

CORRES. CONTROL
OUTGOING LTR NO.

DOE ORDER # 5480.22

02 RF 00880



April 4, 2002

02-RF-00880

DIST.	LTR	ENC
BRILSFORD, M.D.		
FERRERA, D.W.		
FERRI, M.S.	X	
GIACOMINI, J.		
HALL, L.		
MARTINEZ, L.A.		
PARKER, A.M.	X	X
POWERS, K.	X	
SCOTT, G.K.		
SHELTON, D.C.		
SPEARS, M.S.		
TRICE, K.D.		
TUOR, N.R.		
VOORHEIS, G.M.		

Henry F. Dalton
Assistant Manager
Facilities Disposition
DOE, RFFO

FINAL SUBMITTAL OF MODIFICATION #8 TO THE BUILDING 776/777 DECOMMISSIONING OPERATIONS PLAN - MSF-025-02

Pursuant to Section 4.5.2 of the Building 776/777 Decommissioning Operations Plan (DOP) and Paragraph 127 of the Rocky Flats Cleanup Agreement (RFCA), the Kaiser-Hill Company, L.L.C. is submitting the enclosed minor modification for your approval and transmittal to the Colorado Department of Public Health and Environment (CDPHE).

Modification #8 was originally submitted to DOE on December 12, 2001 (ref. MSF-074-01, 01-RF-02889), and re-submitted on February 28, 2002 (ref. MSF-016-02, 02-RF-00622). Courtesy copies were also provided to CDPHE. As a result of CDPHE comments received on the February submittal, KH has made revisions to several of the RCRA closure information sheets, and verbal approval has been received from CDPHE for the revisions. KH is now resubmitting this modification for final approval.

This revised Modification #8 to the DOP includes:

- Submittal of RCRA unit closure information sheets for the size reduction vault (set 60); the pilot and production Fluidized Bed Incinerators (sets 61 and 63); the supercompactor (set 64); the advanced size reduction facility (set 66); the process waste tanks (set 69); and the overhead piping (set 78).
- Submittal of revised unit-specific closure information sheets for sets 4, 6, 29, 35, and 36 to document changes previously approved via Regulatory Contact Records;
- Addition of the Inner Tent Dismantlement Chamber (ITDC) to Set 83; and
- Correction of typographical errors and incorrect references.

If you have questions, please contact Carolyn Hicks at (303) 966-5773.

Dahlgren, S X
Hopkins, J X
Hicks, C X
Johnson, M X

Admin Record	X	X
PROJ FILE	X	X
COB CONTROL	X	X
ADMN RECORD		
WASTE REC. CTR.		
TRAFFIC		
PATS/130		
CLASSIFICATION:		
UCNI		
UNCLASSIFIED	X	X
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER
R.H. ESSIG for
K. GREEN per Tolman
[Signature]

[Signature: Mark S. Ferri]
Mark S. Ferri
Vice President and Project Manager
Building 707/776/777 Closure Project

Date 4-4-02

CGH:cjs

IN REPLY TO RFP CC
NO:

Enclosures:
As Stated

ACTION ITEM STATUS

- PARTIAL/OPEN
 CLOSED

Original and 1cc - Henry F. Dalton

LTR APPROVALS:

cc: Joe Legare - DOE, RFFO Sandi Macleod - DOE, RFFO Gary Schuetz - DOE, RFFO

ORIG & TYPIST INITIALS

CGH:cjs

Kaiser Hill Company, L.L.C.
Rocky Flats Environmental Technology Site, 10808 Hwy. 93 Unit B, Golden CO 80403-8200 • 303-966-7000



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Requested Changes to Building 776/777 DOP

Proposed changes to the DOP are identified by section and page number. Additions are shown in bold italics and deletions shown in strikeout. Changes are also shown with a sidebar marked "Mod #8".

- 1) Table 6, Building 776/777 RCRA-Regulated Units, page 38: Please revise Set number 31, as identified in Table 6 for Room 433 Unit 777.1, to Set 28. This is a typographical error.
- 2) Section 6.1, RCRA/CERCLA Transition, page 75: Please change the second paragraph of this section as shown. This change is necessitated by the combining of the remediation waste management requirements documents for Buildings 707 and 776/777.

6.1 RCRA/CERCLA Transition

Wastes generated during decommissioning will be accumulated, staged, stored, and treated in accordance with this section of the DOP. During decommissioning the distinction between "process waste" and "remediation waste" will be maintained to ensure proper management. Process waste includes all liquid waste chemicals; and wastes generated as a result of normal building operations or deactivation activities (e.g., containerized waste generated prior to approval of this DOP [November 5, 1999]; mixed residues; and liquids, sludges, and oils in tanks and ancillary equipment). Remediation waste is all waste, media, and debris generated from decommissioning activities performed under this DOP, all solid waste chemicals (no matter when generated), and residual liquids or sludges remaining in RCRA Stable or Physically Empty tanks.

Hazardous and mixed wastes designated as process waste will continue to be managed in compliance with both the substantive and administrative requirements of RCRA, CHWA, CHWR, and the Site's RCRA Part B Permit. Hazardous and mixed wastes designated as remediation waste will be managed in accordance with the Applicable or Relevant and Appropriate Requirements (ARARs) presented in Section 7 of this DOP and with the remediation waste management requirements described in ~~Building 776/777 Operations Order OO 776-374 Procedure PRO-1167-Remediation, Management Requirements for Remediation Waste, 707/776/777 Closure Project.~~ The ARARs and ~~Operations Order Procedure~~ provide project managers and waste management personnel with a level of flexibility appropriate in managing hazardous and mixed wastes during decommissioning.

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- 3) Section 6.2.4, Residues/Mixed Residues, page 78: Please remove reference to the 776/777 HASP; the project uses the OSH Site Health and Safety Manual and job-specific hazard analysis to ensure safe work practices rather than a project specific safety plan.

If appropriate, the action plan may include draining the liquid from the system. The DOE, Contractor, or Subcontractor project manager will notify CDPHE's project manager of intended corrective actions.

~~The Building 776/777 HASP (Ref. 25) contains pre-planning requirements for responses to possible releases from REM tank systems. Pre-planning activities include identification of vital components of the tank system, identification of locations of primary shut-off valves capable of isolating feed to a tank, and a pre-release plan, which specifies the recommended method to drain the tank system (e.g., hot tapping at a low spot, draining into bottles, or draining into another tank system). Building operations personnel are trained to implement the pre-release plan and accompanying shut-off procedures. In the event of an actual release from a REM tank system, the Site's RCRA Contingency Plan will be followed.~~

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- 4) Section 6.3, Wastes Requiring Further Processing Prior to Off-Site Disposal, page 83: Please delete the Operations Order reference and insert the combined remediation waste management requirements document for Buildings 707 and 776/777.

6.3 Wastes Requiring Further Processing Prior to Off-Site Disposal

Most of the remediation waste generated during decommissioning will be the same or similar to routine waste for which there is a clear disposal path. However, as described below, certain LLM waste and TRU/TRM waste will require further processing prior to off-site shipment and disposal. At this time, the only treatment processes planned for Buildings 776/777 and/or 730 are processes identified in the RCRA Part B Permit and debris treatment, as described in Section 4.5.1.2. In the event additional treatment system(s) must be added to treat remediation waste in Building 776/777 or 730, they will be managed in accordance with *Procedure PRO-1167-Remediation, Management Requirements for Remediation Waste, 707/776/777 Closure Project Building 776/777 Operations Order OO 776-374*, including, if applicable, submittal of a minor modification to this DOP. The LRA will be consulted when determining if a minor modification is necessary for remediation waste treatment, with the exception of generator treatment, as specified in the *Operations Order Procedure*.

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- 5) Section 6.3.1, LLM/TRM Wastes Managed Under the Site Treatment Plan, page 84: Please modify this section as shown. References to TRM waste were deleted because treatment is not required. Clarification is provided on which remediation wastes are included in the STP Progress Reports. We are also adding bullets for a few major types of non-LDR compliant mixed wastes that will be generated during decommissioning.

6.3.1 LLM/TRM Wastes Managed Under the Site Treatment Plan

~~Unless treatment is otherwise specified in Section 6.3, above, the treatment of non-LDR compliant LLM process and remediation waste will be managed under the Site Treatment Plan (STP). Waste added to the STP will be reflected in inventories reported in the STP Annual Progress Report. *Non-LDR compliant waste streams for which treatment has not been identified are regulated under the Site Treatment Plan (STP).*~~

The following non-LDR compliant LLM and TRM remediation waste may be generated during decommissioning:

- *Radioactive lead solids,*
- *F-listed tanks and piping,*
- *Heterogeneous debris,*
- Oils, liquids, and solids regulated by both TSCA and RCRA,
- Oils regulated by RCRA,
- Bypass and legacy sludges and wet slurries, and
- Waste chemicals including acids, bases, neutrals, and organic solutions.

~~As treatment paths and associated timetables are identified for these wastes, they will be included in the subsequent versions of the STP Progress Report. *Wastes identified as being regulated under the STP consent order will be stated in the quarterly STP progress reports as well as the annual STP Report to CDPHE.*~~

- 6) Section 7.2, Solid Waste, page 88: Please delete the Operations Order reference and insert the combined remediation waste management requirements document for Buildings 707 and 776/777.

Non-radioactive, non-hazardous wastes will be managed in compliance with the substantive requirements of CDPHE regulations pertaining to solid waste management and disposal (6 CCR 1007-2), (Ref. 48). Hazardous and mixed wastes designated as "process waste" will be managed in accordance with the substantive and administrative requirements of RCRA, CHWA, CHWR, and the Site's RCRA Part B Permit. Hazardous and mixed wastes designated

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as "remediation waste" will be managed in accordance with the substantive requirements of RCRA, CHWA, and the CHWR, which are listed in Appendix F of this DOP and included in ~~Building 776/777 Operations Order OO 776-374, Management Requirements for Remediation Waste Procedure PRO-1167-Remediation, Management Requirements for Remediation Waste, 707/776/777 Closure Project.~~

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- 7) Appendix A, SET Descriptions: Please make the following corrections to the Set descriptions provided in Appendix A.

