The intent of WAC-303-330 is to ensure that all employees who are either new hires or have changed job titles have successfully completed the facility-specific training requirements within six months. Capacity limitations in courses offered by the company training department has posed a problem in qualifying some employees within the six month window. In the event that an employee will exceed the six month requirement, an extension will be obtained for that person by SWO training. The cognizant manager is informed of the extension and SWO training personnel continue to track the affected employee until the situation is favorably resolved.

Until more courses can be offered or classroom capacity at the Technical Training Center is increased, obtaining the necessary courses for these employees within the WAC-mandated six month timeframe will continue to be a problem.

Are personnel training records for handling radioactive material, hazardous material, and mixed waste up to date?

Yes. Each manager receives a weekly report which flags those individuals in the group whose currencies are coming due. SWO training staff ensure these same individuals are scheduled for and complete required training in a timely manner. In addition to being stored on computer, hard copies of individual training records are kept in master files held by each employee's cognizant manager.

Have Hanford Site generator personnel completed training course numbers 006G and 006S?

Yes.

12)
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Have Hanford Site generator personnel completed training course numbers 006G and 006S?

Yes.

It is suggested that the following be included in future notices to generators about up-coming audits:

- o Request that a room be available for the audit team during the assessment with at least one conference room size table.
- o State that all applicable (waste management) procedures WILL BE PROVIDED at the initial meeting rather than "should be available."

As noted in WHC-EP-0063-3 (-0063), 1.2.1.1, Bullet #8, the generator will provide the Westinghouse staff with all reasonable aid in conducting audits. Section 2.7 states, "...a review of the generator's waste management practices must be completed" before waste can be accepted. This includes the following:

- o Maintaining an auditable file of pertinent operating records, -0063, 1.2.1.3.f, and 2.4.1.2.

PROCEDURE REVIEW OBSERVATIONS

1. Procedures Needed - Operating solely under the Environmental Investigation and Site Characterization Manual, WHC-CM-7-7, is not acceptable. Unique procedures for Solid Waste Operations (SWO) are required.

   THIS LIST OF "MISSING PROCEDURES" IS BY NO MEANS ALL-INCLUSIVE. IT IS JUST FROM MY NOTES AND OFF THE TOP OF MY HEAD. UNFORTUNATELY WE WERE SHORT OF TIME.

   a. Waste characterization, as outlined -0063, 2.4.1.3.1

ROGER. . .THE ABOVE REFERENCES ARE JUST A LITTLE AMMUNITION IF YOU WANT TO USE THEM.

   b. Work Plans

      - Who/what authorizes them
      - At what point are procedures developed
      - Separate manuals for void and valid Work Plans
        - o Indicate "void" as applicable when replaced by a procedure

   c. Mixed waste

      - 90-day pad

   d. Collect and Manage Waste

- Segregation

- Waste Inventory Sheet

e. Packaging (SW-100-030)
(These may be covered. Eli reviewed SW-100-030.)

- A procedure for each of their containers and waste types

- Waste package inspection log

- Unique PIN number per container

- Internal packaging must meet SDAR requirements

- Container closure

- Labeling/marking

f. Records (SW-100-003)
(Just some thoughts. You're reviewing this.)

- Review shipping records for accuracy

- Maintain complete records package for 5 years
(I was told this was now the rule. Don't know the source.)

- Unable to provide complete record package for waste going to TRUSAF then shipped as Category 3.

- Unable to provide complete record package for waste going to 213 (compactor) then to the low-level burial grounds (LLBG).

2. Waste Minimization Plan

a. According to Jim Maier, they have, or will have two plans

- Solid Waste Management

  o Outdated; e.g., position titles, unit names, and locations under SWO

  o Unable to locate reference to rad versus non-rad segregation

  o Overall, the plan looks good

- Solid Waste Operations

  o Being written

b. Solid Waste Management versus Operations may need to be defined.

3. **WORK PLANS** - A time limit for their use may be needed. We were told that if the work becomes "routine," a procedure is written. Some of these are a little old.

   a. As noted above, not sure if all plans in the manual we reviewed were valid or obsolete.

      - Transport Contaminated Soil & Debris to Burial Grounds, SWPE-WP-0006, dated 7-90

        o Procedure SW-100-170 was located; however, the Work Plan was still in the book. It should be removed or marked obsolete.

      - Open/Sample M/W Drums, SW-WP-0025, dated 9-91

        o Page 9 - "SWO personnel shall decontaminate the area if necessary." More detail needed.

      - In theory, they are written for a one-time situation. (If not, there should be a procedure.) After that project is complete, void and/or remove from the manual.

4. **TRUSAF**

   a. Observations

      - No physical barrier between L/L and M/W at the south end of the first floor. (Perhaps the areas could be roped off.)

      - Inadequate signs to ID various areas where drums are located; e.g., M/W and hold.

      - PIN numbers were not noted on the paperwork on top of the drums in the "hold" area. (Can't remember if they were the "Traveler" forms or not.)

   b. Receive/Assay/Store TRU Waste in 224-T (SW-100-020)

      - Repackage Category 3 waste versus accept as packaged

      - Page 1, Paragraph 4 - "less than, or equal to 100 nCi/gm" should be added after "Radioactive Mixed Waste..."

      - Page 1 - M/W not noted under "...designated storage categories"

      - Page 35, K - The header to "Ship Category 3 Waste from TRUSAF..." should be changed to read, "Ship L/L Category 3 Waste from TRUSAF to the LLBG for Storage and M/W to CWC."

      - Page 35, K.14.b - Include Block #9. It is for PIN numbers and was filled out on the samples we were given.

- Page 35, K.14.d - Add "...in Block #38."
- Page 35/36 - Perhaps the SDAR needs to be referenced.
- Page 36, K.15 - The Traveler package was NOT attached to the 2 samples (2 pages each) that they gave us.
- Page 36, K.18 - Reference the SDAR.

VT Dunnett

9.0 WASTE MINIMIZATION

9.1 INTRODUCTION

All waste generators shall reduce the total amount of waste generated to the extent practicable. This shall be achieved by two activities: waste minimization to prevent the generation of waste, and waste treatment to reduce the volume, toxicity, and mobility of waste that is nevertheless generated. Emphasis should be placed on preventing the generation of waste by source reduction or recycling techniques. Descriptions and examples of these techniques are listed below.

9.2 WESTINGHOUSE WASTE MINIMIZATION PROGRAM

The Westinghouse Waste Minimization Program is designed to ensure compliance with state and federal regulations and DOE orders. The Waste Minimization Team, within Defense Waste Management, is responsible for coordinating and implementing this program. Manual WHC-CM-1-1, *Management Policies*, MP 5.17, "Waste Minimization," (WHC 1990c) and WHC-CM-1-3, *Management Requirements and Procedures*, MRP 5.44, "Waste Minimization Program," (WHC 1989b) describe the Company requirements and responsibilities for waste minimization.

9.2.1 Facility-Specific Waste Minimization Plans

A key component of the Westinghouse Waste Minimization Program is the development of Facility-Specific Waste Minimization Plans. Any facility or activity which generates, treats, stores, or disposes of either a hazardous, radioactive, or mixed waste is required to have a waste minimization plan which documents goals, activities, and accomplishments toward the minimization of waste.

9.3 MINIMIZATION TECHNIQUES

9.3.1 Source Reduction

Source reduction techniques include good operating practices, technology changes and material changes. Hanford Site examples of each technique are given below.

Good Operating Practices

1. Changes in operational settings may improve efficiency so that less waste is produced.

2. Segregating waste streams may lower waste classification.

3. More efficient production scheduling can reduce waste.

4. Procedures can be changed to minimize waste.

5. Material handling techniques can be improved.

Example: The 100N Segregation Facility is used to segregate radioactive and mixed waste to reduce the volume of waste and disposal costs. In addition, reusable items are segregated, such as gloves, clothing, and equipment.

9.3.2 Technology Changes

Often, changes in old technology to make processing more efficient or the introduction of new technology will reduce the quantity and quality of hazardous waste.

Some suggestions follow:

1. Increased automation

2. Equipment, layout, and piping changes

3. Process changes.

Examples: The feedpoint was changed in a plutonium extraction column, at the Plutonium Finishing Plant, after calculations showed that increased plutonium extraction and decreased toxicity (concentration of plutonium) were achievable.

9.3.3 Material Changes

The substitution of a less hazardous material is an excellent way to minimize waste and of course is always a good operating practice.

One way to know what material changes to make is to determine what wastes will be created before a job is begun. This is called pre-job determination. Check the Product Waste Indicator (PWI) on the HLAN MSDS files. The PWI is a summary of what kind of waste the product will create.

If there is no PWI given on the MSDS file then contact SWEA for a pre-job determination. By comparing and using alternative products for a job, the least amount of hazardous waste will be created.

Examples: The substitution of propylene glycol, a nonregulated chemical, for ethylene glycol, a hazardous substance, for a pipe winterization project.

9.3.4 Recycling

Recycling techniques allow hazardous materials to be put to a beneficial use. These techniques may be performed onsite or at an offsite facility. Recycling techniques include the following:

1. Use/reuse
2. Reclamation.

9.3.4.1 Use/Reuse. Recycling via use and/or reuse involves the return of a waste either to the originating process as a substitute for new material, or to another process as an input material.

Examples: The 100N Segregation Facility recovers usable gloves, clothing, and equipment, which are then cleaned and reused.

As a final cleanup of the 309 Building, 5,000 lb of lead were decontaminated and released for further use.

Operations Support Services regularly recycles waste antifreeze and solvent by using a cleaning unit purchased for that purpose.

9.3.4.2 Reclamation. Reclamation is the recovery of a valuable material from a hazardous waste. Reclamation techniques differ from use and reuse in that the recovered material is not used in the facility; rather it is sold to another company.

Example: Silver from photographic fixer solutions, waste oil, and empty drums are all wastes that are collected at the Hanford Site for reclamation purposes.

9.4 EMPLOYEE PARTICIPATION

Waste minimization can only be successful with employees' full participation. Employees should look for ways to minimize waste. Ideas should be discussed directly with management or through idea suggestion programs.

all but 1 1/2 pages

Open Sample in/a Drums
Work Plan

1.0 SYSTEM DESCRIPTION

Waste containers stored at the Central Waste Complex (CWC) occasionally develop problems such as deformation and corrosion. These containers are normally overpacked to provide an immediate response to the problem and add an additional containment barrier to confine releases.

Solid Waste Engineering Analysis will require a visual inspection of the waste contents and the internal condition of the container(s), and will interpret the chemical analysis results to determine why the corrosion/deformation occurred. Once this information is available, steps can be taken to prevent future packaging problems and to provide a remedial action plan for packages stored at the CWC.

2.0 PREPLANNING/COORDINATION

2.1 Work Location/Preparation

The 2402-WL building will be used for opening and inspecting containers in order to provide a work shelter and secondary containment. An isolated temporary work enclosure will be constructed by Solid Waste Operations (SWO) to control potential contamination. Work tasks will require support from several groups.

2.2 Participating Organizations

Solid Waste Operations, Health Physics, Solid Waste Engineering, Photographic Support, Analytical Laboratory, Office of Sample Management, Industrial Hygiene, and Maintenance Support Crafts.

2.3 Tools, Equipment, and Supplies

Drum Cart
Wrench to remove drum lid bolt
Protective Clothing as prescribed on the Radiation Work Permit (RWP) and Hazardous Work Permit (HWP)
Spill Pillows
Waste Container and Liner

Craft personnel shall supply tools and equipment necessary to remove sections of the drum.

Sample technician shall supply sampling equipment identified by the WHC Sampling and Mobile Laboratory Group.

Photographer shall supply photographic equipment.

Industrial Hygiene shall supply monitoring equipment.

Operational Health Physics shall supply portable monitoring equipment.

2.3.1 Operating Forms

Sampling operations shall be documented to provide a record of all pertinent activity. Forms may include:

- Facility Log Book
- Radiation Survey Reports (HP)

2.4 Personnel Training Requirements

All personnel entering the 2402-WL building shall log into Westinghouse Radiation Area Management (WRAM) to verify training, to accurately track radiation exposure received, and to ensure that personnel are familiar with RWP requirements. All personnel shall have hazardous waste training. The SWO supervisor shall conduct a pre-job planning meeting to ensure that each organization is aware of the work tasks that will be accomplished.

3.0 SAFETY

3.1.1 Operational Health Physics Responsibilities

A Health Physics Technician from Operational Health Physics (OHP) will be assigned to the sampling operation. The OHP personnel help prevent radiological problems and minimize the magnitude of any which may occur. OHP personnel shall be consulted at any time there is a question about: 1) procedures or techniques for radiation work, 2) whenever there is a high probability of contamination associated with the work, or 3) when there is any question of dosage.

Operational Health Physics shall provide all radiation monitoring equipment including, but not limited to, portable air samplers, portable alpha and beta-gamma contamination instruments, radiation dose rate instruments, and any required supplemental dosimetry (e.g., gamma pencils).

3.1.2 Radiation Work Procedure and Radiological Conditions Control

Radiological personnel dose and contamination limits will be set by the Radiation Work Procedure (RWP). RWPs will be written for specified activities and will identify anticipated contamination and dose rate levels. The RWPs will be consistent with present radiological and safety standards and requirements.

If smearable contamination exceeds the limits of the RWP, Operations activities will be safely stopped, a revised RWP will be generated, and a work plan will be developed identifying recovery actions necessary. Sampling will also be stopped if radiation levels exceed 200 mRem/hr.

Standard contamination control and decontamination practices shall be used including, but not limited to, protecting all facility surfaces which have significant potential for being exposed to contamination using plastic sheeting, tape, rags, and cleaning solutions, as required.

3.1.3 As Low As Reasonably Achievable (ALARA)

Westinghouse Hanford Company (WHC) ALARA radiological dose and contamination has been evaluated through completion of an ALARA checklist and ALARA Management Worksheet (AMW). The dose, containment, ventilation, contamination, handling, distance, equipment, material, sampling, and other parameters have been evaluated with the conclusion that exposure is not unlikely to exceed the 100-person mRem collective dose during the completion of this job.

3.2 Industrial Safety

For atmospheric monitoring, stop operations if results approach IDLH levels.

3.3 Procedural Standards

Work directed by this work plan will be conducted in accordance with WHC-CM-7-7, Environmental Investigation and Site Characterization Manual, EPA Protocol SW 846, WHC-CM-7-5, Environmental Compliance and all applicable and current WHC documents to assure continual safe operations. A copy of this work plan shall be maintained at the job site at all times. The Hazardous Work Permit (HWP), Job Safety Analysis (JSA), and RWP shall also be kept at the job site available for ready reference.

Applicable Safety Documents include: Provisions of Radiation Work Requirements and Permits Manual; WHC-CM-4-15, Radiation Protection Manual, Vol. 2; WHC-CM-4-10, Nuclear Safety Manual; WHC-CM-4-30, Master Safety Rules; and WHC-CM-4-3, Industrial Safety Manual, Vol. 1-3. Working knowledge of safety precautions in applicable Material Safety Data Sheets is required to perform this work plan.

4.0 WORK PLAN

4.1 Pre-Start Condition

The SWO supervisor has conducted the pre-job planning meeting and all personnel have completed WRAM entry requirements. The temporary work enclosure is installed at 2402-WL and the drums selected for sampling are in the enclosure. All personnel are dressed as prescribed on the RWP and HWP. The building ventilation system is in-service. Prejob area radiological surveys have been completed by HPTs to assess conditions existing prior to sampling.

Samples to be obtained have been identified as "waste characterization samples" or identification/information samples.

4.2 Open/Inspect Waste Containers

Management Information - Off-site consultants will perform ultrasonic testing on drums prior to this work task to identify the physical state of the waste contents (i.e., solid, liquid, gas). If liquids or gases are identified, the appropriate levels of protective clothing and additional contamination controls will be identified in the RWP or the HWP.

NOTE - The HPT will prescribe protective clothing required during this task.

[1] **POSITION** overpack

Position overpacked leaking drum in the temporary work enclosure.

[2] **REMOVE** waste drum

Remove waste drum from the overpack drum.

(HP) [3] REQUEST survey

Request HPT to survey waste drum and empty overpack for radiation/contamination.

NOTE - Work may not continue until HPT has verified that radiation/contamination levels are within RWP guidelines.

[4] PACKAGE waste

Place waste generated during job into packages approved by supervision.

NOTE - Waste will be characterized using the original information provided by the waste generator.

CAUTION - WASTE MINIMIZATION

DO NOT PERMIT MIXED WASTE DRUMS FROM MORE THAN ONE GENERATOR OR WITH DIFFERENT HAZARDOUS WASTE CONSTITUENTS TO BE OPENED IN THE WORK AREA.

4.3 Obtain Hazardous Waste Gas Samples for Bulging/Leaking Drums

NOTE - Bulging drums will normally not be overpacked.

[1] POSITION overpack

Position overpacked bulging/leaking drum in the temporary work enclosure.

[2] REMOVE waste drum

Remove waste drum from the overpack drum.

(HP) [3] **REQUEST** survey

Request HPT to survey waste drum and empty overpack for radiation/contamination.

NOTE - Work may not continue until HPT has verified that radiation/contamination levels are within RWP guidelines.

[4] **REQUEST** sampling

After the HPT has completed the survey, Mobile Laboratory personnel will collect samples.

[5] **SECURE** area

The area will be secured and routine work operations suspended until gas sample analysis results are obtained.

4.4 Obtain Hazardous Waste Characterization Samples

NOTE - The WHC Sampling and Mobile Laboratory Group shall perform all tasks necessary to comply to current Federal and State Regulations addressing the collection, transport, processing, analysis, and documentation of hazardous waste characterization. SWO personnel shall provide support as indicated in the following tasks.

NOTE - Hold points are identified by an (HP) at the left margin to ensure HPT surveillance is completed before continuing tasks.

[1] **POSITION** overpack

Position overpack drum in the temporary work enclosure.

[2] **REMOVE** waste drum

Remove waste drum from the overpack drum.

(HP) [3] REQUEST survey

Request HPT to survey waste drum and empty overpack for radiation/contamination.

NOTE - Work may not continue until HPT has verified that radiation/contamination levels are within RWP guidelines.

[4] REQUEST sampling

After HPT has completed survey, the Mobile Laboratory personnel will collect samples.

[5] REPLACE overpack

SWO personnel shall replace waste drum in overpack.

[6] DECONTAMINATE area

SWO personnel shall decontaminate the area if necessary.

(HP) [7] REQUEST survey

Request the HPT to survey and release the work area and overpacks.

WORK PLAN - TRANSPORT CONTAMINATED SOIL AND DEBRIS TO BURIAL GROUND

I. SYSTEM DESCRIPTION

This work plan provides instruction for removing contaminated soil and naturally occurring debris from Burial Ground 218-E12B in the area adjacent to Trench 94 and to maintain confined transport to Trench 38 for disposal.

This work plan provides instructions to transport loads of waste containing Low Specific Activity (LSA) quantities.

II. PRESTART CONDITION

Solid Waste Operations (SWO) supervision, assisted by Solid Waste Engineering (SWE), must determine that the contaminated soils/materials do not contain hazardous constituents.

Radionuclides in the soil/materials have been identified/quantified.

A pre-job meeting has been held to review the work plan and the Radiation Work Permit (RWP).

III. SAFETY

This work plan will be done in accordance with the approved Storage and Disposal Approval Record (SDAR).

Warning - Minimize hazards involved while working with heavy equipment.

Applicable Safety Documents - Provisions of Radiation Work Requirements and Permits Manual, WHC-CM-4-15, Vol. 2; Radiation Protection Manual, WHC-CM-4-3, Vols. 1-3; Building Emergency Plans, WHC-IP-0263, WHC-CM-2-14; Radiation Protection, WHC-CM-4-10; Hazardous Material Packaging and Shipping Manual; and Tank Farm Safety Rules apply to all work performed under this work plan.

IV. TOOLS AND SUPPLIES

Water Truck
Paddlewheel Scraper
Portable Radio
Bulldozer
Rags/Decon Supplies
SW-100-003, PREPARE/COMPLETE RADIOACTIVE WASTE RECORDS
SW-100-050, RECEIVE AND STORE AND/OR BURY RADIOACTIVE WASTE

V. TABLE OF CONTENTS

8.1/35/36 only

RECEIVE/ASSAY/STORE TRU WASTE IN 224 - T

I. SYSTEM DESCRIPTION

This procedure provides instructions for receipt, assay, and storage of unclassified transuranic (TRU) and transuranic mixed waste (TRU-MW) at the Transuranic Storage and Assay Facility (TRUSAF) located in the 224-T Building. Transuranic waste is radioactive waste contaminated with greater than 100 nCi of TRU contamination per gram of waste matrix. Specific areas of responsibility are delineated to clarify where operational judgement must be exercised in order to safely and efficiently handle a wide variety of waste systems. For unusual, nonroutine handling requirements, Solid Waste Operation (SWO) supervision will determine if a special procedure is required, and will notify the operator.

The transuranic waste assayer (TWA) uses a combination active-passive neutron interrogation system to determine TRU contents in 55 gallon waste drums. The system consists of a shielded assay chamber, deuterium-tritium neutron generator, helium-3 proportional counters, drum handling system, electronics including preamplifier, amplifier, and discriminator for each of the counter packages, and an IBM-PC/XT computer/printer system for data acquisition and analysis. The TWA can detect TRU levels of 10 nCi/g in the waste matrix.

Transuranic wastes are required to be packaged and stored for 20 years, and retrieved in an intact, contamination-free condition. Transuranic waste in 55 gallon drums will be packaged in compliance with the Waste Isolation Pilot Plant - Waste Acceptance Criteria (WIPP-WAC). Waste drums with greater than 100 nCi/g meeting WIPP-WAC may be placed in storage in TRUSAF.

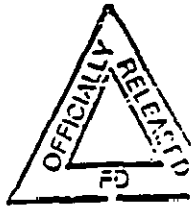
Waste drums not meeting WIPP-WAC may be returned to the generator or transferred to approved storage units. Waste drums identified as Low Level Waste (LLW) (≤100 nCi/gm) will be routed to the Low Level Burial Grounds for disposal. Radioactive-Mixed Waste will be routed to the Central Waste Complex for storage.

≤100nCi/gram

If the waste contains hazardous constituents, it is termed mixed waste (MW). In the first floor receiving/processing temporary storage areas or in the interim storage areas, drums are segregated according to storage categories to prevent accidental commingling of incompatible waste. Mixed waste storage categories are assigned on the applicable Storage/Disposal Approval Record (SDAR). Each drum is assigned to only one storage category.

The TRUSAF has the following designated storage categories:

- Caustic Storage
- Acid Storage
- Other Mixed Waste (OMW)
- Non-MW Storage.



K. STORE/DISPOSE OF TRU WASTE (Cont.)

Store TRU Waste on a Temporary/Interim Basis

NOTE - It is the responsibility of TRUSAF supervision to ensure drums on HOLD are dispositioned according to established administrative policy.

[12] CHECK restrictions on floor in which drums are to be stored, per Figures 2 and 3.

