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2004 OCT 28 A 9:21

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

CORRESPONDENCE CONTROL

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

http://www.cdphe.state. co.us

Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department of Public Health and Environment

October 20,2004

Mr. Joe Legare
Director, Project Management Division
U.S. Department of Energy, Rocky Flats Project Office
10808 Highway 93, Unit A
Golden, CO 80403-8200

RE: Pre-Demolition Survey Report (PDSR) for Building 771 Administration Building (East) - Approval

Dear Mr. Legare:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division has reviewed the PDSR for Building 771 Administration Building (East), also identified as the B771 Administration Area, or Area AA; Revision 0 dated September 29,2004. This PDSR was received on October 19,2004. Based on the information contained in this PDSR we are hereby approving the PDSR for Building 771 Administration Building (East).

Although we are approving this PDSR, it is recognized, as stated in this PDSR, that this area is currently being used to stage waste containers and demolition debris generated from the demolition of B771. As such, prior to demolition, the slab will be cleaned and a verification survey will be performed. The results of this survey will be provided to us for our review and approval prior to removal.

It is also noted that in Attachment E the DQA discussion incorrectly states that Level 2 Isolation Controls have been implemented to prevent contamination of Area AA. However, this is not in agreement with the disclosure provided in Section 8, where it states that Area AA slab is being used to stage waste containers and demolition debris, and that a verification survey will be performed after utilization and prior to removal. Since this area is currently being utilized, as stated above, we will need to be presented an appropriate final survey to confirm that this area has not been contaminated during the ongoing activities.

These and all additional demolition activities and related issues are expected to be discussed and resolved utilizing the consultative process and recorded in Contact Records.

If you have any questions regarding this correspondence please contact me at (303) 692-3367, Denise Onyskiw at (303) 692-3371 or (303) 966-6687, or David Kruchek at (303) 692-3328.

Sincerely,

Steven H. Gunderson
RFCA Project Coordinator

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OCT 20 2004

ADMIN RECORD

cc: Warren Seyfert, DOE
Dave Shelton, KH
Steve Nesta, KH
Bruce Wallen, DOE
Chris Gilbreath, KH
Mark Aguilar, EPA
Sam Garcia, EPA
Administrative Records Building T130G

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Revised 12/03

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00265RF04

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2004 JUN 24 A 7:58

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Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department of Public Health and Environment

DIST.	LTR	ENC
BERARDINI, J.H.	X	
BOGNAR, E.S.	X	
BROOKS, L.	X	
BUTLER, L.	X	
CARPENTER, M.	X	
CROCKETT, G. A.		
DECK, C. A	X	
DEGENHART, K. R.		
DIETER, T. J.		
FERRERA, D. W.	X	
GIACOMINI, J. J.		
LINDSAY, D. C.	X	
LONG, J. W.		
LYLE, J. L.		
MARTINEZ, L. A.	X	
NAGEL, R. E.	X	
NESTA, S.	X	
NORTH, K.	X	
ODGERS, A. D.		
ELTON, D. C.	X	
PEARS, M. S.	X	
PIZZUTO, V.M.		
TOBIN, M.	X	
TUOR, N. R.	X	
WIEMELT, K.		
WILLIAMS, J. L.		
ZAHM, C.	X	
Gilbreath, C	X	
COR. CONTROL	X	
ADMIN. RECORD	X	
PATS/130		

Reviewed for Addressee
Corres. Control RFP

6/24/04 Date By

June 19, 2004

Mr. Joe Legare
Director, Project Management Division
U.S. Department of Energy, Rocky Flats Project Office
10808 Highway 93, Unit A
Golden, CO 80403-8200

RE: Pre-Demolition Survey Report (PDSR) for Building 771 Exhaust Stack - Approval

Dear Mr. Legare:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division has reviewed the PDSR for Building 771 Exhaust Stack, Revision 0 dated June 9, 2004, and PDSR Addendum for the Exhaust Stack, Revision 0 dated June 18, 2004. Based on the information contained in this PDSR, and the results of the previously performed investigation, which demonstrate that the entire stack meets the unrestricted release criteria, we are hereby approving the PDSR for the Building 771 Exhaust Stack.

Although we are approving the PDSR for the B771 Exhaust Stack, the Exhaust Tunnel from B771 to the Exhaust Stack was not included in this PDSR. However, as stated in this PDSR, even though the Exhaust Tunnel does not meet the unrestricted release criteria, the remaining contamination will be appropriately protected to prevent releases during the demolition of the Exhaust Stack.

If you have any questions regarding this correspondence please contact me at (303) 692-3367, Denise Onyskiw at (303) 692-3371, or David Kruchek at (303) 692-3328.

Sincerely,

Steven H. Gunderson
RFCA Project Coordinator

Ref. Ltr. #

DOE ORDER #
5400.1

cc: Gary Morgan, DOE
Mark Aguilar, EPA
Warren Seyfert, DOE
Administrative Records Building T130G
Chris Gilbreath, KH
Dave Shelton, KH
Steve Nesta, KH

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ADMIN RECORD
B771-A-000250

Re

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00305 RF 04

DUE DATE

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DIST.	LTR	ENC
BERARDINI, J.H.	X	
BOGNAR, E.S.	X	
BROOKS, L.	X	
BUTLER, L.	X	
CARPENTER, M.	X	
CROCKETT, G. A.		
DECK, C. A.	X	
DEGENHART, K. R.	X	
DIETER, T. J.		
FERRERA, D. W.	X	
GIACOMINI, J. J.		
LINDSAY, D. C.	X	
LONG, J. W.		
LYLE, J. L.		
MARTINEZ, L. A.	X	
NAGEL, R. E.	X	
NESTA, S.	X	
NORTH, K.	X	
RODGERS, A. D.		
SHELTON, D. C.	X	
SI I. S.	X	
PI M.		
TO		
TUOR, N. R.	X	
WIEMELT, K.		
WILLIAMS, J. L.		
ZAHM, C.	X	
Gilbreath	X	

COR. CONTROL	X	
ADMIN. RECORD	X	
PATS/130		

Reviewed for Addressee
Corres. Control RFP

7/21/04 — Date — By

Ref. Ltr. #

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2004 JUL 21 A 11:28
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Bill Owens, Governor
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(303) 692-3090

Colorado Departmen
of Public Health
and Environment

July 14, 2004

Mr. Joe Legare
Assistant Manager for Environment and Stewardship
U.S. Department of Energy, Rocky Flats Project Office
10808 Highway 93, Unit A
Golden, CO 80403-8200

RE: Pre-Demolition Survey Reports (PDSRs) for Building 771 Administration Building (West), Locker Room Area (AC), and Indirect/Direct Evaporative Cooling Building (IDEC) - Approval

Dear Mr. Legare:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division has reviewed the PDSRs for Building 771 Administration Building (West), Locker Room Area (AC), and Indirect/Direct Evaporative Cooling Building (IDEC), Revision 1 dated July 12, 2004 (received on July 14, 2004). Based on the information contained in these PDSRs, we are hereby approving the PDSRs for the Building 771 Administration Building (West), the B771Locker Room Area, and the B771 Indirect/Direct Evaporative Cooling Building.

If you have any questions regarding this correspondence please contact me at (303) 692-3367, Denise Onyskiw at (303) 692-3371, or David Kruchek at (303) 692-3328.

Sincerely,

Steven H. Gunderson
RFCA Project Coordinator

cc: Gary Morgan, DOE
Mark Aguilar, EPA
Warren Seyfert, DOE
Administrative Records Building T130G
Chris Gilbreath, KH
Dave Shelton, KH
Steve Nesta, KH

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JUL 21 2004
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2003 JUN 30 A 9:16

CORRESPONDENCE CONTROL

Rev. 07/03

CORRES. CONTROL
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00603RF03

DUE DATE

ACTION

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

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Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department of Public Health and Environment

DIST.	LTR	ENC
BERARDINI, J. H.	X	
BOGNAR, E. S.	X	
CROCKETT, G. A.		
DECK, C. A.	X	
DEGENHART, K. R.		
DIETER, T. J.	X	
DIETERLE, S. E.		
FERRERA, D. W.	X	
FERRI, M. S.		
GIACOMINI, J. J.		
ISOM, J. H.		
LINDSAY, D. C.	X	
LONG, J. W.		
LYLE, J. L.		
MARTINEZ, L. A.	X	
NAGEL, R. E.	X	
NORTH, K.	X	
PARKER, A. M.	X	
RODGERS, A. D.		
SHELTON, D. C.	X	
SPEARS, M. S.		
RICE, K. D.		
OR, N. R.	X	
LLIAMS, J. L.		
GILBRETH, C.	X	
ROBERTS, S.	X	
ZAHM, C.	X	
BROOKS, L.	X	
BUTLER, L.	X	

COR. CONTROL	X	
ADMIN. RECORD	X	
PATS/130		

Reviewed for Addressee
Corres. Control RFP

6/30/03 Date By

Ref. Ltr. #

DE ORDER #
5400.1

June 19, 2003

Mr. Joseph A. Legare
Assistant Manager for Environment and Infrastructure
US Department of Energy, Rocky Flats Field Office
10808 Highway 93, Unit A
Golden, CO 80403-8200

Re: Approval of the Pre-Demolition Survey Report (PDSR) for Building 771 Maintenance Shop

Dear Mr. Legare:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division has reviewed the PDSR for the Building 771 Maintenance Shop, Revision 0 dated June 17, 2003. Based on the information contained in this document, we are hereby approving the PDSR for the B771 Maintenance Shop.

If you have any questions regarding this correspondence please contact me at (303) 692-3367, Denise Onyskiw at (303) 692-3371, or David Kruchek at (303) 692-3328.

Sincerely,

Steven H. Gunderson
RFCA Project Coordinator

cc: Mark Aguilar, EPA
James Brothers, DOE
Thomas Dieter, KH
Chris Gilbreath, KH
Timothy Rehder, EPA
Sarah Roberts, Acacia
Dave Shelton, KH
~~Administrative Records, T130G~~

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B771-A-000189

Revised 09/05

CORRES. CONTROL
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20454 RF05

DUE DATE

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DIST.	LTR	ENC
BERARDINI, J.H.	X	
BOGNAR, E.S.	X	
BROOKS, L.	X	
CROCKETT, G. A.	X	
DECK, C. A.	X	
DEGENHART, K. R.	X	
FERREBA, D. W.	X	
GIACOMINI, J. J.		
GILPIN, H.		
LINDSAY, D. C.	X	
LONG, J. W.		
NESTA, S.	X	
SHELTON, D. C.	X	
TUOR, N. R.	X	
NAR	X	
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COR. CONTROL	X	
ADMIN. RECORD	X	

Reviewed for Addressee
Corres. Control RFP

9/13/05 DC
Date By

Re

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5400.1

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2005 SEP 13 P 2:21
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STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director
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Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department
of Public Health
and Environment

September 9, 2005

Mr. John Rampe
Director, Project Management Division
U.S. Department of Energy, Rocky Flats Project Office
12101 Airport Way, Unit A
Broomfield, CO 80021-2583

RE: Closeout Report for Building 771 Closure Project - Approval

Dear Mr. Rampe:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division has reviewed your letter, dated August 25, 2005, and the Decommissioning Closeout Report for the Building 771 Closure Project Revision 1, dated July 2005. The Building 771 Closure Project includes Buildings 771, 774, 771C, 771 Stack, 728, 770, 714, 775, 715, 716, 714A, 771B, 717, 772, 772A, 773, and S770, as well as Trailers 771A-C, E-H, J-L, MB, Q, R, T, and DT. Also included are Tanks 176, 182-184, 185, 194, 195, 292, 293, 774A and 774B, and their associated structures. Based on the information provided in this Revision 1 Closeout Report, we are approving this Closeout Report for the Building 771 Closure Project.

As indicated in your letter, the Revision 1 Closeout Report supercedes the previously submitted Revision 0 Closeout report submitted on May 25, 2005.

If you have any questions regarding this correspondence please contact me at (303) 692-3328, Denise Onyskiw at 303-692-3371, or Harlen Ainscough at (303) 692-3337.

Sincerely,

David Kruchek

David A. Kruchek
Acting Rocky Flats Oversight Unit Leader

cc: Richard Schassburger, DOE
Mark Aguilar, EPA
Steve Nesta, KH
Sam Garcia, EPA
Administrative Records – Mountain View
Karen Wiemelt, KH
Dave Shelton, KH
David Abelson, RFCLOG
Carl Spreng, CDPHE

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Decommissioning Closeout Report

771 Closure Project

Revision 0

May 2005

1.0 Introduction

In accordance with the 771 Closure Project Decommissioning Operations Plan (DOP), this closeout report was prepared to summarize the decommissioning and demolition of Type 2 and Type 3 buildings[1] in the Building 771 Closure Project. All of the information and attachments contained in this report were prepared to document the adequacy of decommissioning and demolition activities.

Building 771 was one of six Type 3 buildings at the Rocky Flats Environmental Technology Site (RFETS). It was heavily contaminated as a result of almost 50 years of processing and operating history, a 1957 fire, and numerous leaks and spills of contaminated solutions.

Buildings 714, 728, 770, 774, 775, and 771C were Type 2 buildings. Although originally characterized a Type 2 facility, Building 774, a liquid waste processing facility, was highly contaminated. Remaining Type 2 facilities were found to contain only residual levels of contamination or were uncontaminated.

There were eleven (11) Type 2 tanks: 176, 182, 183, 184, 185, 194, 195, 292, 293, 774A, and 774B. Remaining facilities in the 771 Closure Project were Type 1 facilities and will not be addressed in this report.

Also not addressed in this report are deactivation activities, which included draining and treating thousands of liters of contaminated process solutions that remained in process piping and tanks. Deactivation activities were not in the scope of the DOP.

Section 10.4 of the DOP included a tentative closure report outline, which was subject to change upon project completion. The outline was modified slightly to better address decommissioning activities performed. The content of this report will include:

- Introduction including building history and description
- Verification that DOP requirements were met
- Summary of decommissioning activities including key milestone dates
- Summary of demolition activities
- Waste disposition summary
- Demolition summary
- Site restoration including a description of Under-building Characterization (UBC) that was performed in 2001 and 2002
- Resource Conservation and Recovery Act (RCRA) closure summary
- Attachments, including the Administrative Record (AR) index

Building 771/774 documentation that was submitted for inclusion in the AR will not be included in this report. AR documents will instead be referred to by number in this report and a copy of the AR index included in Attachment 11.15. This closeout report will be submitted to the Department of Energy (DOE) and the Lead Regulatory Agency (LRA). It will also be included in the 771 closure project administrative record post-decisional file.