Set 5, page 134: Change listed gloveboxes from "GBs 601, 602, 605, 606, 608" to "GBs 614, 615, 616, 617, 619, 620, 621, and 622." This is a typographical error.

Set 38, page 156: Change room 481 to room 461. This is a typographical error.

Set 59, page 170: Delete "and tunnel to Building 771." The tunnel is covered under the Building 771 DOP. The tunnel was not included in the B776/777 baseline because the decision had been made to include it as part of B771.

Set 83, page 184: Add the ITDC in Room 433 to the list of remaining equipment in Building 776/777 that is included in Set 83. The ITDC was completed in FY02 and was not included in any of the original Sets. This change to Set 83 has been approved as part of the B776/777 baseline.

- 8) Appendix H, RCRA Unit-Specific Closure Information Sheets: Please insert the attached revised unit information sheets for Sets 4, 6, 29, 35, and 36. The closure plan for Set 6 is being revised in accordance with a Regulatory Contact Record dated 6/19/01 to change the selected closure option to debris rule treatment. The closure plans for Sets 4, 29, 35, and 36 are being revised in accordance with a Regulatory Contact Record dated 9/19/01 to allow other approved decon solutions for debris rule closure. The closure plan for Set 4 has also been revised to add details for closure of GB 612 and the associated pump box, which were inadvertently left out of the original submittal, to add options for management of Tank DL-776 and the raschig rings it contains.

Please insert the attached new unit-specific closure information sheets and drawings for Sets 60, 61, 63, 64, 66, 69, and 78. The closure plans for Sets 60, 66, and 78 complete the submittals for all mixed residue tank systems in Building 776/777.

Enclosure:

RCRA Unit Specific Closure Information Sheets

**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

Set	RCRA Unit ID	Description	Regulatory Status	Closure Status
4	NA	Tank V-605 (2)	Mixed Residue	Physically Empty/RCRA Stable
	95.019	Tank DL-776	Mixed Residue	Physically Empty/RCRA Stable
	NA	GB 612 ancillary piping	Mixed Residue	Physically Empty

Unit Description:	<p>Tank V-605 Tank V-605 includes two vacuum accumulator tanks. They are constructed of carbon steel and have approximate dimensions of 12 inches in diameter by 23 inches high. The tanks are located in Building 777 Room 131 below Glovebox 605.</p> <p>Vacuum was used to hold parts to lathes in the gloveboxes as they were being machined. The vacuum accumulators were used in the process line between the lathe and the vacuum pump so that constant vacuum pressure could be maintained on the parts being machined. In the event of an upset condition where the part came loose from the chuck, the cutting oils and solvents used in the machining process would be pulled into the accumulators. Maintenance personnel periodically drained the accumulators of any oil and solvent that accumulated.</p> <p>Both Tank V-605s were drained to a physically empty condition in May 1999 under work package T0100104. The vacuum pumps were drained in January 2000.</p> <p>Tank DL-776 Tank DL-776 measures approximately two feet by two feet by four feet, and is filled with raschig rings. The tank is located in Building 777 Room 131 beneath Glovebox 606.</p> <p>Tank DL-776 was used to collect waste oil from the hydroform press located in Glovebox 606. Glovebox 606 served as secondary containment for the ancillary equipment within it. The RLCR states that the hydroform press and tank were replaced in the late 1980s and were never used to press plutonium parts. They may have been used to test press aluminum parts. Tank DL-776 was drained to a physically empty condition in May 1999 under work package T0100104.</p> <p>Glovebox 612 Ancillary Piping Waste oil collected in slab tank oil carts by maintenance personnel was pumped out of the carts into an enclosed pump-out station on the west side of Glovebox 612, where it was filtered through Ful-Flo cartridge filters in the glovebox and transferred to Tanks T-A1 and T-A2 in Room 131. These tanks were closed by removal in 1996 along with the piping from GB 612 to the tanks. The filters inside the glovebox have also been removed. Remaining equipment includes a small amount of equipment associated with the cart pump-out station attached to the glovebox.</p>
Unit Boundaries and Interfaces:	The vacuum accumulator systems include the vacuum accumulator tanks, vacuum pumps, and associated piping and valves. These were small stand-alone tank systems and the ancillary equipment is minimal. These tank systems will be entirely removed as part of Set

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	<p>4 D&D. The attached drawing shows a schematic of the V-605 tank systems. Schematics are also attached showing the extent of the regulated systems associated with Tank DL-776 and GB 612. These systems will be entirely removed as part of Set 4 D&D.</p>
EPA Waste Codes/ Waste Characterization:	<p>The lines and equipment will be drained prior to packaging as waste. The waste generated at closure will be assigned EPA waste codes of F001 and F002.</p> <p>When the vacuum accumulators and Tank DL-776 were drained, the collected liquids from several tanks were commingled prior to analysis, so it is not known whether Tank DL-776 contained hazardous waste. <i>Unless residual liquid can be analyzed to show non-detect for organic constituents of concern (1,1,1-trichloroethane and carbon tetrachloride)</i>, this tank system will be conservatively managed as mixed waste at closure, including the raschig rings.</p> <p>Gloveboxes 606 and 612 and the pump box next to GB 612 will be cleaned using debris rule technology and will then be closed by removal and managed as non-hazardous LLW.</p>
Selected Closure Option:	<p><u>Tanks, ancillary equipment and piping:</u> Unit removal without onsite treatment.</p> <p><u>Gloveboxes 606 and 612 and the pump box next to GB 612:</u> Unit removal in conjunction with debris rule treatment.</p>
Closure Activities:	<p>Closure activities include draining any residual liquids, removal, size reduction (if necessary) and packaging of the regulated tanks and ancillary equipment. The raschig rings in Tank DL-776 <i>may</i> either be removed during deactivation activities or during closure activities, <i>or may be left in the tank if the WGI and disposal site WAC allows it.</i></p> <p>Gloveboxes 606 and 612 and the pump box next to GB 612 will be wiped down using trisodium phosphate solution <i>or another approved decon solution</i>, and will be visually inspected to determine if they meet the standard for a clean debris surface. If they meet the standard, the boxes will be closed by removal and managed as non-hazardous waste. Otherwise, they will be closed by removal and managed as mixed waste.</p>
Waste Disposal:	<p>The tanks, piping, pumps, raschig rings, and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Liquid hazardous wastes, if any, drained from the equipment will be managed as RCRA-regulated wastes. Absorbent will be added to waste packages with items that could contain residual liquids or sludges.</p> <p>Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.</p>

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**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

UNIT	RCRA UNIT	DESCRIPTION	REGULATORY STATUS	CLOSURE STATUS
6	NA	Tank V-626	Mixed Residue	Physically Empty/RCRA Stable
	NA	Tank V-627	Mixed Residue	Physically Empty/RCRA Stable
	Ancillary to several units (see below)	Glovebox 642 and ancillary piping	Mixed Residue	Physically Empty

Unit Description:	<p>Tanks V-626 and V-627</p> <p>Tanks V-626 and V-627 are vacuum accumulator tanks. They are constructed of carbon steel and both have approximate dimensions of 12 inches in diameter by 23 inches high. The tanks are located in Building 777 Room 131 below gloveboxes 626 and 627, respectively.</p> <p>Vacuum was used to hold parts to a jig borer and a lathe in gloveboxes 626 and 627, respectively, as they were being machined. The vacuum accumulators were used in the process line between the equipment and the vacuum pump so that constant vacuum pressure could be maintained on the parts being machined. In the event of an upset condition where the part came loose from the chuck, the cutting oils and solvents used in the machining process would be pulled into the accumulators. Maintenance personnel periodically drained the accumulators of any oil and solvent that accumulated.</p> <p>Tanks V-626 and V-627 were drained to a physically empty condition in June 1999 under work package T0100104. The vacuum pumps were drained in January 2000.</p> <p>Glovebox 642 and Ancillary Piping</p> <p>Glovebox 642 is a filter glovebox where waste from tanks 1103, 1104, 1106 and pencil tanks T-A1, T-A2, T-3, T-4, T-5, T-6, T-10, T-11, and T-12 was passed through Ful-Flo cartridge filters for removal of plutonium. (RCRA Unit Nos. 95.001, 95.002, 95.006 – 95.013, 95.017, and 95.018). The glovebox is located in Building 777 Room 131. All the tanks have been closed by removal, and the six filters in the glovebox have been removed. Remaining equipment includes inlet and outlet piping, and the glovebox itself, which served as secondary containment for the filters.</p>
Unit Boundaries and Interfaces:	<p>Tanks V-626 and V-627</p> <p>The vacuum accumulator systems include the vacuum accumulator tanks, vacuum pumps, and associated piping and valves. These were small stand-alone tank systems and the ancillary equipment is minimal. These tank systems will be entirely removed as part of Set 6 D&D. The attached drawings show schematics of the tank systems.</p> <p>Glovebox 642 and Ancillary Piping</p> <p>Glovebox 642 and the ancillary equipment below approximately eight feet will be removed during Set 6 D&D, and the ends of the piping leading into the overhead will be capped or plugged. The remaining lines in the overhead in Room 131 will be removed as part of Set 78 (miscellaneous piping over eight feet). The attached drawing shows a schematic of GB642 and associated ancillary equipment.</p>