[13] CHECK that continuous air monitors (CAMs) are operating before storing waste on the second and third floors.

(S) a. IF not operating, NOTIFY supervision.

b. IF operating, DO the following:

1) TAKE waste drums to appropriate floor with appropriate Module Chart.

2) STACK drums.

3) UPDATE Module Chart.

4) LEAVE TRAVELER packages on the drums.

5) UPDATE Receipt and Storage Log Book and the Daily Operations Log.

Ship Category 3 Waste from TRUSAF to the LLBG for Storage

NOTE - The original TWSR Traveler package and TWSR with yellow copies need to go with the drums being shipped out of 224-T to the Low Level Waste Burial Grounds.

[14] COMPLETE a new Low Level Waste Storage Record (LLWSR) form for each low-level waste drum or group of drums as follows; USE a separate LLWSR for each waste generator:

a. RECORD the charge code from the original LLWSR.

b. COMPLETE blocks #10 through #15, 17 through 34, and 38 through 39f.

c. In blocks #16, 35, 36, and 37, ENTER SEE EACH INDIVIDUAL LLWSR ATTACHED.

d. ADD the total active assay element weight from assay printout records.

e. In addition to isotopic distribution, ENTER ≤100 nCi/g TRU in block #39b.

K. STORE/DISPOSE OF TRU WASTE (Cont.)

[15] ATTACH entire TRAVELER package including the original TWSR for each drum with the LLWSR.

[16] FILL out the original TWSR and the copy of the TWSR attached to the yellow copies in the filing cabinet with the Burial Ground destination and date.

[17] REMOVE, paint over, or destroy those existing labels relating to TRU designations.

(S) [18] MARK and label low-level waste drums as directed by supervision.

(S) [19] OBTAIN supervision approval to load and transport drums to the burial grounds.

(H) [20] ENSURE the drums have been surveyed by HPT and that a completed Onsite Radioactive Shipment Record (RSR) accompanies the load per SW-100-003 and SW-100-050.

[21] SHIP Category 3 Low Level Waste to Low Level Burial Grounds.

[22] UPDATE the TRUSAF Receipt and Storage Logbook and the Daily Operations Logbook.

observations for swo assessment

* Some drums of TRU-MW, that are sent to TRUSAF and after assay are reclassified LLMW, are shipped to CWC as MW without a new Uniform Hazardous Waste Manifest & unique shipping number. The regulations that govern the shipping papers can be found in 49 Code of Federal Regulations (CFR) 171.3; 171.8; 172.205; and in 40 CFR 262.20. The unique shipping number requirement is specifically addressed in the Appendix to 40 CFR 262 in item #1.

* Drums of waste sent as suspect TRU to TRUSAF that are confirmed non-TRU yet are found to contain free liquids can not continue to be handled as LLW; instead these now must be treated as MW and hence a UHWM must be generated. These drums in the past were sent to the generator to be repackaged without proper paperwork or drum markings. To be shipped they need the "Hazardous Waste" sticker applied and the most appropriated hazard label as well. (A note here outside the realm of the audit yet every bit as pertinent is the return of the TRU drums found to contain free liquids back to the generator without labeling for MW conditions. These need to be manifested too.)

* All procedures should include a review by Transportation and Packaging (T&P) to assure compliance with packaging, transportation and storage requirements.

* Review of the procedures used by SWO unveiled several questionable areas.

SW-100-003:
This procedure is an instruction on the process of filling out shipping papers by the operators rather than the shipper. This practice is not recommended as the operators and the procedure are not kept current to the regulations, which are ever changing. It would be understandable the operators could use a procedure like this to review papers received from the other generators in a general sense, i.e. are all sections complete.

The references to examples of the forms being explained do not match the page the form is actually on thereby confusing to anyone reading this for the first time.

On page 11 step number 3 suggests that any certified shipper may sign an Off-site RSR which in all cases is only to be done by a T&P staff person. This step also says that this same signature certifies materials on the form are properly classified, described, packaged, etc. The certification of this information is actually the signature identified in step # E.12 this same page.

Section F of this procedure gives instructions on how to fill out a Routine Radioactive Shipping Record. This function is exclusively out of T&P.

Page 32 alludes to assuring that the waste described on the UHWM adds up to 100%. The question is raised, "100% of what?". This has nothing to do with filling out the form.

All in all this procedure might be best cancelled or it needs a lot of work.

SW-100-020

This procedure has done well to incorporate the HM-181 regulation drum designation UN-1A2, yet the new regulations pertaining to segregation should be addressed as well. (i.e. After Oct 1,'93 class 7 and class 2.1 must be segregated and elevated. All classes except 7 & 3 to be segregated and elevated from class 8 including subsidiary hazards.)

Page 35 confusing as to the movement of material to LLBG. Some indication here raises the question of mixed waste. Where is the mention of a procedure to move MW to CWC?

SW-100-030

This procedure like 020 does not suggest where one goes to move MW. Page 8 does not mention completing a UHWM to send MW to storage yet this is required! No mention of a RMWAS either.

This procedure included smearable criteria for release. It does not appear to be current with the new DOE Radiological Control Manual.

The note after Sec.C #4 should read that a checklist is required for all type A and above shipments per WHC-CM-2-14.

Step #5 is no longer required.

SW-100-050

Page # 3 middle of the page should read <u>ALL</u> mixed waste received <u>must be accompanied by a UHWM.</u>

Page # 8 Sec. B(3) This note should be completed----...and accompanied by a RMWAS.

* Review of shipping papers of MW generated at the MWSP showed three B-25 containers that weigh exactly the same but the weight of the materials inside the boxes are different. (the boxes reviewed were CWC-92-0001, 2, &3) The question is raised "Were these drums weighed?". Also the dose rate at contact is not filled in. Finally I find it interesting that for different amounts of material the activity comes out exactly the same.

Attachment 10

WHC FISCAL YEAR WASTE MANAGEMENT AUDIT OF SOLID WASTE OPERATIONS,
ASSESSMENT DATE JUNE 4-7, 1991

Westinghouse
Hanford Company

From: Solid Waste Engineering Support 87250-SWES-91-090
Phone: 6-4559 N3-11
Date: July 16, 1991
Subject: FISCAL YEAR 1991 WASTE MANAGEMENT AUDIT OF SOLID WASTE OPERATIONS

To: D. G. Hay T3-21

cc:

M. D. Aichele	T4-01
J. D. Anderson	N3-11
D. L. Armstrong	T3-02
T. L. Bennington	S1-52
H. C. Boynton	N3-11
S. O. DeLeon	S1-52
V. T. Dunnett	N3-11
W. H. Grams	N3-11
W. H. Hamilton Jr.	N3-10
R. F. Hinz	S1-52
D. H. Irby	N3-11
J. B. Maier	T3-29
J. M. Nielsen	T3-29
R. G. Stickney	N3-11
D. W. Wilson	N3-11

RGS:WHG/File/lb

Reference: "Hanford Site Radioactive Solid Waste Acceptance Criteria," WHC-EP-0063-2, dated September 1990.

The Waste Management Audit of Solid Waste Operations (SWO) was conducted on June 4-7, 1991. The audit was conducted to assure that the generator's low-level waste (LLW) management program is in compliance with the requirements of WHC-EP-0063-2, "Hanford Site Radioactive Solid Waste Acceptance Criteria." We would like to thank the personnel from SWO for their cooperation and support of this audit. The professionalism of those who deal with solid, low-level waste (LLW) and radioactive mixed waste (RMW) was evident. Based upon this audit, SWO remains an approved generator.

The attached audit report documents the audit. Included in the report are six observations the audit team made. These observations identify areas where the waste management program can be improved. They were not of a serious enough nature as to warrant immediate corrective action, however, these corrective activities should be scheduled for the near future. There was one finding concerning the Quality Assurance Program Plan (QAPP). This finding identified a need to prepare a QAPP which describes the applicable Quality

D. G. Hay
Page 2
July 16, 1991

87250-SWES-91-090

Assurance requirements associated with LLW and RMW management. The SWO LLW Certification Plan will remain on interim approval status until a revised plan is approved, including approval by the Low-Level Waste Certification Review Committee, and issued. It will be then granted full approval.

If you have any questions concerning the audit, please contact me on 6-4368.

J. D. Anderson, Audit Team Leader
Solid Waste Engineering Support

jsh

Attachment

FISCAL YEAR 1991
WASTE MANAGEMENT AUDIT
REPORT

ON-SITE GENERATOR: Solid Waste Operations (SWO)

AUDIT DATES: June 4-7, 1991

AUDIT TEAM:

Team Leader	J. D. Anderson
Team Member	W. H. Grams
Team Member	D. H. Irby

OBSERVERS: None

AUDIT PURPOSE AND SCOPE:

The purpose of this audit was to assure that the waste sent to the Hanford Site Central Waste Complex and Burial Ground meets the requirements of WHC-EP-0063-2, "Hanford Site Radioactive Solid Waste Acceptance Criteria." The scope of the audit addressed only the low-level waste (LLW) and low-level radioactive mixed waste (RMW) program. The audit covered an on site inspection of the generators waste management program, plans, procedures, and records in addition to a walk through inspection of the facility. (Please note that this audit covered only that waste that is created by SWO.)

OBSERVATIONS:

Observation #1: The waste minimization program is complicated by combining all Solid/Liquid Waste Remediation facilities into one program.

Discussion: The Waste Minimization Plan, WHC-SD-WM-EV-028, Rev. 2, encompasses Solid Waste Operations, T-Plant, and the 340 Facility waste minimization programs under one "umbrella" document. The minimization programs for each of these facilities are very different due to the type of work done. To simplify the minimization program and make it more responsive to the needs of the facilities, it is recommended that the document be split into three independent plans.

Observation #2: The LLW Certification Plan for SWO needs to be revised.

Discussion: The certification plan does not reflect the current organization. In addition, the certification plan does not address all waste streams. The major waste stream not identified is the suspect TRU waste from TRUSAF which is assayed and then shipped to either the CWC or Burial Ground if determined to be LLW. A minor waste stream not identified is the maintenance waste from the 213-W Compactor. These revisions are relatively minor and corrective actions should be scheduled for the near future, but do not require immediate corrective action. The revision to the certification plan will need to be approved by the Low-Level Waste Certification Review Committee.

FISCAL YEAR 1991
WASTE MANAGEMENT AUDIT
REPORT

ON-SITE GENERATOR: Solid Waste Operations (SWO)

OBSERVATIONS: (continued)

Observation #3: Waste that is shipped to TRUSAF, assayed, and then shipped to the CWC or Burial Ground as LLW may not meet all the LLW criteria.

Discussion: Void space requirements may not be met with the TRU waste that, when assayed, is declared LLW and then shipped to the CWC or Burial Ground. Procedures are not in place to provide assurance that this waste meets the LLW and/or RMW requirements of WHC-EP-0063-2, "Hanford Site Radioactive Solid Waste Acceptance Criteria." The SDAR for shipping this waste stream to TRUSAF does not require any void space filler. There are few requirements that would differ between certified TRU waste and certified LLW. A nonconformance caused by these differences would be minor and corrective actions should be scheduled for completion in the near future. These corrective actions shall be incorporated into the revision to the certification plan. (See Observation #2)

Observation #4: Radionuclide identification and characterization based upon a baseline facility characterization by sample and analysis for the 213-W compactor and TRUSAF has not been completed in accordance with the LLW Certification Plan.

Discussion: The process knowledge based upon smear analysis for facilities such as the compactor or TRUSAF has not been initiated or initial sampling campaigns done. This method of radionuclide characterization is specified in the LLW Certification plan. As no waste has been generated which would require use of this characterization methodology, this is not an immediate problem. It is noted that without this process knowledge being documented, the radionuclide characterization for general waste generated at these facilities will have to be done using direct sample and analysis.

Observation #5: Procedure SW-100-003, Prepare/Complete Radioactive Waste Records does not address how the records for the waste from the 213-W compactor are prepared.

Discussion: These records are a compendium of records from several shipments and are to be prepared/consolidated in a special manner. As the compactor is not operating, this is not an immediate problem. Prior to operation of the compactor, instructions should be prepared to assure that the SWSOR and Waste Inventory Sheet is completed correctly.

FISCAL YEAR 1991
WASTE MANAGEMENT AUDIT
REPORT

ON-SITE GENERATOR: Solid Waste Operations (SWO)

OBSERVATIONS: (continued)

Observation #6: Inspections of waste containers are being performed although not always documented.

Discussion: Procedure WS-040-005, "Inspect Solid Waste Storage/Disposal Facilities," does not address inspection of waste containers as they are being filled. For instance waste which is being collected at the 213-W Compactor, where a partially filled drum contained bagged waste as well as miscellaneous maintenance debris and wire, does not have any records on the drum or in the office detailing the physical contents. This is not an immediate problem, as the waste has not been prepared for shipment and the associated records can be prepared at that time.

FINDINGS:

Finding #1: The Quality Assurance Program Plan as required by WHC-EP-0063-2, "Hanford Site Radioactive Solid Waste Acceptance Criteria," is not written to specifically address quality affecting waste management activities.

Discussion: The Quality Assurance Program Plan (QAPP) for the waste management program is covered in the Tank Farms, Grout, and Solid Waste Management Administrative Manual, WHC-CM-5-7, in Section 1.14. The QAPP is a very general document addressing the overall requirements of the WHC Quality Assruance Manual, WHC-CM-4-2. The requirements for a QAPP in WHC-EP-0063-2, "Hanford Site Radioactive Solid Waste Acceptance Criteria," in Section 4.9 require that the QAPP be written to describe the applicable Quality Assurance requirements specific to the waste management area. The Quality Assurance Program Index (QAPI) needs to be updated. In addition, the QAPI in the LLW certification plan does not fully agree with the one which is attached to the QAPP.

FISCAL YEAR 1991
WASTE MANAGEMENT AUDIT
REPORT

ON-SITE GENERATOR: Solid Waste Operations (SWO)

AUDIT OUTCOME:

APPROVAL STATUS: As a result of this Waste Management Audit, Solid Waste Operations remains an approved generator and may continue to ship waste generated as a result of their operations to the Hanford Site Central Waste Complex and Burial Ground. The SWO LLW Certification Plan will remain on interim approval status until revisions are made to update the document and address all waste streams.

RATIONALE: The problems identified during the course of this audit are of a relatively minor nature and, with the possible exception of the LLW generated from the assay of suspect TRU waste, no nonconforming waste has been created or would be created. The observations and finding are made to identify areas where the program can be improved and provide adequate assurance that all SWO generated waste complies with the acceptance criteria. The LLW generated at TRUSAF by the assay of suspect TRU needs a procedural step added to provide assurance that all LLW criteria are met. The waste in question is TRU WIPP certified and, as such, provides excellent documentation of characterization. The void space question is largely a question of definition and does not pose an immediate concern as to possible nonconformance of requirements.

FISCAL YEAR 1991
WASTE MANAGEMENT AUDIT
REPORT

ON-SITE GENERATOR: Solid Waste Operations (SWO)

AUDIT OUTCOME: (continued)

ACTION ITEMS: The following action items are identified as a result of this audit:

1. The Quality Assurance Program Plan and associated Quality Assurance Program Index are to be rewritten to comply with the requirements in WHC-EP-0063-2, "Hanford Site Radioactive Solid Waste Acceptance Criteria." This action item will be closed out upon receipt of the approved, LLW Management QAPP/QAPI.

2. The procedures associated with the operation of the 213-W compactor are to be revised to address inspection, identification of nonconforming waste, and corrective action for nonconforming waste. The procedure which covers preparation of documentation will also be revised to cover the special aspects of this waste stream. This action item will be closed out upon receipt of revised and approved procedures.

3. The SWO LLW Certification plan will be revised to reflect the new organization and additional waste streams. This action item will be closed out upon receipt of the approved revision.

4. The procedures that identify inspections will be reviewed and revised accordingly to assure that all relevant inspections are conducted and documented. This review of procedures will also identify any areas where procedural changes are needed for addressing nonconforming items. This action item will be closed out upon receipt of approved revisions to the affected procedures or a letter stating that this review has been conducted and no revisions found necessary.

Attachment 11

EXAMPLE OF TRAVELER CHECKLIST FROM PROCEDURE SW-100-020

TRAVELER CHECKLIST

( ) STORAGE AREA #1
( ) STORAGE AREA #2
ASSAY

DRUM ID. _____

1. NORMAL RUN ___OK*
2. ABSORBER INDEX <15 ___OK _____HOLD
3. DETECTORS AGREE ___OK*
4. ASSAY + +/- >100 nCi/g ___TRU
5. ASSAY + +/- >100 nCi/g (ROOM WASTE ONLY) ___RETURN TO GENERATOR
6. ASSAY + +/- ≤100 nCi/g ___LOW-LEVEL
7. IF ACTIVE ASSAY IS >141 GRAMS, BUT <287 GRAMS, NOTIFY SUPERVISION AND SEGREGATE DRUM IN DESIGNATED 3rd FLOOR STORAGE AREA.
   _____TIME SUPERVISION NOTIFIED
8. IF ACTIVE ASSAY IS >287 GRAMS, STOP ALL OPERATIONS AND NOTIFY SUPERVISION. DO NOT REMOVE DRUM FROM ASSAYER.
   _____TIME SUPERVISION NOTIFIED
9. PRELIMINARY ASSIGNMENT:

   ____#3 TRU (CERTIFIABLE) ____#4 PNL CERTIFIABLE
   ____#5 LOW-LEVEL ____#6 HOLD
   ____ #7 RETURN TO GENERATOR

OPERATOR'S INITIALS _____ DATE _____

APPROVAL, ANALYTICAL LAB REP _____ DATE _____

*IF "OK" CANNOT BE CHECKED, NOTIFY SUPERVISION OR LABORATORY REP.

RTR LOG _____

_____X-RAY

1. TAPE NUMBER _____ FOOTAGE _____
2. DETERMINED TO _____ PASS _____ FAIL ____ BE ON HOLD
3. REMARKS: _____

SIGNATURE _____ DATE _____ DESTINATION _____

TRUSAF MANAGER _____ DATE _____

Attachment 12

EXAMPLE OF SOLID MIXED WASTE STORAGE/DISPOSAL FACILITIES INSPECTION CHECKLIST

INSPECTION CHECKSHEET
SOLID MIXED WASTE STORAGE/DISPOSAL FACILITIES

A-12

Facility _____ Complete per instructions in SW-040-005 Date _____ Time __ __

	YES	NO	
1.	____	____	Areas in and around facility are free of combustibles such as tumbleweeds, paper, rags, trash, etc.
2.	____	____	Fire lanes are clear and unobstructed. Fire fighting vehicles have free and easy access to facility.
3.	____	____	Roads into trenches, trench sidewalls and bottoms, spoil piles, and paving (asphalt, concrete or gravel) are intact and in good repair (where applicable).
4.	____	____	PCB label at facility entrance is intact, unobscured, legible and in good condition (where applicable).
5.	____	____	Facility lighting is adequate for inspection (where applicable).
6.	____	____	Containment curbing and flooring is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall (where applicable).
7.	____	____	Backfilled storage/disposal units are free of depressions, cave-ins, cracks, signs of animals burrowing into trenches, standing water, or erosion (where applicable).
8.	____	____	Marker-barricades (chain barricades, chain-link fences, marker posts, etc.) around facility are intact and in good condition. Facility postings are intact, unobscured, legible, and in good condition.
9.	____	____	Facility is generally dry. There is no standing water or excessive snow accumulation in or around facility.
10.	____	____	Containers are free of punctures, dents, penetrating scratches, loose lids, corrosion, or other damage/deterioration (where possible to inspect).
11.	____	____	Containers are closed and show no evidence of spillage or leakage, such as moisture on the sides or underneath (where possible to inspect).
12.	____	____	Containers are stored in a manner which will not rupture the containers or cause them to leak (where possible to inspect).
13.	____	____	Container marking/labeling is intact, unobscured, legible, and in good condition (where possible to inspect).

Additional Information _____

_____

_____

_____

_____

Inspector _____ _____ _____
(Sign) (Print) (Date)

Corrective Actions _____

_____

_____

_____

Supervisor Reviewing Corrective Action _____

Distribution: White - WM Engineering Yellow - SWO Record Book
Pink - WM Engineering (Corrective Action Complete)

BC-6000-270 (09/91)

Attachment 13

INSPECTION CHECKLISTS, APRIL 18, 1988, FEBRUARY 26, 1992,
JANUARY 25, 1993, FEBRUARY 2, 1993

INSPECTION CHECKSHEET -

SOLID MIXED WASTE STORAGE/DISPOSAL FACILITIES

FACILITY: 224-T DATE: 4-18-88 TIME: 0825

	YES	NO	
1.	✓		Areas in and around facility are free of combustibles such as tumbleweeds, paper, rags, trash, etc.
2.	✓		Fire lanes are clear and unobstructed. Fire fighting vehicles have free and easy access to facility.
3.	N/A		Roads into trenches, trench sidewalls and bottoms, spoil piles, and paving (asphalt, concrete or gravel) are intact and in good repair (where applicable).
4.	N/A		PCB label at facility entrance is intact, unobscured, legible and in good condition (where applicable).
5.	✓		Facility lighting is adequate for inspection (where applicable).
6.	N/A		Containment curbing and flooring is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall (where applicable).
7.	N/A		Backfilled storage/disposal units are free of depressions, cave-ins, cracks, signs of animals burrowing into trenches, standing water, or erosion (where applicable).
8.	✓		Marker-barricades (chain barricades, chain-link fences, marker posts, etc.) around facility are intact and in good condition. Facility postings are intact, unobscured, legible, and in good condition.
9.		✓	Facility is generally dry. There is no standing water or excessive snow accumulation in or around facility.
10.	✓		Containers are free of punctures, dents, penetrating scratches, loose lids, corrosion, or other damage/ deterioration (where possible to inspect).
11.	✓		Containers are closed and show no evidence of spillage or leakage, such as moisture on the sides or underneath (where possible to inspect).

INSPECTION CHECKSHEET -

SOLID MIXED WASTE STORAGE/DISPOSAL FACILITIES (Cont.)

	YES	NO	
12.	✓	___	Containers are not stored in a manner which may rupture the containers or cause them to leak (where possible to inspect).
13.	✓	___	Container marking/labeling is intact, unobscured, legible, and in good condition (where possible to inspect).

ABNORMAL CONDITIONS: #9 (2) SPOTS OF WATER ON 3rd FLOOR CRACKS FROM CEILING. LARGE AMOUNT OF WATER IN PUDDLES ON ROOF. STAIRWELL B HAS STANDING WATER IN 3rd FLOOR CORNER. SEE #9 ON 4-11-88

INSPECTOR: ~~Jerry Jay Todd~~ (sign) DATE: 4-18-88

JERRY JAY TODD (print)

CORRECTIVE ACTIONS: #9) Water was mopped up. COMPLETE 4-18-88
Work Authorization #455-8W has been issued to the carpenters to inspect and estimate repairs for leaking roof.