[1] During scoping characterization, facilities were "typed" according to levels of contamination. Type 3 facilities were expected to contain significant contamination, Type 2 facilities were expected to contain some contamination, and Type 1 facilities were not contaminated.

final proposed grade, filled and left. The 775 structure was demolished and removed. Sewer lines were flushed and those within 3.5 feet were removed, those beneath 3.5 feet were left.

Remaining out-buildings were Type 1 facilities. They included several trailers, a security post, and other small facilities. All were demolished with excavators and most debris was disposed as sanitary waste.

Of the eleven Type 2 tanks, only five were found to be contaminated. Tanks 292 and 293, which were part of the 728 lift station, were removed to minus six feet of final proposed grade, fixed, filled, and left. Tanks 182, 183, and 184, also known as the USTs on the south side of Building 774 were excavated, size-reduced, and disposed as LLW. Tanks 176 185, 194, 195, 774A and 774B were above-grade tanks used for storing caustics and other uncontaminated reagents. They were removed and disposed.

7.5 Demolition Documentation

The following table summarizes AR documentation, in document number order, that supports demolition. Since LRA approval of PDSRs was required to begin demolition, ARs documenting their approval were included in both table 7-5 and 6-2.

Table 7-5. 771 Closure Project Demolition Documentation

Document	Date	AR Document Number
Contact record summarizing disposition of contaminated Building 771 unistrut	October 2, 2003	B771-A-000209
Contact record summarizing disposition of Building 774 pipe chase	March 25, 2004	B771-A-000220
Contact record clarifying the path forward for piping/sleeve penetrations that remain with six feet of final proposed grade	December 9, 2003	B771-A-000230
Contact record discussing demolition of Building 774 rooms 220 and 320	November 5, 2003	B771-A-000231
ORISE verification report for Building 774	May 11, 2004	B771-A-000247
LRA approval of PDSR for Building 771 Exhaust Stack	June 19, 2004	B771-A-000250
Contact record regarding disposition of slab beneath Area AA	July 12, 2004	B771-A-000253
LRA approval of PDSR for Areas AC, AA(West), AN, Building 775 (Sanitary Lift Station) and the concrete pads for the diesel tanks and Building 716	July 14, 2004	B771-A-000255
LRA approval of PDSR for Building 774 east deck pad	July 19, 2004	B771-A-000262
LRA approval of PDSR for Building 771 Area AE and Area AH (west)	September 14, 2004	B771-A-000264

Table 7-5. 771 Closure Project Demolition Documentation

Document	Date	AR Document Number
Contact record regarding the use of recycled concrete for fill, and disposition of major structural portions of Area AF that do not meet unrestricted release as LLW	September 13, 2004	B771-A-000266
LRA approval of PDSR for Building 771 Areas AF and AH (east)	September 21, 2004	B771-A-000268
Contact record regarding the unrestricted release of Area AA (east) and disposal and recycling of materials	September 29, 2004	B771-A-000270
Contact record in which the LRA agreed to the disposal of rebar as LLW	October 20, 2004	B771-A-000271
Contact record in which the LRA agreed the slab of Area AA (east) met unrestricted release	October 26, 2004	B771-A-000272
LRA approval of PDSR for Area AA (east)	October 20, 2004	B771-A-000273

8.0 Waste Disposition

Table 8-0 describes the actual container volume or mass of the various wastes generated by the project. Amounts were converted to the estimate unit of measurement for comparison.

Table 8-0. Waste Summary

[redacted]				
Transuranic (TRU)	TRU – Including Asbestos	1,860 m^3	2,066 m^3	Waste Isolation Pilot Plan (WIPP)
	TRU Mixed (TRM) - Including Asbestos	350 m^3	648 m^3	WIPP
	TRU/TRM Liquids	0.01 m^3	Included	WIPP
TRU TSCA	TRU - Toxic Substance Control Act	0 m^3	0 m^3	N/A
Low-Level (LLW)	LLW – Including Asbestos	4,110 m^3	8,647 m^3	NTS, Envirocare
	LLW – Demolition debris (concrete, rebar, asphalt, soil)	2,790 m^3	10,111 m^3	NTS, Envirocare
	LLW – Surface Contaminated Objects (SCO), no str. debris	10,600 m^3	16,727 m^3	NTS, Envirocare
	Asphalt (most was disposed as LLW)	0	Volume Included (1,861 tons)	Envirocare, NTS, or Sanitary Landfill

Revised 08/05

CORRES. CONTROL
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00438 RF 05

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ACTION

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2005 AUG 30 P 3:05

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Department of Energy

ROCKY FLATS PROJECT OFFICE
12101 AIRPORT WAY, UNIT A
BROOMFIELD, COLORADO 80021-2583

AUG 2 5 2005

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DIST.	LTR	ENC
BERARDINI, J.H.	X	
BOGNAR, E.S.	X	
BROOKS, L.		
CROCKETT, G. A.	X	
DECK, C. A.	X	
DEGENHART, K. R.	X	
FERRERA, D. W.		
GIACOMINI, J. J.		
GILPIN, H.		
LINDSAY, D. C.		
LONG, J. W.		
NESTA, S.	X	
SHELTON, D. C.	X	
TUOR, N. R.	X	
WARD, D.	X	
WIEMELT, K.		
ZAHM, C.	X	

COR. CONTROL	X	
ADMIN. RECORD	X	

Reviewed for Addressee
Corres. Control RFP

8-30-05 AB

Date By

Ref. Ltr. #

DOE ORDER #

5400.1

Mr. Carl Spreng
Rocky Flats Cleanup Agreement Project Coordinator
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Dear Mr. Spreng:

Please find enclosed for your review and approval Revision 1 of the Decommissioning Closeout Report for the Building 771 Closure Project. Revision 1 of the closeout report contains changes and corrections to Revision 0 of the report requested by Mr. Dave Kruchek Colorado Department of Public Health and Environment (CDPHE). Revision 0 of the report was previously submitted to Mr. Steven Gunderson, CDPHE, on May 25, 2005.

Questions may be directed to Warren Seyfert, Rocky Flats Project Office, at (303) 966-5925.

Sincerely,

John J. Rampe, Director
RFPO Project Management

Enclosure

cc w/Encl.:
D. Onyskiw, CDPHE
D. Kruchek, CDPHE
M. Aguilar, USEPA
D. Abelson, RFCLOG
K. Korkia, RFCAB
Administrative Record

cc w/o Encl.:
F. Lockhart, OOM, RFPO
R. Schassburger, HQCPM, RFPO
W. Seyfert, RFPM, RFPO
S. Nesta, K-H

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

771 Closure Project Decommissioning Operations Plan Modification 5

August 8, 2003

Reviewed for Classification/UCNI

By: S. Cunningham

Date: August 8, 2003

RECORD OF MODIFICATIONS

DOP Modification #	Effective Date	Description
1	6/7/00	Field modification to clarify the endstate
2	6/14/00	Field modification to separate Set 38 into four separate sets
3	3/2/01	Major modification incorporating under building contamination remediation and demolition activities
4	9/6/01	Minor modification to clarify Section 5.3.2 since tap and drain activities are complete
5	8/25/03	Major modification to update the DOP with respect to the Modifications to RFCA Attachments, approved June 2003, and current status of the project. Due to the Modifications to RFCA Attachments, approved June 2003, the proposed action memorandum for under building remediation has been removed. The environmental restoration activities associated with the 771 Closure Project area will be addressed through other RFCA decision documents, as appropriate.
6	3/24/04	Minor modification to reflect the difficulties associated with decontaminating some elements of the structure to unrestricted release and implementation of removal of contaminated portions of the building shell, in accordance with the process outlined in the RSOP for Component Removal, Decontamination and Size Reduction Activities.
7	6/3/04	Field modification to reflect the change in process for the removal of Room 141 and clarify the stack demolition.

EXECUTIVE SUMMARY

This Decommissioning Operations Plan (DOP) for the 771 Closure Project applies to buildings with significant contamination or hazards (Type 3 facilities) and buildings without significant contamination or hazards, but in need of decontamination (Type 2 buildings). The identification of Type 1 facilities and their disposition path are included for information only. This document is the result of a major modification approved in September 2001 of the DOP for the 771 Closure Project approved January 1999. This DOP follows the format of the other DOPs and contains additional detail on work activities. This additional detail reflects the advanced state of the 771 Closure Project decommissioning activities and planning. This DOP includes the following additional information and changes from the original DOP (revision 0):

- Additional physical and historical information about Building 771 (see Section 3.1).
- The Type 2 facilities (throughout the document, but particularly in Sections 3.1, 4.3, 4.4, and 4.7).
- Reference to the RFCA Standard Operating Protocols (RSOPs). This DOP satisfies the notification requirements of the RSOPs (throughout the document, but particularly in Sections 4.4 and 4.7).
- Demolition activities (see Section 4.7).
- A streamlined Resource Conservation and Recovery Act (RCRA) closure process, which reduces paperwork (see Section 6.0).
- An exception to the ***RSOP for Recycling Concrete***, which will eliminate the need to stockpile and size reduce the concrete (see Section 5.5).
- Decontamination criteria for Building 771 and 774 concrete structure that will remain in the subsurface after demolition (see Sections 1.1.1, 4.4.2, and 4.7.1).

In general, the 771 Closure Project dispositioning will be conducted in the following sequence: deactivation activities will be completed; component removal, size reduction, and decontamination will be conducted; the under building contamination will be remediated, as necessary; the pre-demolition survey will be conducted; and the building will be demolished. The outbuildings surrounding Buildings 771 and 774 will be conducted in the same manner.

Three alternatives were considered for the near-term management of the 771 Closure Project: decommissioning, no action with safe shutdown maintenance, and facility reuse. The alternatives included the evaluation of potential impacts on the human environment. Alternative 1 is selected because decommissioning and the associated hazard reduction support the Rocky Flats Vision of safe, accelerated, cost-effective closure. This alternative also ensures long-term protection of public health and the environment. Short-term impacts on the environment (i.e., impacts occurring during the interval of the action) will be controlled physically and administratively. Currently, the facilities within the 771 Closure Project are scheduled to be deactivated and decommissioned, and the under-building contamination remediated, as necessary, by August 2004. Environmental impacts resulting from the 771 Closure Project will contribute incrementally to potential Site-wide cumulative impacts associated with the Rocky Flat Environmental Technology Site (RFETS or Site) Closure Project. Given the existing industrial setting of the 771 Closure Project, environmental impact issues associated with the project are relatively limited.

The decision to decommission and demolish the 771 cluster buildings is the approved action being conducted pursuant to the DOP. An analysis of risks to workers to decontaminate to free release criteria the Buildings 771 and 774 concrete structure that will remain in the subsurface resulted in a determination that decontamination criteria based upon the risked-based concept in the June 2003, modifications to RFCA Attachment 5 Radionuclide Soil Action Levels should be applied for this DOP.

For planning purposes, the 771 Closure Project was divided into small manageable groupings of similar equipment and rooms. Thirty-three Dismantlement Sets and 13 Decommissioning Areas were defined for

6 CLOSURE OF RCRA-REGULATED UNITS

The information contained in this section supercedes the RCRA closure requirements in the RCRA permit and Interim Status Closure Plan. Approval of this DOP serves as the RCRA permit modification. RCRA-regulated units located within the 771 Closure Project are listed in Table 8. These units will be closed in accordance with the closure performance standards described in this section. Closure performance standards are presented in this section for the 11 container storage units (Buildings 771 and 774), 2 gloveboxes (Building 774 only), 148 tanks (Buildings 771 and 774) and 3 treatment units (Building 774). Closure information for the incinerator located in Building 771 will be submitted in a separate closure description document (CDD) or as a minor modification to the DOP. RCRA-regulated units will be closed before building demolition.

6.1 Closure Options

Closure may be conducted in two stages: first by rendering a unit or portion of a unit "RCRA stable"[31] (if it is a permitted or interim status unit) or "physically empty" (if it is a mixed residue unit), then by completing the activities associated with the closure options described below.

6.1.1 Clean Closure

RCRA-regulated units may be "clean closed" by documenting the absence of contamination or by decontaminating the unit.

6.1.1.1 Historical Knowledge Confirmation

For units having a complete, detailed operating history, clean closure will be demonstrated when the following criteria are met:

- A review of the RCRA Operating Record indicates hazardous or mixed waste was never spilled in the unit, or complete documentation exists to demonstrate releases were adequately cleaned up (i.e., if a spill did occur, visible residual liquids and solid wastes were removed and the spill area was decontaminated). This justification requires LRA concurrence.
- A visual inspection of the unit and associated ancillary equipment notes the absence of hazardous or mixed waste stains and/or residuals.

6.1.1.2 Decontamination

Units to be "clean closed" by decontamination will typically be washed and rinsed, scabbled, or hydroblasted in accordance with the methods and controls specified in the ***RSOP for Facility Component Removal, Size Reduction, and Decontamination Activities***.

[31] "RCRA Stable" is the first step toward closure of permitted or interim status units, whereby wastes are removed from the unit and the possibility of future waste input is eliminated. For tank systems, this means a tank and its ancillary equipment have been drained to the maximum extent possible using readily available means, with the objective of achieving less than one percent by volume holdup, no significant sludge remaining and no significant risk associated with the remaining residuals. Physical means, such as lock out/tag out or blank flanges, must then be used to ensure no waste is introduced to the system is defined in Part X.E of the RFETS RCRA Part B Permit and Closure Plan for Interim Status Units.