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EPA Waste Codes/ Waste Characterization:	The lines and equipment will be drained prior to packaging as waste. The waste generated at closure will be assigned EPA waste codes of F001 and F002.
Selected Closure Option:	<p>Unit removal without onsite treatment. The interior of Glovebox 642 is not in sufficient condition or adequately visible to conduct debris rule treatment, so the glovebox will be managed as mixed waste.</p> <p><i>Ancillary equipment: Unit removal without onsite treatment.</i></p> <p><i>Glovebox 642: Unit removal, preceded by debris rule treatment.</i></p>
Closure Activities:	<p>Closure activities include draining any residual liquids, removal, size reduction (if necessary) and packaging of the regulated tanks and ancillary equipment.</p> <p><i>Glovebox 642 will be wiped down using an approved decon solution, and will be visually inspected to determine if it meets the standard for a clean debris surface. If it meets the standard, the glovebox will be closed by removal and managed as non-hazardous waste. Otherwise, it will be closed by removal and managed as mixed waste.</i></p>
Waste Disposal:	<p>The tanks, piping, glovebox, and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Liquid hazardous wastes, if any, drained from equipment will be managed as RCRA-regulated wastes. Absorbent will be added to waste packages with items that could contain residual liquids or sludges.</p> <p>Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.</p>

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**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

Set #	RCRA Unit #	Description	Regulatory Status	Closure Status
29	95.015	Ancillary equipment	Mixed Residue	Physically Empty

Unit Description:	Set 29 contains ancillary piping that was previously used to transfer waste 1,1,1-trichloroethane from degreasers/cleaning tanks in Gloveboxes A-2 and A-3 in Room 437 to Tank T-1 in Room 430. The tank has been removed (Set 26).
Unit Boundaries and Interfaces:	<p>Regulated ancillary equipment in Glovebox A-2 includes a pump, filter, and associated valves and piping from two solvent cleaning tanks in the glovebox. The cleaning tanks themselves are not regulated. Glovebox A-2 served as secondary containment for the ancillary equipment within it.</p> <p>In Glovebox A-3, the degreaser tanks, pump, filter, and valves are not regulated because the solvent was recirculated through the system for reuse until spent, and became a waste when discharged to T-1. The waste lines from the two gloveboxes join in Room 437 prior to exiting through the south wall into Room 430.</p> <p>The attached drawing shows the ancillary equipment in this set. Most of the regulated ancillary equipment and waste lines will be removed as part of Set 29 D&D, and the end of the piping leading into Room 430 will be capped or plugged. The remaining line in the overhead in Rooms 430 and 437 will be removed as part of Set 78 (miscellaneous piping over eight feet).</p>
EPA Waste Codes/Waste Characterization:	<p>The lines and equipment will be drained prior to packaging as waste. The waste generated at closure will be assigned EPA waste codes of F001 and F002.</p> <p>If Glovebox A-2 surveys as LLW, debris rule treatment may be conducted, and if successful, the glovebox will be managed as non-hazardous LLW. Otherwise, the glovebox will be managed as mixed waste with EPA waste codes of F001 and F002.</p>
Selected Closure Option:	<p><u>Ancillary piping:</u> Unit removal without onsite treatment.</p> <p><u>Glovebox A-2:</u> Unit removal, optionally preceded by debris rule treatment.</p>
Closure Activities:	<p>Closure activities include draining any residual liquids, removal, size reduction (if necessary) and packaging of the regulated ancillary equipment</p> <p>If Glovebox A-2 surveys as LLW and debris treatment is determined to be feasible, it will be wiped down using trisodium phosphate solution <i>or another approved decon solution</i>, and will be visually inspected to determine if it meets the standard for a clean debris surface. If it meets the standard, the glovebox will be closed by removal and managed as non-hazardous waste. Otherwise, it will be closed by removal and managed as mixed waste.</p>
Waste Disposal:	<p>The piping, pump, valves, filter, and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Liquid hazardous wastes, if any, drained from the equipment will be managed as RCRA-regulated wastes. Absorbent will be added to waste packages with items that could contain residual liquids or sludges.</p> <p>Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.</p>

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**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

Set	RCRA Unit #	Description	Regulatory Status	Closure Status
35	95.015	GB 524 Ancillary equipment	Mixed Residue	Physically Empty

Unit Description:	Set 35 contains ancillary piping that was previously used to transfer waste 1,1,1-trichloroethane from a vapor degreaser in Glovebox 524 in Room 452 to Tank T-1 in Room 430. The tank has been removed (Set 26).
Unit Boundaries and Interfaces:	Regulated ancillary equipment associated with Glovebox 524 includes a pump, filter, and associated valves and piping from a vapor degreaser in the glovebox. The degreaser tank itself is not regulated. Glovebox 524 served as secondary containment for the ancillary equipment within it. The waste line from the glovebox goes through the overhead in Room 452 prior to exiting through the west wall on the north side of the Modulab. The pump, valves, filter, and piping below eight feet will be removed as part of Set 35 D&D and the end of the piping leading into the overhead will be capped or plugged. The remaining line in Room 452 will be removed as part of Set 36 and/or Set 78 (miscellaneous piping over eight feet). Endpoints for piping removal associated with each set will be determined during D&D work package preparation. The attached diagram shows the regulated equipment associated with Glovebox 524.
EPA Waste Codes/Waste Characterization:	The lines and equipment will be drained prior to packaging as waste. The waste generated at closure will be assigned EPA waste codes of F001 and F002. If Glovebox 524 surveys as LLW, debris rule treatment may be conducted, and if successful, the glovebox will be managed as non-hazardous LLW. Otherwise, the glovebox will be managed as mixed waste with EPA waste codes of F001 and F002.
Selected Closure Option:	<u>Ancillary equipment:</u> Unit removal without onsite treatment. <u>Glovebox 524:</u> Unit removal, optionally preceded by debris rule treatment.
Closure Activities:	Closure activities include draining any residual liquids, removal, size reduction (if necessary) and packaging of the regulated ancillary equipment associated with GB 524. If Glovebox 524 surveys as LLW and debris treatment is determined to be feasible, it will be wiped down using trisodium phosphate solution <i>or another approved decon solution</i> , and will be visually inspected to determine if it meets the standard for a clean debris surface. If it meets the standard, the glovebox will be closed by removal and managed as non-hazardous waste. Otherwise, it will be closed by removal and managed as mixed waste.
Waste Disposal:	The piping, pump, filter, and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Liquid hazardous wastes, if any, drained from the equipment will be managed as RCRA-regulated wastes. Absorbent will be added to waste packages with items that could contain residual liquids or sludges. Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.

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**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

SET #	RCRA UNIT	Description	Residue/Status	Closure Status
36	NA	Tank V-543	Mixed Residue	Physically Empty/RCRA Stable

Unit Description:	<p>Tank V-543 is a vacuum accumulator tank. It is constructed of carbon steel and has approximate dimensions of four inches in diameter by eight inches high. The tank is located in Building 777 Room 452 inside Glovebox 543. The vacuum pump is located outside the glovebox.</p> <p>Vacuum was used to hold parts to a lathe in Glovebox 543 as they were being machined. The vacuum accumulator was used in the process line between the equipment and the vacuum pump so that constant vacuum pressure could be maintained on the parts being machined. In the event of an upset condition where the part came loose from the chuck, the cutting oils and solvents used in the machining process would be pulled into the accumulator. Maintenance personnel periodically drained the accumulator of any oil and solvent that accumulated.</p> <p>Tank V-543 and the associated vacuum pump were drained to a physically empty condition in January 2000 under work package T0100104.</p>
Unit Boundaries and Interfaces:	<p>The vacuum accumulator system includes the vacuum accumulator tank, vacuum pump, and associated piping and valves. This was a small stand-alone tank system and the ancillary equipment is minimal. This tank system will be entirely removed as part of Set 36 D&D. Glovebox 543 served as secondary containment for the ancillary equipment within it. The attached drawing shows a schematic of the tank system.</p>
EPA Waste Codes/ Waste Characterization:	<p>The lines and equipment will have been drained prior to packaging as waste. The waste generated at closure will be assigned EPA waste codes of F001 and F002.</p> <p>If Glovebox 543 surveys as LLW, debris rule treatment may be conducted, and if successful, the glovebox will be managed as non-hazardous LLW. Otherwise, the glovebox will be managed as mixed waste with EPA waste codes of F001 and F002.</p>
Selected Closure Option:	<p><u>Tank and ancillary equipment:</u> Unit removal without onsite treatment.</p> <p><u>Glovebox 543:</u> Unit removal, optionally preceded by debris rule treatment.</p>
Closure Activities:	<p>Closure activities include draining any residual liquids, removal, size reduction (if necessary) and packaging of the tank and ancillary equipment .</p> <p>If Glovebox 543 surveys as LLW and debris treatment is determined to be feasible, it will be wiped down using trisodium phosphate solution <i>or another approved decon solution</i>, and will be visually inspected to determine if it meets the standard for a clean debris surface. If it meets the standard, the glovebox will be closed by removal and managed as non-hazardous waste. Otherwise, it will be closed by removal and managed as mixed waste.</p>
Waste Disposal:	<p>The tank, piping, pump, and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Liquid hazardous wastes, if any, drained from the equipment will be managed as RCRA-regulated wastes. Absorbent will be added to waste packages with items that could contain residual liquids or sludges.</p>