M. D. Cichela, Supervisor
TRUSAF (224-T)
4-19-88

It has been determined WHC carpenters do not have the necessary equipment to repair the roof. Cognizant engineer is pursuing having Kaisers do the repair work, mdc 5-8-88

INSPECTION CHECKSHEET
SOLID MIXED WASTE STORAGE/DISPOSAL FACILITIES

Facility 224-T Complete per instructions in SW-040-005 Date FEB. 2, 93 Time 1:15

	YES	NO	
1.	✓		Areas in and around facility are free of combustibles such as tumbleweeds, paper, rags, trash, etc.
2.	✓		Fire lanes are clear and unobstructed. Fire fighting vehicles have free and easy access to facility.
3.	N/A		Roads into trenches, trench sidewalls and bottoms, spoil piles, and paving (asphalt, concrete or gravel) are intact and in good repair (where applicable).
4.	N/A		PCB label at facility entrance is intact, unobscured, legible and in good condition (where applicable).
5.	✓		Facility lighting is adequate for inspection (where applicable).
6.	N/A		Containment curbing and flooring is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall (where applicable).
7.	N/A		Backfilled storage/disposal units are free of depressions, cave-ins, cracks, signs of animals burrowing into trenches, standing water, or erosion (where applicable).
8.	✓		Marker-barricades (chain barricades, chain-link fences, marker posts, etc.) around facility are intact and in good condition. Facility postings are intact, unobscured, legible, and in good condition.
9.	✓		Facility is generally dry. There is no standing water or excessive snow accumulation in or around facility.
10.	✓		Containers are free of punctures, dents, penetrating scratches, loose lids, corrosion, or other damage/deterioration (where possible to inspect).
11.	✓		Containers are closed and show no evidence of spillage or leakage, such as moisture on the sides or underneath (where possible to inspect).
12.	✓		Containers are stored in a manner which will not rupture the containers or cause them to leak (where possible to inspect).
13.	✓		Container marking/labeling is intact, unobscured, legible, and in good condition (where possible to inspect).

Additional Information Roof is no longer leaking. Engineering was called in to check the leak concerns

Inspector Jerry Jay Todd (Sign) JERRY JAY TODD (Print) 2-2-93 (Date)

Corrective Actions Snow has melted and the roof is not leaking.

Supervisor Reviewing Corrective Action M A Shoemaker 2-4-93

Distribution: White - WM Engineering Yellow - SWO Record Book
Pink - WM Engineering (Corrective Action Complete)

BC-6000-270 (09/91)

INSPECTION CHECKSHEET
SOLID MIXED WASTE STORAGE/DISPOSAL FACILITIES

Facility 224-T Complete per instructions in TO-040-005 Date 2-26-92 Time 0945

	YES	NO	
1.	___	✓	Areas in and around facility are free of combustibles such as tumbleweeds, paper, rags, trash, etc.
2.	✓	___	Fire lanes are clear and unobstructed. Fire fighting vehicles have free and easy access to facility.
3.	N/A	___	Roads into trenches, trench sidewalls and bottoms, spoil piles, and paving (asphalt, concrete or gravel) are intact and in good repair (where applicable).
4.	N/A	___	PCB label at facility entrance is intact, unobscured, legible and in good condition (where applicable).
5.	✓	___	Facility lighting is adequate for inspection (where applicable).
6.	N/A	___	Containment curbing and flooring is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall (where applicable).
7.	N/A	___	Backfilled storage/disposal units are free of depressions, cave-ins, cracks, signs of animals burrowing into trenches, standing water, or erosion (where applicable).
8.	✓	___	Marker-barricades (chain barricades, chain-link fences, marker posts, etc.) around facility are intact and in good condition. Facility postings are intact, unobscured, legible, and in good condition.
9.	___	✓	Facility is generally dry. There is no standing water or excessive snow accumulation in or around facility.
10.	✓	___	Containers are free of punctures, dents, penetrating scratches, loose lids, corrosion, or other damage/deterioration (where possible to inspect).
11.	✓	___	Containers are closed and show no evidence of spillage or leakage, such as moisture on the sides or underneath (where possible to inspect).
12.	✓	___	Containers are stored in a manner which will not rupture the containers or cause them to leak (where possible to inspect).
13.	✓	___	Container marking/labeling is intact, unobscured, legible, and in good condition (where possible to inspect).

Additional Information #1) Tumbleweeds Around Fence and Facility.
#9) There is Water on The 3rd Floor around The Rotex Mixer "Caustic Cannot Penitrate" Rain Water From The Roof.

Inspector Jerry Jay Todd (Sign) Jerry Jay Todd (Print) 2-26-92 (Date)

Corrective Actions #9) The water has been Picked up 2-26-92.
#1) M&T. has been Notified.

Supervisor Reviewing Corrective Action ___

Distribution: White – WM Engineering Yellow – SWO Record Book R2-82
Green – WM Engineering (Corrective Action Complete)

BC-6000-270 (03/89)

9113727.1042

INSPECTION CHECKSHEET
SOLID MIXED WASTE STORAGE/DISPOSAL FACILITIES

ty 224-T Complete per instructions in SW-040-005 Date 1-25-93 Time 0718

	YES	NO	
1.	✓		Areas in and around facility are free of combustibles such as tumbleweeds, paper, rags, trash, etc.
2.	✓		Fire lanes are clear and unobstructed. Fire fighting vehicles have free and easy access to facility.
3.	N/A		Roads into trenches, trench sidewalls and bottoms, spoil piles, and paving (asphalt, concrete or gravel) are intact and in good repair (where applicable).
4.	N/A		PCB label at facility entrance is intact, unobscured, legible and in good condition (where applicable).
5.	✓		Facility lighting is adequate for inspection (where applicable).
6.	✓		Containment curbing and flooring is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall (where applicable).
7.	N/A		Backfilled storage/disposal units are free of depressions, cave-ins, cracks, signs of animals burrowing into trenches, standing water, or erosion (where applicable).
8.	✓		Marker-barricades (chain barricades, chain-link fences, marker posts, etc.) around facility are intact and in good condition. Facility postings are intact, unobscured, legible, and in good condition.
9.		✓	Facility is generally dry. There is no standing water or excessive snow accumulation in or around facility.
10.	✓		Containers are free of punctures, dents, penetrating scratches, loose lids, corrosion, or other damage/deterioration (where possible to inspect).
	✓		Containers are closed and show no evidence of spillage or leakage, such as moisture on the sides or underneath (where possible to inspect).
12.	✓		Containers are stored in a manner which will not rupture the containers or cause them to leak (where possible to inspect).
13.	✓		Container marking/labeling is intact, unobscured, legible, and in good condition (where possible to inspect).

Additional Information Roofing is leaking, have standing water (through) out Building.

Inspector Steven Kennelly (Sign) STEVEN KENNELLY (Print) 1-25-93 (Date)

Corrective Actions Snow has melted and the roof is no longer leaking. The roof is flat and the water has no way of running off the roof.

Supervisor Reviewing Corrective Action M Shoemaker 2-4-93

Distribution: White - WM Engineering Yellow - SWO Record Book
Pink - WM Engineering (Corrective Action Complete)

BC-6000-270 (09/91)

Attachment 14

WHC TRAINING ADMINISTRATION, WHC-CM-5-34, DATED APRIL 30, 1993

WESTINGHOUSE HANFORD COMPANY

SOLID WASTE DISPOSAL
OPERATIONS ADMINISTRATION

Manual	WHC-CM-5-34
Section	1.8, REV 1*
Page	1 of 64
Effective Date	April 30, 1993
Organization	RR/Solid Waste Disposal

TITLE:

TRAINING ADMINISTRATION

Approved by

W. H. Hamilton, Jr. Manager
Solid Waste Disposal

1.0 PURPOSE

This procedure implements the requirements of U.S. Department of Energy (DOE) Order 5480.18A, DOE Order 5480.20, and WHC-CM-2-15 for the Solid Waste Disposal (SWD) Division. It represents a graded application of the requirements that apply to SWD.

2.0 SCOPE

This procedure applies to all SWD Division personnel by specifying the training requirements and responsibilities for new and continuing employees to ensure they are qualified to perform their job assignments. This procedure also applies to personnel who support SWD to the extent that their activities relate to SWD facilities. Training program functions, responsibilities, and implementation are described in this procedure.

3.0 DEFINITIONS

Established Hanford Site definitions applicable to the training environment are listed in WHC-CM-2-15, Section 3.0. In addition, the following definitions apply to SWD.

Exception. A formal waiver granted to except an individual from a required training course.

Extension. Delay granted to meet initial training requirements or delay beyond the last date of the retrain zone granted to meet retraining requirements.

Facility. Equipment, systems, buildings, and other property units that facilitate or make an activity possible.

Function Manager. Any level 3 manager.

Facilities Supervisor. A first-line supervisor of bargaining unit personnel.

*This is a total rewrite; therefore, no revision bars are used to indicate changes.

Plant/Facility Manager. Level 3 manager of an operating facility.

Operating Facility. A SWD operating facility encompasses the facilities in Solid Waste Management (SWM), T Plant, and 340 facilities.

Operations Manager. An operating facility level 4 manager of operations supervisors and bargaining unit personnel.

Technical Support Personnel. Personnel who provide a service or support to an operating facility via information, research, etc.

4.0 RESPONSIBILITIES

This subsection outlines the responsibilities and organizational structure of SWD and the Operations Training section of the International Environmental Institute (IEI) as it relates to SWD Operations.

4.1 MANAGERS AND SUPERVISORS

All SWD managers and supervisors are responsible for the following:

1. Ensuring the employees assigned to them receive required initial training, continuing training, and retraining as needed to qualify/certify them to perform their assigned duties and to offer them the opportunity to increase knowledge and job skills. (See Appendix A.)

2. Ensuring the maintenance of up-to-date personal training records for the employees assigned to them, in accordance with subsection 6.0 of this procedure. Managers and supervisors must be able to demonstrate that their employees are qualified to perform their assigned tasks, in accordance with this procedure.

3. Functioning as the certifying office for all assigned personnel except as noted in subsection 4.2.

4.2 PLANT/FACILITY MANAGERS

The plant/facility managers report to the SWD manager and are responsible for the following:

1. Ensuring that the training program is administered, evaluated, improved, and maintained and is consistent with and applicable to facility configuration.

   NOTE: Plant/facility managers may delegate this responsibility to operations managers.

2. Functioning as a certifying official for all certified supervisors and/or managers for the operating facility.

3. Approving exemptions or equivalencies in individual training.

4.3 OPERATIONS MANAGERS

The operations managers report to the plant/facility managers and (if delegated to do so by the plant/facility managers) are responsible for the following:

1. Ensuring that the training program is consistent with and applicable to facility configuration.

2. Functioning as a certifying official for all certified operators subordinate to the supervisors.

The operations managers perform the following functions for operations personnel:

1. Approve and implement the facility's Operations Supervisor and Operator Training Programs.

2. Approve major modifications to associated training programs.

3. Participate in oral examinations, as required.

4.4 OPERATIONS SUPERVISORS

The supervisors of bargaining unit personnel assigned to SWM and T Plant/340 facilities report to the operations managers. They are responsible for the progress of on-the-job training (OJT) of assigned personnel and for the quality of this training, including ensuring that training requirements are fully met. Execution of these responsibilities is essential to ensuring a sufficient number of trained and qualified personnel to safely operate SWD facilities.

The supervisors of bargaining unit personnel perform the following functions:

1. Determine the specific certification and qualification goals for each individual, consistent with this training plan procedure.

2. Provide development and review support for training materials, and recommend material for approval.

3. Supervise and/or conduct OJT of assigned personnel.

4. Recommend training exemptions or equivalencies.

5. Participate in oral examinations, as required.

6. Act as a member of the Training Review Board, which affects assigned personnel.

7. Ensure that drills performed in the facility are safe and efficient.

8. Assist the drill coordinator in preparing and implementing drill exercises.

4.5 TRAINING AND ADMINISTRATION MANAGERS

The SWD Training and Administration managers (facilities) and the Program Control and Administration (PC&A) manager (nonfacility) are responsible for the following:

1. Assisting managers in implementing training requirements for their personnel.

2. Reviewing training requirements annually (at a minimum) for adequacy of need and adherence to regulations.

3. Reporting overdue training to SWD managers/supervisors.

4. Processing waivers and exemptions to training requirements in accordance with WHC-CM-2-15, Section 7.6.

In addition, the SWD Training and Administration managers are responsible for the following:

1. Assisting in developing and maintaining facility-specific examination procedures.

2. Assisting in developing and maintaining an examination bank.

3. Evaluating OJT training for certified operators and operations supervisors.

4. Serving as liaison with the Technical Training organization as follows:

   a. Preparing and modifying training materials and/or certification packages.

   b. Reviewing and approving training materials.

   c. Assisting managers/supervisors in scheduling training classes, as needed.

4.6 PROGRAM CONTROL & ADMINISTRATION MANAGER

The manager, PC&A, ensures that this SWD training procedure is reviewed annually, at a minimum.

4.7 CERTIFIED OPERATORS AND EVALUATORS

Certified operators and facilities supervisors are trained as OJT instructors to conduct OJT. The OJT training is administered and evaluated as specified in WHC-CM-2-15, Section 12.2. The OJT process is described in subsection 5.6 of this procedure.

The OJT trainers are responsible for the following:

1. Providing supervised hands-on training in the work environment to accomplish performance objectives required for completion and evaluation of the training tasks.

2. Ensuring that the trainee has satisfactory knowledge of and competence in skills requirements as defined in the study guide.

3. Signing and dating the acceptable performance levels in accordance with facility operating procedures, study guide references, and OJT qualification cards.

4.8 EMPLOYEES

All SWD employees are responsible for the following:

1. Working with their managers/supervisors to define appropriate training.

2. Completing necessary training.

4.9 SOLID WASTE/T PLANT TRAINING MANAGER

The Solid Waste/T Plant (SWTP) training manager establishes, conducts, and administers the training program for the SWD facilities managers to ensure personnel are trained to meet their assigned tasks. The SWTP manager reports to the IEI Technical Training organization.

The training manager provides classroom instruction and training in accordance with the requirements established in the facility training plans. As defined in the applicable chapters, training supports final written and oral examinations and OJT documentation. (SWD facilities managers/supervisors are responsible for OJT and certification.)

The training manager assigns dedicated technical instructors to the facilities as necessary to meet the needs of SWD facilities personnel. The training manager is matrixed to the facility manager and is responsible for ensuring completion of the following:

1. Evaluating training program effectiveness.

2. Instructing academic training classes.

3. Indoctrinating and training assigned instructors.

4. Developing and updating training texts and lesson plans.

5. Preparing, administering, and evaluating written examinations.

6. Preparing and updating study guides and OJT qualification cards.

7. Preparing and administering recertification lectures and examinations.

4.10 OPERATIONS TECHNICAL INSTRUCTOR

The operations technical instructor is a primary contact between the facilities personnel and the IEI. The instructor should understand the processes and equipment pertinent to facility operations. Technical instructors coordinate training activities for SWD with the respective Training and Administration managers. The operations technical instructor may be assigned responsibility for the following:

1. Developing and maintaining study guides and OJT qualification cards.

2. Developing, maintaining, and administering written examinations.

3. Developing and conducting training on new equipment and systems.

4. Maintaining and coordinating the development and revision of training materials.

5. Providing (or assisting in conducting) designated training.

6. Providing knowledge-level checkouts, as requested by management.

7. Serving as a member of the Academic Review Board for matters dealing with designated classes or areas of the training programs.

8. Providing support for special training programs.

9. Providing and updating facility-specific training schedules.

10. Providing periodic status reports, and assisting with designated training reports.

11. Advising management of changing training needs, scope, and contractual requirements.

5.0 GENERAL ADMINISTRATIVE REQUIREMENTS

Administrative training requirements for all SWD Division personnel are specified in the subsections that follow. The SWD operations training program requirements are specified in subsection 6.0 of this procedure.

5.1 TRAINING IDENTIFICATION

Appendix A of this procedure lists training classes applicable to each position.

5.2 MINIMUM POSITION REQUIREMENTS

Position requirements are established for all positions. For bargaining unit, nonexempt, and nonmanagement exempt positions, the requirements are specified in standard position descriptions. For management and supervisor positions, the requirements are specified in individual position descriptions, subject to the minimum requirements specified in Table 1, below. Exceptions to these standard requirements may be approved by the manager, SWD, as part of the hiring/transfer approval.

Table 1. Minimum Position Requirements.

	EDUCATION DEGREE	RELATED EXPERIENCE
Managers	Bachelor	2 Years
Supervisors	High School	3 Years

All SWD positions require an initial medical examination and re-examination in accordance with current Hanford Environmental Health Foundation (HEHF) requirements for physicals.

All personnel assigned to SWD on or before August 12, 1992, are considered to meet the requirements of subsection 5.2 for their current and future positions within SWD.

5.3 ALL EMPLOYEES

New employees must meet the position requirements described in subsection 5.2. All SWD managers and supervisors prepare a training field file for all their employees. The training field file includes the following:

1. Employee Profile System Worksheet (replaces personal history)
2. Recent health evaluation
3. Completed Hanford Site training
4. Initial training plan and annual updates
5. Qualifications and certifications achieved

6. Correspondence related to exceptions to training
7. Position Description form (A-6000-286).

In addition to the items listed in subsections 5.0 through 5.2, all operations managers/supervisors and operators complete the 200 Area Operations fundamental training programs, as defined in WHC-CM-2-15. This training may be conducted in conjunction with other phases of the manager/supervisor training and modified to fit the mission of the facility.

The operations managers/supervisors shall demonstrate a satisfactory level of knowledge in all areas in which their employees must be qualified by meeting the requirements identified in Appendix A. The operations manager/supervisor shall also demonstrate a satisfactory knowledge level to an Oral Examination Board before final certification.

5.4 EXAMINATIONS, TESTS, AND QUIZZES

Where specified on the course outline, training courses provide a method to evaluate whether an employee is ready for either a new or continuing assignment and how much required training has been completed. In these cases, the employee must demonstrate a satisfactory knowledge of all required subjects and procedures covered in the training program. This demonstration may include written, oral, and operational examinations as appropriate to the position, experience, and educational level of the employee. Quizzes may be used for intermediate evaluation of the effectiveness of on-going training.

5.4.1 Examination Development

Examinations cover subjects in which personnel are expected to be proficient and emphasize those subjects covered by the continuing training program. Recertification and continuing training program examinations cover materials in accordance with training requirements.

The goal of an examination is to produce fair and consistent evaluation of an employee's readiness for either a new or continuing assignment to specific tasks and/or completion of required training. Examinations may be written or oral. Operations use the examination development procedures in WHC-CM-2-15, Section 7.4, as a guide to develop individual questions, quizzes, examinations, and standing files of questions and tests.

Examinations test the depth of knowledge defined in the related study guides and practical knowledge defined on the OJT qualification cards for the position.

5.4.2 Administration of Written Examinations for SWD Operations

Written examinations for certification of operators and supervisors/managers are given every 2 years for the following certifications:

1. Supervisor/Managers Plant Specifics (SWM only)
2. T Plant Surveillance

3. 2706-T Decontamination
4. 340 Surveillance
5. Central Waste Complex Operations
6. Transuranic (TRU) Storage and Assay Facility (TRUSAF)
7. Dry Waste Compactor Facility
8. Nonradioactive Dangerous Waste Storage Facility
9. 200 Area Burial Ground Operations
10. TRU Retrieval
11. Canyon Decontamination (projected date--December 1993)
12. 340 Facility/Tanker (projected date--March 1994).

Written examinations also are given annually as part of the Continuing Training and Recertification program for Emergency Procedures/Abnormal Plant Conditions (EP/APC). These examinations are given to all qualified or certified operators and supervisors/managers in SWD operations.

5.4.3 Examination Control

1. Approved locations for storage of written examination material are designated by the training organization in accordance with WHC-CM-2-15, Section 7.4.

2. The SWD Training and Administration managers and the SWTP Training manager approve certification examinations.

3. Completed examinations are controlled to prevent compromise of examination material. They are stored in a locked storage container except as required for review with the student, review by the oral examination board, or for audit purposes.

4. Completed examinations are retained as part of completed certification records.

5.4.4 Oral Examinations

The final step of a certification process for operations supervisors/managers is an oral examination. This evaluation assesses the candidate's knowledge of plant operations, plant systems, and plant interactions to determine the candidates's readiness for certification from the SWD manager and for assuming the responsibilities of a certified SWD supervisor/manager.

Oral examinations are conducted by a board of knowledgeable SWD personnel.

5.4.4.1 Oral Examination Board. The Oral Examination Board consists of a minimum of four members. These members evaluate and score the candidate's responses. The board is chosen from the following (or their designates):

1. Training and Administration Manager
2. Facility Operations Manager

3. Operations Engineering Manager
4. Nuclear and/or Safety Manager
5. Operations Supervisor (NOT the candidate's immediate supervisor).

The Facility Training and Administration manager or representative acts as the board's chairperson and shall:

1. Ensure all prerequisites are met prior to commencing the oral board.

2. Provide a schedule for the candidate and board members with the time and location at least 5 working days prior to the board.

3. Ensure the board is conducted in a professional manner and that the established rules and guidelines are followed.

4. Ensure the candidate is aware of:

   a. The general conduct, scope, and length of the examination, and other pertinent information.

   b. The candidate's right to seek clarification of the examiner's questions, when necessary.

5. Provide the candidate with the results of the board.

5.4.4.2 Oral Examination Categories. The oral examination is composed of documented questions from (but not limited to) the specific areas listed below, if applicable to the facility or position.

1. Design, control, and operating limitations.

2. Means by which facility design, operations, or procedures may be changed.

3. Radioactive and nonradioactive hazards within the facilities or plant.

4. Handling, controlling, and disposing of radioactive and nonradioactive hazardous materials and effluents.

5. Criticality safety requirements and procedures.

6. Safety, security, conduct of operations, and emergency systems, including reporting procedures.

7. Mechanical, electrical, and chemical theory

8. Facility operating characteristics

9. Job Control System.

5.4.4.3 Documentation and Evaluation of Oral Examinations. Each oral examination is documented on an Oral Examination form identified in the examination procedures and supplied to each examiner. The examiner documents only the comments that are relevant to determining a pass or fail conclusion. The candidate and selected training personnel may see the comments. Each examiner evaluates the candidate's responses to every question that the examiner feels able to properly assess. An examiner will not evaluate those responses outside his/her area of expertise.

The following system is used for grading the examination:

1. S - (SAT). Excellent to good knowledge and understanding of the subject. The candidate has demonstrated sufficient knowledge to safely carry out the responsibilities of the position.

2. U - (UNSAT). Poor working knowledge and understanding of the subject. The candidate is unable to provide an answer, or the answers are incorrect or incomplete. The candidate shows obvious unfamiliarity with the subject, such as hesitant answers or lack of understanding.

All grades will be awarded on the basis of the candidate's verbal responses during the oral examination. The candidate may be allowed to take additional training at a later date and retake an unsatisfactory portion of the Oral Board Examination, at the board's discretion.