Table 8. RCRA-Regulated Units in the 771/774 Closure Project

Unit #	Room #	SET/ AREA #	Regulatory Status[32]	EPA Waste Codes (from WEMS)
771.1	172	AE	Permitted	See RFETS RCRA Permit
771.1	181A	AF	Permitted	See RFETS RCRA Permit
771.1	182	AE	Permitted	See RFETS RCRA Permit
771.1	183	AE	Permitted	See RFETS RCRA Permit
771.1	184	AE	Permitted	See RFETS RCRA Permit
771.1	186	AE	Permitted	See RFETS RCRA Permit
771.1	188	AE	Permitted	See RFETS RCRA Permit
771.1	Annex	AB	Permitted	See RFETS RCRA Permit
774.1	241	AF	Permitted	See RFETS RCRA Permit
Tank #	**Unit #**	**SET/ AREA #**	**Regulatory Status[33]**	**EPA Waste Codes (from WEMS)**
T-40 (old)	55.13		RCRA Stable	D001, D002, D004-D011, D018, D019, D028, D029, D035, D038, D040, D043, F001-F003, F005, F007-F009

[32] Regulatory status indicates the status of the unit at the time of the DOP approval

[33] Regulatory status indicates the status of the unit at the time of the DOP approval

For units to be washed, a suitable decontamination solution will be used to remove visible waste residuals and contaminants. Following decontamination, the unit will be rinsed with clean water. The final rinsate will be tested to determine whether:

- The pH of the rinsate is between 6 and 9; and
- The concentrations of priority pollutants (identified as having been managed in the unit) and heavy metals are below the action levels for groundwater, as defined in Attachment 5 of RFCA. Rinsate meeting the groundwater action levels for listed waste constituents associated with the unit and the LDR standards for characteristic waste will be deemed to be "no longer contained in" and will be managed as non-hazardous waste.

The final rinsate will not exceed a volume of two gallons per 100 ft^2 of surface area rinsed, and for internal surfaces, such as tank systems, the final rinsate will not exceed a volume of 5% of the capacity of the system. If test results indicate the standard has been met, the unit will be considered "clean closed." Units that cannot be decontaminated to meet the performance standard will be removed before building demolition and managed as hazardous or mixed waste.

Scabbling or hydroblasting may be utilized to decontaminate contaminated surfaces. Following decontamination, surfaces must meet the following criteria:

- A visual inspection of the unit and associated ancillary equipment confirms the absence of hazardous or mixed waste stains and/or residuals; and
- Radiological surveys verify surfaces are at or below the release criteria for removable contamination identified in the ***RSOP for Facility Disposition***.

Other more aggressive decontamination techniques may be utilized as necessary. Other techniques include grit blasting, high-pressure steam cleaning, scarifying, grinding and "shot" blasting.

Areas that do not meet the visual inspection criteria will be removed as hazardous or mixed debris. Areas that do not meet the unrestricted release criteria will be disposed of as non-hazardous radioactive waste.

6.1.2 Unit Removal in Conjunction with "Debris Rule" Treatment

Alternatively, RCRA-regulated units may be closed by removal and treated in accordance with the "debris rule." The debris rule applies to unit equipment or structures that have no intended use or reuse, and are slated for removal and discard. To meet the "debris rule" standard, decontamination or use of alternative treatment options will be conducted using the "abrasive blasting" physical extraction technology, or other appropriate technology identified in Part 268.45 of 6 CCR 1007-3 (Table 1, Alternative Treatment Standards for Hazardous Debris). Application of a "debris rule" technology may occur before unit removal provided the tank has no future use. If, after treatment, the equipment or structure meets the standard for a clean debris surface, it will be managed as a solid waste. In the event the standard is not met, the equipment or structure will be removed and managed as hazardous or mixed waste. Treatment residuals generated from extraction and/or destruction technologies used in the closure of RCRA-regulated units (including rinsate) will be characterized in compliance with 6 CCR 1007-3, Part 262.11 and managed accordingly.

6.1.3 Unit Removal without On-Site Treatment

RCRA units that are not decontaminated to meet the "clean closure by decontamination" standard will be removed, size-reduced (if necessary), and packaged to meet the waste acceptance criteria (WAC) of the approved disposal facility. In the event the waste cannot be shipped directly to a disposal facility, it will be stored in compliance with the remediation waste management requirements identified in Operations Order 00-771-231, as may be modified.

6.1.4 Partial Closure

As tank systems are removed, piping may be inaccessible. Inaccessible piping is typically encountered above ground in areas where ventilation and/or other piping has yet to be removed, or piping is embedded in the slab. Once the piping has been tapped and drained (e.g., vented, purged and drained), the piping will be labeled in accordance with Operations Order 00-771-236. Operations Order 00-771-236 requires piping left-in-place to have the following information displayed on the pipe or the outermost portion of the containment, at each end:

- Labels identifying the pipe as abandoned pipe;
- Identification of potentially hazardous material (previously managed in the abandoned piping); and
- Location of other pertinent information (i.e., work packages)

On a quarterly basis, personnel will inspect the "abandoned piping" to verify labeling requirements are in place. Inaccessible above ground piping will be removed before demolition, typically as part of a Dismantlement Set or Decommissioning Area.

Portions of the slab will be removed before demolition based on the contamination levels. Slab removed with embedded piping that had previously stored only characteristic hazardous waste will be managed as non-hazardous waste. Slab removed with embedded piping previously storing listed hazardous waste will be managed as hazardous waste unless the piping is segregated or appropriately treated before disposal.

The ultimate disposition of piping embedded in the remaining slab, as well as piping located beneath the slab, will occur during ER activities. Therefore, final RCRA closure of the remaining piping will be completed in accordance with the ER RSOP or other ER decision document. In order to facilitate final disposition, pertinent characterization information will be transferred to the ER program and recorded in the administrative record. The administrative record will describe the location of any remaining piping, applicable characterization information (process knowledge and sampling results), as well as any other information that will aid the ER personnel in appropriately dispositioning the piping.

6.2 Unit Removal Methods

Most RCRA-regulated units will be closed by removal. The following paragraphs provide an overview of the removal methodologies for gloveboxes and tank systems.

6.2.1 General Methodology for RCRA-Regulated Tank Disassembly

The information included in this section is intended to supercede the phase II requirements in the approved CDDs for the 35 RCRA-regulated tank systems located in Building 771. This section includes tank system removal methodology, including piping strip-out, for Building 774 tank systems.

6.2.1.1 Piping Removal

Before starting pipe removal activities, the systems will be vented, purged, drained and then drained again by tapping into low points, as required, until no additional liquid can be removed. The system should then be free of liquids. However, residual liquids may be encountered during piping removal. The removal method employed will include provisions to contain residual liquids and/or sludges, which may contain radioactive contamination. Any resulting liquids or sludges will be characterized and treated for final disposal per the applicable WAC.

If a blockage is encountered that cannot be cleared readily during the tap and drain process, additional taps will be installed to minimize the length of the blocked section. Blocked sections will be removed

with provisions to contain trapped liquids that may be present. These sections will be size reduced in a manner that accommodates the possibility that trapped liquids may be released to containment. A drainage path will be established through any remaining blockages to ensure that liquid can be drained from the section. If significant blockages are encountered during tap and drain activities, piping removal may be conducted in conjunction with those activities to address the blockages.

Piping removal, size reduction and packaging activities are considered to be dynamic processes, in which improvements in technology will be implemented as a result of newly available methods or lessons learned from prior piping removal operations. The piping removal steps described below may be modified in response to actual operating conditions. Possible modifications include pipe section separation method, containment type for pipe removal, vacuum method, and containment for size reduction. In most cases, piping will be removed in the following manner:

- A glovebag or plastic sleeving will be installed around the section of piping to be removed.
- Vacuum will be applied at one or both ends of a pipe section, and removal will proceed toward a vacuum source.
- At a termination point (TP), the flange will be disconnected or the pipe cut and the remaining pipe stub will be contained by two layers of plastic.
- The pipe sections will be separated by the best available method (e.g., disconnecting at the flanged joint, four-wheel cutter, pipe-crimping tool).
- After the pipe section ends are separated from the rest of the pipeline, the ends of the glovebag/sleeving will be twisted into a "pigtail" formation, from which the ends of the bag can be cut and taped. The pipe section will be removed with taped plastic containment at both ends.
- If any residual liquid or sludge is observed at either end of the removed pipe section, that section will be bagged immediately and taken to a size reduction containment, for size reduction and inspection. The recovered residual liquid and/or sludge will be collected. If no residual liquid or sludge is observed at either end of the pipe section, it will be taken to the size reduction area at an appropriate time.
- Piping sections will be size reduced, as necessary, using an approved cutting method. Crimped pipe sections will be size reduced.
- Pipe sections will be allowed to drain, in a vertical position, as required.
- Pipe section ends will be inspected visually to determine whether a blockage is present within the section.
- Blockages in pipe sections will be penetrated by mechanical means to drain any trapped liquid.
- Pipe sections will be drained of any remaining liquids or sludges, then placed into waste containers. Residual materials will be sampled and immobilized.

The contents and condition of the interior of the pipe section will dictate its disposition as waste. Four typical cases may be encountered:

- The interior surface is dry and contains no visible sign of hazardous waste holdup, so that the pipe section can be disposed as non-hazardous waste (for tanks previously storing only characteristic wastes).
- The pipe section contains solid residual material adhering to the interior walls, which cannot be removed readily. The pipe section will be managed as hazardous or non-hazardous waste, based on process knowledge and/or analytical results for a representative sample of the material.
- A removable blockage or mobile sludge is found, and is removed from the pipe section and sampled. EPA waste codes are assigned to the sludge based on process knowledge or analytical results, and the sludge is treated to meet applicable WAC. The pipe section will be disposed as hazardous or non-hazardous waste, after a hazardous waste determination has been made.
- Piping from listed waste tanks will be disposed of as hazardous waste.

Each IWCP work package, which will be prepared prior to the start of closure activities, will include more specific and detailed instructions for the sequence of piping removal steps, removal and size reduction methodology, characterization process and hold points, and removal of residual materials from pipe sections.

6.2.1.2 Tank Removal

Tanks will be removed and/or size reduced in place after process piping has been removed, and the tanks have been drained. However, some residual solid and/or liquid holdup may be present in the tanks. The descriptions below contain specific provisions to address this possibility, incorporating applicable regulatory requirements and precautions to prevent worker exposure or release of holdup material to the environment.

Tanks may be packaged in one piece or size reduced. Typical waste streams to be generated include light metal, plastic-lined metal, solid lead, combustibles, glass and plastic.

Removal of the tanks is described in the following subsections, according to tank type and relative size. The following disassembly steps are typical and may be altered based on field conditions or lessons learned.

6.2.1.3 Pencil Tank Removal

Pencil tanks are handled in a manner similar to that for large diameter piping. In a few cases, the tank may be size reduced in place because of its size or other circumstances; however, for the majority of cases, activities are as follows:

- Containment will be placed around the vacuum/vent line, and the tank will be disconnected from the exhaust header.
- The tank will be disconnected from its supports.
- The tank will be moved to the size reduction glovebox, and introduced into the glovebox via a "bag-in" procedure.
- The tank will be cut to facilitate handling and packaging. The ends will be separated from the tank body to facilitate inspection of the interior, cleaning and removal of residual materials.
- Tanks or tank sections will stand on end in a drip pan to drain residual liquid and mobile sludge. The material will be placed into containers for further characterization and disposal.
- Each tank or tank section, now open at both ends, will be visually inspected. The interior will be wiped dry. Incidental liquids may be immobilized with absorbent or collected in Kim-wipes as wet combustibles.
- Additional tank cleaning, if required, will be conducted during size reduction. The options for disposition of the tank sections as waste are described in Section 6.3.
- The tank sections will be further size reduced as necessary, and then segregated for final waste characterization and packaging. Absorbent will be added to the packaging to absorb any residual dampness. The tank sections will be packaged in accordance with the applicable WGI.

6.2.1.4 Annular Tank Removal

The dual-wall design of annular tanks leads to special considerations and precautions for size reduction and inspection for residual material remaining inside the tank, which are somewhat more complex than for the other types of tanks. The best available technology will be used for the disassembly and removal of tanks. For example, while relatively small annular tanks may not require size reduction to fit into waste crates, some cutting will be necessary to facilitate inspection of the tank interior for the presence of residual material holdup. In some cases, large tanks or those with special circumstances may be size reduced in place. Typical activities for these tanks are as follows:

- Containment will be placed around the vacuum/vent line, and the tank will be disconnected from the exhaust header.
- The tank will be disassembled from the floor mountings and brought to the size reduction facility, where one or more viewing ports are cut to facilitate inspection of the tank interior.
- The tank will be visually inspected.
- If no residual material is found, the tank interior may be sprayed with a fixative before proceeding with size reduction.
- If residual material is discovered inside the tank, the tank may be cut into sections to provide access to the residual material.
- Residual material (solids and/or sludge) will be removed from tank sections and placed into containers for further characterization and disposal. Incidental liquids may be collected in Kim-wipes as wet combustibles. Waste characterization criteria for the tank pieces, based on the content and condition of any residual material found in them, are described in Section 6.3.
- After the residual material has been removed, the tank interior may be sprayed with a fixative before proceeding with size reduction.
- The tank sections will be further size reduced, as necessary, then segregated for final waste characterization and packaging. Absorbent may be added to the packaging to absorb any residual dampness. The tank sections are packaged in accordance with the applicable WGI.

6.2.1.5 Raschig Ring Tank Removal

Raschig ring tanks will be inspected visually and/or by real time radiography (RTR) for the presence of liquid/mobile sludge. Small tanks may be placed directly into a shipping container with the raschig rings in place. Each tank packaged in this manner will be examined by RTR to verify the absence of free liquids and/or mobile sludges. In the event the tank fails RTR, the tank will be returned either to Building 771 or 774, and the raschig rings will be removed. Typical activities for Raschig ring tanks are as follows:

- Containment will be placed around the vacuum/vent line, and the tank is disconnected from the exhaust header.
- The tank will be disconnected from its supports.
- The tank will be brought to the size reduction facility, where the rings will be removed and the interior of the tank inspected.
- If no residual material is found upon inspection, the tank will be size reduced as necessary to fit into a waste container. The interior is wiped dry. Incidental liquids may be immobilized in absorbent or collected in Kim-wipes as wet combustibles. The options for disposition of dry tanks or tank sections as waste are described in Section 6.5.2.5 below.
- If residual material is found in the tank, the methodology for its removal is determined. This is likely to include cutting of the tank into sections in order to isolate the residual material in one or two sections for ease of removal.
- The cut tank sections will stand on end in a drip pan to drain residual liquid and mobile sludge. Non-mobile sludge is removed by mechanical means. Residual material (sludge and/or solids) will be placed into containers for further characterization and disposal.
- After residual materials have been removed, each tank or tank section will be visually inspected. The interior will be wiped dry. Incidental liquids may be immobilized in absorbent or collected in Kim-wipes as wet combustibles.
- Size reduction, as necessary for waste packaging, will be conducted using the best available technology.
- The tank or tank sections are segregated for final waste characterization and packaging under the options listed in Section 6.3. Absorbent may be added to the packaging to absorb any residual dampness. The tank sections will be packaged in accordance with the applicable WGI.