Mod #8

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	Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.
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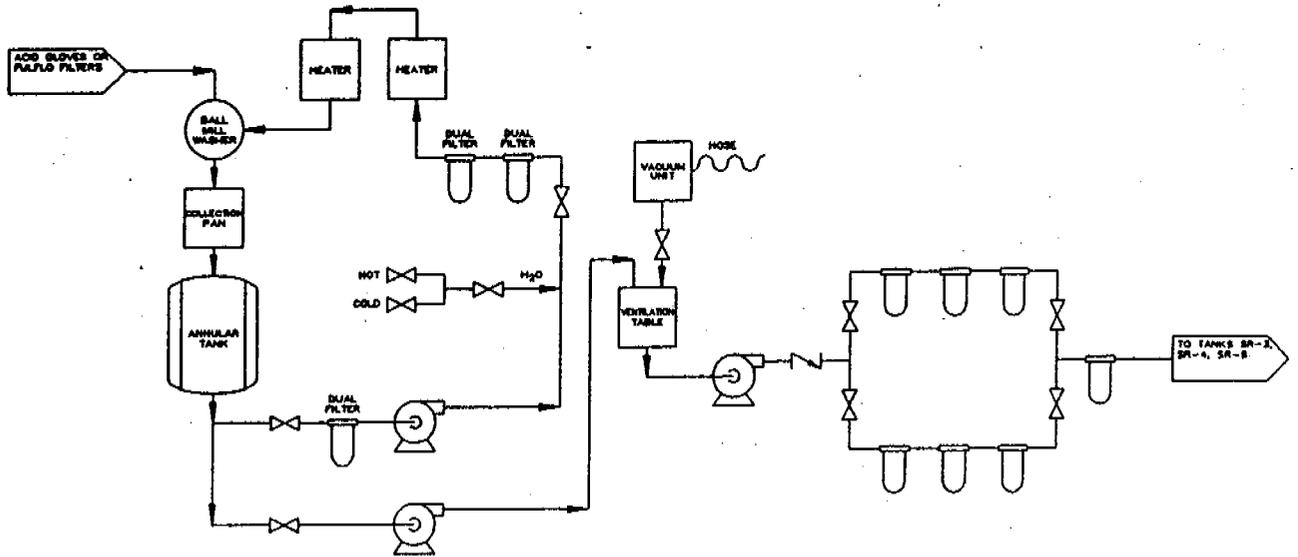
Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet

SET	RCRA Unit #s	Description	Regulatory status	Closure status
60	61	Size Reduction Vault	Interim Status	Inactive
	94.009	Ball Mill Washer	Mixed Residue	Physically empty
	94.010	Collection Pan	Mixed Residue	Physically empty
	94.011	Annular Tank	Mixed Residue	Physically empty

Unit Description:	<p>The Size Reduction Vault (SRV) is located in Room 146, and is a High Contamination Area (HCA). The SRV was an interim status treatment/storage unit used to repack containers, crush empty drums and HEPA filters in a drum crusher, and consolidate drummed waste into crates.</p> <p>The SRV also contains a ball mill washer used to wash acid-contaminated leaded gloves and metal tooling. Liquid from the ball mill was collected in an open pan beneath the ball mill, then drained into a 12-gallon annular tank. The liquid was then pumped through a bank of cartridge (Ful-Flo) filters in the SRV, and into the SRV tanks in Room 134 (Set 55).</p> <p>The concrete floor in room 146 provided secondary containment for the tank system and the repack operations.</p>
Unit Boundaries and Interfaces:	<p>The ball mill washer tank system includes the washer, pan, annular tank, pumps, and filters located in the SRV and the outlet piping leading to Tanks SR-3, SR-4, and SR-5 in Room 134 (Set 55). A drawing is attached showing the tanks and ancillary equipment.</p> <p>The concrete secondary containment for the SRV will be addressed with SET 82 (building structure).</p>
EPA Waste Codes/ Waste Characterization:	<p>The tanks were verified to be physically empty during an SRV entry made in October 2000. Analytical results of drums of ball mill sludge show that the sludge contains levels of RCRA metals below TCLP, and VOCs were non-detect. Based on the analysis, the ball mill sludge (IDC 340) was re-characterized as non-hazardous in July 2001. (ref. BCF WF46-007-2001) The ball mill sludge had previously been characterized as hazardous for lead (D008) based on process knowledge.</p> <p>The ball mill washer tank system will also be characterized as non-hazardous based on the analytical results of the sludge.</p>
Selected Closure Option:	The ball mill washer tank system will be closed by removal and managed as non-hazardous waste.
Closure Activities:	Closure activities for the tanks and ancillary equipment include draining, any residual liquids and sludges, removal, size reduction (if necessary) and packaging of waste.
Waste Disposal:	<p>The ball mill washer tank system and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as non-hazardous CERCLA remediation waste. Liquids and sludges, if any, drained from the equipment will be tested for pH and if between 2 and 12.5 will be managed as non-hazardous wastes based on previous analyses. Absorbent will be added to waste packages with items that could contain residual liquids or sludges.</p> <p>Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.</p>

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B776/777, SET 60
Size Reduction Vault Ball Mill Tank System
Building 776, Room 146



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**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

Unit #	RCRA Unit #	Description	Regulatory Status	Closure Status
61	49.02	Pilot Fluidized Bed Incinerator	Interim Status Treatment Unit	Inactive

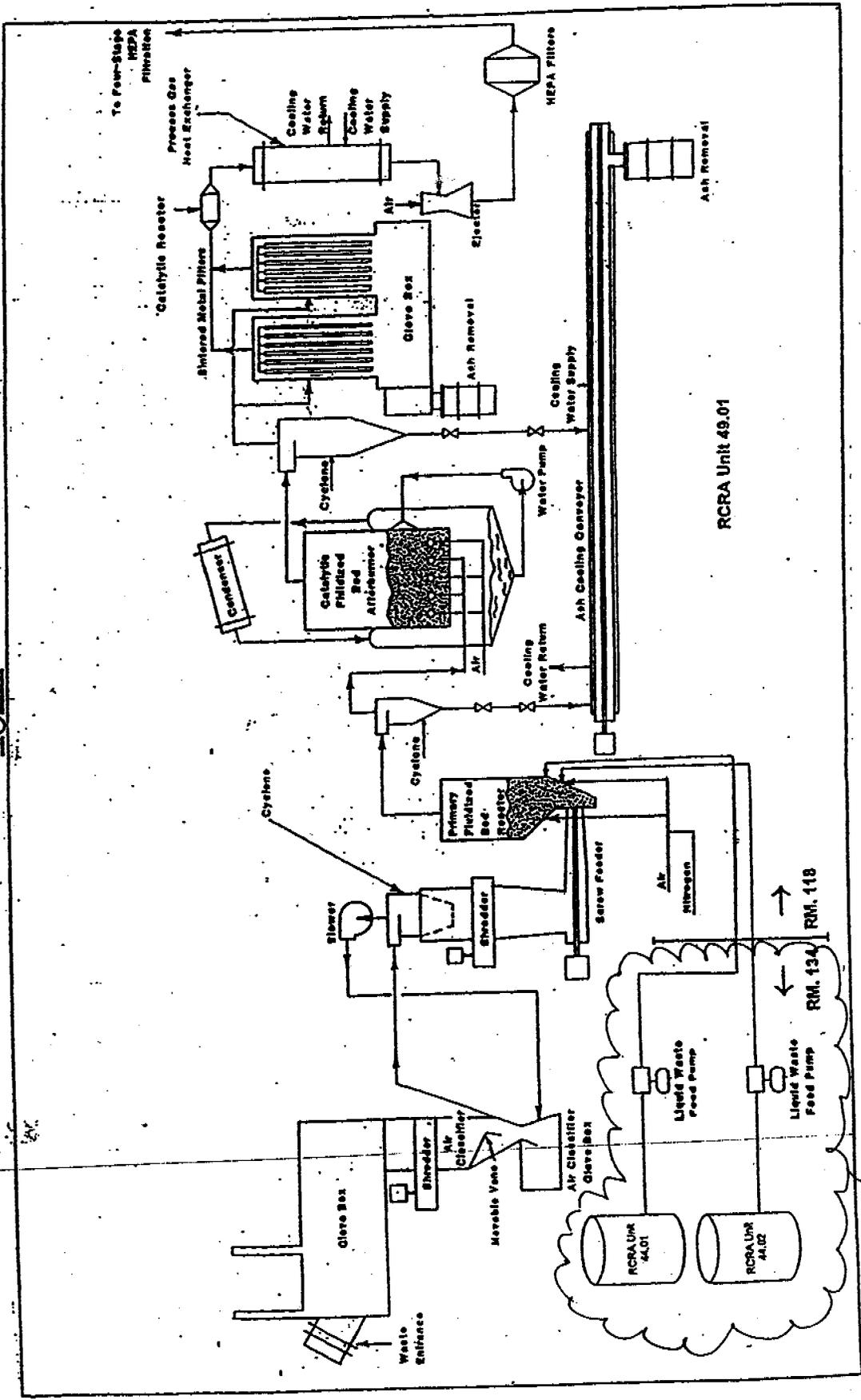
Unit Description:	<p>The Pilot Fluidized Bed Incinerator (FBI) is located in Building 776, Room 135. The pilot FBI was built as a scaled up version of a laboratory scale incinerator, with a feed rate of 9 kg/hr. The incinerator could burn both liquid and solid wastes. The wastes were fed into the primary incineration reactor containing a fluidized bed of sodium carbonate and chromic oxide on alumina oxidation catalyst. The off gas from the primary reactor passed through a cyclone separator and entered the afterburner reactor, which also contained a fluidized bed of chromic oxide on alumina oxidation catalyst. The off gas from the afterburner reactor passed through another cyclone separator and through a bank of sintered metal filters that removed the remaining particulate from the air stream. The exhaust then passed through HEPA filters prior to exiting through the building plenum system HEPA filters.</p> <p>The pilot FBI was built in 1973. The unit was tested using new solid feed materials from June 1973 – July 1974. The unit was then modified to accommodate liquid feed in 1974. From February 1975 – July 1980 the unit burned paint thinner from the B333 paint shop; miscellaneous solid wastes such as wipes, plastic, and general building trash; HEPA filters; ion exchange resin; sewage sludge from the Rocky Flats sewage plant; a new tributyl phosphate/kerosene mixture; and wastes such as naphtha, methylene chloride paint stripper, ultrasonic cleaner and rinse, #6 fuel oil sludge, spent kerosene, benzene, xylene, and color indicators. (Ref. FBI Trial Burn Plan, 1/14/88)</p> <p>A PCB trial burn was conducted in May 1981. The test burn feed was prepared by mixing 25 weight percent pyranol and 75 weight percent kerosene. The pilot FBI demonstrated a 99.9999 percent destruction efficiency for PCBs.</p>
Unit Boundaries and Interfaces:	The pilot FBI unit boundary includes all equipment and gloveboxes within Room 135. A drawing showing the pilot FBI system is attached. The feed tanks (pencil tanks T-1 and T-2) in Room 134 were removed in March 2000.
EPA Waste Codes/Waste Characterization:	<p>Ash from the pilot FBI has been characterized with EPA waste codes D007 and F005. D007 is assigned to the ash based on the chromium oxide in the fluid bed catalyst. The liquid feed was characterized with EPA waste codes of D001, D007, D035, and F005. (Ref. Backlog Waste Reassessment Baseline Book, Subpopulation 1D.) There is no evidence to suggest the solid feed was hazardous.</p> <p>Portions of the unit that have come into contact with ash or liquid wastes will either be treated according to the debris rule, or removed and managed as mixed waste with EPA waste code F005.</p> <p>The liquid feed system and ash will be tested to determine if they are contaminated with PCBs, and the waste will be managed appropriately based on the sampling results.</p>
Selected Closure Option:	<p><u>Liquid waste feed system:</u> Unit removal without onsite treatment.</p> <p><u>Primary reactor, afterburner reactor, cyclones, sintered metal filters, connecting ductwork:</u> Unit removal, optionally preceded by debris rule treatment if insides of system can be</p>