The forms pertaining to the examination should be used only as an aid to the examiners in conducting the examination and as a means of documenting the basis for the examiner's pass/fail determination. The pass/fail determination is based on an audit of the candidate's level of knowledge, and (as such) all applicable areas should be explored in varying degrees of depth.

Each examiner must recommend approval or disapproval of the certification based upon the results of the entire examination. To successfully pass the oral examination, the candidate must receive a pass grade from each of the examiners.

5.4.5 Grading Standards - Written Examinations

1. Operators. The satisfactory performance level for any objectively graded written examination is 70 percent. If the average grade is less than 70 percent, the entire examination must be retaken following remedial training, as specified in subsection 5.9 and in accordance with the agreement between Westinghouse Hanford Company (WHC) and Hanford Atomic Metal Trades Council (HAMTC).

2. SWD Operations Supervisors/Managers. The satisfactory performance level for any objectively graded written examination is 80 percent. If the average grade is less than 80 percent, the entire examination must be retaken following remedial training, as specified in subsection 5.9.

5.5 OJT QUALIFICATION CARDS AND STUDY GUIDE ADMINISTRATION

The OJT instructors and evaluators use study guides and/or OJT qualification cards to implement the OJT training and evaluation process. A job task analysis (JTA) is used to determine which tasks are listed on the OJT qualification cards. The OJT qualification card documents the OJT process.

The study guide or OJT qualification card is an auditable record of an individual's participation in the performance-based training program. The study guide or OJT qualification card contains specific tasks identified by the JTA process for discussion, performance, and/or simulation. Upon completion of the training and evaluation process, the OJT instructor and evaluator sign off each task item.

Study guides provide references to a document or documents that define the knowledge and skill requirements for study guides and OJT qualification cards. The skill requirements are listed on the associated study guide or OJT qualification card. The study guide is a study reference document, training guidance instrument, and evaluation criteria for trainers, instructors, evaluators and managers.

The first pages of the OJT qualification card explain the purpose and give definitions of performance criteria in the OJT qualification card and the study guide. The following pages identify the performance actions (from the OJT qualification card), associated knowledge and skill requirements, and the locations of detailed reference information to support the knowledge items.

Study guides should be reviewed by a subject matter expert (SME) who was not directly involved in their development and approved prior to use.

5.6 ON-THE-JOB TRAINING

All OJT in SWD operations facilities are performance based. The method of conducting OJT, the required level of accomplishment, and performance test criteria are determined during the training material development process. The training and performance testing a trainee receives lead to qualifying that individual to perform the task. Study guides and OJT qualification cards for individual OJT qualification and certification are developed to document training and to provide guidance for the instructor and the trainee.

The OJT instructors, SMEs, and supervisor/managers shall be qualified to conduct OJT and performance tests. The primary method used to conduct OJT is the demonstration-performance method. A general description of the method is described in WHC-CM-5-34, Section 3.10. When facility conditions warrant, alternate methods (such as discussion) may be used.

5.7 PROFICIENCY MAINTENANCE

It is necessary to maintain proficiency in facility operations, which requires periodic hands-on experience to supplement the formal certifications

for facilities and/or watch stations. The following requirements ensure this proficiency is maintained:

1. An operator who fills one of the positions listed below must have completed a full shift in the same position within the last 6 months. These positions are:

   a. T Plant Surveillance Operator
   b. 2706-T Decontamination Operator
   c. 340 Surveillance Operator
   d. TRUSAF Operator
   e. Central Waste Complex Operations Operator
   f. Dry Waste Compactor Facility Operator
   g. Nonradioactive Dangerous Waste Storage Facility Operator
   h. Burial Grounds Operator
   i. TRU Retrieval Operator.
   j. Canyon Decontamination Operator (projected date--December 1993)
   k. 340 Facility/Tanker Operator (projected date--March 1994).

2. An operator who does not complete a full shift in a position in any 6-month period has not maintained proficiency. This can be rectified by reviewing the facility/position status with the responsible supervisor and documenting satisfactory review in the individual's training file.

3. An operator who has not maintained proficiency in a given position in a facility continues to be certified for the position by the bi-annual certification. The operator may perform roles other than those listed in item 1 above in the facility based on the individual's current certification.

4. Items 1 through 3 above are applicable to operations supervisors. The operations manager will take the actions specified in item 2 above to renew proficiency.

5. Operations managers, training managers, and facility managers will maintain proficiency through their normal duties.

5.8 FAILURE CRITERIA

Failure to complete a component of a training program, failure to meet specified criteria during initial and continuing training, and/or a demonstrated deficiency requires initiating a remedial training program. An employee who has failed must be assigned duties that do not require the failed training or be supervised by a trained individual. Remedial training is conducted in accordance with subsection 5.9 of this procedure.

5.9 REMEDIAL TRAINING

Remedial training is required if a trainee fails to meet specified performance criteria during initial or continuing training, or if job

performance degrades to an unsatisfactory level. Performance criteria are specified in specific training programs.

Remedial training is an individually prepared program, transmitted to the individual by internal memo and the Remedial/Retraining Checklist. The program gives the individual experiencing difficulty written direction for actions to achieve required results. The remedial training program evaluates the effectiveness of the remedial training (i.e., for a classroom examination failure, a re-examination; for operational difficulties, an operational evaluation).

Remedial training programs are assigned as necessary, but must be assigned for the following:

1. Failed classroom examinations
2. Failed written qualification examinations
3. Failed operational evaluations
4. Failed oral board examinations
5. Failed biennial written examinations.

The remedial training should be designed to ensure that the individual acquires additional knowledge. A 2-week minimum waiting period is normally required before an employee may retake a failed written or certification/qualification examination. Remedial training may be recommended by the individual's supervisor or manager, technical instructors, or training evaluators.

Remedial training must be approved by the appropriate line manager. The completed copy of the Remedial/Retraining Checklist is filed with the individual's training record.

5.10 TRAINING REVIEW BOARD

The direct manager/supervisor determines and recommends to the Training Review Board the requirements for the following:

1. Individual recertification and/or requalification for previously certified personnel returning to work following extended absences (greater than 6 months) and/or corrective action.

2. Individual recertification and/or requalification for previously certified personnel demonstrating poor performance in the training program or facility operations.

The Training Review Board consists of the following:

1. Individual's level 3 manager
2. Individual's facility/field operations manager
3. SWM and/or T Plant/340 Training Administration manager (when applicable).

A copy of approved corrective actions and applicable milestones must be filed in the individual's field training file. Documentation of completion of corrective actions are submitted with completion of the associated training class, qualifications, or certifications.

The Training Review Board approves a recommended course of action.

5.11 CONTINUING TRAINING PROGRAM

Continuing training is designed to maintain and enhance the proficiency of operations personnel.

Continuing training provides facility/plant qualification/certification-oriented training and refresher training in selected areas.

The program includes, at a minimum:

1. Attendance at selected continuing training lectures.
2. Completion of required reading.
3. Completion of selected OJT tasks.
4. Completion of all courses to maintain job qualifications and/or certifications.
5. Drills in the facility for response to abnormal or accident situations.

The Training and Administration managers document the completion of continuing lectures and OJT (beyond that required for certification).

A minimum of four lectures are scheduled and conducted annually. If employees miss a lecture, they must attend the lecture at a later date.

The level of knowledge required is consistent with that required for initial qualification/certification. The training is specific to each operating facility. The SWD Training and Administration manager compiles the agenda for the lectures based on information received from facility operations, engineering, and/or training needs. The lecture topics could include:

1. Changes and upgrades to certification packages
2. Procedural changes
3. Process/facility changes
4. Industry events
5. Unusual Occurrences
6. Lessons learned.

Facilities Training and Administration managers are responsible for arranging and documenting attendance for these lectures.

5.12 REQUIRED READING

Important information relative to job assignments must be made available to appropriate personnel. The SWD uses required reading as a formal system to ensure that appropriate individuals receive important information. Required reading is conducted and documented in accordance with WHC-CM-5-34, Section 3.20.

5.13 DRILL PROGRAM DESCRIPTION

Drills are conducted for operations personnel to develop and maintain proficiency in responding to abnormal or accident conditions. Teamwork skills are integrated into situations where technical knowledge and team skills are necessary. The objective is to establish, maintain, and enhance the performance of the individual and the team. Drill scenarios should identify and correct performance deficiencies related to abnormal and/or emergency situations. The drill program for SWD operations personnel is conducted in accordance with WHC-CM-4-1.

5.14 TRAINING MATERIAL DEVELOPMENT

Training material is developed using a systematic approach (e.g., performance-based training) to ensure that all personnel are qualified to perform job requirements. Performance-based training is conducted at SWD in accordance with training programs.

The affected group management, SWTP Technical Training, SWD Training and Administration managers, and facility management approve training materials. In addition, training material may be reviewed by other support organizations, as determined by SWD management.

5.15 TRAINING MATERIAL MAINTENANCE SYSTEM

Training material is maintained in accordance with WHC-CM-2-15, Section 9.1.

5.16 EXCEPTIONS, WAIVERS, AND EXTENSIONS

5.16.1 Exceptions and Waivers

Exceptions and/or waivers to initial and continuing training are considered on a case-by-case basis. The person's name, the subject for which the exception is requested, and justification for the exception are sent to the applicable level 3 manager for processing, in accordance with WHC-CM-2-15, Section 7.6, and approved by the level 3 manager. Under certain conditions, individuals may be granted equivalency or be exempted or waived from specific qualification/certification prerequisites or requirements.

Any deviation from the normal qualification/certification requirements or qualification path must be documented on the individual's training record. This documentation states what specific variation(s) is requested and provides

a short justification for the variation. No individual may be exempted from written or oral examination requirements associated with the qualification/certification.

5.16.2 Extensions

Extensions of qualifications/certifications may be graded on a case-by-case basis by the level 3 manager. Requests for extensions of training are sent to the applicable Training and Administration manager for processing, in accordance with WHC-CM-2-15, Section 7.6. The request for extension should include, as a minimum:

1. The length of extension.
2. An explanation of the circumstances that prevented the person from completing the requirements.
3. A description of the operational schedule and/or commitment that necessitate the extension.

NOTE: Extensions of certification for nuclear operators, supervisors, and managers usually will not be granted.

Anyone whose certification has lapsed will be designated as a trainee in that area. Trainees will perform work as an extension of a certified person only if they are physically controllable by the certified person.

5.17 INSTRUCTOR SUBJECT MATTER EXPERTS

The SMEs may be part-time instructors under the following conditions:

1. The SME is qualified (or previously qualified) and/or experienced in a particular subject, topic, or system.
2. The technical competence of the SME is verified and documented in a letter to the applicable SWD Training and Administration manager nominating the person to be a part-time instructor. A copy of the letter should be filed in the SME's training file.
3. The SME works with or under the direct supervision of an experience instructor.

5.18 TRAINING RECORDS

Manual WHC-CM-2-15, Section 10.1, covers general requirements for submission, maintenance, and disposal of training records. In addition, SWD processes training records as follows:

1. Field copies of records are maintained in the employee's training file. Contents of these files are listed in subsection 5.3.

2. A current training record is maintained by an individual's manager/supervisor for the duration of his/her employment in the facility, plus a 1-year audit period.

3. The responsible line manager/supervisor reviews individual training records annually to ensure that tasks assigned and training received are appropriate for the individuals in the group. This review is completed prior to January 1 of each year to establish the plan for the next year.

4. The identification, retention, storage, protection, disposition, and control of official training records are performed in accordance with the requirements of WHC-CM-3-5, Section 4.0.

The following forms may be obtained from Solid Waste Management Training and Administration and are used to support and document the SWD training programs:

1. The Initial Training Record documents the initial training required for an employee newly hired into SWD. This record is maintained in the employee's training file and updated annually.

2. The Employee Training Checklist documents the training required and received to qualify the individual for certification/qualification. These checklists are maintained in the employee's training file.

3. The OJT qualification cards are used during the qualification process to record the completion of the required task items. The OJT qualification cards provide a permanent record of the certification for each certification package. These qualification cards are maintained in the employee's training file.

4. The Oral Examination form records both the questions asked and answers given during an Oral Board Examination. The Oral Examination form provides a permanent record to qualify the individual for qualification/certification. The Oral Examination form is sent to WHC Central Training Records for inclusion in the employee's training records. A copy of the form is maintained in the employee's field training file.

5. Letters or statements indicating the acceptance or denial of a request for waiver or exemption to training and the basis for the justification are maintained in the employee's field file.

6. As required by subsection 5.3, the employee profile system worksheet, recent health evaluation, position description, and statement of qualifications and certifications achieved are also maintained in the training file.

5.19 QUALIFIED OPERATOR AND CERTIFIED PERSONNEL STATUS REPORT

Facility Training and Administration organizations issue a bi-weekly report to Solid Waste and T Plant/340 facility managers, which provides them with the current training status for each of their employees. The report shows training that is coming due and/or past due. The managers schedule their employees for the applicable training and notify Training and Administration of classes scheduled and/or training that is no longer required for an employee.

Program Control and Administration ensures a monthly report is issued to the managers of Restoration and Upgrade Programs and PC&A notifying them of training that is coming due and/or past due for their employees. The managers schedule their employees for the applicable training.

The manager, PC&A, compiles and issues a quarterly report to the manager, SWD, identifying all SWD past-due training.

5.20 FACILITY MODIFICATIONS, PROCEDURE CHANGES, AND OPERATING EXPERIENCES

Training on selected facility modifications, procedure changes, and operating experience is conducted during the continuing training cycle in conjunction with the continuing training program. When warranted by the significance of the information, the manager/supervisor or other appropriate personnel conduct a brief crew lecture on the subject, incorporate it into the support training schedule, or include it in required reading. All operations personnel review plant procedures annually. The list of procedures to be reviewed is approved and promulgated in accordance with Section 3.22 of this manual.

5.21 QUALIFICATION AND CERTIFICATION PROCESS REQUIREMENTS

The SWD managers/supervisors ensure that all employee personal training files and Employee Profiles System Worksheets are maintained in accordance with subsection 5.18 of this procedure. Prior to the end of each fiscal year, each manager/supervisor reviews and documents the training required for the upcoming year with his/her employees on the Employee Training Checklist.

The SWD managers/supervisors ensure that the Employee Profile System Worksheet is updated each fiscal year.

5.22 QUALIFICATION AND CERTIFICATION RESTRICTIONS AND DURATIONS

Qualification or certification are granted only if the following conditions are met:

1. All qualification and certification requirements are completed (written and/or oral examinations and operational evaluations).

2. Other specified requirements are completed (e.g. medical examinations), in accordance with WHC-CM-1-3, MRP 4.5, and this procedure.

3. The applicable manager has reviewed training records to ensure all training requirements have been met.

4. For operations certifications, an independent training evaluator verifies satisfactory completion of qualifications that result in certification.

5.23 REQUALIFICATION OR RECERTIFICATION PROCESS

All employees shall complete all training programs and/or courses in accordance with the established guidelines for the individual program/course. Recertification or requalification for specific job assignments is specified in Appendix A.

Written and/or oral examinations and proficiency demonstrations are used (to the extent possible) for recertification or requalification if the facility is not operated frequently enough to meet normal proficiency requirements.

If an employee has not received the job-specific training or retraining required for the work assignment within the required time, the employee will be relieved from the assignment until the required training or retraining is complete. The employee will, however, be allowed to work in the assignment under the direction of a certified employee.

6.0 SOLID WASTE DISPOSAL TRAINING PROGRAMS

6.1 NUCLEAR OPERATOR TRAINING

The SWD nuclear operators (operator trainees [OT], nuclear operators [NO], and NPOs) receive training and qualify on specific equipment and areas in accordance with approved qualification and certification packages. (See WHC-CM-2-15, Section 12.2.)

The SWD operations managers select NOs for training on different work assignments based on the supervisor's recommendations.

All NOs must complete a minimum of three facility-specific certification packages.

6.2 SUPERVISORS/MANAGERS

An individual completing shift supervisor/manager certification may be assigned to a supervisor or management position directing the actions of operators in SWD seniority group 004. The supervisor/manager candidates are

selected and trained in accordance with WHC-CM-2-15, Section 12.1, and subsections 5.0 through 5.2 of this procedure.

6.3 TECHNICAL SUPPORT PERSONNEL

Within SWD, personnel who are classified as technical support personnel are generally individuals who are in engineering, work control, and training groups. Technical support personnel are as follows:

1. Solid Waste Management
   - Work Control
   - Operations Engineering
   - Facility Services
   - Training and Administration

2. Restoration and Upgrade Programs

3. T Plant/340 Facility
   - Operations Support and Engineering
   - Facility Upgrade Engineering Administration and Training
   - Programs
   - Work Control

4. Program Control and Administration.

NOTE: Operating personnel are not considered technical support personnel.

6.4 POWER OPERATORS, HEALTH PHYSICS TECHNICIANS AND MAINTENANCE PERSONNEL

Facility-specific training for power operators, maintenance personnel, crane operators at T Plant, and Health Physics Technicians who support SWD facilities is identified in Appendix A.

6.5 OPERATOR INSTRUCTOR TRAINING

The Solid Waste/T Plant Training manager prepares and approves a training plan for all instructors matrixed to SWD. The training plan is based on the individual's experience and the requirements of the position. The training plan includes, but may not be limited to, general training, instructional basics, and technical skills.

1. Entry Requirements. Candidates who already possess the necessary knowledge and skills for the job may be excepted from the applicable areas of the initial training program on the basis of prior education, experience, and training. The manager approves all exceptions to initial instructor training.

2. Initial Training. At a minimum, all Technical Training instructors attend the Presentations Fundamentals given by ITEE, or an

equivalent. The coursework contains the basics of Performance-Based Training (PBT) development, classroom presentation skills, and question writing and exam development.

6.6 VISITORS

Visitors who require entry to SWD facilities will comply with the requirements of the Appendix A, Category M, checklist.

Temporary employees and/or contract personnel must meet the training requirements found in the Appendix A, Category M, checklist for the position or job assignment.

7.0 PERSON-IN-CHARGE TRAINING

Person-in-charge (PIC) training is specialized training required for individuals assigned specific tasks for the direction of maintenance, modification, and testing at SWD. The PIC training is developed by job analysis and provides detailed instruction on work release and work control. It also provides material to increase the PIC's knowledge of SWD systems, facilities, and related technical information. This requirement is detailed in Appendix A and meets the requirements of WHC-CM-8-8 and WHC-CM-5-34, Section 2.11.

8.0 OCCURRENCE REPORTING INDOCTRINATION AND TRAINING

Manual WHC-CM-1-3, MRP 5.14, requires implementation of an occurrence reporting training program for facility personnel. The SWD addresses those training requirements and establishes a compliance method as follows:

1. All SWD personnel are required to attend Hanford General Employee Training (HGET), which includes a discussion on the philosophy of occurrence reporting.

2. The SWD personnel who have responsibility for occurrence reporting receive required training applicable to their responsibilities. The corresponding courses are listed in Appendix A.

9.0 UNREVIEWED SAFETY QUESTION EVALUATOR TRAINING

Unreviewed safety question evaluators (USQE) screen and evaluate proposed changes to the facility or instances where operations may be outside of the identified safety envelope. Training is conducted in accordance with Appendix A.

10.0 TRAINING IMPLEMENTATION PLANS

Fundamentals Training. Fundamentals training for operations managers and supervisors and for operators will be completed by July 1994.

Training Evaluations. An evaluation process for a group outside of Technical Training to assess Technical Training classes will be implemented by December 1993. The manager, SWTP Technical Training, is responsible for meeting this requirement, except where noted.

NOTE: The requirements of this procedure will be fully implemented by December 31, 1993.

11.0 REFERENCES

HSRCM-1, Hanford Site Radiological Control Manual, Section 6.0, "Training and Qualifications."

WHC-CM-2-15, Training Administration Manual.
2.2, "Training and Education Standards Board."
7.4, "Examination Control."
7.6, "Waivers and Exemptions."
9.1, "Training Material Maintenance System."
12.1, "200 Area Supervisor Training Program."
13.2, "Power Operator Training."
13.3, "Electrical and Mechanical Maintenance Training."

WHC-CM-4-1, Emergency Plan.

12.0 BIBLIOGRAPHY

DOE 1324.2A, "Records Disposition."

DOE 5480.1B, "Environment, Safety, and Health Program for DOE Operations."

DOE 5480.18A, "Accreditation of Performance-Based Training for Category A Reactors and Nuclear Facilities."

DOE 5480.20, "Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities."

WHC-CM-1-3, Management Requirements and Procedures.
MRP 4.5, "Medical Examinations."
MRP 5.12, "Identification and Resolution of Unreviewed Safety Questions."
MRP 5.14, "Occurrence Reporting and Processing of Operations Information."

WHC-CM-2-15, Training Administration Manual.
3.0, "Definitions."
10.1, "Training Records Information System."

WHC-CM-3-5, Document Control and Records Management Manual, Section 4.0, "Records Inventory and Disposition Schedules."

WHC-CM-4-11, ALARA Program Manual, Section 7.0, "Integrating ALARA Program Controls Into the Workplace."

WHC-CM-8-8, Job Control System.

APPENDIX A

TRAINING AND CERTIFICATION REQUIREMENTS

The "Category" letter below designates a list of required classes for various SWD "Class Groups." The courses for each category are listed in the Appendix A pages that follow. For example, in the case of a plant, radiation or hazardous waste worker, the list of classes required for the employee to enter into one of these areas appears under the category letter "B," for Radiation, Hazardous Waste and Plant Worker.

CATEGORY		CLASS GROUPS
A	-	All Employees
B	-	Radiation, Hazardous Waste and Plant Worker
C	-	Manager/Supervisor
D	-	Administrative Support
E	-	Operator
F	-	Engineer
G	-	Operations Supervisor
H	-	Operations Manager
I	-	Process Crane Operator
J	-	Special Groups/Members/Committees • Plant Review Committee • Priority Planning Grid Team • Criticality Safety Representative • Building Manager • Bomb Search Team • Corrective Action Evaluation Group • Occurrence Report Writer
K	-	Conduct of Operations
L	-	Emergency Planning and Community Right-to-Know Act (EPCRA) Inventory and Reporting
M	-	SWD Visitor or Vender
N	-	Maintenance Craft
O	-	Health Physics Technicians (HPT)
P	-	Person-in-Charge (PIC)

APPENDIX A

TRAINING AND CERTIFICATION REQUIREMENTS

JOB POSITION		CATEGORY
MANAGEMENT	=	A + C
FACILITY MANAGER	=	A + B + C
FACILITY ADMINISTRATION AND WORK CONTROL MANAGER	=	A + C
FACILITY ENGINEERING MANAGEMENT	=	A + B + C + F + K
NON-FACILITY ENGINEERING MANAGEMENT	=	A + C
FACILITY OPERATIONS AND TRAINING MANAGEMENT, TRAINING MANAGER	=	A + B + C + H + K
OPERATIONS SUPERVISOR	=	A + B + C + G + K
OPERATIONS	=	A + B + E + K
ENGINEER/SCIENTIST (NON-FACILITY)	=	A + F
FACILITY ENGINEER/SCIENTIST	=	A + B + F + K, (Solid Waste or T Plant)
ENGINEER TECHNICIAN	=	A + (B) Facility only)
ADMINISTRATIVE SUPPORT, PROJECT CONTROL, WORK CONTROL AND BUDGET ANALYSIS	=	A + D + (B) Work Control only) + (K) T Plant Work Control)
POWER OPERATOR	=	A + B + K
VISITOR/VENDER	=	M
MAINTENANCE CRAFT	=	A + B + N + (K) T Plant)
HPT	=	A + B + O + (K) T Plant)
PROCESS CRANE OPERATOR	=	A + B + I + K
PIC	=	A + B + N + P + K

Categories I through M represent specific specialty groups or areas that have diverse training needs. The corresponding letter should be added to the employee's training requirements when the employee is involved in one of these specialty groups or areas. Visitor/Vender will take the appropriate classes depending upon the areas they will visit or work.