6.2.1.6 Removal of Other Tanks

Three options exist for the removal of tanks that do not contain raschig rings, are not annular, or pencil tanks:

- Package the tank in one piece as a SCO,
- Package the tank in one piece because size reduction is not necessary, or
- Size reduce the tank into sections for packaging.

Selection of an option will be based on the level of radioactive contamination, tank construction and the presence of hazardous constituents. The SCO method is desirable because of a significant reduction in both worker exposure levels and staff-hours required for size reduction and removal activities.

After the vacuum/vent line is disconnected, the tank will be packaged in one piece in place, with containment provided on site as necessary. The tank may be designated as an SCO if it meets the criteria. If the tank cannot be packaged in one piece, it will be size reduced and the waste streams segregated for packaging, either in place or within the size reduction facility.

6.2.1.7 General Conditions for Tank Sections and Residual Materials

The condition of the tank interior and the composition of residual material inside any of the tanks will dictate that tanks disposition as waste. Four typical cases may be encountered:

- The interior surface is dry and contains no visible sign of hazardous waste holdup, so the tank can be disposed as non-hazardous waste (for tanks previously storing only characteristic waste).
- For tanks previously storing listed wastes, the tank sections typically will be decontaminated in accordance with Section 6.1.1.2 and disposed of as non-hazardous debris. If decontamination is not feasible, the tanks will be disposed of as hazardous or mixed waste.
- The tank contains solid residual material adhering to the interior walls, which cannot be removed readily. The tank will be managed as hazardous or non-hazardous waste, after a hazardous waste determination has been made based on the analytical results for a representative sample of the material.
- A mobile sludge is found and is removed from the tank and sampled. EPA waste codes are assigned to the sludge based on process knowledge or analytical results. The sludge will either be treated to meet applicable waste acceptance criteria or stored on-site pending ultimate disposition. The tank will be disposed as hazardous or non-hazardous waste, after a hazardous waste determination has been made.
- Each IWCP work package, which will be prepared prior to the start of tank removal activities, will include more specific and detailed instructions for the sequence and methodology of tank removal, size reduction, waste characterization and hold points, and separation of residual material from tank sections.

6.3 DISPOSITION OF CLOSURE-RELATED WASTES

Metal and other types of waste generated during closure activities will be managed as remediation waste. It is assumed that the Site's waste management and treatment systems will be available to receive wastes generated by these closure activities. If deemed appropriate, Building 771/774 may develop treatment systems for select waste streams.

Glovebox components and pieces that are radioactively contaminated will be managed in accordance with the requirements of the RFETS Radiological Control Manual and Health and Safety Practices Manual, and will be packaged for disposal in accordance with applicable waste acceptance criteria.

Non-SCO glovebox metal waste will be assayed for categorization as either LLW or TRU, depending on the amount of actinide present, and will be characterized in accordance with applicable regulations. Size-reduced glovebox sections likely will be categorized as TRU waste and packaged for disposal at WIPP. The presence of metal pieces with lead shielding will cause that metal waste to be labeled as mixed waste.

A glovebox shell that has met the SCO criteria does not require additional assay. It is a non-hazardous LLW and will be packaged for disposal at NTS.

Other segregated waste types identified in the WGIs will be characterized, placed into waste containers and managed in accordance with applicable regulations and the Site Waste Management Programs. These waste drums and crates will be analyzed by non-destructive assay to categorize them as LLW or TRU waste. They will be placed in appropriate on-Site storage areas before off-Site disposal. If mixed waste is generated for which treatment/disposal options do not currently exist, it will be added to the Site Treatment Plan (e.g., LLW with actinide activity levels between 10 and 100 nCi/g).

6.4 Professional Engineer Certification

Within 60 days of completing closure of the final hazardous waste unit in Building 771/774, an independent, registered Professional Engineer (P.E.) will certify the unit has been closed in accordance with Section 6.1.1.2. Individual unit closures will not require a P.E. certification.

6.5 Closure Documentation

RCRA unit closure activities will be documented in the Pre-Demolition Survey Report, which will be completed before building demolition. Upon final closure of each RCRA-regulated unit, the Site's Master List of RCRA Units will be updated to reflect the new closure status of the unit and the unit will be removed from the RCRA Part A Application and Part B Permit in accordance with the applicable regulations.

AE includes rooms

181A
182
183
184
186
188
Rm 163 - GB 108-110, 112-115
164 - GB 62, 68, 72, 74, 98, 101 & 103
180A - A31, A51, A52, A53
180E GB - E11
180F F60
180K K10 & K20
187 GD 187A & B

AF 146 C
172

and met the requirements of section 6.1.1 of the DOP, as documented in the Professional Engineer certification included in Attachment 11.12.

4. Under-building characterization, required to determine the extent of under-building remediation, if any, that would be required. 148 samples from beneath and around Buildings 771 and 774 were collected and analyzed. The sampling and analysis results, which determined no remediation was necessary, are contained in ER RSOP Notification and Closeout Report, IHSS Group 700-4, dated February 2004.

5. Decontamination, which involved removing contamination from floors, walls, and ceilings. All structural surfaces were decontaminated to the applicable release criteria, surveyed, and released for disposition. Survey results were documented in each decommissioning area's PDSR and/or in this report. The DOE and LRA approved each PDSR prior to demolition.

6. Demolition. All structures in the Building 771/774 project were removed to a depth of at least minus three feet of final proposed grade.

7. Site Restoration. The Building 771 and 774 sites were backfilled following demolition. Topsoil, seeding, and erosion controls were also placed and installed.

2.0 Project Description

Building 771/774 decommissioning scope was subdivided into dismantlement sets and decommissioning areas. This distinction was made to plan work in logical sequence and comply with terms of the two collective bargaining agreements. In general, Steelworkers completed work on dismantlement sets, and Building Trades completed work on decommissioning areas. Per collective bargaining agreements, Steelworkers completed work on systems with removable contamination greater than 2,000 disintegrations per minute (dpm). Building trades generally worked in areas removing systems and equipment with removable contamination less than 2,000 dpm.

2.1 Dismantlement Sets

Dismantlement sets included scope to remove contaminated gloveboxes, tanks, process piping, ducts, filter plenums, and other related equipment. In many sets, fire suppression and alarm systems, ambient lighting, domestic water, sanitary drains, and various tools were left in place for later removal. Dismantlement consisted of planning, disassembly and removal of equipment components and satisfactory waste packaging for disposal.

Note that in February 2000 the project re-baselined the set descriptions. This change resulted in a revised allocation of rooms or portions thereof to sets. The change was approved in DOP modification 3. Table 2-1 contains the revised dismantlement sets descriptions:

Table 2-1. Dismantlement Set Descriptions

Set	Description
07	Room 114 glovebox 2 - This set included glovebox #2 and the shielded drum storage area on the south wall of Room 114. Glovebox #2 was used for plutonium metal dissolution and other miscellaneous processing.

Table 2-1. Dismantlement Set Descriptions

Set	Description
12	Room 114 glovebox 8, 8E, 9 - This set included gloveboxes 8, 8E and 9. These gloveboxes were used for staging calcined plutonium oxide.
22	Room 149 gloveboxes 33, 37, 38 and 39 - This set included gloveboxes 33, 37, 38, 39; Tanks D-5, D-176, D-177, D-630 and D-631. These glovebxes and tanks supported the incineration process.
27	Room 149 glovebox 30 (old) - This set included glovebox 30 (old); Tanks D-203, D-204, D-205, D-206, D-207, D-208, D-218, and D-219. This system was used to dissolve americium salts and separate plutonium from americium.
36	Room 146 Process Area - This set included gloveboxes MT1, MT2, MT3, MT4, MT5, MT6, MT7, MT8; Tanks D-1001, D-1002, D-1003, D-1004, D-1005, D-1006, D-1007, D-1008, D-1009, D-1010, D-1011, D-1012, D-1013, D-1014, D-1019, D-1020, D-1022, D-1023, D-1024, D-1032, D-1033, D-1050, D-1053, D-1062, D-1063, D-1064, D-1065, D-1066, D-1067, D-1071, and D-1072; Vacuum Traps VT-1056 and VT-1058. Equipment in this set was used to recover plutonium from other isotopes.
36 (cont.)	Room 146C, a Vault Type Room - This set included shelves and framework for a SNM storage vault.
38	Room 182 Process Area - This set included gloveboxes 201, 202, 203, 204, 205, 206, 207, 208 209, 213, 214, 215, 221, 223, 224, 225, 227, 228, 229, 241, and 242 and an overhead conveyor; 2 Hoods; Tanks D-430 and D-431. Equipment in this set was used for research and development processes.
42	180 Office Area - This set included Room 180G, 180H, 180I, 180J, and 180L. These rooms made up an office area. Some contamination in this area resulted from the 1969 fire in B776.
43	Rooms 180A, 180C and 180D Process Area - This set included gloveboxes A10, A20, A30, A31, A32, A51, A52, A53, D1, D2, and D3; Tanks D-1803, D-1804, D-1805, D-1807, D-1809, D-1810, D-1811, D-1813, D-1816, D-1817, D-1818, D-1819, D-2, T-5, T-6, T-7, T-8, T-21, T-22, T-25, and T-26; Vacuum Traps VT1266 and VT1926. This area was a process simulation laboratory and some contamination in this area resulted from the 1969 fire in B776.
46	164 Lab Area - This set included Rooms 154, 155, 155A, 156, 156A, 156B, 161, 162, 163, and 164; gloveboxes 13, 49, 60, 62, 67, 68, 72, 74, 79A, 79B, 81A, 81B, 83A, 83B, 98, 101, 103, 105, 106, 107, 108, 109, 110, 112, 113, 114, and 115; B-Boxes 50, 61, 63, 64, 65, 66, 69, 73, 80A, 80B, 82A, 82B, 99, 100, 102, 104, and 111; Hood 12, Flame Hood 77, Flame Hood 94, Chem Hood, Propane System, Vacuum Traps 156, 164-1, and 164-2; and Sumps 3, 9, 10, and 12. This set contained equipment used for laboratory analysis of plutonium and other isotopes.
50	158 Lab Area - This set included Rooms 158,159, 160, 165, 166A, 166B, 168 and 169; gloveboxes 158 North, 158 South, BX1, BX2, BX3, BX4, BX5, BX6, BX7, BX8, BX9, 663A, 663B, 663C, 664, and Hood 2. This set also contained gloveboxes used for laboratory analysis of plutonium, americium and uranium. Also included was the standards laboratory where standards for counting equipment were built.
60	Room 114 glovebox 1 - This set included glovebox 1; Tanks D-705, D-706, D-713, D-

Table 2-1. Dismantlement Set Descriptions

Set	Description
	714, D-715, D-716, D-764, D-765. Sections of glovebox 1 were used for americium recovery operations. It was one of the largest gloveboxes in the facilities.
61	Room 114. This set included glovebox 3; vault storage areas and contaminated tool storage cabinets. Glovebox 3, one of the largest in the facilities, contained a series of cascading dissolver pots for dissolving plutonium oxide in nitric acid. Also included was Glovebox 7A, a Nash pump vacuum system.
61 (cont.)	Gloveboxes 4, 5A, 9A, and 22; Tanks D-6, D-967; motors and control panels. Gloveboxes 5A and 9A contained vacuum pumps for Gloveboxes 16 & 5. Glovebox 4 contained the blower for the pneumatic transfer lines. Glovebox 22 was used for converting metal from site returns to plutonium oxide.
61 (cont.)	Glovebox 5; Tanks D-548, D-549, D-550, D-551, D-552, D-609, and D-610. This system was a hot nitric acid spray leaching system used to leach plutonium shells and tantalum fixtures.
61 (cont.)	Gloveboxes 11 and 14 (new); Tanks D-507, D-508, D-509, D-510, D-529, and D-530. Glovebox 11 was used for evaporating recycled plutonium nitrate solutions. Glovebox 14 was used for concentrating plutonium nitrate feed solution for the batching operation.
61 (cont.)	Glovebox 12; Tanks D-949, D-950, D-951, D-952, D-953, D-954, D-955, D-546, D-547, D-553 and D-554. Also included was a shielding wall around the tank farm. Glovebox 12 was used as a sampling station for the tanks listed above.
61 (cont.)	Glovebox 13, which was attached to glovebox 14 (old); Tanks D-500, D-501, D-502, D-503, D-504, D-505, D-506, D-507, D-508, D-509, D-510, D-544, and D-545. Also included was a shielding wall around the tank farm. Glovebox 13 was a piping manifold system used for batching solutions for the precipitation process. Glovebox 14 (old) contained a steam-heated evaporator used to concentrate plutonium solutions for batching.
61 (cont.)	Gloveboxes 15 and 16, 16A; electrical control panels, and pumps. Glovebox 15 was used for plutonium peroxide precipitation and glovebox 16 was used for calcination of plutonium peroxide to plutonium oxide. Glovebox 16A contained the scrubber for the calciner's off-gas.
61 (cont.)	Room 114A; glovebox 18; Tanks D-70, D-71, D-72 and D-73; motors, and pumps. Glovebox 18 contains two Nash vacuum pumps that furnished house vacuum.
61 (cont.)	Rooms 112 and 114B; glovebox 17; motor generator sets, furnaces, and control panels. This set contained the glovebox for reduction and button break-out. This glovebox system was operated with an inert atmosphere of nitrogen. The process reacted calcium metal with plutonium tetrafluoride to create plutonium metal.
61 (cont.)	Room 141. Room 141 was constructed to function as a SNM storage vault. It was later converted to pump room to facilitate vacuum transfer of plutonium solutions. The pumps leaked causing severely elevated airborne radioactivity and the room was sealed in 1971.
62	Room 114 Glovebox 6, 7 - This set included gloveboxes 6 and 7. Glovebox 7 contained the hydrofluorinator which used hydrogen fluoride to convert calcined plutonium oxide