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	accessed for cleaning. <u>Ash collection glovebox:</u> Unit removal in conjunction with debris rule treatment.
Closure Activities:	Closure activities include draining any residual liquids, removing any residual catalyst material and ash, size reduction (as necessary) and packaging of the equipment. The liquid waste feed system (piping, pump, filters) will be removed and packaged as LLM waste. Closure activities for the gloveboxes and components will include cleaning using an approved decon solution. After cleaning, the surfaces will be visually inspected to determine if they meet the standard for a clean debris surface. If they meet the standard, the component will be closed by removal and managed as non-hazardous waste. Otherwise, they will be closed by removal and managed as mixed waste.
Waste Disposal:	The piping, FBI equipment, gloveboxes and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.

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B776/777, SET 61
Pilot Fluidized Bed Incinerator
Building 776, Room 135



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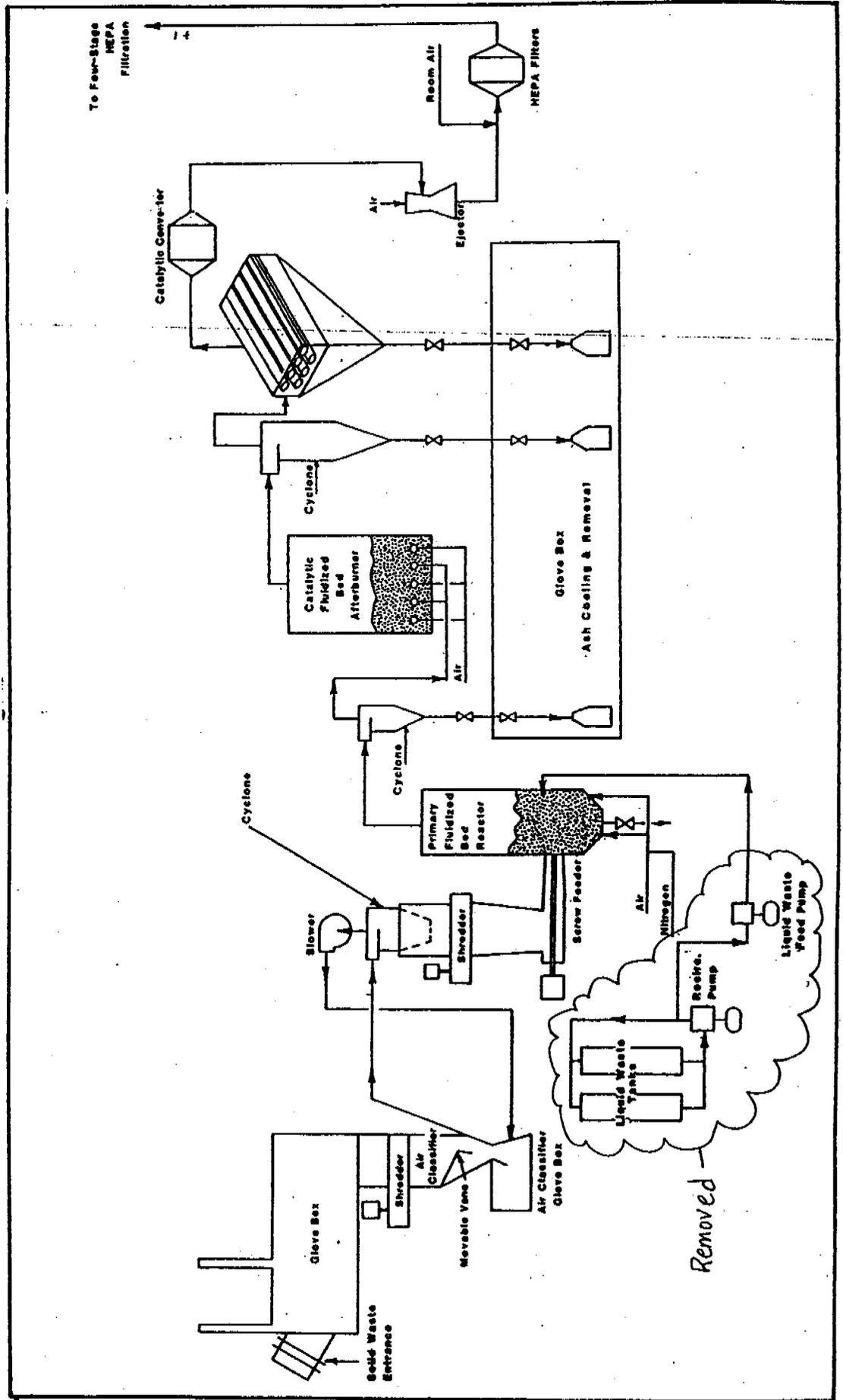
**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

SET #	RCRA Unit #/S	Designation	Regulatory Status	Closure Status
63	49.01	Production Fluidized Bed Incinerator	Interim Status Treatment Unit	Inactive

Unit Description:	<p>The Production Fluidized Bed Incinerator (FBI) is located in Building 776, Room 118. The production FBI was built as a 9 to 1 scaled up version of the pilot FBI. The incinerator could burn both liquid and solid wastes. The wastes were fed into the primary incineration reactor containing a fluidized bed of sodium carbonate and chromic oxide on alumina oxidation catalyst. The off gas from the primary reactor passed through a cyclone separator and entered the afterburner reactor, which also contained a fluidized bed of chromic oxide on alumina oxidation catalyst. The off gas from the afterburner reactor passed through another cyclone separator and through a bank of sintered metal filters that removed the remaining particulate from the air stream. The exhaust then passed through HEPA filters prior to exiting through the building plenum system HEPA filters.</p> <p>The production FBI was built in 1978. The first runs (1978-1981) used non-contaminated office trash, B776 low-level combustible waste, and compressor oil as test materials. Further testing was conducted from 1985-1988 using methanol, diesel products, and nonradioactive surrogate combustibles (shredded coveralls, leather gloves, rolls of PVC plastic, wood, and paper (Ref. Backlog Waste Reassessment Baseline Book and FBI Trial Burn Plan, 1/14/88)</p>
Unit Boundaries and Interfaces:	The Set 63 boundary includes all equipment within the incinerator canyon, room 118, and associated gloveboxes and control equipment in rooms 118A, 118B, 118C, 118D, 118E, 118F, 118G, and 118 H. A drawing showing the production FBI system is attached. The feed tanks (raschig ring tanks T-1 and T-2) in Room 134 were removed in January 2000 with Set 62.
EPA Waste Codes/ Waste Characterization:	Ash from the production FBI has been characterized with EPA waste code D007 based on the chromium oxide in the fluid bed catalyst. The solids and liquids burned in this unit were not known to contain any EPA-listed wastes. (Ref. Backlog Waste Reassessment Baseline Book, Subpopulation 1C.)
Selected Closure Option:	Unit removal without onsite treatment.
Closure Activities:	Closure activities include draining any residual liquids, removing any residual catalyst material and ash, size reduction (as necessary) and packaging of the equipment. As the equipment is dismantled, the interior surfaces will be visually inspected to determine if they are free from significant quantities of residual wastes. If so, the component will be closed by removal and managed as non-hazardous waste. If significant residual material remains that cannot be readily removed, the component will be closed by removal and managed as mixed waste with waste code D007.
Waste Disposal:	The piping, FBI equipment, gloveboxes and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.