APPENDIX A

COURSE REQUIREMENTS BY CATEGORY

COURSE NUMBER	CATEGORY A BASIC GENERAL EMPLOYEE TRAINING	RETRAINING (In Months)
000001	Hanford General Employee Training (HGET) In accordance with: WHC-CM-1-1, WHC-CM-1-2, WHC-CM-1-3, WHC-CM-4-3, & WHC-CM-4-40	12 Same course number
The following classes 000100 - 162236 are given when HGET is taken; they are no longer tracked under these numbers but only under 000001 - HGET.		
000100	Escort Training In accordance with: DOE Order 5631.1B	12 Part of HGET
000165	Asbestos General Employee Training	12 Part of HGET
003000	Lock & Tag - General In accordance with: WHC-CM-4-3, Vol. 3	12 Part of HGET
020005	Criticality Safety - Nonfissile Material Handlers In accordance with: WHC-CM-4-29	12 Part of HGET
02006F	Fire Extinguisher Safety Orientation In accordance with: WHC-CM-4-3	12 Part of HGET
020108	Non-radioactive Worker Safety Orientation In accordance with: WHC-CM-4-10 & DOE Order 5480.11	12 Part of HGET
080915	Employee Concerns In accordance with: WHC-CM-3-1 & WHC-CM-1-3, MRP 4.14	12 Part of HGET
080957	Alcohol/Drug Awareness In accordance with: WHC-CM-1-1, MP 4.5, & WHC-CM-1-3, MRP 4.27	12 Part of HGET

COURSE NUMBER	CATEGORY A BASIC GENERAL EMPLOYEE TRAINING	RETRAINING (In Months)
120196	Computer Security Awareness In accordance with: DOE Order 1360.2A	12 Part of HGET
162236	QA Program Overview In accordance with: WHC-CM-4-2	12 Part of HGET
000079 Required for badge levels 3 or 5	Comprehensive Security Briefing In accordance with: DOE Order 5631.1B	12 Retrain in course number 000080
000080 Required for badge levels 3 or 5	Security Refresher Briefing In accordance with: DOE Order 5631.1B	12 Same course number
000087	Initial Security Briefing (Required for new employees only, part of NESO) In accordance with: DOE Order 5631.1B & DOE Order 5631.2B	n/a
02006A	New Employee Safety Orientation (NESO) (Required for new employee only, part of NESO) In accordance with: WHC-CM-4-3 & WHC-CM-4-10	12 Retrain in course number 000001
02006B	Hazardous Communication and Waste Orientation (Required for new employee only, part of NESO) In accordance with: Washington Administrative Code (WAC) 173-303 & 29 Code of Federal Regulation (CFR) 1910.1200	n/a
• 03EXXX	Facility Emergency and Hazard Information Checklist	12 Same course number

COURSE NUMBER	CATEGORY A BASIC GENERAL EMPLOYEE TRAINING	RETRAINING (In Months)
* 301730	Solid Waste Job-Specific JCS Required for Solid Waste employees working in operations, engineering, or work control areas directly in support of a facility. (May have taken course 010108 in place of this course)	n/a
** 450500 ***	T Plant Work Control/JCS Required for T Plant or 340 Facility employees working in operations, engineering, or work control areas directly in support of a facility. (May have taken course 010108 in place of this course)	n/a
*• 300700 Old course number 000078	Solid Waste Operations Facility Orientation (For anyone needing to enter a Solid Waste Facility Only)	24 Same course number
** 450700 Old course number 000074	Facility Orientation - T Plant	24 Same course number
***450750	340 Facility Specific Orientation/Radiological Training	24 Same course number

• Employees must take appropriate class depending on facilities they work in; 03E042- 213 W, 03E044 - LLBG, 03E046 - 224T & 03E047 - CWC; these numbers replace old course number 03E056 for all of SWO facilities; 03E048 - T Plant Complex, and 03E973 - 340; buildings not included in this list will use the "Emergency Response Information Board."

* Solid Waste
** T Plant
*** 340 Facility

COURSE NUMBER	CATEGORY A BASIC GENERAL EMPLOYEE ENHANCED TRAINING	RETRAINING (In Months)
080940	Total Quality Awareness	n/a

COURSE NUMBER	CATEGORY B RADIATION, HAZARDOUS WASTE AND PLANT WORKER	RETRAINING (In Months)
020001	Radiation Worker Training - Initial In accordance with: DOE Order 5480.11, WHC-CM-4-10, & WHC-CM-4-11	24 Retrain in course number 020003
020003	Radiation Safety Requalification In accordance with: DOE Order 5480.11, WHC-CM-4-10, WHC-CM-4-11, & WHC-CM-4-15	24 Same course number
• 020032	Scott SKAPAK-MSA PAPR Requalification Class included in 031110, 031220, & 032030 In accordance with: 29 CFR 1910.34, ANSI Z 88.2, & WHC-CM-4-3	12 Included in 031220 and 032030
02006G	Generator Hazards Safety Training Class included in 031110, 032020, 031220, 031230, & 032030 In accordance with: 29 CFR 1910.120, WAC 173-303, & WHC-CM-7-5	12 Included in 031220 and 032030
020194	Noise Control Class included in 031110, 032020, 031220, 031230, & 032030 In accordance with: WHC-CM-4-3	12 Included in 031220 and 032030
• 031110 Replaces class number 020100	24-Hour RCRA TSD Hazardous Waste Receive credit for 02006G, 020194, & 020032 (For anyone not needing to be certified as an operator or supervisor) In accordance with: DOE Order 5483.1A & 29 CFR 1910.120 & WAC 173-303	12 Retrain in course number 032020

COURSE NUMBER	CATEGORY B RADIATION, HAZARDOUS WASTE AND PLANT WORKER	RETRAINING (In Months)
• 031410	1-Day Waste Site Field Experience (For anyone not needing to be certified as an operator or supervisor and who has the need to go into area that has undesignated waste, unescorted) In accordance with: WAC 173-303	n/a
• 032020 Replaces class number 020060	Hazardous Waste Site Retraining - 24-Hour Receive credit for 02006G & 020194 (As required by employee's job) In accordance with: 29 CFR 1910, DOE Order 5483.1A, WHC-CM-4-3, & WAC 173-303	12 Same course number
• 031230	16-Hour Hazardous Waste Operations Upgrade Training This allows an upgrading from 24-Hour to 40-Hour Hazardous Waste Training In accordance with: 29 CFR 1910.120, DOE Order 5483.1A, & WHC-CM-4-3, Vol. 4	12 Retrain in course number 032030
• 031220 Replaces class number 020200	40-hour Hazardous Waste Operations Training Receive credit for 02006G, 020194, & 020032 (As required by the employee's job) In accordance with: WAC 173-303	12 Retrain in course number 032030
• 031420 Replaces class number 020202	3-Day Waste Site Field Experience (For anyone who goes into area unescorted, operators, & supervisors) In accordance with: WAC 173-303	n/a

COURSE NUMBER	CATEGORY B RADIATION, HAZARDOUS WASTE AND PLANT WORKER	RETRAINING (In Months)
• 032030	Hazardous Waste Retraining 40-Hour ***Scott SKAPAK-020032 is given with this class <u>if requested</u>. Receive credit for 02006G & 020194 (As required by the employee's job) In accordance with: WAC 173-303	12 Same course number
• 170000	CPR- Basic Life Support - QTRC (Required for 40-Hour Hazardous Waste Training)	24 Retrain in course number OSH 070008
• OSH-070008	Basic Life Support Refresher (Required for 40-Hour Hazardous Waste Training)	24 Same course number
*• 300710	Solid Waste Low-Level Burial Grounds Orientation (Classroom section only of Operator Certification Package)	24 Same course number
*• 300715	Solid Waste Transuranic Waste Storage and Assay Facility Orientation (Classroom section only of Operator Certification Package)	24 Same course number
*• 300720	Solid Waste Central Waste Complex Orientation (Classroom section only of Operator Certification Package)	24 Same course number
*• 300725	Solid Waste TRU Retrieval Orientation (Classroom section only of Operator Certification Package)	24 Same course number
*• 300730	Solid Waste Dry Waste Compactor Facility Orientation (Classroom section only of Operator Certification Package)	24 Same course number
• 003035 Replaces 003020, 003022, & 003030	Lock & Tag - Authorized Worker In accordance with: WHC-CM-4-3 & DOE Order 5480.19	12 Same course number

COURSE NUMBER	CATEGORY B RADIATION, HAZARDOUS WASTE AND PLANT WORKER	RETRAINING (In Months)
*• 300735	Solid Waste Manager/Supervisor Facility Orientation (Classroom section only of Operator Certification Package)	24 Same course number

Must have 24- or 40-Hour Hazardous Waste Site

• As required by job and specified in training file

* Solid Waste Management Only

COURSE NUMBER	CATEGORY C MANAGER/SUPERVISOR	RETRAINING (In Months)
• 001000 May have taken course number 001002 in place of this class	Manager Conduct of Operations (Must include course 001006 to meet all requirements or may take course 001004 by itself) (For Facility Manager and Supervisors) In accordance with: DOE Order 5480.19	n/a
004000	Managers' Safety Course In accordance with: DOE Order 3410.1B, III-6-c, and 3790.1A, IA-2-b(2)	n/a
• 010302	MCS - Executive Level Orientation In accordance with: DOE Order 2250.1C	n/a
• 020012	Criticality Safety - Manager/Engineer In accordance with: WHC-CM-4-29, 3-0	24 Same course number

COURSE NUMBER	CATEGORY C MANAGER/SUPERVISOR	RETRAINING (In Months)
• Module 1 Old course number 020064	Basic Department of Transportation (DOT) Hazardous Material Regulations Awareness (Pre-requisite for 020200, 020300, & 020400) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
• 02006S	Hazardous Waste Shipment Certification (Must have taken course 020100 first) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
• Module 3 Old course number 020059 (need 020400 to receive all of 020059)	Basic Radioactive Material Shipment Awareness (Must have taken course 020100 first) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
• Module 4 Old course number 020059 (need 020300 to receive all of 020059)	Radioactive Material Shipment Certification (Must have taken course 020100, 020200, & 020300 first) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
• 020302	Criticality Safety Job-Specific Orientation (JSO) - Manager/Engineer In accordance with: WHC-CM-4-29	24 Same course number
• 035010	Waste Designation Support (For Environmental Control Managers) In accordance with: WAC 173-303	12 Same course number
080820	Safe/Drug-Free Workplace	n/a

COURSE NUMBER	CATEGORY C MANAGER/SUPERVISOR	RETRAINING (In Months)
080910	Equal Employment Opportunity In accordance with: WHC-CM-1-3, MRP 4.14	n/a
* 170002	QTRC - Risk Evaluation	n/a

COURSE NUMBER	CATEGORY C MANAGER/SUPERVISOR ENHANCED TRAINING	RETRAINING (In Months)
005010	MCS/FDS Overview	n/a
005023	FDS Financial Reporting	n/a
010304	MCS Fundamentals In accordance with: DOE Order 2250.1C	n/a
080600	Team Effectiveness Workshop	n/a
080700	How to Have Effective Management	n/a
080825	Issues Management Training	n/a
080810	Communication Skills Workshop	n/a
080990	Management Forum	n/a
090700	Appraisals Techniques In accordance with: WHC-CM-4-3	n/a
131110	Introduction to Microcomputers	n/a
170030	QTRC - Personal Stress Management	n/a
* 300550	PIC Training - SW Specific	12 Same course number
** 450550	PIC Training - T Plant Specific	12 Same course number

• As required by job and and specified in training file

** T Plant

* Solid Waste Management Only

COURSE NUMBER	CATEGORY D ADMINISTRATIVE SUPPORT	RETRAINING (In Months)
003035 Replaces 003020, 003022 & 003030	Lock & Tag - Authorized Worker (Required for T Plant and Solid Waste Work Control only) In accordance with: WHC-CM-4-3 & DOE Order 5480.19	12 Retrain in course number 003030
005010	MCS/FDS Overview (Budget Analyst and Program Control Schedulers only)	n/a
005023	FDS Financial Reporting (Budget Analyst only)	n/a
005025	FDS System Reports (Budget Analyst only)	n/a
005060	FDS Budgeting (Budget Analyst only)	n/a
305050	C/O - Lockout & Tagouts (Project Control only) In accordance with: DOE Order 5480.19	As needed

COURSE NUMBER	CATEGORY D ADMINISTRATIVE SUPPORT ENHANCED TRAINING	RETRAINING (In Months)
* 300550	PIC Training - SW Specific	12 Same course number
005000	FDS Ad hoc Report Writing (Budget Analyst only)	n/a
** 450550	PIC Training - T Plant Specific	12 Same course number

• As required by job
* Solid Waste
** T Plant

COURSE NUMBER	CATEGORY E OPERATOR	RETRAINING (In Months)
003035 Replaces 003020, 003022 & 003030	Lock & Tag - Authorized Worker In accordance with: WHC-CM-4-3 & DOE Order 5480.19	12 Retrain in course number 003030
020010	Criticality Safety Fissile In accordance with: WHC-CM-4-29	24 Same course number
020301	Criticality Safety JSO-Fissile In accordance with: WHC-CM-4-29	24 Same course number
• Module 1 Old course number 020064	Basic Department of Transportation (DOT) Hazardous Material Regulations Awareness (Prerequisite for 020200, 020300, & 020400) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
• 02006L	Asbestos Control (Qualifies support personnel to enter an Asbestos-Regulated Area for support purposes only. Not needed if the 32-hour state certification course has been taken) In accordance with: WHC-CM-4-3 & "Asbestos Control," C-3, No. 15	12 Same course number
** 020130	Confined Space Training (Operators who work in confined spaces only) Accordance with: WHC-CM-4-40, 3.1	24 Same course number
034520 Old course number 020045	Personal Self Survey - Alpha (Required only to perform self-survey) In accordance with: HAMTC agreement & WHC-CM-4-10	24 Same course number

COURSE NUMBER	CATEGORY E OPERATOR	RETRAINING (In Months)
034530 Old course number 020045	Personal Self Survey Beta Gamma (Required only to perform self-survey) In accordance with: HAMTC agreement & WHC-CM-4-10	24 Same course number
• 040784 To replace course number 042810	Basic Crane & Rigging (Required for all Solid Waste and 2706-T)	36 Retrain in course number 040788
• 040788	Basic Crane & Rigging Requalification (Required for all Solid Waste and 2706-T)	36 Same course number
• 041810	Fork Truck Operator Training (Required for fork lift operators only)	36 Retrain in course number 041890
• 041890	Fork Truck Operator Requalification (Required for fork lift operators only)	36 Retrain in course number 41890
• 042720	Aerial Lifts In accordance with: WHC-CM 4-3 & WHC-CM-6-4	36 Same course number
065911 or 061910 (CBC)	NPO Mathematics In accordance with: WHC-CM-2-15	n/a
065912 or 061910 (CBC)	NPO Chemistry In accordance with: WHC-CM-2-15	n/a
065913 or 061910 (CBC)	NPO Physics/Fluid Dynamics In accordance with: WHC-CM-2-15	n/a
065914 or 061910 (CBC)	NPO Electrical Theory In accordance with: WHC-CM-2-15	n/a

COURSE NUMBER	CATEGORY E OPERATOR	RETRAINING (In Months)
065915 or 061910 (CBC)	NPO Instrumentation In accordance with: WHC-CM-2-15	n/a
065916 or 061910 (CBC)	NPO Nuclear Physics In accordance with: WHC-CM-2-15	n/a
065917 or 061910 (CBC)	NPO Mechanical Fundamentals In accordance with: WHC-CM-2-15	n/a
***072002	Alkali Metal Safety Class In accordance with: WHC-CM-4-3, STD C-5, & 400 Area Training Plan	24 Same course number
* 300001 Old course number 060649	Dry Waste Compactor Facility Operator Certification (Solid Waste) In accordance with: DOE Order 5480.5 & WHC-CM-2-15	24 Same course number
* 300600 Old course number 060621	EP/APC Operators (Solid Waste) In accordance with: DOE Order 5480.5 & WHC-CM-2-15	12 Same course number
** 450600 Old course number 061521	EP/APC - Operator (T Plant) In accordance with: DOE Order 5480.20, WHC-CM-8-7, & WHC-CM-6-14	Taken opposite years of Plant Specifics
** 450250 Old course number 061602	340 Facility/Tanker EP/APC Operator	24 Same course number
* 300010	SW TRU Waste Retrieval OC (Solid Waste) (operator certification package) In accordance with: DOE Order 5480.5 & WHC-CM-2-15	24 Same course number
* 300020 Old course number 060657	Central Waste Complex OC (Solid Waste) (operator certification package) In accordance with: DOE Order 5480.5 & WHC-CM-2-15	24 Same course number

COURSE NUMBER	CATEGORY E OPERATOR	RETRAINING (In Months)
* 300030 Old course number 060653	TRUSAF - Operator Certification (Solid Waste) In accordance with: DOE Order 5480.20 & WHC-CM-2-15	24 Same course number
* 300040 Old course number 060652	Low-Level Burial Grounds Facility (Solid Waste) (operator certification package) In accordance with: WHC-CM-2-15	24 Same course number
* 300050 Old course number 060651	Non-Radioactive DWSF Operator Certification (Solid Waste) In accordance with: WHC-CM-2-15 & DOE Order 5480.20	24 Same course number
** 450010	T Plant Canyon Decontamination Certification Manual (This class will not be ready till December of 1993)	24 Same course number
** 450020 Old course number 061502	T Plant Surveillance Operator Certification	24 Same course number
** 450030	2706-T Decon Operator Certification	24 Same course number
***450200	340 Facility & Tanker Surveillance Operator Certification	24 Same course number
***450210	340 Facility Operations/Waste Tanker Operator Certification (This class will not be ready till March of 1994)	24 Same course number

NOTE: Operators are required to complete and maintain current status in at least three certifications packages.

COURSE NUMBER	CATEGORY E OPERATOR ENHANCED TRAINING	RETRAINING (In Months)
000385	OJT Instructor In accordance with: WHC-CM-2-15	n/a
020050	Self Monitoring B Plant In accordance with: HAMTC Union Contract	24 Same course number
131110	Introduction to Microcomputers	n/a
170030	QTRC - Personal Stress Management	n/a
170055	QTRC - Asbestos Worker Training In accordance with: WAC 296-65 & WHC-CM-4-3	12 Retrain in course number 170057
170057	QTRC - Asbestos Requalification In accordance with: WAC 296-65 & WHC-CM-4-3	12 Same course number
* 300550	PIC Training - SW Specific	12 Same course number
** 450550	PIC Training - T Plant Specific	12 Same course number
800023 Old course number 100202	Clear Writing I	n/a

• As required by job
* Solid Waste

** T Plant
*** 340 Facility

COURSE NUMBER	CATEGORY F ENGINEER	RETRAINING (In Months)
020012	Criticality Safety - Manager/Engineer In accordance with: WHC-CM-4-29, Section 3.0	24 Same course number
• Module 1 Old course number 020064	Basic Department of Transportation (DOT) Hazardous Material Regulations Awareness (Prerequisite for 020200, 020300, & 020400) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
• 02006S	Hazardous Waste Shipment Certification (Must have taken course 020100 first) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
• Module 3 Old course number 020059 (need 020400 to receive all of 020059)	Basic Radioactive Material Shipment Awareness (Must have taken course 020100 first) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
• Module 4 Old course number 020059 (need 020300 to receive all of 020059)	Radioactive Material Shipment Certification (Must have taken course 020100, 020200, & 020300 first) In accordance with: HM-126F and Internal memo 58000-92-027 dated June 22, 1992	24 Same course number
020302	Criticality Safety Job-Specific Orientation (JSO) - Manager/Engineer In accordance with: WHC-CM-4-29	24 Same course number

COURSE NUMBER	CATEGORY F ENGINEER	RETRAINING (In Months)
• 170640 Old course number 030802	Introduction to Occurrence Reporting - DOE Order 5000.3A	n/a
• 035010	Waste Designation Support (For Environmental Control Engineers) In accordance with: WAC 173-303	12 Same course number
• 035012	Waste Designation In accordance with WAC 173-303 & WHC-CM-7-5	12 Same course number

COURSE NUMBER	CATEGORY F ENGINEER ENHANCED TRAINING	RETRAINING (In Months)
005010	MCS/FDS Overview	n/a
** 010108	JCS Complete Overview In accordance with: WHC-CM-8-8	n/a
020001	Radiation Worker Training - Initial In accordance with: DOE Order 5480.11, WHC-CM-4-10, & WHC-CM-4-11	24 Retrain in course number 020003
020003	Radiation Safety Requalification In accordance with: DOE Order 5480.11, WHC-CM-4-10, WHC-CM-4-11, & WHC-CM-4-15	24 Same course number
090602	ADC Certification Training In accordance with: DOE Order 5650.2B	24 Same course number
131110	Introduction to Microcomputers	n/a
170000	CPR- Basic Life Support - QTRC	24 Retrain in course number OSH 070008

COURSE NUMBER	CATEGORY F ENGINEER ENHANCED TRAINING	RETRAINING (In Months)
OSH-070008	Basic Life Support Refresher	24 Same course number
* 300550	PIC Training - SW Specific	12 Same course number
** 450550	PIC Training - T Plant Specific	12 Same course number

• As required by job
* Solid Waste Management Only
** T Plant

COURSE NUMBER	CATEGORY G OPERATIONS SUPERVISOR	RETRAINING (In Months)
000385	OJT Instructor In accordance with: WHC-CM-2-15	n/a
003035 Replaces 003020, 003022 & 003030	Lock & Tag - Authorized Worker In accordance with: WHC-CM-4-3 & DOE Order 5480.19	12 Retrain in course number 003030
** 020130	Confined Space Training (Supervisors who work in confined spaces only) In accordance with: WHC-CM-4-40, 3.1	24 Same course number
031310 Old course number 020250	8-Hour Manager/Supervisor Hazardous Waste Training In accordance with: 29 CFR 1910.120	n/a
034520 Old course number 020045	Personal Self Survey - Alpha (Per HPT Manager determination of need) In accordance with: HAMTC agreement & WHC-CM-4-10	24 Same course number