Table 2-1. Dismantlement Set Descriptions

Set	Description
	into plutonium tetrafluoride. Glovebox 6 contained an off-gas scrubber for the hydrofluorinator.
63	Room 146A Process Area – This set included gloveboxes SR11 and SR12. Equipment in this set contained an advanced system for converting plutonium oxide into plutonium tetrafluoride. Glovebox SR12 contained a fluidized-bed fluorination system, which reacted fluorine gas with plutonium oxide in order to create plutonium hexafluoride, a gas. The gas was cooled and converted into plutonium tetrafluoride, a solid, in glovebox SR12. The process was installed in the early 1970s as an alternative to fast recovery processes.
64	Room 149 C-Cell - This set included a contamination control cell and air handling unit. The cell was used to open high radiation drums.
65	Room 149; gloveboxes 43A, 43B, 43C, and 43D - This set included gloveboxes 43A, 43B, and 43C which were used for graphite scarfing, pipe cleanout, and filter disassembly. Glovebox 43D was used for anion exchange of plutonium solutions, a step that removed americium and other impurities.
66	Room 149 This set included gloveboxes 23, 24, and 25; Tank D-928, and shielding wall. Gloveboxes 23, 24, and 25 were used as cascade dissolver lines.
66 (cont.)	Glovebox 26; Tanks D-979, D-980; Scrubber Towers D-981, D-982; pumps and motors. Glovebox 26 contained the fume scrubber recirculation pumps.
66 (cont.)	Glovebox 29 and Tanks D-360, D-361, D-362, D-363, and D-364. Glovebox 29 was a laboratory waste processing glovebox with chloride cation exchange equipment.
66 (cont.)	Gloveboxes 31 and 50; Tanks D-920, D-921, D-922, D-923 and D-927. Glovebox 31 was used for tank sampling. Glovebox 50 was used for filtration of caustic solutions.
66 (cont.)	Gloveboxes 40, 44; Tanks D-78 and D-79. Glovebox 40 and 44 contained Bingham vacuum pumps for the house vacuum system. .
66 (cont.)	Glovebox 42; Tanks D-451, D-452, D-453, D-454, D-456, D-457, D-466, D-467, D-468, D-469, D-470, D-472, D-971, D-972, D-973, D-974, D-975 and D-976. Also included was shielding walls around a tank farm and electrical control panel. Glovebox 42 was used for anion exchange purification.
66 (cont.)	Tank Farm. Included tanks D-931, D-932, D-933, D-934, and the shielding walls around the tanks
67	153 Process Area ; Gloveboxes 153A, 153B, 153C, 153D, 153E, HC1, HC2, HC3, HC4, HC5, and HC6; Tanks 153E, T-3, T-4, T-86, T-87, and T-88; Vacuum Traps VT100, VT101, and VT102. Gloveboxes in this set were actually hot cells equipped with remote manipulators and water walls. This equipment was used for work on highly radioactive isotopes.
68	Room 174 Oralloy (OY) Leach Area - This set included Rooms 172, 174, 175, and 176; gloveboxes A1, A2, A3, A4, and A1097; Tanks D-1081, D1082, D-1083, D-1084, D-1085, D-1086, D-1087, D-1088, D-1089, D-1090, D-1095, and D-091(H-leg). This operation leached plutonium from OY leach shells.
69	Rooms 180B, 180E, 180F and 180K - This set included gloveboxes E10, E11, E20, E30,

Table 2-1. Dismantlement Set Descriptions

Set	Description
	E31, E32, E50, E51, F20, F30, K10, K20, K30, and K50; B-Boxes F60 and F70; Tanks D-80, D-81, D-82, D-83, D-84, D-85, D-126A, D-126B, T-728, T-729, T-730; Surge Tank 1807; Vacuum Traps VT1840, VT1841, VT1842, VT1843, VT1844, VT1845; and Scrubber K-30. Some areas in this room were contaminated as a result of the 1969 fire in B776. This area was a process simulation laboratory.
70	309 Tank Area – This set included Room 309; Tanks D-309E and D-309W. Tanks 309E/309W collected liquid from sumps, sinks, and decontamination showers in B771.
71	Corridors A, D, E, G, H, Stairwell 1,2,3, and the 127 Utility Room - This set included Corridors A, D, E, G, and H; stairwells 1, 2, and 3; Rooms 100, 127, 137, and 138; and lockers.
73	Second Floor 771 - This set included Room 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 238A, 239, 240A, 240B, 240C, 240D, 240E, 240F, 240G, 241, 245, 246, 246A, 247, 283, 283A, 283B, 283C, 283D, 283E, 283F, 283G, 283H, 283I, 283J; Supply Fans E8, S3, S4, S5, S6, S7, S9, and FN-6; Exhaust Fans #1, #2, #3, #4, #5 and #6.; Exhaust Unit S-8, Air Handling Units AHU-2 and AHU-3; Plenum S1, practice plenum, motors, HEPA filters, framework, air washers, and walls, Chem-make Up tanks T20, T21, T22, T23, T24, T25, T26, T27, T28, T29, T30, T32, T33, T34, T35, T36, T37, T39, T40, and T44; Vacuum Traps VT41, VT42, and VT43; and hydrogen fluoride equipment, and the Uninterruptible Power Supply (UPS) battery system.
74	This set included filter plenum FU-1E, HEPA filters, filter framework, Zone I exhaust ducting from the 1st and 2nd floors, and plenum ducting from FU-1E plenum to Main Plenum. FU-1E was built to replace FU-1, and filtered exhaust primarily from areas west of corridor A.
75	This set included filter plenums FU-1 and FU-4, HEPA filters, filter framework, exhaust fans, Zone I exhaust ducting from the 1st and 2nd floors, and plenum ducting from FU-1 and FU-4 plenums to Main Plenum. FU-1 filtered exhaust from the west labs. FU-4 was a small filter plenum that filtered exhaust from the locker rooms.
76	This set included filter plenums FU-2A, FU-2B, and FU-2C, HEPA filters, filter framework, exhaust fans, Zone I exhaust ducting from the 1st and 2nd floors, and plenum ducting from aforementioned plenums to the main plenum. These plenums handled exhaust from the primary aqueous processes and rooms on the east side of the first floor. FU-2C was a highly contaminated de-mister plenum. Plenum FU-2B was one of the most highly contaminated rooms on site. FU-2A further filtered exhaust before it was pulled into the main filter plenum.
77	This set included the incinerator filter plenum, HEPA filters, filter framework, exhaust fans, Zone I exhaust ducting from the 1st and 2nd floors, and plenum ducting from Incinerator plenum to the main plenum. The incinerator plenum filtered highly contaminated exhaust and ash from the incinerator.
78	This set included Rooms 280, 280A, 280B, 280C, 281, 281A, 281B, 282, 282A, 282B, 282C and 283H; HEPA filters in the main filter plenum, framework, exhaust fans, doors, and remaining Zone II duct work in the process areas.

Table 2-1. Dismantlement Set Descriptions

Set	Description
78 (cont.)	Room 190 and Tank V-2 (Plenum Deluge Tank). Tank V-2 was installed to collect fire suppression water in the event of a fire in a filter plenum.
79	B774 - This set included filter plenum FP-201 in room 441
80	B774 - This set included filter plenum FP-202 in room 341
81	B774 - This set included filter plenum FP-203 in room 320
82	This set included the room 149 size-reduction enclosure.
83	This set included the room 181A size-reduction enclosure.
84	This set included the room 183 size-reduction enclosure.
90	Building 774: This set included rooms 201, 202, and 202A; gloveboxes 5, 6, 7, and 8; Vac Fill A pump; Tanks 1A, 1RF, 2F, 3, 4L, 4R, 70, 71, 72, 73, new tank (not numbered); and Flocculator F-5. This area was known as the first stage processing for solutions from B771. This area contained a microwave chiller and a motor control center. The piping transfer tunnel from B771 entered at the southwest corner of the room.
90 (cont.)	Building 774 room 241; Tanks T-201, T-202, T-203, T-204, T-205, T-206, T-207, T-208 (bottom half only of tanks 205, 206, 207, 208), and T210B. These tanks included four reagent tanks and four batching tanks for precipitation.
90 (cont.)	Building 774 rooms 250 and 251. This area was to be a replacement for the precipitation process equipment. Since this did not become operational, it became a storage area.
90 (cont.)	Building 774 room 212. This area was used to store powders for the OASIS process, which treated organic waste streams.
90 (cont.)	Building 774 rooms 103 and 105; gloveboxes 13 and 355; Tanks T-40, D-351 and caustic storage tank. This area was in the basement and was a support area to the second stage precipitation process.
90 (cont.)	Building 774 rooms 101, 102 and 104; gloveboxes 9, 10, 11, and 12; Tanks F-5, T-9, T-10, T-11L, T-11R, T-12, T-74, T-210A, and C-1. This area was in the basement and was a support area for first stage precipitation /neutralization process. There was one storage area and stairwell entry from the second floor into rooms 102 and 103.
90 (cont.)	Building 774 rooms 210 and 210A; gloveboxes 1, 2, 4, 15, 206, microwave, and OASIS; Tanks 1, 2, 7, 8, 13, 14, and T-374A; and the condensate receiver. This area was located on the second floor above ground level. Operations performed included microwave vitrification, cementation for organics, neutralization and cementation of waste solutions at the bottle box.
90 (cont.)	Building 774 rooms 200, 209 and 220; and Tanks T104, T-102 and T-103. This area was located on the second floor ground level and was the B-774 shipping and receiving area for drums and crates. There are two large waste oil storage tanks in Room 220.
90 (cont.)	Building 774 room 203; glovebox 17; and Tank T-42. This area was on the second floor above ground level and was the second stage precipitation area.
90 (cont.)	Building 774 rooms 341, 342, 343 and 344; Tanks 205, 206, 207, 208 (top half only of tanks 205, 206, 207, 208); pre-coat mixer tank, and exhaust plenum. This area was on the third level and contains a ventilation filter plenum.

Table 2-1. Dismantlement Set Descriptions	
Set	**Description**
90 (cont.)	Building 774 rooms 441, 442, and 443. This area was on the fourth level of the facility and contains a ventilation filter plenum and an UPS.
90 (cont.)	Building 774 rooms 320, 321, and 322; an office, and electrical switchgear. This area was located on the third level and was the utilities support to the 200 dock area.
90 (cont.)	Building 774 rooms 204, 205, 206, 207, 208, 209, 301, 302, 303, 304A, 305 and 306. This area included the control room, offices, conference room, break room and restrooms.

2.2 Decommissioning Areas

Table 2-2 includes descriptions of the decommissioning areas. Area scope included remaining equipment dismantlement, asbestos abatement, structural decontamination, final survey, and demolition. A small amount of miscellaneous equipment (such as small sections of piping, ducting, and/or conduit) that met Unrestricted Release Criteria[2] (URC) and did not interfere with the pre-demolition survey activities was left for removal after demolition.

Table 2-2. Decommissioning Area Descriptions	
Area	**Description**
AA	Area AA (front offices) included the corridor B office area and corridor F office area. Corridor B office area included corridor B and offices 116, 117, 117A, 118, 118A, 119, 119A, 119B, 119C, 119D, 124, 125, 125A, 125B, 125C, 125D, 125E, 126, 126A, and 126B. Corridor F office area decommissioning included rooms 103, 104, 105, 105A, 105B, 107, 109, 110, 110A and 110B; corridor F; and a criticality alarm panel. Area AA scope included the removal of utilities piping; remaining ventilation systems, interior partitions, and drop ceilings; decontamination; and the demolition of the office building structure.
AB	Area AB (annex) included rooms 301, 302, 303, 304, 305, 306 and 308; drum counters; scales; exhaust fans; and motors. Scope included dismantlement of the annex area; removal of utilities piping, remaining ventilation systems, interior partitions, and drop ceilings; decontamination; and the demolition of the annex building structure.
AC	Area AC (locker rooms) included rooms 120, 122, 123, 123B, 123C, 133 and 135; locker rooms; janitor's closet; and the laundry cage in the men's locker room. Scope included dismantlement of the locker room area; removal of utilities piping and remaining ventilation systems; and decontamination.

[2] Removable contamination cannot exceed 20 dpm/100 cm^2; and fixed contamination cannot exceed 100 dpm/100 cm^2 averaged over 1 m^2 or 300 dpm/100 cm^2 for any 100 cm^2 area.

Table 2-2. Decommissioning Area Descriptions

Area	Description
AD	Area AD (maintenance shops) included rooms 129 129A, 129B, 129C, 129D, 129E, 129F, 130, 131, 132, 132A, and dock 2. Scope included dismantlement of the maintenance area; removal of utilities and ventilation piping, removal of interior partitions and drop ceilings, any decontamination required, and demolition.
AE	Area AE (west process areas) included dismantlement of all west process rooms, removal of utilities piping, remaining ventilation systems, interior non-load bearing Concrete Masonry Unit (CMU) walls, and drywall partitions. In-process characterization identified areas of surface contamination, which underwent decontamination. Sections of the walls, floors, and ceilings were removed and packaged during demolition.
AF	Area AF (east process areas) included rooms 135A, 135B, 141, 151, 151A, 151B, 151C, 151E, 151F, and 152; the elevator area; 151 radiation control area; the RCT areas; SAAM panel; and decontamination showers. The elevator area included rooms 142, 145, and 242; electrical control panel; elevator cage; and hydraulic unit. Scope included removal of utilities piping, remaining ventilation systems, interior non-load bearing CMU walls, and drywall partitions. Areas with elevated structural contamination underwent decontamination. Sections of the walls, floors, and ceilings were removed and packaged during demolition. Sections of room 141 were also removed and packaged.
AG	Area AG included the stack, stack tunnel, Building 776 tunnel, and Building 774 tunnel. Decommissioning activities included the removal of stainless steel liner in the 771 stack tunnel, Building 776 tunnel, and Building 774 tunnel; utilities piping, and remaining ventilation systems. In-process characterization identified areas of surface contamination. The lower portions of the 771 stack were decontaminated prior to demolition. The stack was demolished using explosives.
AH	Area AH (second floor) included room 283 east, exhaust unit S-8, Air Handling Unit (AHU) AHU-2, and exhaust fans #5 and #6. This area also included rooms 283A, 283B, 283H, 283I, 283J, and 283 center and exhaust fans #2, #3, and #4. The west 283 HVAC exhaust and utilities area included rooms 283C, 283D, 283E, 283F, 283G, and 283 west; air handling unit AHU-3, exhaust fan #1, and the UPS battery system. Area AH decommissioning activities included the removal of utilities piping and remaining ventilation systems, main supply plenum, test plenum, fans from the filter plenums, bag-filters, air-washers, deep-bed filters, knock-out, and condensate tanks. Control panels, transformers, electrical switch gear, motors, pumps, various instruments, racks, and various tools such as portable lights, welders, ladders, air movers, tool boxes, dollies, cabinets, desks, lockers, and other items were also removed. In-process characterization identified areas of surface contamination. Decontamination removed areas of structural contamination and some sections of the walls, floors, and ceilings were removed and packaged.
AJ	Area AJ included all outbuildings and trailers not included in another area's scope. Decommissioning activities included strip-out/demolition of remaining equipment, Underground Storage Tanks (USTs), tanks and pads, and appurtenant structures.