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B776/777, SET 63
Production Fluidized Bed Incinerator
Building 776, Room 118



**Appendix H
 B776/777 Closure Project
 RCRA Unit Closure Information Sheet**

SITE #	RCRA Unit #	Description	Regulatory Status	Closure Status
64	74	Supercompactor and Repackaging Facility	Interim Status Treatment Unit	Inactive

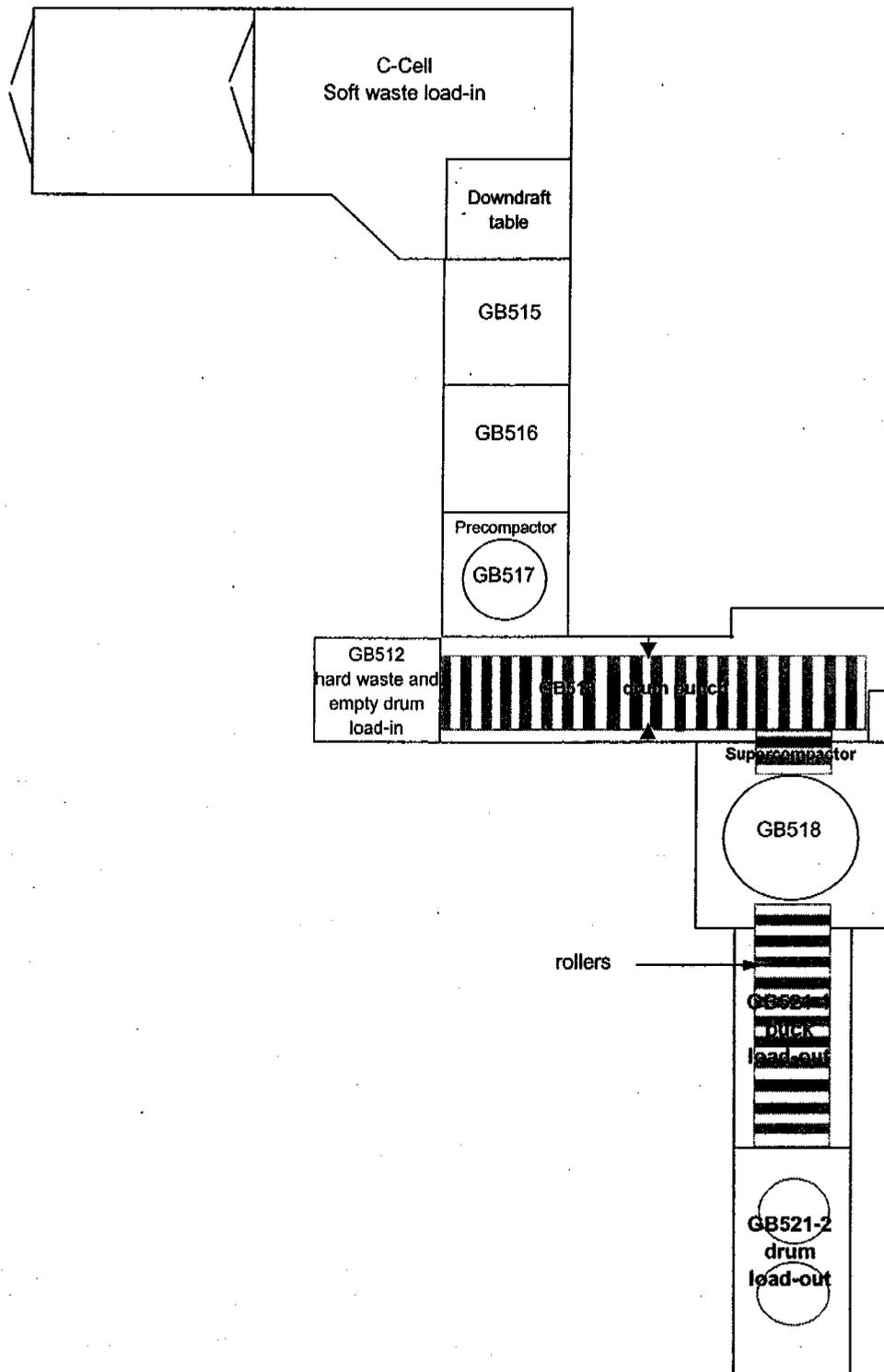
Unit Description:	<p>The Supercompactor and Repackaging Facility (SARF) is located in Building 776, Room 134. The SARF was installed in the early 1990's and operated briefly in 1993-1994. The largest pieces of equipment are a 2000 ton (force) supercompactor, 30 ton pre-compactor, and associated hydraulic systems.</p> <p>Much of the SARF equipment is located inside of gloveboxes, including GBs 512, 513, 515, 516, 517, 518, and 521. A c-cell was constructed on the north end of GB515 to provide containment for drum load-in. Drums of soft waste (paper, plastic) were unloaded in the c-cell on a downdraft table. The inner waste bags were transferred into GB516 where they were opened and sorted to remove non-conforming items. The waste was then placed into 35-gallon drums in GB517 for precompaction. The precompactor ram compressed soft waste within the 35-gallon drum. Filled drums were transferred via motorized rollers into GB513 for piercing. 35-gallon drums of hard waste (metal, glass) were loaded into GB512 for direct transfer into GB513 for piercing, and did not go through the precompactor. The drums were pierced to allow air to escape from the 35-gallon drum during supercompaction, which occurred in GB518. Supercompaction involved crushing the entire 35-gallon drum plus contents into a "puck." There was a collection ring at the base of the supercompactor to collect any liquids, but no liquid was ever encountered. The compressed pucks were loaded out into 55-gallon drums from GB521.</p> <p>The hydraulic systems were located outside the gloveboxes and did not come in contact with hazardous waste.</p> <p>Secondary containment for the SARF is provided by the gloveboxes.</p>
Unit Boundaries and Interfaces:	The SARF unit boundary includes the glovebox system and the attached c-cell. A drawing showing the SARF layout is attached. The SARF was a stand-alone system and did not connect to any other gloveboxes or piping systems.
EPA Waste Codes/ Waste Characterization:	<p>A WEMS query identified only 11 drums of mixed waste generated by the SARF. Ten drums carry EPA waste codes of F001 and F002, and one drum has F005, D007, and D008 in addition to F001 and F002.</p> <p>The glovebox floors and rollers and the precompactor and supercompactor rams will be cleaned using debris rule technology and managed as LLW or TRU waste.</p>
Selected Closure Option:	Unit removal in conjunction with debris rule treatment.
Closure Activities:	The SARF components and containment that directly contacted listed waste include the floors of GBs 516, 517, 513, 518, and 521, the rollers in GBs 513 and 521, the drum punching/piercing unit, and the precompactor and supercompactor rams. Closure activities for these gloveboxes and components will include cleaning using an approved decon solution. After cleaning, the surfaces will be visually inspected to determine if they meet the standard for a clean debris surface. If they meet the standard, the component will be closed by removal and managed as non-hazardous waste. Otherwise, they will be closed

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	by removal and managed as mixed waste.
Waste Disposal:	The gloveboxes, precompactor, supercompactor, and secondary waste (e.g., PPE, decon wipes, and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.

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B776/777, SET 64
Supercompactor and Repackaging Facility (SARF)
Building 776, Room 134



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**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

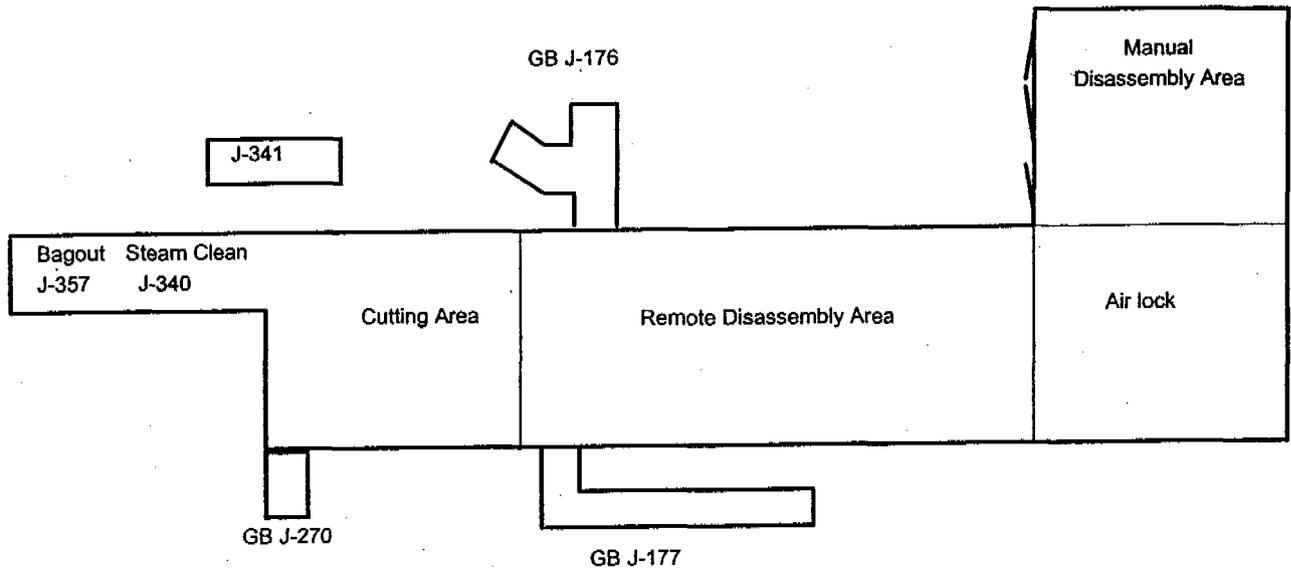
Set	RCRA Unit	Description	Regulatory Status	Closure Status
66	776.1, 776.3	Advanced Size Reduction Facility	Permitted Storage and Treatment Unit	Active
	94.005, 94.006	Tanks T-344, T-345	Mixed Residue	Physically empty