COURSE NUMBER	CATEGORY G OPERATIONS SUPERVISOR	RETRAINING (In Months)
034530 Old course number 020045	Personal Self Survey Beta Gamma (Per HPT Manager determination of need) In accordance with: HAMTC agreement & WHC-CM-4-10	24 Same course number
• 035012	Waste Designation In accordance with WAC 173-303 & WHC-CM-7-5	12 Same course number
• 040784	Basic Crane & Rigging (Required for LLBG area)	36 Retrain in course number 040788
• 040788	Basic Crane & Rigging Requalification (Required for LLBG area)	36 Same course number
• 060404	Custodian Manager Orientation In accordance with: DOE Order 5633.3 & WHC-CM-4-34	n/a
061950	200 Area Supervisor Fundamentals Training In accordance with: WHC-CM-2-15	n/a
061951	Mathematics In accordance with: WHC-CM-2-15	n/a
061952	Chemistry In accordance with: WHC-CM-2-15	n/a
061953	Physics and Thermodynamics In accordance with: WHC-CM-2-15	n/a
061954	Electrical Theory In accordance with: WHC-CM-2-15	n/a

COURSE NUMBER	CATEGORY G OPERATIONS SUPERVISOR	RETRAINING (In Months)
061955	Instrumentation In accordance with: WHC-CM-2-15	n/a
061956	Nuclear Physics In accordance with: WHC-CM-2-15	n/a
061957	Administrative Procedures In accordance with: WHC-CM-2-15	n/a
081050	Managing People; The Art of Leadership In accordance with: WHC-CM-2-15	n/a
• 170060	QTRC - Certified Asbestos Supervisor (Required for any supervisor who supervises any support personnel who enter an Asbestos-Regulated Area) In accordance with: WAC 296-65 & WHC-CM-4-3	12 Retrain in course number 170062
• 170062	QTRC - Asbestos Supervisor Requalification (Required for any supervisor who supervises any support personnel who enter an Asbestos-Regulated Area) In accordance with: WAC 296-65 & WHC-CM-4-3	12 Same course number
170640 Old course number 030802	Introduction to Occurrence Reporting - DOE Order 5000.3A	n/a
* 300590	Manager/Supervisor Certification (Solid Waste) In accordance with: DOE Order 5480.5	24 Same course number
* 300610	EP/APC Supervisor (Solid Waste) In accordance with: DOE Order 5480.5	12 Same course number

COURSE NUMBER	CATEGORY G OPERATIONS SUPERVISOR	RETRAINING (In Months)
** 450010	T Plant Canyon Decontamination Certification Manual (This class will be ready in August 1993)	24 Same course number
** 450020 Old course number 061502	T Plant Surveillance Operator Certification	24 Same course number
** 450030	2706-T Decon Operator Certification	24 Same course number
***450200	340 Facility & Tanker Surveillance Operator Certification	24 Same course number
***450210	340 Facility Operations/Waste Tanker Operator Certification Manual (This class will be ready in March 1994)	24 Same course number
***450260 Old course number 061602	340 Facility and Tanker EP/APC Manager	12 Same course number
** 450660 Old course number 065124	EP/APC Manager (T Plant)	12 Same course number

• As required by job
* Solid Waste

** T Plant
*** 340 Facility

COURSE NUMBER	CATEGORY G OPERATIONS SUPERVISOR ENHANCED TRAINING	RETRAINING (In Months)
001005	Overview Conduct Operations In accordance with: DOE Order 5480.19	n/a
001007	Conduct Operations In accordance with: DOE Order 5480.19	n/a
080553	Self-Assessment For Management Skills	n/a
080971	Management Practices	n/a
170034	QTRC - Coping With Substance Abuse Personal Problems in the Work Place	n/a

COURSE NUMBER	CATEGORY H OPERATIONS MANAGER	RETRAINING (In Months)
000385	OJT Instructor In accordance with: WHC-CM-2-15	n/a
003035 Replaces 003020, 003022 & 003030	Lock & Tag - Authorized Worker In accordance with: WHC-CM-4-3 & DOE Order 5480.19	12 Retrain in course number 003030
031310	8-Hour Manager/Supervisor Hazardous Waste Training In accordance with: 29 CFR 1910.120	n/a
034520 Old course number 020045	Personal Self Survey - Alpha (Per HPT Manager determination of need) In accordance with: HAMTC agreement & WHC-CM-4-10	24 Same course number
034530 Old course number 020045	Personal Self Survey Beta Gamma (Per HPT Manager determination of need) In accordance with: HAMTC agreement & WHC-CM-4-10	24 Same course number

COURSE NUMBER	CATEGORY H OPERATIONS MANAGER	RETRAINING (In Months)
• 035012	Waste Designation In accordance with: WAC 173-303 & WHC-CM-7-5	12 Same course number
* 035020	Facility Waste Sampling & Analysis	12 Same course number
• 060404	Custodian Manager Orientation In accordance with: DOE Order 5633.3 & WHC-CM-4-34	12 Same course number
061950	200 Area Supervisor Fundamentals Training In accordance with: WHC-CM-2-15	n/a
061951	Mathematics In accordance with: WHC-CM-2-15	n/a
061952	Chemistry In accordance with: WHC-CM-2-15	n/a
061953	Physics and Thermodynamics In accordance with: WHC-CM-2-15	n/a
061954	Electrical Theory In accordance with: WHC-CM-2-15	n/a
061955	Instrumentation In accordance with: WHC-CM-2-15	n/a
061956	Nuclear Physics In accordance with: WHC-CM-2-15	n/a
061957	Administrative Procedures In accordance with: WHC-CM-2-15	n/a
081050	Managing People; The Art of Leadership In accordance with: WHC-CM-2-15	n/a

COURSE NUMBER	CATEGORY H OPERATIONS MANAGER	RETRAINING (In Months)
* 300590	Manager Supervisor Certification (Solid Waste) In accordance with: DOE Order 5480.5	24 Retrain in course number 300610
* 300610	EP/APC Supervisor (Solid Waste) In accordance with: DOE Order 5480.5	12 Same course number
** 450010	T Plant Canyon Decontamination Certification Manual (This class will be ready in August 1993)	24 Same course number
** 450020 Old course number 061502	T Plant Surveillance Operator Certification	24 Same course number
** 450030	2706-T Decon Operator Certification	24 Same course number
***450200	340 Facility & Tanker Surveillance Operator Certification	24 Same course number
***450210	340 Facility Operations/Waste Tanker Operator Certification Manual (This class will be ready in March 1994)	24 Same course number
** 450260 Old course number 061602	340 Facility and Tanker EP/APC Manager	12 Same course number
** 450660 Old course number 061524	EP/APC Manager (T Plant)	12 Same course number

• As required by job
* Solid Waste Management Only

** T Plant
*** 340 Facility

COURSE NUMBER	CATEGORY I PROCESS CRANE OPERATOR	RETRAINING (In Months)
003035 Replaces 003020, 003022 & 003030	Lock & Tag - Authorized Worker In accordance with: WHC-CM-4-3 & DOE Order 5480.19	12 Retrain in course number 003030
020010	Criticality Safety Fissile In accordance with: WHC-CM-4-29	24 Same course number
020301	Criticality Safety JSO-Fissile In accordance with: WHC-CM-4-29	24 Same course number
• 02006L	Asbestos Control (Qualifies support personnel to enter an Asbestos-Regulated Area for support purposes only. Not needed if the 32-hour state certification course has been taken) In accordance with: WHC-CM-4-3 & "Asbestos Control," C-3, No. 15	12 Same course number
034520 Old course number 020045	Personal Self Survey - Alpha In accordance with: HAMTC agreement & WHC-CM-4-10	24 Same course number
034530 Old course number 020045	Personal Self Survey Beta Gamma In accordance with: HAMTC agreement & WHC-CM-4-10	24 Same course number
040784	Basic Crane & Rigging (Required for all Solid Waste and 2706-T)	36 Retrain in course number 040788
040788	Basic Crane & Rigging Requalification (Required for all Solid Waste and 2706-T)	36 Same course number
406010 Old course number 041930	T/U Qual - Crane Operator	24 Same course number

COURSE NUMBER	CATEGORY I PROCESS CRANE OPERATOR	RETRAINING (In Months)
406020 Old course number 041940	T/U EP/APC - Crane Operator	12 Same course number
** 451000 Old course number 061512	Plant-Specific OT (T Plant) In accordance with: DOE Order 5480.20 & WHC-CM-1-3	Taken opposite years of EP/APC
** 451010 Old course number 061514	Plant-Specific - 18-Month (T Plant) In accordance with: DOE Order 5480.20 & WHC-CM-1-3	24 Same course number
** 451020 Old course number 061516	Plant-Specific - 30-Month (T Plant) In accordance with: DOE Order 5480.20 & WHC-CM-1-3	24 Same course number
** 451030 Old course number 061518	Plant-Specific - 42-Month (T Plant) In accordance with: DOE Order 5480.20 & WHC-CM-1-3	24 Same course number
** 451040 Old course number 061520	Plant-Specific - NPO (T Plant) In accordance with: DOE Order 5480.20 & WHC-CM-1-3	24 Same course number

COURSE NUMBER	CATEGORY J SPECIAL GROUPS/MEMBERS/COMMITTEES	RETRAINING (In Months)
000110	Building Administrator Certification (Required for Building Manager)	24 Same course number
020012	Criticality Safety - Manager/Engineer (Required for Criticality Safety Representative) In accordance with: WHC-CM-4-29, 3.0	24 Same course number
02028B	Building Emergency Manager Training (Required for Building Director) In accordance with: WHC-CM-4-1	12 Retrain in course 037510
02028D	Bomb Search Training (Required for Bomb Search Team) In accordance with: WHC-CM-4-1	n/a
020302	Criticality Safety Job-Specific Orientation (JSO) - Manager/Engineer (Required for Criticality Safety Representative) In accordance with: WHC-CM-4-29	24 Same course number
037500	Building Warden Training (Required for Building Warden)	12 Retrain in course 037510
037510	Building Emergency Director Training Recall In accordance with: WHC Emergency Plan	12 Same course number
• 071968	Qualified Unreviewed Safety Question Evaluator Class In accordance with: WHC-CM-1-3, MRP 5.12, & DOE Order 5480.21	24 Same course number

COURSE NUMBER	CATEGORY J SPECIAL GROUPS/MEMBERS/COMMITTEES	RETRAINING (In Months)
170002	QTRC - Risk Evaluation (Required for Corrective Action Evaluation Group and Plant Review Committee)	n/a
170015	Root Cause Analysis I (Required for Corrective Action Evaluation Group and Plant Review Committee)	n/a
170025	Root Cause Analysis II (Required for Plant Review Committee and optional for Corrective Action Evaluation Group)	n/a
170640 Old course number 030802	Introduction to Occurrence Reporting - DOE Order 5000.3A (Required for employees who write Occurrence Reports)	n/a
170642	Occurrence Report Writing - DOE Order 5000.3A (Required for employees who write Occurrence Reports)	n/a
181800	Process Engineer Phase I (Required for Criticality Safety Representative)	n/a

COURSE NUMBER	CATEGORY K SW CONDUCT OF OPERATIONS	RETRAINING (In Months)
305005	C/O - Organization & Administration In accordance with: DOE Order 5480.19	Same course number
305010	C/O - Shift Routines & Operating Practices In accordance with: DOE Order 5480.19	As needed
305025	C/O - Communications In accordance with: DOE Order 5480.19	As needed
305030	C/O - Control Shift Training In accordance with: DOE Order 5480.19	As needed
305035	C/O - Investigation of Abnormal Events In accordance with: DOE Order 5480.19	As needed
305040	C/O - Notifications In accordance with: DOE Order 5480.19	As needed
305045	C/O - Control of Equipment & System Status In accordance with: DOE Order 5480.19	As needed
305050	C/O - Lockouts & Tagouts In accordance with: DOE Order 5480.19	As needed
305055	C/O - Independent Verification In accordance with: DOE Order 5480.19	As needed
305060	C/O - Log Keeping In accordance with: DOE Order 5480.19	As needed
305065	C/O - Operations Turnover In accordance with: DOE Order 5480.19	As needed
305070	C/O - Operations Facility Chemistry & Unique Processes In accordance with: DOE Order 5480.19	As needed

COURSE NUMBER	CATEGORY K SW CONDUCT OF OPERATIONS	RETRAINING (In Months)
305075	C/O - Required Reading In accordance with: DOE Order 5480.19	As needed
305080	C/O - Orders to Operators In accordance with: DOE Order 5480.19	As needed
305085	C/O - Operations Procedures In accordance with: DOE Order 5480.19	As needed
305090	C/O - Operator Aid Posting In accordance with: DOE Order 5480.19	As needed
305095	C/O - Equipment & Piping Labeling In accordance with: DOE Order 5480.19	As needed

COURSE NUMBER	CATEGORY K T PLANT CONDUCT OF OPERATIONS	RETRAINING (In Months)
455005	C/O - Organization - Administration In accordance with: DOE Order 5480.19	As needed
455010	C/O - Shift Routines In accordance with: DOE Order 5480.19	As needed
455025	C/O - Communications In accordance with: DOE Order 5480.19	As needed
455030	C/O - On Shift Training In accordance with: DOE Order 5480.19	As needed
455035	C/O - Investigation Abnormal Events In accordance with: DOE Order 5480.19	As needed
455040	C/O - Notifications In accordance with: DOE Order 5480.19	As needed

COURSE NUMBER	CATEGORY K T PLANT CONDUCT OF OPERATIONS	RETRAINING (In Months)
455045	C/O - Control Equipment & System Status In accordance with: DOE Order 5480.19	As needed
455050	C/O - Lockouts & Tagouts In accordance with: DOE Order 5480.19	As needed
455055	C/O - Verification In accordance with: DOE Order 5480.19	As needed
455060	C/O - Log Keeping In accordance with: DOE Order 5480.19	As needed
455065	C/O - Operations Turnover In accordance with: DOE Order 5480.19	As needed
455070	C/O - Facility Chemistry Processes In accordance with: DOE Order 5480.19	As needed
455075	C/O - Required Reading In accordance with: DOE Order 5480.19	As needed
455080	C/O - Timely Orders to Operators In accordance with: DOE Order 5480.19	As needed
455085	C/O - Operations Procedures In accordance with: DOE Order 5480.19	As needed
455090	C/O - Operator Aid Posting In accordance with: DOE Order 5480.19	As needed
455095	C/O - Equipment Piping Labeling In accordance with: DOE Order 5480.19	As needed

COURSE NUMBER	CATEGORY L EPCRA INVENTORY AND REPORTING	RETRAINING (In Months)
02006J	EPCRA 312 REPORTING REQUIREMENTS (Previously called SARA)	12
02006K	EPCRA 313 TOXIC CHEMICAL RELEASE REPORTING (Previously called SARA) In accordance with: 40 CFR 372	12

COURSE NUMBER	CATEGORY M SWD VISITOR OR VENDOR	RETRAINING (In Months)
RADIATION TRAINING		
• 020001	Radiation Worker Training - Initial In accordance with: DOE Order 5480.11, WHC-CM-4-10, & WHC-CM-4-11	24
RCRA TRAINING		
• 02006G	Generator Hazards Safety Training In accordance with: 29 CFR 1910.120, WAC 173-303, & WHC-CM-7-5	24
• 031110	24-Hour RCRA TSD Hazardous Waste In accordance with: DOE Order 5483.1A & 29 CFR 1910.120	12
FACILITY ORIENTATION		
* 300700	Solid Waste Operations Facility Orientation	24 Same course number
** 450700	Facility Orientation - T Plant	24 Same course number
***450750	340 Facility Specific Orientation/Radiological Training	24 Same course number

• As required by job
* Solid Waste
*** 340 Facility
** T Plant

COURSE NUMBER	CATEGORY N MAINTENANCE CRAFT	RETRAINING (In Months)
003035 Replaces 003020, 003022 & 003030	Lock & Tag - Authorized Worker In accordance with: WHC-CM-4-3 & DOE Order 5480.19	12 Retrain in course number 003030
02006L	Asbestos Control (Qualifies support personnel to enter an Asbestos-Regulated Area for support purposes only. Not needed if the 32-hour state certification course has been taken) In accordance with: WHC-CM-4-3 & "Asbestos Control," C-3, No. 15	12 Same course number
** 020130	Confined Space Training (For maintenance personnel who work in confined spaces only) In accordance with: WHC-CM-4-40, 3.1	24 Same course number
• 040784 To replace course number 042810	Basic Crane & Rigging (Required for all Solid Waste and 2706-T)	36 Retrain in course number 040788
• 040788	Basic Crane & Rigging Requalification (Required for all of Solid Waste and 2706-T)	36 Same course number
• 043870	High Risk Elect Safety (Required for electricians)	36
• 170055	QTRC - Asbestos Worker Training In accordance with: WAC 296-65 & WHC-CM-4-3	12 Retrain in course number 170057
• 170057	QTRC - Asbestos Requalification In accordance with: WAC 296-65 & WHC-CM-4-3	12 Same course number

COURSE NUMBER	CATEGORY N MAINTENANCE CRAFT	RETRAINING (In Months)
• 170060	QTRC - Certified Asbestos Supervisor (Required for any supervisor who supervises any support personnel who enter an Asbestos-Regulated Area) In accordance with: WAC 296-65 & WHC-CM-4-3	12 Retrain in course number 170062
• 170062	QTRC - Asbestos Supervisor Requalification (Required for any supervisor who supervises any support personnel who enter an Asbestos-Regulated Area) In accordance with: WAC 296-65 & WHC-CM-4-3	12 Same course number
*• 300550	PIC Training - SW Specific	12 Same course number
**•450550	PIC Training - T Plant Specific	12 Same course number

• As required by job
* Solid Waste
** T Plant

NOTE: Craft-specific training is conducted in accordance with the applicable requirements, and OSS monitors certification.

COURSE NUMBER	CATEGORY O HEALTH PHYSICS TECHNICIAN	RETRAINING (In Months)
003035 Replaces 003020, 003022 & 003030	Lock & Tag - Authorized Worker In accordance with: WHC-CM-4-3 & DOE Order 5480.19	12 Retrain in course number 003030
020030	Scott 4.5 SCBA In accordance with: WHC-CM-4-3, Vol. 3	12 Same course number
02006L	Asbestos Control (Qualifies support personnel to enter an Asbestos-Regulated Area for support purposes only. Not needed if the 32-hour state certification course has been taken) In accordance with: WHC-CM-4-3 & "Asbestos Control," C-3, No. 15	12 Same course number
020197	Medic First Aid In accordance with: 29 CFR 1910.120, WAC 296.62, & WAC 296.15	24
022002	HPT Recertification Program	24
022004	HPT Certification Program	24
022120	HPT/RCT Cycle #1	8 Retrain in course number 022122
022122	HPT/RCT Cycle #2	8 Retrain in course number 022124
022124	HPT/RCT Cycle #3	4 Retrain in course number 022126
022126	HPT/RCT Cycle #4	4 Retrain in course number 022128

COURSE NUMBER	CATEGORY O HEALTH PHYSICS TECHNICIAN	RETRAINING (In Months)
022128	HPT/RCT Cycle #5	4 Retrain in course number 022130
022130	HPT/RCT Cycle #6 This training is continuous; once the employee finishes this course, the employee repeats the cycles.	4 Retrain in course number 022120
***022184	340 HPT OJT	24
042670	Eberline PCM-1B	24 Retrain in course 042675
042675	Eberline PCM-1B Requalification	24 Retrain in course 042675
170652	QTRC - Fall Arrest/Restr	
** 451500	T-Plant HPT OJT	24

• As required by job
* Solid Waste
** T Plant
*** 340 Facility

NOTE: Technician-specific training is conducted in accordance with the applicable requirements, and ESQ/HSF monitors certification.

COURSE NUMBER	CATEGORY P PIC TRAINING	RETRAINING (In Months)
* 300550	PIC Training - SW Specific	12 Same course number
** 450550	PIC Training - T Plant Specific	12 Same course number

** T Plant
* Solid Waste

Attachment 15

RADIOLOGICAL WORK PERMIT NO. SW-013, REV. 3

HANFORD RADIOLOGICAL WORK PERMIT

Contractor: WESTINGHOUSE HANFORD COMPANY

15

General [X] / Job Specific []	Tech. Document No.	Location Code	EAN	RWP Number
	N/A	202	N/A	SW-013 Rev. 3

Start Date	End Date	Termination Date Extended To:	By
08-15-93	08-15-94		

Responsible Organization: Solid Waste Operations

Job Location: 200 West, 224-T Transuranic Storage and Assay Facility

Job Description and Type of Area: Inspection and Tours in the 224-T Facility. Radiation Area (RA) and Radiological Controlled Areas (RCA).

Primary Isotope(s): [] MFP [] MAP [] Cs [] Sr [] H-3 [] U [X] Pu [] Other

Radiation Emitted	Estimated Dose Rates	Contamination Levels	Radiological Worker Training Req.
[X] Alpha [] Beta [X] Photons [] Neutrons	General Area: < 0.5 mrem/h Maximum Contact: 150 mrem/h	Beta-gamma: < DET dpm/100 cm² Alpha: < DET dpm/100 cm²	I [X] II []

Internal Dosimetry Requirements (for routine work under this RWP, except those entering for observation only)

[X*] Annual Whole Body Count [] Lung Count [] Urinalysis Isotopes to Test for (if any):

*See SI # 5

MINIMUM RADIOLOGICAL PROTECTION REQUIREMENTS

HPT Coverage		Dosimetry	
X	Continuous	X	Multipurpose TLD
	Intermittent		Basic TLD
	Start of Job	X	Pocket Dosimeter
	End of Job		Electronic Dosimeter
X	Self Survey (if qualified)		Finger Rings
	HPT Survey Required		Time Keeping
	Auto. Survey Device	X	WRAM Access
X	See SI# 3 & 6	X	See SI# 1 & 5

MINIMUM PROTECTIVE EQUIPMENT

	Coveralls		Shoe Covers
	Lab Coat		Canvas Boots
	Waterproof Suit		Rubber Overshoes
	Gortex Suit		Rubber Boots
	Cap		Full Face Respirator
	Hood		PAPR
	Surgeon's Gloves		Supplied Air Respirator
	Leather Gloves		SCBA
	Canvas & Surgeon's Gloves		
	Waterproof Gloves		
	No Personal Outer		Undressing Assistance
	Modesty Clothing		
		X	See SI# 2 & 4

SPECIAL INSTRUCTIONS (SI)

1. At any time the dose rates exceed 100 mrem/hr @ 30 cm, this RWP is void.
2. Street clothing or blue coveralls may be worn during tours or inspections in all portions of the 224-T facility that are not classified as surface contamination areas.
3. At any time that removable contamination is detected, the operations department shall commence decontamination procedures.
4. The HPT assigned to the job, may increase the minimum requirements of protective equipment due to any changes in the radiological conditions.
5. The Annual Whole Body Count is required for individuals doing "hand-on" work. Individuals observing for inspections and tours are not required to have the Annual Whole Body Count.
6. Continuous coverage is required if self-survey/self-monitoring qualifications are not met.