Table 2-2. Decommissioning Area Descriptions

Area	Description
AL	Area AL (structure) included demolition of Building 771.
AM	Area AM (Building 774) included all areas within Building 774. Decommissioning activities included removal of remaining utilities piping, remaining ventilation systems, interior non-load bearing CMU walls, and drywall partition; decontamination; pre-demolition survey; and demolition.
AN	Area AN (IDEC) included the IDEC which was installed in a second floor addition to the office areas. Decommissioning activities included removal of eight new intake air systems, piping, valves, electrical distribution and control panels. The system was never implemented. A pre-demolition survey was conducted and the metal structure was demolished. The metal components that made up the structure were recycled.

3.0 Schedule

Building 771 decommissioning activities under the DOP were initiated in December 1998. Deactivation activities, which included draining tanks and process piping, and removing solid plutonium hold-up from process equipment, began in 1995 and were completed in 2000. This closeout report will not address deactivation activities. The schedule included in Attachment 11.1 contains set, area and major milestone completion dates.

In general, decommissioning activities proceeded as follows:

- Scoping and reconnaissance level characterization, including facility typing, were performed
- Detailed planning was completed
- Process equipment, piping, ducts, non-structural walls, and other interferences were removed, size-reduced or decontaminated and packaged for disposal
- Structural decontamination activities were performed
- The stack was demolished using explosives
- Room 141 was removed and packaged
- Final surveys were performed
- Ground floor areas were backfilled as necessary to prevent cross-contamination
- Buildings were demolished
- Concrete was processed and placed for fill or packaged as Low-Level Waste (LLW)
- Backfill was placed to restore grade
- Top soil and seeding were placed

3.1 Project Milestones

Significant decommissioning milestones and their actual completion dates included:

- Last glovebox removed; December 10, 2002
- Building 771 first floor, west process rooms set dismantlement; September 21, 2001

Document	Date	AR Document Number
LRA approval of PDSR for Building 771 Maintenance Shop	June 19, 2003	B771-A-000189
Contact record documenting LRA concurrence that rooms 101 and 102, Building 774 basement, met applicable release requirements under the DOP, and were to be filled with flowable fill	February 27, 2004	B771-A-000224
LRA approval of PDSR for Building 774	May 6, 2004	B771-A-000246
ORISE verification report for Building 774	May 11, 2004	B771-A-000247
LRA approval of PDSR for Building 771 Exhaust Stack	June 19, 2004	B771-A-000250
LRA approval of PDSR for Areas AC, AA(West), AN, Building 775 (Sanitary Lift Station) and the concrete pads for the diesel tanks and Building 716	July 14, 2004	B771-A-000255
LRA approval of PDSR for Building 774 east deck pad	July 19, 2004	B771-A-000262
LRA approval of PDSR for Building 771 Area AE and Area AH (west)	September 14, 2004	B771-A-000264
LRA approval of PDSR for Building 771 Area AF and Area AH (east)	September 21, 2004	B771-A-000268
LRA approval of PDSR for Area AA (east)	October 20, 2004	B771-A-000273

7.0 Demolition

7.1 Demolition Preparatory Activities

Before demolition began, all slab beneath minus six feet of final proposed grade that did not meet DOP requirements was removed. Contaminated concrete sections above minus six feet of final proposed grade remained for controlled demolition. The only remaining components in either facility included several exhaust fans and the south wall of the main filter plenum, all on the second floor of Building 771. LRA and DOE approval was obtained prior to beginning any demolition activity.

Demolition preparatory activities included erecting barriers around work zones, establishing traffic and loading areas, and installing erosion controls and air monitoring equipment. All underground utilities were removed and electrical power feeds were terminated.

7.1.1 Backfill of Areas Prior to Demolition

Following LRA approval of PDSRs, about three feet of backfill were placed on all ground floor areas of Buildings 771. About 3,500 cubic meters of soil were placed prior to demolition. The fill layer was installed to protect the remaining slab from contamination that could have resulted from demolition of contaminated concrete and fixed contamination that remained on the slab.

Rocky Flats Environmental Technology Site

PRE-DEMOLITION SURVEY REPORT (PDSR)

Building 771 Administration Building (West)

REVISION 1

July 12, 2004

CLASSIFICATION REVIEW NOT REQUIRED PER
EXEMPTION NUMBER CEX-005-02

B771-A-000257

PRE-DEMOLITION SURVEY REPORT (PDSR)

Building 771 Administration Building (West)

REVISION 1

July 12, 2004

Prepared by: _____ Date: 7-13-04
Tommy Fontaine, Radiological Engineer

Reviewed by: _____ Date: 7/13/04
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Approved by: _____ Date: 7/13/04
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ABBREVIATIONS/ACRONYMS

ACM	Asbestos Containing Material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_{W}$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
HEUN	Highly Enriched Uranyl Nitrate
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
PDSR	Pre-demolition survey report
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSA	Removable Surface Activity
RSOP	RFCA Standard Operating Protocol
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure

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TSA	Total surface activity
VOCs	Volatile organic compounds
WSRIC	Waste Stream and Residue Identification and Characterization

5

EXECUTIVE SUMMARY

A Pre-Demolition Survey was performed to enable compliant disposition and waste management of the west side of the Building 771 Administration Area (referred to herein as Area AA West). Because this area will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). Building surfaces characterized as part of this PDS include the interior surfaces of Area AA West.

The PDS encompassed both chemical and radiological characterization. The characterization was built upon physical, chemical and radiological hazards identified in the facility-specific *B771 and B774 Hazards Characterization Report for the 771 Closure Project*.

Based upon the results of this PDSR, Area AA West meets the unrestricted release limits specified in the site Pre-Demolition Survey Plan. This structure can be demolished and the waste managed as PCB Bulk Product waste or as sanitary waste, and the concrete can be used for backfill on-site per the RFCA RSOP for Recycling Concrete. To ensure that the facility remains free of contamination and PDS data remain valid, Level 2 isolation controls are established.

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1 INTRODUCTION

A Pre-Demolition Survey was performed to enable compliant disposition and waste management of the west side of the Building 771 Administration Area (referred to herein as Area AA West). Because this Type 3 building will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). The results of this survey shall demonstrate that Area AA West meets the unrestricted release limits specified in the site Pre-Demolition Survey Plan. Building surfaces characterized as part of this PDS include interior surfaces of Area AA West.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these is Area AA. This facility no longer supports the RFETS mission and will be removed to reduce Site infrastructure, risks and/or operating costs.

Before this Type 3 facility can be demolished, the Data Quality Objectives (DQOs) for a Pre-Demolition Survey (PDS) must be satisfied; this document presents the PDS results for Area AA West. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS is built upon physical, chemical and radiological hazards identified in the facility-specific *B771 and B774 Hazards Characterization Report for the 771 Closure Project*, dated June 12, 2001, Revision 0.

1.1 PURPOSE

The purpose of this report is to communicate and document the results of Area AA West. A PDS is performed prior to building demolition to define the pre-demolition radiological and chemical conditions of a facility. The pre-demolition conditions are compared with the release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 SCOPE

This report presents the pre-demolition radiological and chemical conditions of the Area AA West surfaces that will be free-released and disposed of as sanitary waste, recycle metal, or used as backfill per the requirements of the *RFETS, RFCA RSOP for Recycling Concrete*.

1.3 DATA QUALITY OBJECTIVES

The Data Quality Objectives (DQOs) used in designing this PDS meet the minimum requirements specified in Section 2.0 of the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP for these DQOs.

1.3.1 The Problem

The problem involves determining whether or not the survey unit is suitable for unrestricted release in accordance with this plan.

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1.3.2 The Decision

The decision is verification that objectives specified in the decommissioning decision document have been met (e.g., certain materials meet unrestricted release criteria for radiological and non-radiological constituents).

1.3.3 Inputs to the Decision

Inputs to the decision include the magnitude and location of data from preceding characterizations, including RLC and In-Process Characterization (IPC), PDS results, decision document action levels, and unrestricted release criteria.

1.3.4 Decision Boundaries

The decision boundaries are the spatial confines of the facility, including rooms and sets of rooms, in two and three dimensions. Interior surfaces are included, including those below grade. Boundaries may be further defined in RFCA decision documents.

1.3.5 Decision Rules

The following are decision rules to be used during PDS:

1.3.5.1 Radionuclides

If all radiological survey and scan measurements (and sample measurements, where sample activity is translated to surface activity as described in Section 7.2.3 of the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP)), are below the surface contamination guidelines specified in the Site PDSP, then the related areas and/or volume are considered not radiologically contaminated. The media sample result is calculated by converting volumetric activity (typically reported in pCi/g) to surface activity (dpm/100 cm^2). The volumetric result (pCi/g) is multiplied by the weight of the sample (grams) and by 2.22 (conversion from pCi to dpm).

If any radiological survey or scan measurement exceeds the surface contamination guidelines provided in the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP), the related survey unit must be evaluated per the statistical tests described in section 7.0, Data Analysis and Quality Assessment, of this plan. If any radiological sample measurement (or disposal unit volume) exceeds 100 nanocuries per gram of transuranic material, the related volume of material is considered transuranic (TRU) waste.

1.3.5.2 Hazardous Waste

If decommissioning waste is mixed with or contains a listed hazardous waste, or if the waste exhibits a characteristic of a hazardous waste, then the waste is considered RCRA-regulated hazardous waste in accordance with 6 CCR 1007-3, Parts 261 and 268.

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1.3.5.3 Hazardous Substances

If material contains a listed hazardous substance above a decision document action level (e.g., RFCA) and/or the CERCLA reportable quantity (40 CFR 302.4), the material is subject to CERCLA regulation (i.e., remediation and/or notification requirements).

1.3.5.4 Beryllium

If surface concentrations of beryllium are equal to or greater than 0.2 $\mu g/100\ cm^2$, the material is considered beryllium contaminated per 10 CFR 850.

1.3.5.5 PCBs

If material contains PCBs, in a non-liquid state, from the manufacturing process at concentrations ≥50 ppm, the material is considered PCB Bulk Product Waste and subject to the requirements of 40 CFR 761.

If PCB contamination from a past spill/release is suspected, or if a PCB spill is discovered that has not been cleaned up, the associated material is considered PCB Remediation Waste and subject to the requirements of 40 CFR 761. PCB remediation waste includes: materials disposed of prior to April 18, 1978, that are currently at concentrations ≥50 ppm PCBs, regardless of the concentration of the original spill; materials which are currently at any volume or concentration where the original source was ≥500 ppm PCBs beginning on April 18, 1978, or ≥50 ppm PCBs beginning on July 2, 1979; and materials which are currently at any concentration if the PCBs are spilled or released from a source not authorized for use under 40 CFR 761.

If a waste or item contains PCBs in regulated concentrations, the waste or item is classified as PCB-regulated material and subject to the requirements of 40 CFR 761.

1.3.5.6 Asbestos

If any one sample of a sample set representing a homogeneous medium results in a positive detection (i.e., >1% by volume), then material is considered ACM (40 CFR 763 and 5 CCR 1001-10).

1.3.6 Tolerable Limits on Decision Error

Acceptable false negative *(a)* errors for calculating the number of samples generally range from 1% to 10%. The default value specified by the Site PDSP is 5%, which was assumed for the survey design in this report.

1.3.7 Optimization of Plan Design

Statistically based radiological surveying and sampling will be conducted per the guidance in Appendix B of the RFETS Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to Section 4.0 of the PDSP for direction of characterization of non-radiological, chemical constituents. For this report, the minimum number of

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measurement locations is fifteen per survey unit, as calculated based on the guidance in MAN-127-PDSP. The $DCGL_W$ is 100 dpm/100 cm^2 for TSA and media measurements/samples, and 20 dpm/100 cm^2 for RSA measurements. The LBGR was adjusted to obtain a relative shift of two. The estimated standard deviation for each measurement type was calculated based on an assumed coefficient of variation of 30%.

The scan requirements for specific survey unit classifications are as follows:

Class 2: 10-100% floors/lower walls
10-50% upper walls/ceilings

No Class 1 or Class 3 survey units are included in the scope of this report.

2 HISTORICAL SITE ASSESSMENT

A facility-specific Hazards Characterization Report was conducted to understand the facility history and related hazards. The Building 771 Hazards Characterization was performed in June 2001 (Refer *B771 and B774 Hazards Characterization Report for the 771 Closure Project*, dated June 12, 2001, Revision 0). Based on the characterization results, no radiological contamination was identified in Area AA West. The media sample results did not indicated radiological contamination in excess of the unrestricted release limits in or under the paint. However, Area AA West is considered a Type 3 facility based on its proximity to Building 771.

The area included in the scope of this PDSR is referred to herein Area AA West. This area was part of an addition to the original Building 771 that was constructed in 1966. This area was initially referred to as the 771B addition, but is commonly referred to as the Administration Area of Building 771. The west side of this area, which is included in the scope of this report, is also referred to as the Corridor B "Cold Office Area", and includes all of Corridor B and Offices 116, 117, 117A, 118, 119, 119A-D, 124, 125, 125A-E, 126, 126A, and 126B.

Area AA West consists of one Class 2 survey unit (771032) based the contamination potential, per Section 3.0 of the PDSP.