<p>Unit Description:</p>	<p>The Advanced Size Reduction Facility (ASRF) is located in Room 134. The ASRF is a large stainless steel containment canyon that extends from ground level on the first floor through the 2nd floor (Room 209). There are five gloveboxes (J-176, -177, -270, -340, and -357) attached to the ASRF. Another free-standing glovebox (J-341) is located north of GB J-340.</p> <p>The ASRF was installed and operated in the 1980's for remote size reduction of equipment and gloveboxes. The ASRF has four major areas, which are the Manual Disassembly Area (MDA), Transfer Area, Remote Disassembly Area (RDA) and Cutting Area. The MDA is currently used for waste treatment and repackaging. Once the cutting was completed, the pieces were passed through GB J-340 into J-357. GB J-340 was designed with a steam cleaner.</p> <p>Steam condensate was collected in pencil tank T-345 below GB J-340 and filtered in GB J-341. The condensate was then either cooled in heat exchangers and collected in Pencil Tank T-344 for recycle to the steam guns in the ASRF, or transferred to Annular Tanks T-360 and T-370 (Set 52).</p> <p>Glovebox J-176 has a drum drop and was originally designed as a waste sorting area. This glovebox has been used for leaded glove washing, LECO crucible repackaging, and other repack and sampling operations. Gloveboxes J-177 and 270 have been used for the storage of RCRA-regulated liquids.</p> <p>Secondary containment for the ASRF is provided by a stainless steel floor in the ASRF, a stainless steel catch pan beneath T-344 and T-345, and all associated gloveboxes.</p>
<p>Unit Boundaries and Interfaces:</p>	<p>The ASRF unit boundary includes the entire canyon area and all attached gloveboxes. A drawing showing the ASRF layout is attached.</p> <p>A drawing is attached showing the T-344/T-345 tank system. Regulated piping beneath approximately eight feet will be removed as part of Set 66, and the ends of the piping leading into the overhead will be capped or plugged. The remaining line in the overhead in Room 134 will be removed as part of Set 78 (miscellaneous piping over eight feet).</p>
<p>EPA Waste Codes/ Waste Characterization:</p>	<p>The tanks were drained to a physically empty condition in June 2000. Analytical results show that the liquid waste contains low levels of listed solvents (1,1,1 trichloroethane at up to 1100 ug/l and carbon tetrachloride at up to 570 ug/l) and levels of RCRA metals below TCLP.</p> <p>The T-344/T-345 tanks and ancillary equipment will either be treated according to the debris rule, washed/flushed/rinsed and sampled, or removed and managed as mixed waste with EPA waste codes of F001 and F002.</p> <p>The gloveboxes, catch pan, and the stainless steel floor of the ASRF will be cleaned using debris rule technology and managed as LLW or TRU waste.</p>

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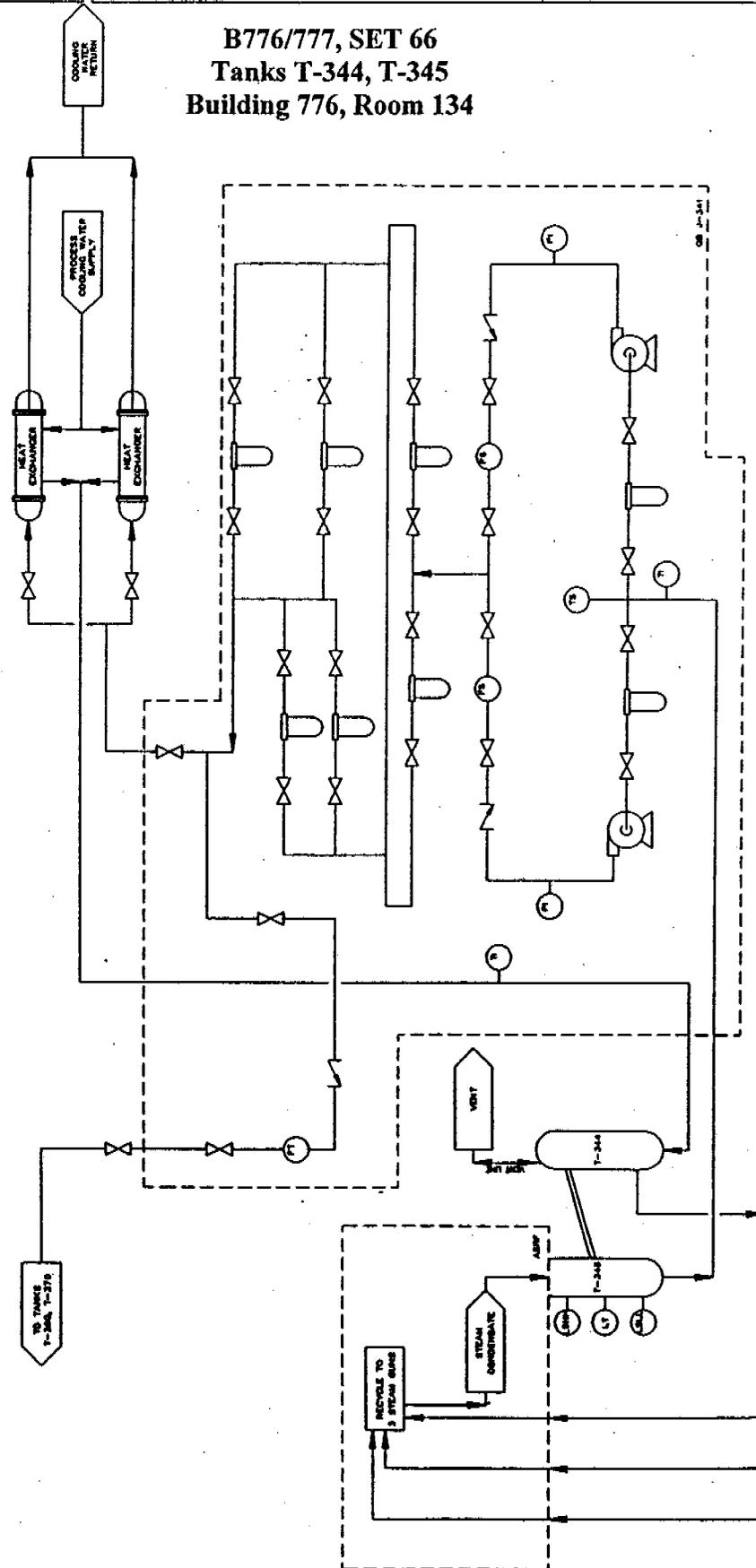
Selected Closure Option:	<u>Regulated ancillary equipment:</u> Closure by removal. Optionally the piping may be washed, rinsed and sampled or cleaned to meet debris rule standards prior to removal. <u>Gloveboxes, stainless steel catch pan, and stainless steel floor of the ASRF:</u> Unit removal in conjunction with debris rule treatment.
Closure Activities:	Closure activities for the ancillary equipment include draining any residual liquids, removal, size reduction, and packaging of waste. Optional closure activities include flushing/washing the piping with a solution capable of removing the contaminants of concern followed by rinsing and sampling, or debris rule cleaning followed by closure by removal. Closure activities for the gloveboxes, stainless steel catch pan, and the stainless steel floor of the ASRF will include cleaning using an approved decon solution. After cleaning, the surfaces will be visually inspected to determine if they meet the standard for a clean debris surface. If they meet the standard, the component will be closed by removal and managed as non-hazardous waste. Otherwise, they will be closed by removal and managed as mixed waste.
Waste Disposal:	The tanks, piping, pumps, gloveboxes, stainless steel floor/catch pan, and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Absorbent will be added to waste packages with items that could contain residual liquids or sludges. Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.

B776/777, SET 66
Advanced Size Reduction Facility
Building 776, Room 134



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B776/777, SET 66
Tanks T-344, T-345
Building 776, Room 134



Note: Shading indicates non-regulated equipment

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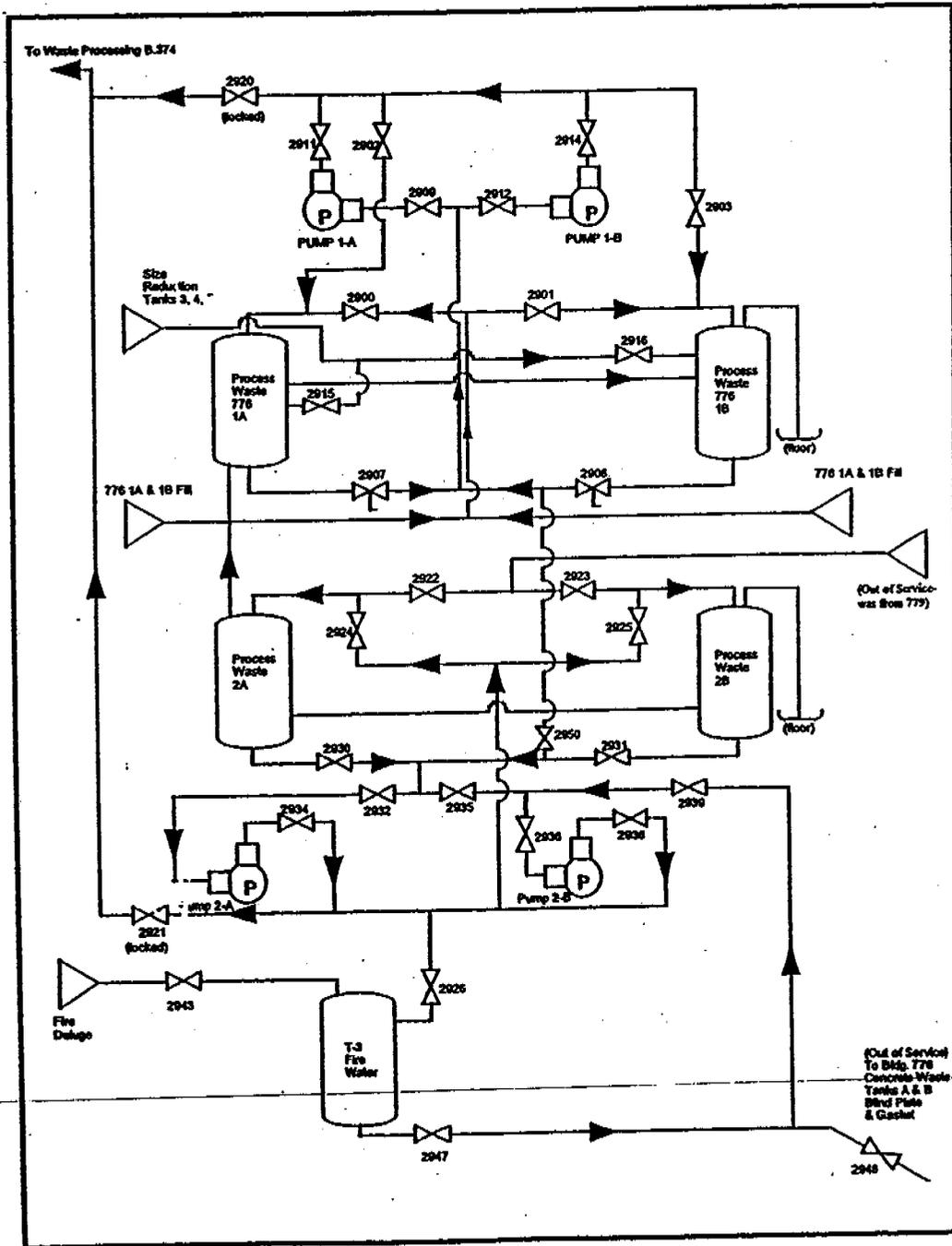
**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