ALARA Review: Class 3 | Pre-Job Briefing: YES [] NO [X] | Post-Job ALARA Review Required YES [] NO [X]

RWP Prepared By: M. F. Hackworth	Phone: 373-3570	HPT Phone: 373-2210 or 373-5547
Line Management: J. W. Pratt	Phone: 373-1181	Date: 10-22-93
Health Physics Supervisor: L. Synoground	Phone: 373-4564	Date: 10-22-93
	Phone	Date
Acknowledged By:		Date:
RWP Change Approvals:		Date:

Attachment 16

PHOTO LOG

PHOTOGRAPH LOG
for
NOVEMBER 18, 1993
INSPECTION OF 224-T

1.	3 Drums on 1st floor failing RTR assessment, to be returned to generator
2.	Threshold to RTR, 1st floor
3.	Drums on 1st floor in receiving, not on pallets
4.	Elevator threshold, 1st floor

PHOTOGRAPH LOG
for
NOVEMBER 18, 1993
INSPECTION OF 224-T

5.	Elevator threshold, 1st floor
6.	Drum on 2nd floor, labelled nitric acid crystals, return to generator
7.	Drum on 2nd floor, labelled nitric acid crystals, return to generator
8.	Drums on 2nd floor, labelled nitric acid crystals adjacent 3 drums labelled free liquids

PHOTOGRAPH LOG
for
NOVEMBER 18, 1993
INSPECTION OF 224-T

9	Drum, 2nd floor, labeled "Oxidizer" and recorded as free liquid on manifest
10	Drum, 2nd floor, adjacent doorway to large room labeled "Hazardous Waste" and recorded as free liquid on manifest
11	Drums, 3rd floor, in high dose rate area labeled "Corrosive" and "Acids"
12	Drums, 3rd floor, labeled D008, "Hazardous . . ."-no major risk label

PHOTOGRAPH LOG
for
NOVEMBER 18, 1993
INSPECTION OF 224-T

13	Drums, 3rd floor, labeled D008, "Hazardous . . ."-no major risk label
14	Drums, 3rd floor, labeled caustic, - free liquids listed on manifest, no secondary containment
15	Drums, 3rd floor, labeled D008, WT01, free liquids recorded on manifest - (drums as they appear in A.M. see photograph # 20)
16	Drum, 3rd floor, labeled D008, WT01, - no major risk label

PHOTOGRAPH LOG
for
NOVEMBER 18, 1993
INSPECTION OF 224-T

17	Drum storage array, 3rd floor, labeled D008, no major risk labels, four drums on bottom row without accessible manifests
18	Row of drums, 3rd floor, labeled corrosive, manifest lists free liquid, no secondary containment
19	Drum storage array from photograph #17
20	Drum storage, 3rd floor, from photograph #15 as they appear in the P.M. (approx. 2 hrs later)

Photograph Log
for November 22, 1993
Inspection of 224-T

21	Low level drum storage array, first floor, rear entry.
22	Four drums, (two labeled EHW), adjacent storage array in photograph #21.
23	Drums labeled, caustic-free liquids, (see photograph #14), no secondary containment.

COMPLIANCE LETTER

34421

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
7601 W. Clearwater, Suite 102 • Kennewick, Washington 99336 • (509) 546-2990

December 13, 1993

Mr. John Wagoner, Manager
U.S. Department of Energy
P.O. Box 550
Richland, WA 99352

Mr. Tom Anderson, President
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Dear Messrs. Wagoner and Anderson:

Re: Violations at 224-T Transuranic Waste Storage and Assay Facility

Thank you for the assistance of United States Department of Energy (USDOE) and Westinghouse Hanford Company (WHC) personnel during the Washington State Department of Ecology's (Ecology) November 18 and 22, 1993, inspections at the Transuranic Waste Storage and Assay Facility (TRUSAF). The inspection was conducted to determine compliance with interim status requirements under Chapter 173-303 Washington Administration Code (WAC) for hazardous and/or mixed waste, and to status current activities with respect to the Dangerous Waste Part B Permit Application.

A problem discovered during the inspection at TRUSAF is with management of waste once the real-time radiography (RTR) process detects a suspect or confirmed dangerous waste within a container. For example, lead lined gloves have been found in many containers. Some containers were designated as radioactive mixed waste based on the lead (D008), others were not. All solid waste must go through the designation process (WAC 173-303-070). There are no provisions in the Dangerous Waste Regulations for classifying a waste as "suspect." Waste is either solid waste or dangerous waste. Many containers at TRUSAF have been in a "suspect" status for many years with no progress made towards determining its dangerous waste status.

TRUSAF is unique as a treatment, storage, and disposal facility in that many of the containers received are not designated as dangerous waste. However, once USDOE/WHC determines that a dangerous waste component exists, steps must be taken to verify the new knowledge by having the waste properly designated. In the case of TRUSAF, containers have been identified as containing materials that designate as dangerous waste. Such containers must be managed as dangerous waste once such

knowledge is gained. Although the problem at TRUSAF may stem from inaccurate or incomplete designation on the part of the generator, this particular inspection focused specifically on TRUSAF as a waste storage facility.

The following is a summary of violations and additional concerns resulting from Ecology's TRUSAF inspection.

SUMMARY OF VIOLATIONS

As discussed after the inspection, there were several areas of noncompliance with the Washington State Dangerous Waste Regulations (Chapter 173-303 WAC) which need to be resolved.

WAC 173-303-400 Interim status facility standards. (3)(a) Interim status standards shall be standards set forth by the Environmental Protection Agency in 40 CFR 265 Subparts F through R . . . and: (i) . . . the facility requirements of WAC 173-303-280 through 173-303-440; (ii) WAC 173-303-630(3) for containers. In addition, for container storage, the department may require that the storage area include secondary containment in accordance with WAC 173-303-630(7) . . . . Any new container storage areas constructed or installed after September 30, 1986, must comply with the provisions of WAC 173-303-630(7).

1) **WAC 173-303-350 Contingency plan and emergency procedures.**
Failure to maintain emergency equipment required under WAC 173-303-350(3)(e) in accordance with the facility contingency/emergency plan

Emergency equipment was not maintained at TRUSAF in accordance with the facility emergency/contingency plan, document #WHC-IP-0263-224T, Section 5.2. The following emergency items identified as required by the plan were not found within the TRUSAF facility during the November 22, 1993, inspection: Hand-operated rotary pump, face shields, rubber coveralls, non-sparking shovels, radiation rope, respirators, and contaminated surface signs. TRUSAF representatives have made efforts to acquire missing equipment and are reviewing the need for revising the plan.

2) **WAC 173-303-380 Facility recordkeeping.**
Failure to maintain operating records in a manner sufficient to locate wastes within the facility per WAC 173-303-380(1)(b)

Container records are filed based on date received, not Package Identification Number. In order to locate a specific container file, one must first locate the drum within the facility, review the attached paperwork for date received, then backtrack to the container file. In other words, one has no means of locating a specific container

file within TRUSAF unless the date received is first known. Once drums are received at TRUSAF, there is no system in place to report the location of each dangerous waste within the facility. Ecology selected three containers at random for container record review. One of the three records selected could not be found in the record file: Drum #RHZ-213-A21768, a mixed waste drum located on the third floor.

3) **WAC 173-303-630 Use and management of containers.**
Failure to label containers with hazardous waste labels and/or in a manner which adequately identifies the major risk(s) associated with the contents of the containers per WAC 173-303-630(3)

Failure to store containers within a compliant secondary containment system per WAC 173-303-630(7)

Wastes originally shipped to TRUSAF as strictly radioactive, then, through the RTR process, discovered to contain a suspect and/or confirmed dangerous waste component (e.g., lead lined gloves, paint, free liquids, etc.) were not managed as radioactive mixed waste (e.g., hazardous waste labels were not applied, major risks were not identified, secondary containment was not provided, etc). (Drum #RHZ-212-A19448 and enclosure 1)

Many dangerous waste containers containing free liquids were not stored within a compliant secondary containment system. (Drums #BL-0919-00-MAP, #BL-0852-00-MAP, #RHZ-213-A21723, #HRO-92-0000204, and enclosure 1) TRUSAF representatives informed me that they intend on completing efforts aimed at satisfying secondary containment requirements within two months by application of a floor sealant.

SUMMARY OF CONCERNS

1) Secondary containment was not provided for three incoming containers (Drums #RHZ-212-A22794, #RHZ-212-A22795, and #RHZ-212-A22796) prior to confirming the absence of free liquids, per section 4.1.1.3. of the Part B permit application.

2) The building/emergency plan (WHC-IP-0263-224T) does not address procedures for responding to spills and/or retrieving spilled material within the TRUSAF elevator area. Also, Section 5.4.2 of the building emergency/contingency plan states the emergency equipment provided is to be used for *nonradioactive* hazardous material spills. The waste at TRUSAF is exclusively radioactive and radioactive mixed.

3) Similar violations to those Ecology cited have been noted on internal WHC audit reports. (Reference: Audit #93RCW-162, performed October 27, 1993; Audit #IAA-93-0009, performed September 1, 1993, WHC Environmental Compliance Assurance; Assessment #SWA-93-0015, performed March 23-35, 1993)

4) Some of the containers on the third floor, stacked two high, had no visible documentation attached. The TRUSAF operator stated that the top drums had been stacked on top of the paperwork for the bottom drums, making the documentation inaccessible.

5) Drums located in the north end of the first floor were being stored in blocks of five to six drums wide and deep. The TRUSAF operator stated that there are containers in the area that contain lead and/or free liquids. No violations were noted in this area; however, Ecology inspectors were unable to inspect the containers and attached documentation due to inaccessibility.

In order to correct the identified violations of Chapter 173-303 WAC, please complete the following corrective actions within the timeframes specified. Please be advised that failure to correct these noncompliant items may result in the issuance of an administrative order and/or penalty under RCW 70.105.080 and/or .095 (Hazardous Waste Management).

This voluntary compliance letter is being issued pursuant to the authorities granted to Ecology by RCW 70.105 (Hazardous Waste Management).

CORRECTIVE ACTION #1
Within thirty (30) days of receipt of this letter, USDOE and WHC must acquire and maintain the emergency equipment required by WAC 173-303-350(3)(e) in accordance with the TRUSAF facility emergency/contingency plan (WHC-IP-0263-224T).

CORRECTIVE ACTION #2
Within thirty (30) days of receipt of this letter, USDOE and WHC must begin maintaining the operating record in a manner sufficient to locate wastes within the facility per WAC 173-303-380(1)(b). For example, the Solid Waste Information Tracking System (SWITS) could be used to document the location of each dangerous waste within the facility and the quantity at each location.

CORRECTIVE ACTION #3
Within ninety (90) days of receipt of this letter, USDOE and WHC shall determine the dangerous waste status of all containers stored at TRUSAF. For all properly designated waste, no action is required. For improperly or incompletely designated waste, accurate designation must be performed. USDOE and WHC shall label all dangerous waste and

radioactive mixed waste with dangerous waste labels and in a manner which adequately identifies the major risk(s) associated with the contents of the containers per WAC 173-303-630(3).

CORRECTIVE ACTION #4
Within ninety (90) days of receipt of this letter, USDOE and WHC shall store all dangerous waste containers containing free liquids within a compliant secondary containment system per WAC 173-303-630(7).

Please do not hesitate to call me at (509) 736-3024 or Alisa Huckaby, TRUSAF Unit Manager, at (509) 736-3034 should you have any questions or require clarification on any of the items in this compliance letter or the enclosed "Certificate of Compliance." Please complete and submit the enclosed "Certification of Compliance" to this Department by March 18, 1994 (enclosure 2).

Sincerely,

Laura Russell
RCRA Compliance Inspector
Nuclear and Mixed Waste Management Program

LER:sr
Enclosures (2)

cc: Keith Kline, USDOE
Mike Aichele, WHC
Paul Hapke, WHC
Matt LaBarge, WHC
Jeff Pratt, WHC
Roger Szelmeczka, WHC
Dan Duncan, EPA
Administrative Record

Please complete and return this form to Laura Russell, Washington State Department of Ecology, 7601 West Clearwater #102, Kennewick, Washington 99336, by March 18, 1994.

CERTIFICATE OF COMPLIANCE

As a legal representative of the U.S. Department of Energy, I certify to the best of my knowledge, the completion of items requested by the Washington State Department of Ecology on December 13, 1993, with regard to the inspection of the 244-T Transuranic Waste Storage and Assay Facility (TRUSAF), located on the Hanford Reservation, 200 West Area, Facility ID Number WA7890008967 as shown below.

COMPLIANCE STATUS

(A facility representative shall list the completion date and initial for each item.)

CORRECTIVE ACTION	DATE DUE	DATE COMPLETED	INITIALS	COMMENTS
#1	1/13/94			
#2	1/13/94			
#3	3/14/94			
#4	3/14/94			

Signature of DOE-RL Representative Date

TRUSAF FACILITY INSPECTION
SUMMARY OF CONTAINER VIOLATIONS FOUND ON THE THIRD FLOOR
ENCLOSURE 1

THIRD FLOOR:

DRUM NUMBER	LOCATION/SIGN	COMMENTS/VIOLATIONS
BP-189007	PNL-ALMOST CERT. HOLD/RETURN - OMW	HW Label: D008, WTO1 Markings: OMW, MW-EHW No major risks on drum
BP-89011	"	HW Label: D006, D008, D009, WT01, WC02 Markings: OMW, TRU Waste No major risks on drum
PNL-188013	"	HW Label: WC01, D006, WT02 Markings: TRU No major risks on drum
PNL-188005	"	HW Label: D008, WT01 Markings: TRU No major risks on drum
RHZ-103-A15486	SUSPECT NON-MIXED RETURN TO GENERATOR	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-102-A15110	"	Lead gloves and free liquids identified on paperwork No HW label on drum No major risks on drum No secondary containment
RHZ-102-A14967	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-102-A15270	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum

RHZ-102-A15389	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-241-A19347	"	Mercury thermometer identified on paperwork No HW label on drum No major risks on drum
RHZ-103-A15028	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-213-A17573	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-103-A14985	"	Lead gloves and free liquids identified on paperwork No HW label on drum No major risks on drum No secondary containment
RHZ-102-A15488	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-102-A14836	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-102-A15266	"	Lead gloves and free liquids identified on paperwork No HW label on drum No major risks on drum No secondary containment
RHX-103-A14857	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum

RHZ-111-A15633	"	Lead gloves identified on paperwork No HW label on drum No major risks on drum
RHZ-212-A18517	RETURN TO GENERATOR OMW (Note: The 8 containers located under this sign in the morning were placed on portable secondary containment systems during our lunch break)	HW Label: WT01, WP01, WC01 Markings: Liquid Organic Waste, RMW-EHW, OMW No major risks on drum No secondary containment
RH-A-87-067	"	Paint identified on paperwork Markings: "Need label" No HW label on drum No major risks on drum
RHZ-212-A18446	"	Free liquids identified on paperwork HW Label: WC01, WP-1, WT01 Markings: EHW No major risks on drum No secondary containment
RHZ-212-A19731	"	Free liquids identified on paperwork HW Label: WT01, WC01, WP01 Markings: Liquid Organic Waste, RMW-EHW, FP > 200F, OMW No major risks on drum No secondary containment
RH-A-85-071 (TRU only)	"	Free liquids identified on paperwork No secondary containment

RHZ-212-A18496	"	Free liquids identified on paperwork HW Label: WT01, WC01, WP01 Markings: Liquid Organic Waste, RMW-EHW, FP > 200F, OMW No major risks on drum No secondary containment
RHZ-212-A18497	"	Free liquids identified on paperwork HW Label: WT01, WC01, WP01 Markings: Liquid Organic Waste, RMW-EHW, FP > 200F No major risks on drum No secondary containment
RHZ-213-A21768	"	Free liquids identified on paperwork HW Label: WC02, D007, WT01, D008, D002, D009, EHW Markings: RMW-EHW, TCLP Toxic No secondary containment
RH-A-87-060	HOLD-CANNOT PENETRATE-OMW	Free liquids identified on paperwork HW Label: D008 No major risks on drum No secondary containment
RHZ-212-A19715	"	Lead gloves, D008, WT01 identified on paperwork HW Label: incomplete No major risks on drum
RH-A-87-027	"	HW Label: D008 Markings: MW-DW, OMW No major risks on drum
RH-A-88-009	"	HW Label: D008 Markings: MW-DW, OMW No major risks on drum

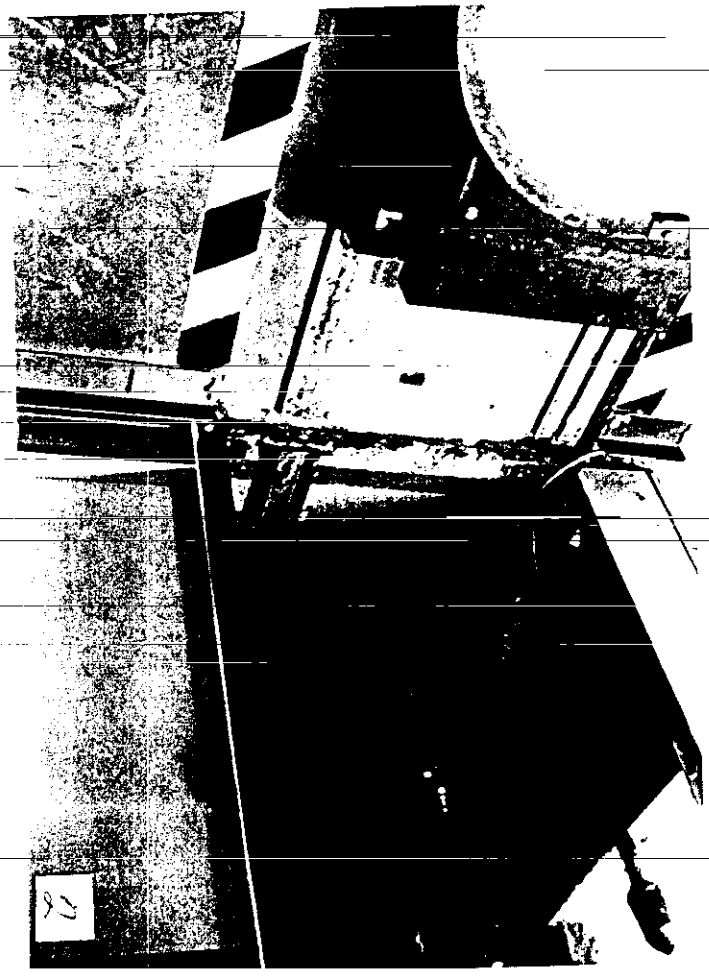
RHZ-212-19446	"	HW Label: D008, WTO1, EHW Markings: RMW-EHW, OMW No major risks on drum
RH-A-90-022	"	HW Label: D008 Markings: RMW-DW, OMW No major risks on drum
RH-A-90-002	"	HW Label: D008 Markings: RMW-DW, OMW No major risks on drum
RH-A-91-001	"	HW Label: D008 Markings RMW-DW, ORM-E No major risks on drum
RHZ-212-A19931	"	HW Label: D008, WT01 Markings: RMW-EHW, OMW No major risks on drum
RH-A-88-006	"	HW Label: D008 Markings: "Corrosive label?" MW-DW No major risks on drum
RHZ-212-A19135	"	HW Label: D008, WT01 Markings: RMW-EHW, OMW No major risks on drum
RH-A-88-023	"	HW Label: D008 Markings: OMW No major risks on drum
RHZ-213-A19574	"	HW Label: D008, WTO1, EHW Markings: RMW-EHW, OMW No major risks on drum
RH-A-87-026	"	HW Label: D008 Markings: MW-DW, OMW No major risks on drum
RHZ-212-A19296	"	HW Label: D008, WT01, EHW Markings: RMW-EHW, OMW No major risks on drum

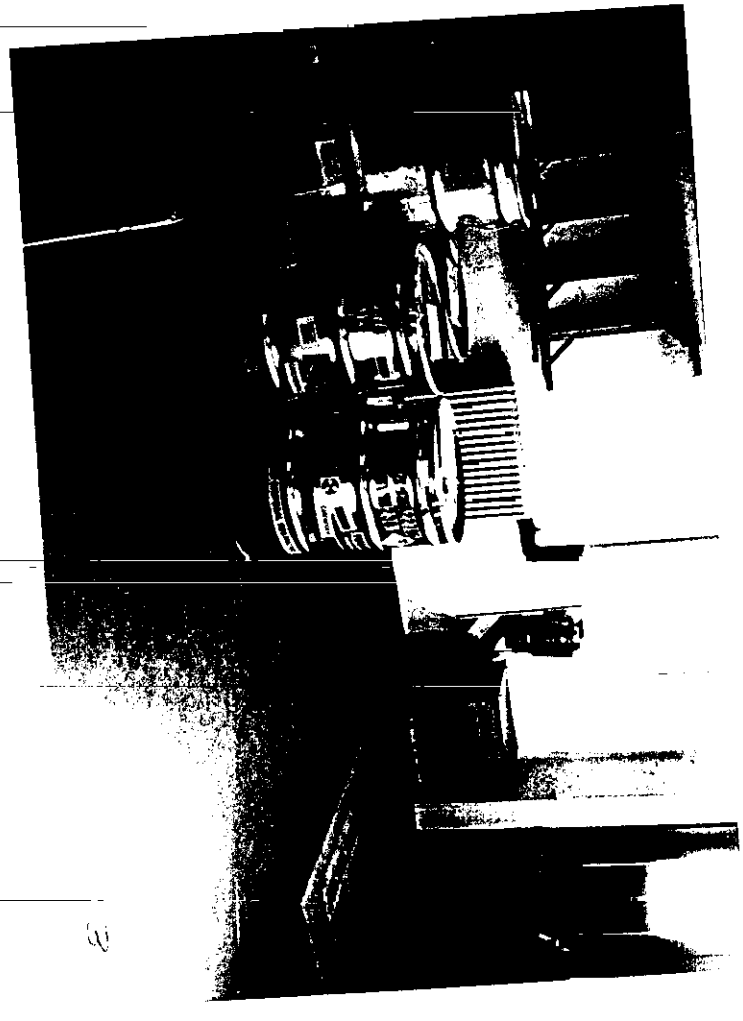
RHZ-212-A17094	SUSPECT NON-MIXED RETURN TO GENERATOR	Free liquids identified on paperwork No secondary containment No major risks
RHZ-212-A17986	"	Free liquids identified on paperwork No secondary containment No major risks
RHZ-212-A17453	"	Free liquids identified on paperwork No secondary containment No major risks
RHZ-212-A17257	"	Lead identified on paperwork No major risks
RHZ-212A-17275	"	Lead identified on paperwork No major risks
RHZ-220-A16369	"	Lead identified on paperwork No major risks
RHZ-213-A17407	"	Lead identified on paperwork No major risks
RHZ-212-A17393	"	Lead identified on paperwork No major risks
RHZ-212-A17049	"	Lead identified on paperwork No major risks
RHZ-212-A17087	"	Lead identified on paperwork No major risks
RHZ-213-A17470	"	Lead identified on paperwork No major risks
RHZ-213-A17486	"	Lead identified on paperwork No major risks
RHZ-213-A21917	"	Lead identified on paperwork No major risks
RHZ-102-A14837	"	Lead identified on paperwork No major risks