The hazards characterization results and historical review (refer to Attachment E) were used to identify PDS data gaps and needs, and to develop radiological and chemical PDS characterization packages. Characterization documentation is located in the Building 771 Characterization Project files.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

Area AA West was characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern (weapons-grade plutonium isotopes). Based upon a review of the characterization data, historical and process knowledge, in-process survey data, building walk-downs, and the Site Pre-Demolition Survey Plan (MAN-127-PDSP), a

Radiological Characterization Plan was developed during the planning phase that describes the minimum survey requirements (refer to survey packages 771032). A Survey Unit Overview Map is presented in Attachment A. Based on hazard characterization data and historical and process knowledge, transuranic isotopes are the primary contaminants of concern in Buildings 771/774. Therefore, the PDS was performed to the transuranic PDS unrestricted release criteria. Individual radiological survey unit packages are maintained in the Building 771 Characterization Project files.

The Area AA West survey unit package was developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure.* Total surface activity (TSA) and removable surface activity (RSA) measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures.* Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis.* Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control.*

Per the reference procedures, the required number of measurement locations is fifteen (15) per 1000 square-meters of floor area for Class 2 survey units. Scans were required on 100% of floors/lower walls and 10% of upper wall/ceiling surfaces.

Radiological survey data, statistical analysis results, survey locations, and radiological scan maps are presented in Attachments B, *Radiological Data Summary and Survey Maps.*

Area AA West – (Survey Unit 771032)

The west side of Area AA is a Class 2 survey unit. This area includes all of Corridor B and Offices 116, 117, 117A, 118, 119, 119A-D, 124, 125, 125A-E, 126, 126A, and 126B. A total of 15 random TSA and RSA measurements, and 15 media samples were collected. Surface scans of 642 m^2 of floors/lower walls (100% of surfaces) and 81 m^2 of upper walls/ceiling (20% of surfaces) were performed.

All scans and surveys in survey unit 771032 were less than the applicable PDS transuranic DCGL values. Radiological survey data, statistical analysis results, survey locations, and radiological scan maps for survey unit 771032 are presented in Attachment B, *Survey Unit 771032 Radiological Data Summary and Survey Map.*

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Based on a thorough review of historical and process knowledge, visual inspections, and personnel interviews, no additional chemical hazard sampling requirements were identified.

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4.1 Asbestos

Asbestos containing building material is not present in or on Area AA West (previously removed).

4.2 Beryllium (Be)

Area AA is not and has never been a beryllium-controlled area. Per the Beryllium Sampling Decision Tree in the PDSP, seven (7) biased beryllium smear samples were collected in Area AA, in accordance with the PDSP and the *Beryllium Characterization Procedure,* PRO-536-BCPR, Revision 0, September 9, 1999.

All beryllium smear sample results were less than the investigative limit of 0.1 $\mu g/100cm^2$. PDS beryllium laboratory sample data and location maps are contained in Attachment C, *Chemical Data Summaries and Sample Maps.*

4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based upon the *B771 and B774 Hazards Characterization Report, 771 Closure Project,* Revision 0, dated June 12, 2001, personnel interviews, facility walk-downs, and historical process knowledge (WSRIC/WEMS), the Area AA did not contain hazardous waste storage units. A visual inspection of the building by 771/774 Industrial Hygiene personnel verified the absence of hazardous waste residuals and/or stains on the floor/concrete slab, walls, or ceiling. As a result of these observances, it has been determined that no sampling for RCRA/CERCLA constituents is required. The concrete generated from the demolition of the areas included in the scope of this report can be used for onsite recycling in accordance with the Concrete Recycling RSOP.

4.4 Polychlorinated Biphenyls (PCBs)

Based on historical knowledge, personnel interviews, and 771/774 Environmental Compliance Personnel walk-downs, Area AA never used/transferred free flowing/exposed PCB's. At one time the facility may have used PCB ballasts in its fluorescent light fixtures, however, all of these have been removed, and compliantly disposed of, resulting in no impact on demolition activities in this area.

Per the *B771 and B774 Hazards Characterization Report for the 771 Closure Project,* PCBs are present in some applied paints (i.e., on several walls and floors within the B771 and B774 Contamination Areas). Because additional paint sampling was not performed in Area AA, and because painted surfaces remain in the area (cinderblock and concrete walls), any painted debris generated during demolition that is not recycled on-site will be disposed of a PCB Bulk Product waste.

5 PHYSICAL HAZARDS

Physical hazards associated with Area AA are common to standard industrial environments, and include hazards associated with utilities. There are no other unique

hazards associated with the facility. The facility has been relatively well maintained and is in good physical condition, therefore, does not present hazards associated with building deterioration.

Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Area AA and consequent waste management, is of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments B and C) were verified and validated relative to MAN-127-PDSP, Pre-Demolition Survey Plan for D&D Facilities, and original project DQOs.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- the *number* of samples and surveys;
- the *types* of samples and surveys;
- the sampling/survey process as implemented "in the field"; and
- the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are presented in Attachment D. The DQA Checklists are provided in the individual survey unit packages (located in the Building 771 Characterization Files).

The Minimum Detectable Activity (MDA) for each PDS instrument was determined *a priori* based on typical parameters (background, efficiency, and count time). A list of radiological field instrumentation and associated sensitivities is presented in Table 1.

Table 1
PDS Radiological Field Instrumentation and Minimum Detectable Activities

Model	Measurement Type	MDA (dpm/100 cm^2)
NE Electra DP6	TSA	48
Eberline SAC-4	Removable (Smears)	10
NE Electra AP6	Scans	300

7 DECOMMISSIONING WASTE TYPES

The demolition and disposal of Area AC will generate a variety of wastes. Concrete can be used as backfill onsite in accordance with the RFCA RSOP for Recycling Concrete.

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Area AA is classified as an RFCA Type 3 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). Based upon the results of this PDSR, Area AA West meets the unrestricted release limits specified in the site Pre-Demolition Survey Plan and is ready for demolition. The PDS for Area AA West was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria.

A facility walkdown and historical review indicates that no RCRA/CERCLA constituents exist in Area AA West (refer to Attachment E, Historical Review). Any painted debris generated during demolition that is not recycled on-site will be disposed of as PCB Bulk Product waste.

Radiological contamination in excess of the PDSP Table 7-1 limits was not detected in Area AA. The applicable limits are as follows:

Table 2
PDSP Table 7-1 Surface Contamination Limits

Radionuclides	**Total Average (dpm/100 cm^2) (1) ($DCGL_W$)**	**Total Maximum (dpm/100 cm^2) (2) ($DCGL_{EMC}$)**	**Removable (dpm/100 cm^2) ($DCGL_W$)**
Transuranics	100	300	20

(1) Measurements of average contamination should not be averaged over an area of more than 1 m^2.
(2) The maximum contamination level applies to an area of not more than 100 cm^2.

Based upon this PDSR, the Area AA West can be demolished and the waste managed as sanitary and the concrete can be used for backfill on-site per the RFCA RSOP for Recycling Concrete.

To ensure that the facility remains free of contamination and that PDS data remain valid, Level 2 isolation controls have been established.

9 REFERENCES

B771 and B774 Hazards Characterization Report for the 771 Closure Project, dated June 12, 2001, Revision 0.

DOE/RFFO, CDPHE, EPA, 1996. *Rocky Flats Cleanup Agreement (RFCA)*, July 19, 1996.

DOE Order 5400.5, *Radiation Protection of the Public and the Environment*

DOE Order 414.1A, *Quality Assurance*

EPA, 1994. *The Data Quality Objective Process*, EPA QA/G-4.

K-H, 1999. *Decommissioning Program Plan*, June 21, 1999.

MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001.

MAN-076-FDPM, *Facility Disposition Program Manual*, Rev. 3, January 1, 2002.

MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 4, July 15, 2002.

MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002.

MARSSIM - *Multi-Agency Radiation Survey and Site Investigation Manual* (NUREG-1575, EPA 402-R-97-016).

PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure*, Rev. 1, May 22, 2001.

PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev. 2, March 10, 2003.

PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.

PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-563-ACPR, *Asbestos Characterization Procedure*, Revision 0, August 24, 1999.

PRO-536-BCPR, *Beryllium Characterization Procedure*, Revision 0, August 24, 1999.

RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.

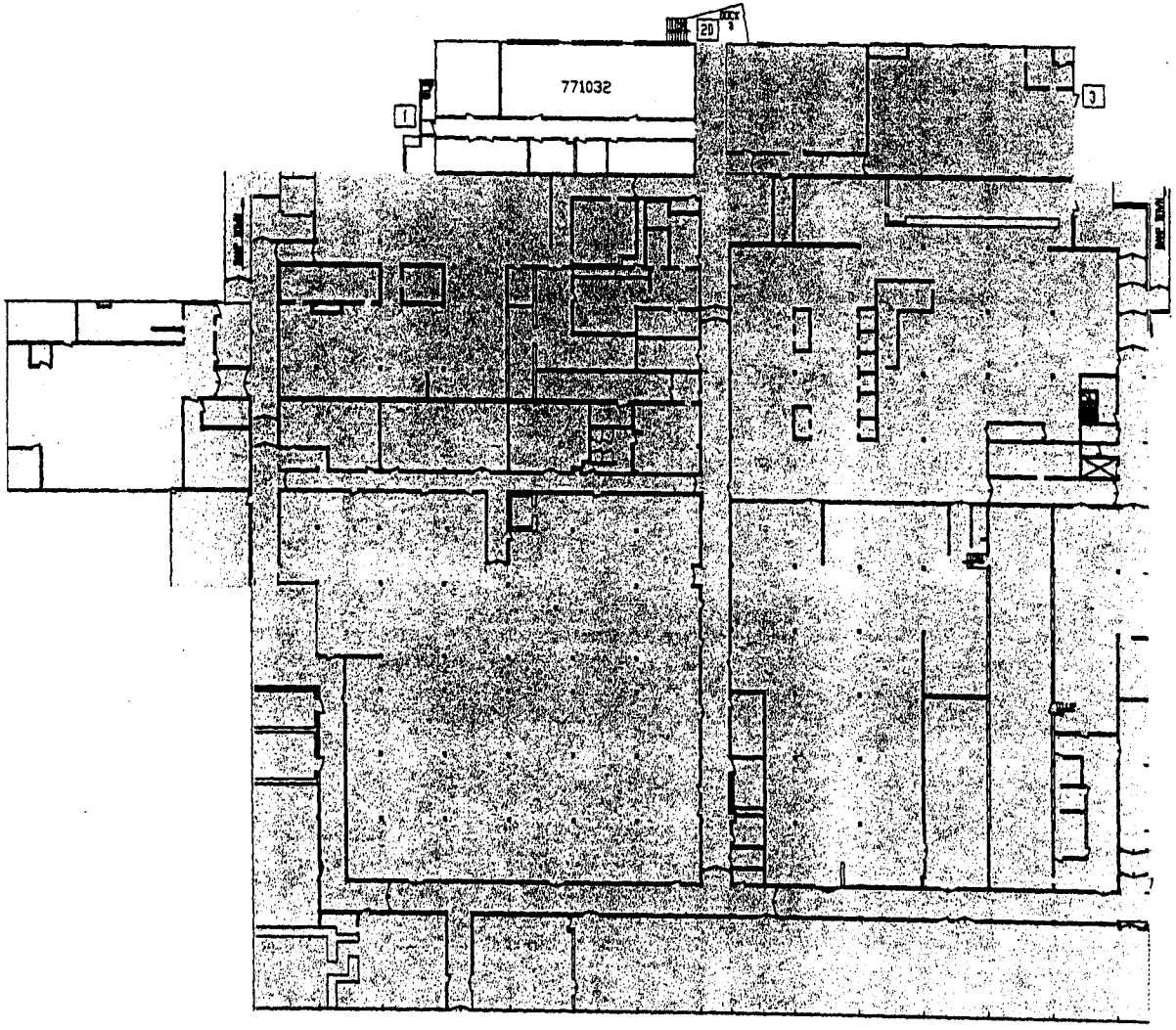
RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.

RFETS, RFCA RSOP for Recycling Concrete, September 28, 1999

ATTACHMENT A

Survey Unit Overview Map

BLDG 771 Admin Area (AA)



ATTACHMENT B

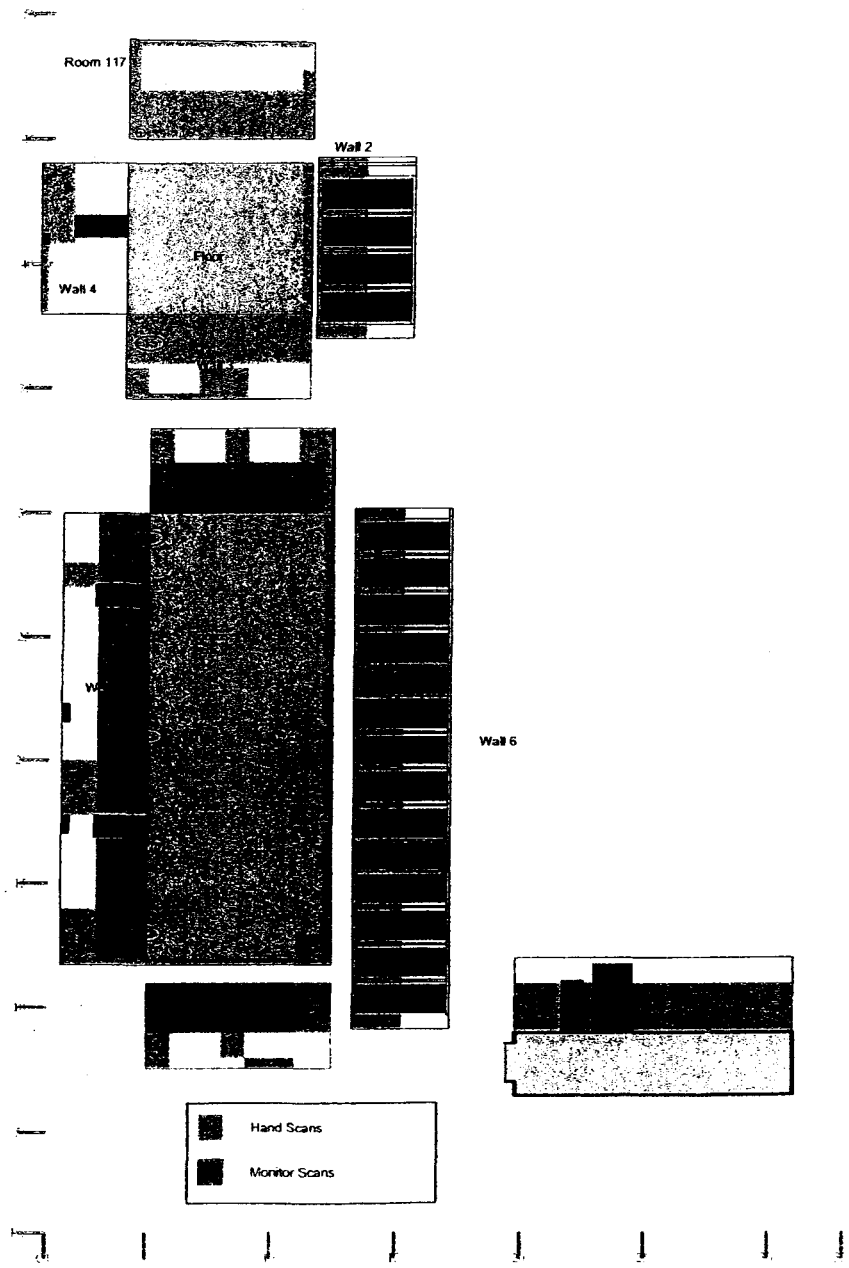
Survey Unit 771032
Radiological Data Summary and Survey Map