SET #	RCRA UNIT	Description	Regulatory Status	Closure Status
69	776.2 A, B, C, D	Tanks T-1A, T-1B, T-2A, T-2B	Permitted	Active

Unit Description:	<p>SET 69 includes five fiberglass tanks within a bermed area in Room 127. Four of the tanks are RCRA-permitted process waste tanks. The fifth tank, T3, is a raschig ring filled tank for the collection of plenum deluge water, and is not RCRA regulated.</p> <p>The process waste tanks have been in use since 1977. The tanks have historically collected hazardous and non-hazardous process wastes from Buildings 776, 777, and 779. The tanks currently collect hazardous and non-hazardous remediation wastes from Buildings 776 and 777.</p> <p>The liquids from the tanks are pumped through the process waste lines to Building 374 via valve vault 9. When Building 374 closes, the waste will be collected by tanker truck for transfer to a treatment facility.</p> <p>A hypalon-lined bermed area provides secondary containment for the tanks. The concrete floor of the building provides secondary containment for the ancillary piping.</p>
Unit Boundaries and Interfaces:	<p>The T-tank system includes the four tanks and ancillary equipment in the bermed area, and the outlet piping leading to valve vault 9. All ancillary piping beneath approximately eight feet will be removed as part of Set 69, and the ends of the piping leading into the overhead will be capped or plugged. The remaining lines in the overhead will be removed as part of Set 78 (miscellaneous piping over eight feet). A drawing is attached showing the tanks and ancillary equipment.</p> <p>The hypalon liner and concrete berm will be removed as part of Set 69. The concrete floor will be addressed with Set 82, Building Structure.</p>
EPA Waste Codes/Waste Characterization:	<p>The T-tanks have stored process waste that was characteristically hazardous for RCRA metals such as cadmium, chromium, and lead (D006, D007, and D008). The tanks also stored low-concentration F-listed wastes (F001, F002) received from ASRF condensate tanks T-360 and T-370.</p> <p>The 776 Closure Project may elect to demonstrate that the F-listed wastes are no longer contained in the T-tank system, in conjunction with characterization efforts for the site-wide process waste system (e.g. B374 sludge de-listing petition).</p>
Selected Closure Option:	<p><u>Tanks and ancillary equipment:</u> The T-tank system will be closed by removal. Optionally the system may be washed, rinsed and sampled or cleaned to meet debris rule standards prior to removal.</p> <p><u>Hypalon liner in secondary containment:</u> Unit removal in conjunction with debris-rule treatment, or unit removal without onsite treatment.</p>
Closure Activities:	<p>Closure activities for the tanks and ancillary equipment include draining any residual liquids or sludges, removal, size reduction, and packaging of waste. Optional closure activities include flushing/washing the piping with a solution capable of removing the contaminants of concern followed by rinsing and sampling, or debris rule cleaning followed by closure by removal.</p>

	The hypalon liner will be optionally cleaned using debris rule technology, and will be closed by removal.
Waste Disposal:	<p>The tanks, piping, pumps, hypalon liner, and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Hazardous liquids or sludges, if any, drained from the equipment will be managed as remediation wastes. Absorbent will be added to waste packages with items that could contain residual liquids or sludges.</p> <p>Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.</p>

B776/777, SET 69
Process Waste Tank System Diagram
Building 776, Room 127



Note: Tank T-3 is not part of the RCRA-regulated system

**Appendix H
B776/777 Closure Project
RCRA Unit Closure Information Sheet**

SET #	RCRA Unit (S)	Description	Regulatory Status	Closure Status
78	Various – see description below	Overhead RCRA piping above 8 feet	Mixed residue, permitted	T-tanks active All others inactive

<p>Unit Description:</p>	<p>SET 78 includes overhead piping above approximately 8 feet that will remain after removal of tank and glovebox sets. This set includes piping ancillary to the following RCRA tank systems:</p> <p>Tanks T-1, T-2; Units 95.015, 95.016; tanks removed with Set 26.</p> <p>Tank T-7, Unit 95.014, tank removed with Set 11.</p> <p>Tanks 1103, 1104, 1106; Units 95.006, 95.007, 95.008; tanks removed with Set 7.</p> <p>Tanks T-1A, T-1B, T-2A, T-2B (“T-Tanks”); Unit 776.2; tanks to be removed with Set 69.</p> <p>Tanks SR-3, SR-4, SR-5; Units 94.001, 94.002, 94.003; tanks removed with Set 55.</p> <p>Ball mill washer, annular tank, and collection pan in Size Reduction Vault (SRV); Units 94.009, 94.010, 94.011; tanks are physically empty and will be removed with Set 60.</p> <p>Tanks T-344, T-345; Units 94.005, 94.006; tanks are physically empty and will be removed with Set 66.</p> <p>Reverse flow line; ancillary to Unit 774.3B; process waste piping from Building 774 that passes through Building 776 but does not connect to B776 waste lines.</p> <p>The concrete floor of the building provides secondary containment for the ancillary piping.</p>
<p>Unit Boundaries and Interfaces:</p>	<p>A drawing is attached (Plate 1) showing the piping covered in Set 78. The drawing also shows some non-regulated piping for clarification, as many non-regulated lines are marked as “process waste” in the building.</p> <p>The aqueous process waste lines (reverse flow line and T-tank line to Building 374) will be removed from the south end of the 771 tunnel (where the two lines enter the 776 elevator basement) through Building 776 and 778, and the lines will be capped where they exit Building 778 leading to valve vault 9. Although Building 778 is included in the Building 707 DOP, the process waste lines will be closed under the Building 776 DOP.</p> <p>The machine coolant/solvent waste line and trichloroethane waste line entering Building 777 from Building 707 will be cut and capped at the boundary between Buildings 777 and 778 hallway. The machine coolant/solvent waste line exiting the north side of Building 776 going toward Building 774 will be cut and capped at a logical point between the buildings mutually agreed upon between the two closure projects.</p> <p>The concrete floor that serves as secondary containment in Buildings 776 and 777 will be addressed with Set 82, Building Structure.</p>

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<p>EPA Waste Codes/ Waste Characterization:</p>	<p>The piping associated with mixed residue tanks T-1, T-2, T-7, 1103, 1104, and 1106 contained waste oils and/or solvents, and will be characterized with EPA codes F001 and F002.</p> <p>Piping associated with the T-tanks, including the feed line from Building 779 and the outlet line to Building 374, transferred only characteristic hazardous waste for several years, although historically they were permitted for F-listed waste codes. The 776 Closure Project may elect to demonstrate that the F-listed wastes are no longer contained in the T-tank system, in conjunction with characterization efforts for the site-wide process waste system (e.g. B374 sludge de-listing petition). This characterization will also be applied to the reverse flow line from Building 774.</p> <p>The outlet lines from Tanks T-344, T-345, T-360, and T-370 will be managed with EPA waste codes F001 and F002, consistent with the tank characterization (refer to closure plans for Sets 52 and 66).</p> <p>The outlet lines from the ball mill washer system in the SRV and Tanks SR-3, SR-4, and SR-5 leading to the T-tanks will be managed as non-hazardous LLW at closure, based on characterization of the ball mill sludge as non-hazardous. (Refer to closure plan for Set 60.)</p>
<p>Selected Closure Option:</p>	<p>Closure by removal. Optionally the piping may be washed, rinsed and sampled or cleaned to meet debris rule standards prior to removal.</p>
<p>Closure Activities:</p>	<p>Closure activities for the piping include draining any residual liquids or sludges, removal, size reduction, and packaging of waste.</p> <p>Optional closure activities include flushing/washing the piping with a solution capable of removing the contaminants of concern followed by rinsing and sampling, or debris rule cleaning followed by closure by removal.</p>
<p>Waste Disposal:</p>	<p>The piping and secondary waste (e.g., PPE and plastic containment material) generated during closure activities will be managed as CERCLA remediation waste. Hazardous liquids and sludges, if any, drained from mixed residue systems will be managed as RCRA wastes. Absorbent will be added to waste packages with items that could contain residual liquids or sludges.</p> <p>Upon final radiological characterization, the waste will be packaged and managed in accordance with waste management requirements in Section 6 of the DOP.</p>

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