RHZ-212-A20498	"	Lead identified on paperwork No major risks
RHZ-103-A15485	"	Lead identified on paperwork No major risks
RHZ-102-A14799	"	Free liquid and lead identified on paperwork No major risks No secondary containment
RHZ-103-A14541	"	Lead identified on paperwork No major risks
RHZ-102-A14800	"	Lead identified on paperwork No major risks
RHZ-105-A14862	"	Lead identified on paperwork No major risks
RHZ-103-A14318	"	Free liquid and lead identified on paperwork No major risks No secondary containment
RHZ-102-A14053	"	Lead identified on paperwork No major risks
RHZ-102-A14968	"	Free liquid and lead identified on paperwork No major risks No secondary containment
RHZ-103-A15015	"	Lead identified on paperwork No major risks
RHZ-103-A15025	"	Lead identified on paperwork No major risks
RHZ-103-A15013	"	Lead identified on paperwork No major risks
RHZ-213-A17471	"	Lead identified on paperwork No major risks

RHZ-103-A15278	"	Free liquid and lead identified on paperwork No major risks No secondary containment
RHZ-213-A17568	"	Lead identified on paperwork No major risks
RHZ-212-A19567	HOLD-CANNOT PENETRATE	Lead identified on paperwork No major risks
RHZ-212-A19845	"	Lead identified on paperwork No major risks
RHZ-212-A21030	"	Lead identified on paperwork No major risks
RHZ-212-A20576	"	Lead identified on paperwork No major risks
RHA-88021	"	Lead identified on paperwork No major risks
RHA-88004	"	Lead identified on paperwork No major risks
RHZ-220-A20834	"	Lead identified on paperwork No major risks
RHA-89004	"	Lead identified on paperwork No major risks
RHZ-212-A20499	"	Documentation not visible
RHZ-212-A19843	"	Documentation not visible
RHZ-212-A21410	"	Documentation not visible
RHZ-212-A18445	"	Documentation not visible
RH-A89007	CAUSTIC-RETURN TO GENERATOR	Free liquid identified on paperwork No major risks No secondary containment

RH-A87032	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A87047	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A87050	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A87051	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A88022	"	Free liquid identified on paperwork No major risks No secondary containment
RH-A87062	"	Free liquid identified on paperwork No major risks No secondary containment



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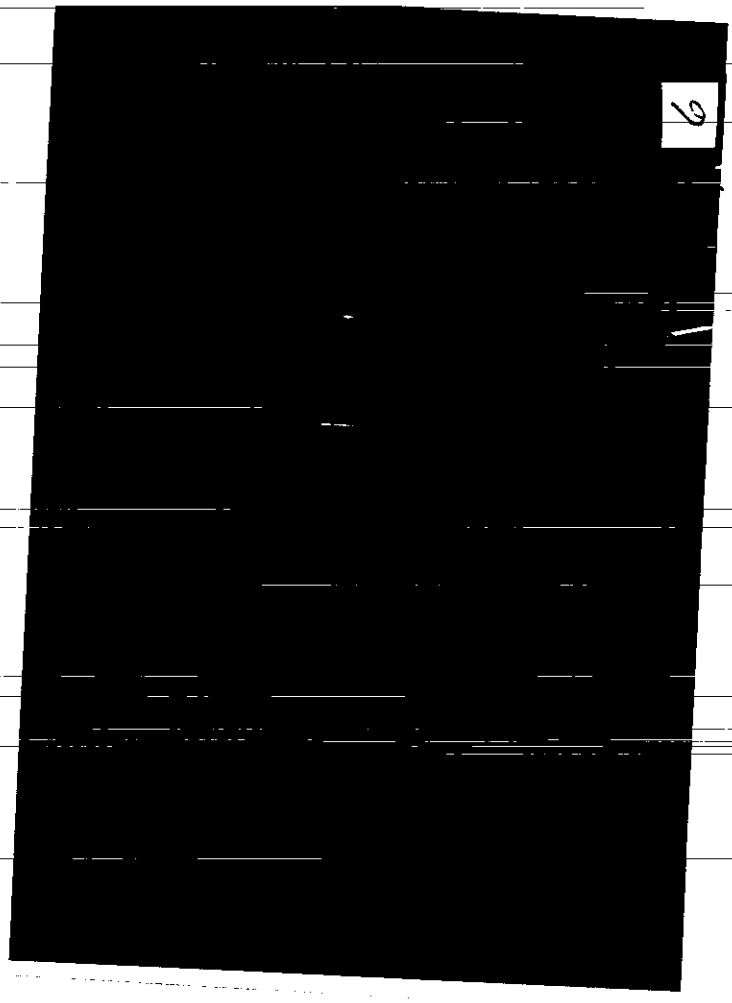
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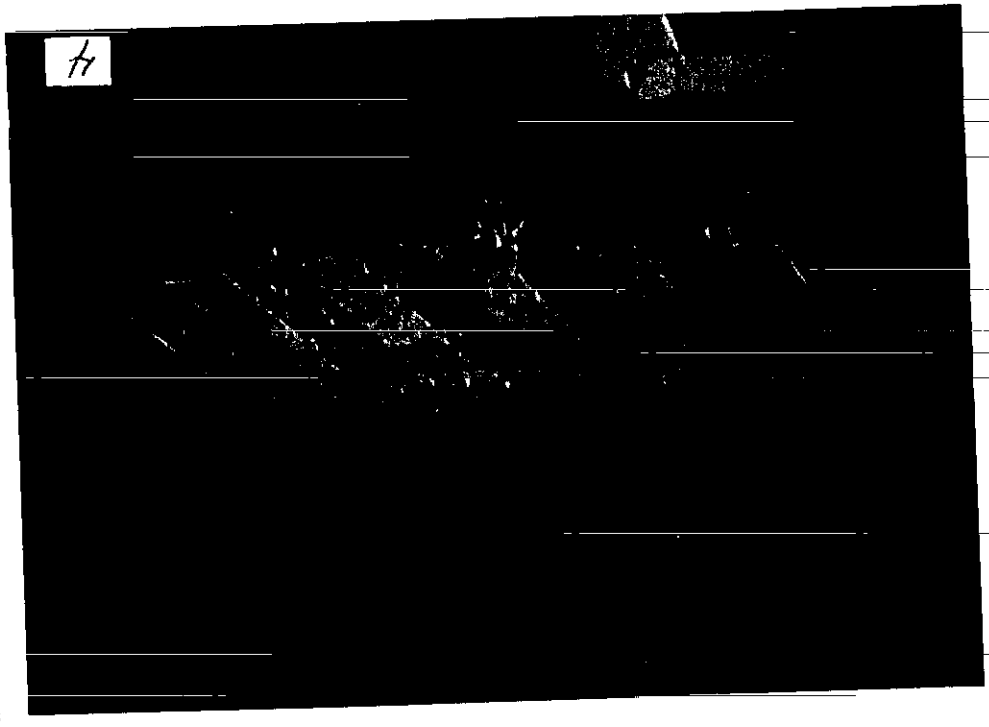
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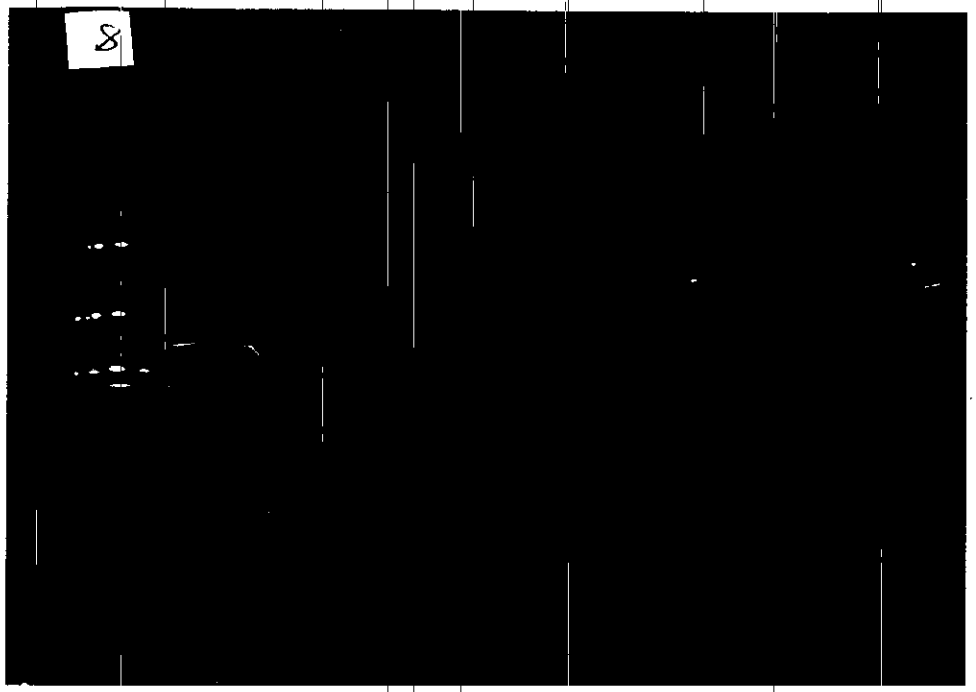
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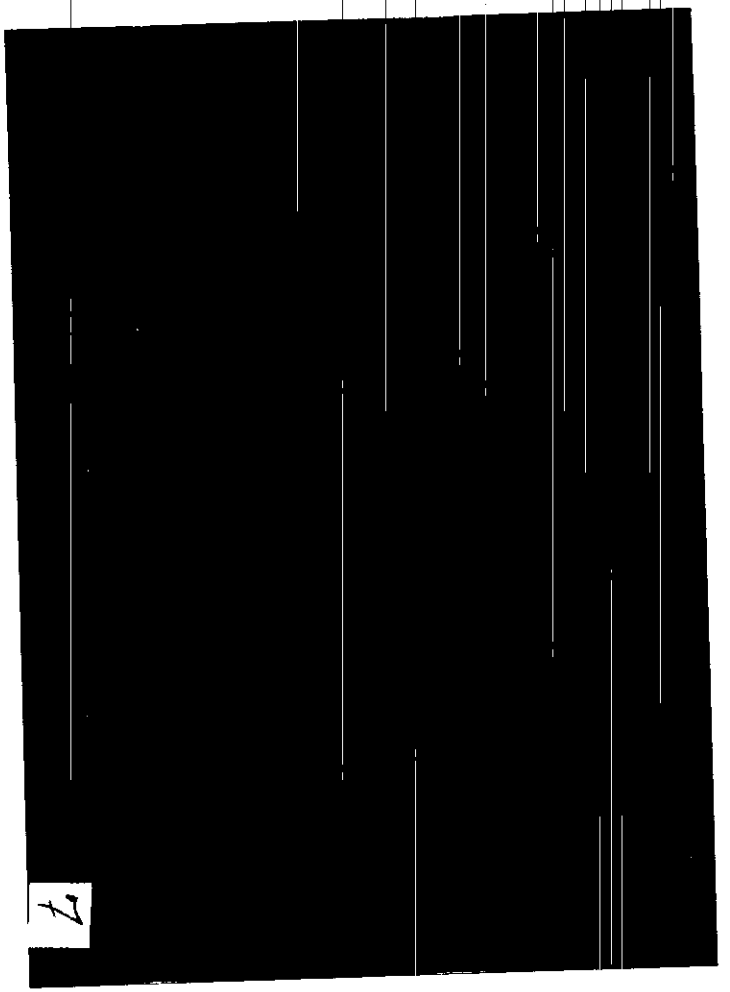
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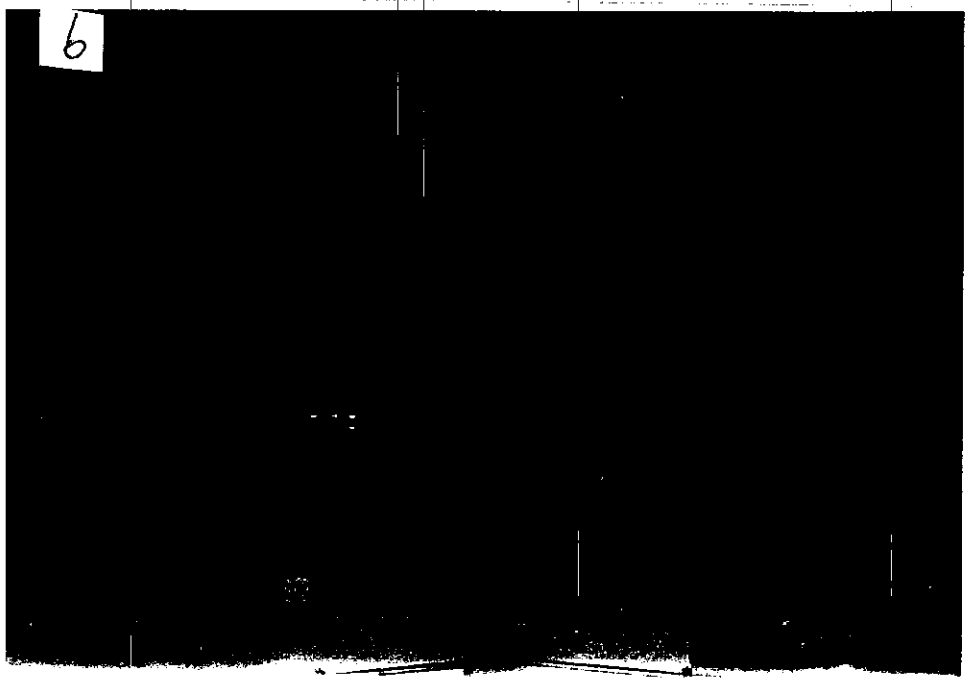
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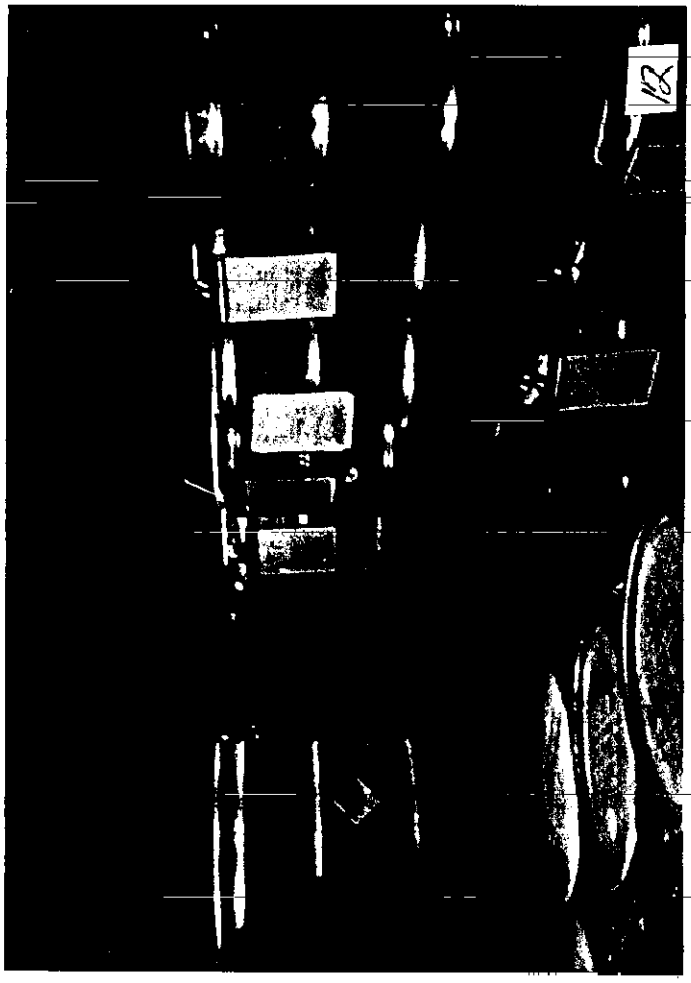
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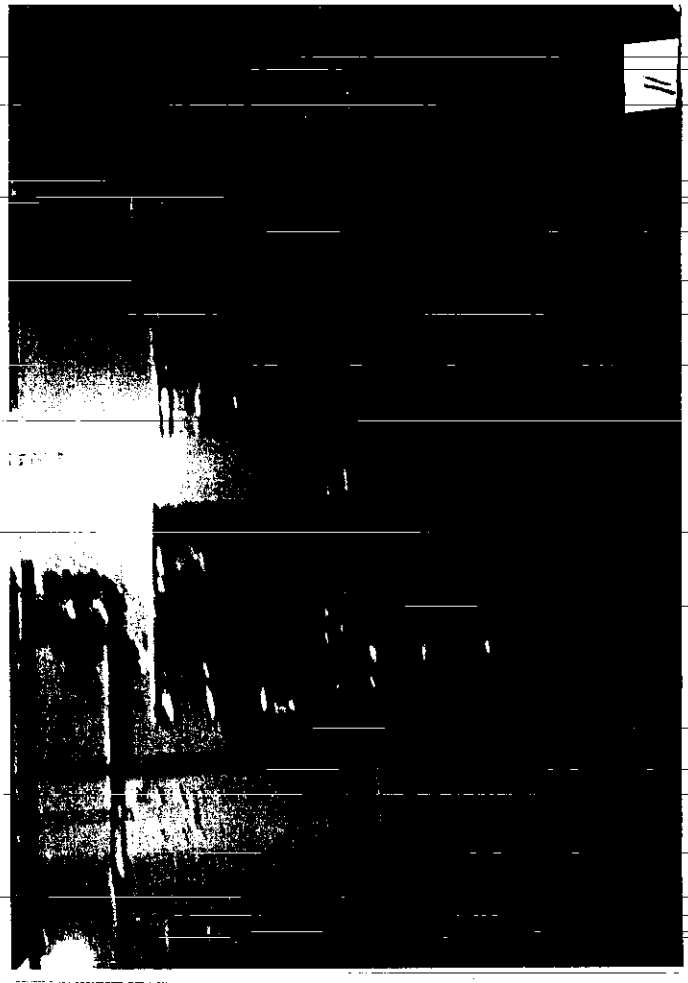
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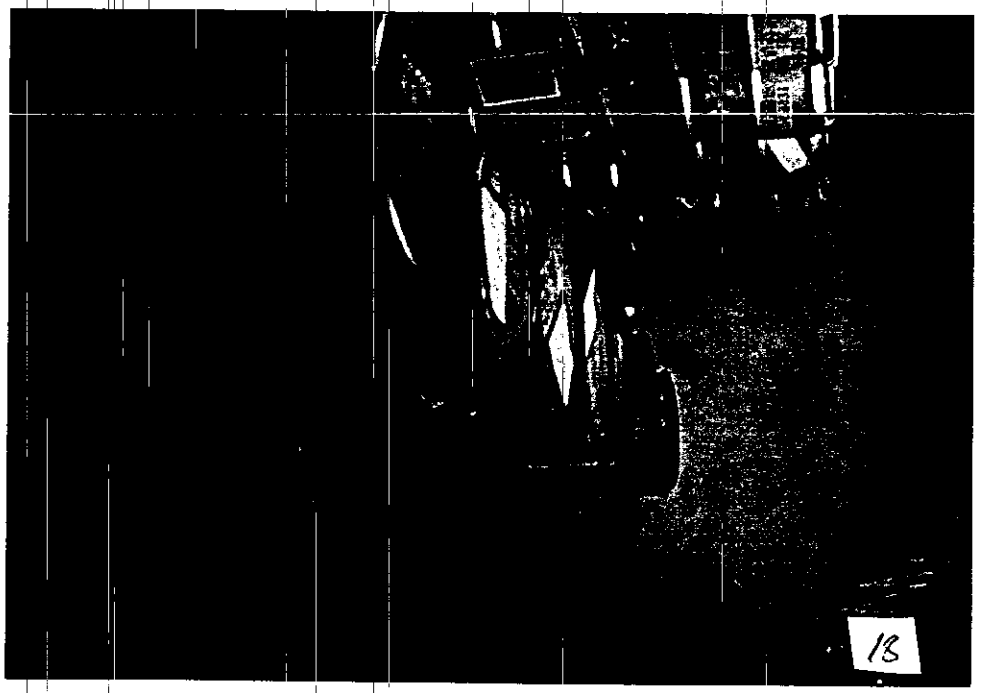
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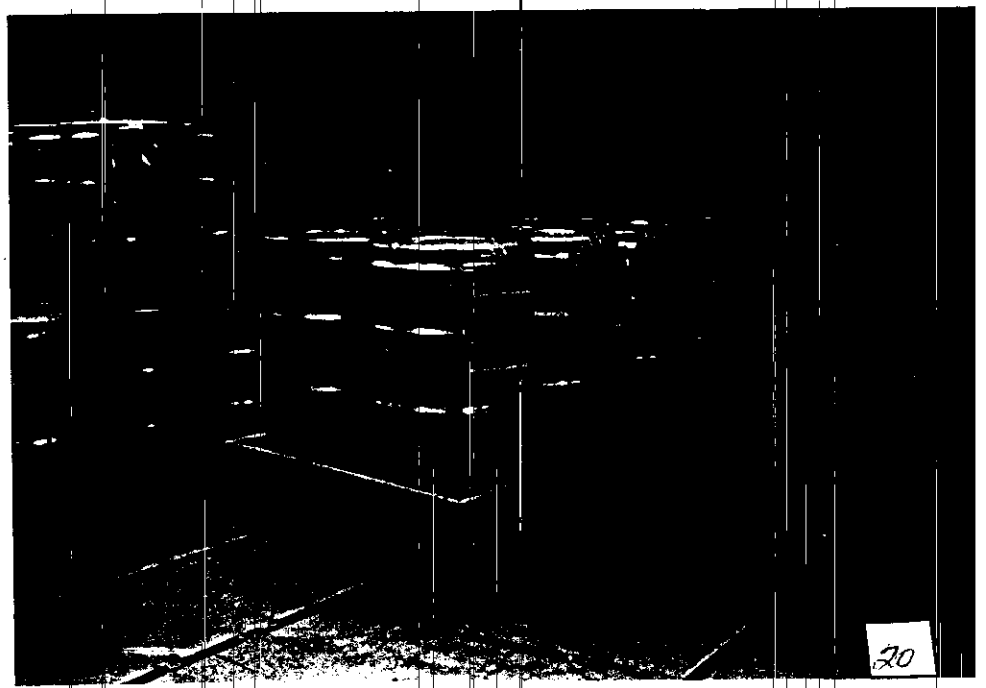
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Photo 20 (Photo Developed Backwards)
11/18/93
234-T TRUSAF, 200 West Area
Hanford Site, DOE
WA7890008967
Photo taken by Bob Wilson