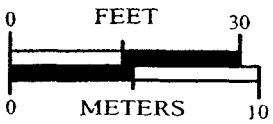
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 771 CLUSTER

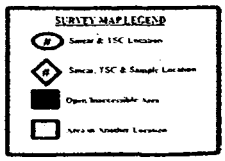
Survey Area: AA **Survey Unit: 771032** **Classification: 2**
Building: 771
Survey Unit Description: Rooms 116-126, Corridor A (north)

Total Floor Area: 295 sq. m **Total Area: 1053 sq. m** **Grid Size: 8m x 8m**

SURVEY UNIT 771032 - MAP 1 OF 3







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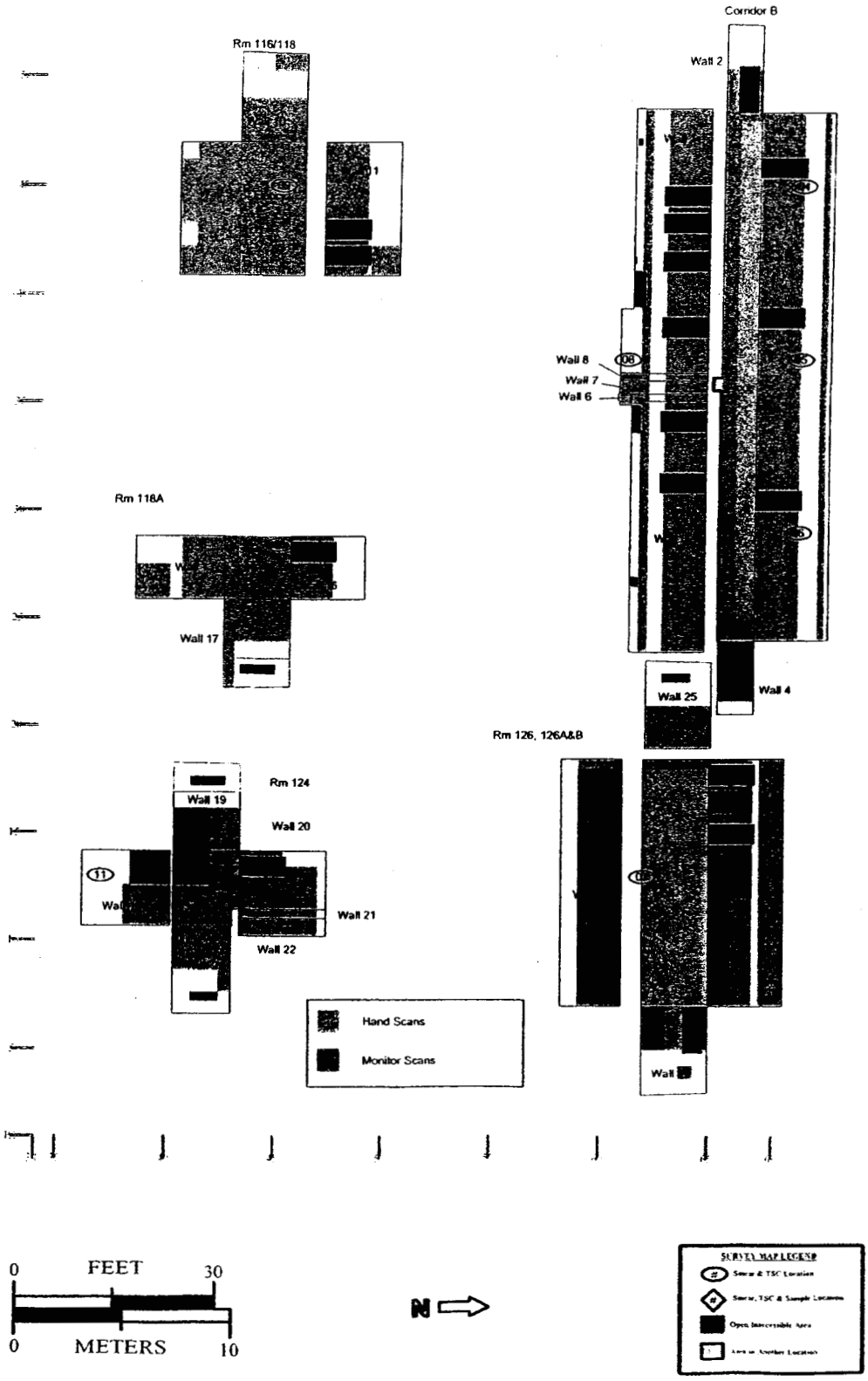
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 771 CLUSTER

Survey Area: AA **Survey Unit: 771032** **Classification:**
Building: 771
Survey Unit Description: Rooms 116-126, Corridor A (north)

Total Floor Area: 295 sq. m **Total Area: 1053 sq. m** **Grid Size: 8m x 8m**

SURVEY UNIT 771032 - MAP 2 OF 3



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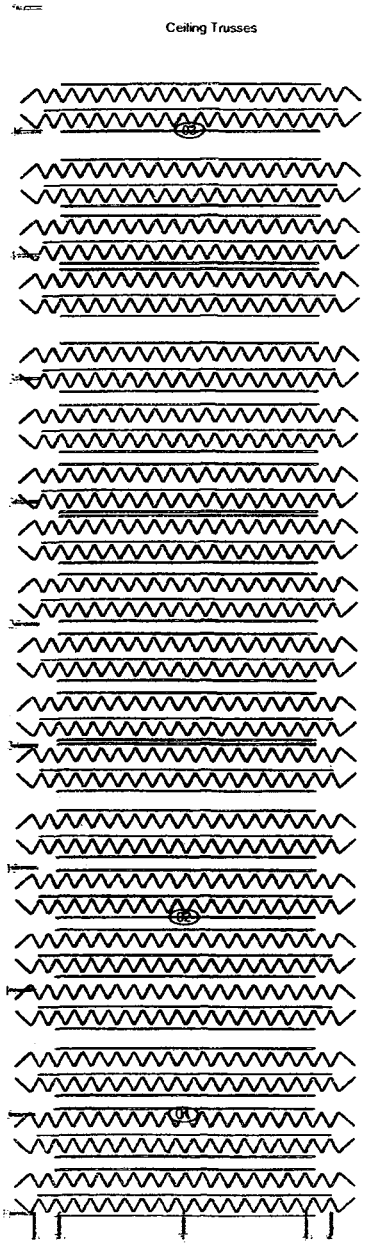
RADIOLOGICAL CLOSEOUT SURVEY FOR THE 771 CLUSTER

Survey Area: AA Survey Unit: 771032 Classification: 2
Building: 771
Survey Unit Description: Rooms 116-126, Cooridor A (north)

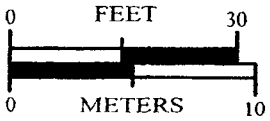
Total Floor Area: 295 sq. m Total Area: 1053 sq. m Grid Size: 8m x 8m

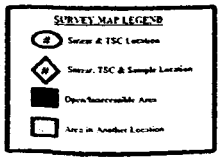
SURVEY UNIT 771032 - MAP 3 OF 3



Hand Scans

Monitor Scans





	A	B	C	D	E	F	G	H	I	J
1	Unit No.	Building	Unit Description	Regulatory Status	Closure Status	Closure Date	Closure Document Approval	SET	Closure document submittal	CDPHE approval
119	53	771	Miscellaneous Cementation, Rm. 114	INTERIM STATUS - CLOSED per Closure Plan for Interim Status Units	CLOSED in accordance with the RCRA Closure Plan for Interim Status Units (April, 1998) and the Closure Description Document for RCRA Closure Unit #53 in Building 771 (00-RF-01338). Closure Summary Report for RCRA Interim Status Unit 53 in Building 771 transmitted to CDPHE on 10/03/00 (00-RF-02779).	10/3/00	CDD 5/10/00 DOP 1/31/99 last mod (6) 3/24/04		CSR 10/3/00 COR 5/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04 COR 9/9/05
159	90.110	771	Container Storage, Rm. 152	WITHDRAWN - Never used for haz. waste	WITHDRAWN 2/21/95 (ref. 95-DOE-09213).	NA	NA	NA	NA	NA
161	90.111	771	Container Storage, Rm. 160							
162	90.112	771	Container Storage, Rm. 169	WITHDRAWN - Never used for haz. waste	WITHDRAWN 2/21/95 (ref. 95-DOE-09213).	NA	NA	NA	NA	NA
163	90.113	771	Container Storage, Rm. 147C							
164	90.114	771	Container Storage, Glove box MT-4 in Rm. 146	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 3/29/02 per Set 36. RCRA STABLE per notification from Evangelos Glestos 11/27/01. To be closed in accordance with the B771/B774 Decommissioning	3/29/02	DOP 1/31/99 last mod (6) 3/24/04	36	COR 5/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04 COR 9/9/05
165	90.114	771	Container Storage, Rm. 146	Mixed Residue - CLOSED per a RFCA	Closed in accordance with the B771/B774 Decommissioning Operations Plan (DOP).	8/4/04				
179	90.138	771	Container Storage, Rm. 154, Glove box 49	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); Closure Certification signed 2/24/97 (ref. 97-DOE-05189, 3/18/97).	11/22/98	DOP 1/31/99 last mod (6) 3/24/04		CC 2/24/97 COR 5/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04 COR 9/9/05
180	90.139	771	Container Storage, Rm. 158, North and South Glove boxes							
182	90.140	771	Container Storage, Rm. 159 (Floor)	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); Closure Certification signed 2/24/97 (ref. 97-DOE-05189, 3/18/97).	11/22/98	DOP 1/31/99 last mod (6) 3/24/04		CC 2/24/97 COR 8/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04
183	90.140	771	Container Storage, Rm. 159, Glove boxes 1, 4, 6, and 9	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	Glove boxes 1, 6, and 9 CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); Closure Certification for Glove boxes 1, 6, and 9 signed 2/24/97 (ref. 97-DOE-05189, 3/18/97). Glove box 4 CLOSED in accordance with Closure Description Document for RCRA Closure of Mixed Residue Interim Status Units Associated with D&D SETs in B771"; Summary Report submitted to CDPHE 3/10/00. (Note: "Mixed Residue Interim Status Unit" is a misnomer; this is a Mixed Residue Unit.)	3/10/00	DOP 1/31/99 last mod (6) 3/24/04		CC 2/24/97 CSR 3/10/00 COR 8/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04 COR 9/9/05
192	90.21	771	Container Storage, Glove box 27	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED in accordance with "Closure Description Document for Mixed Residue Interim Status Units Associated with D&D Sets in B771" (ref. 99-RF-04241, 10/27/99). (Note: "Mixed Residue Interim Status	10/27/99	DOP 1/31/99 last mod (6) 3/24/04		COR 5/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04
193	90.21	771	Container Storage, Rm. 149	Mixed Residue - CLOSED per a RFCA	Closed in accordance with the B771/B774 Decommissioning Operations Plan (DOP).	8/4/04	DOP 1/31/99 last mod (6)		COR 5/25/05	PDSR 7/14/04, 9/14/04.
194	90.21	771	Container Storage, Rm. 149 (cold)	WITHDRAWN - Never used for haz. waste	WITHDRAWN 2/21/95 (ref. 95-DOE-09213).	NA	NA	NA	NA	NA
195	90.21	771	Container Storage, Rm. 149, Glove box	Mixed Residue - CLOSED per a RFCA	Closed in accordance with the 771/774 DOP as of 6/17/02.	6/17/02	DOP 1/31/99 last mod (6)	66	COR 5/25/05	PDSR 7/14/04, 9/14/04.
196	90.21	771	Container Storage, Rm. 149, Old Glove box 30	Mixed Residue - CLOSED per a RFCA decision document	CLOSED in accordance with RCRA Closure Plan for Interim Status Units and the CDD for RCRA Closure Mixed Residue/Interim Status Units Associated with D&D Sets in B771. Closure Summary Report submitted	1/27/00	DOP 1/31/99 last mod (6) 3/24/04		CSR 12/27/00 COR 8/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04
197	90.22	771	Container Storage, Old Glove box 13/14	Mixed Residue - CLOSED per a RFCA	Closed in accordance with the 771/774 DOP as of 6/10/02.	6/10/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04
198	90.22	771	Container Storage, Rm. 114	Mixed Residue - CLOSED per a RFCA		8/4/04				
199	90.22	771	Container Storage, Rm. 114 Cal	WITHDRAWN - Never used for haz. waste	WITHDRAWN 2/21/95 (ref. 95-DOE-09213).	NA	NA	NA	NA	NA
200	90.22	771	Container Storage, Rm. 114, 1-6	WITHDRAWN - Never used for haz. waste	WITHDRAWN 2/21/95 (ref. 95-DOE-09213).	NA	NA	NA	NA	NA
201	90.22	771	Container Storage, Rm. 114, 7-8	WITHDRAWN - Never used for haz. waste	WITHDRAWN 2/21/95 (ref. 95-DOE-09213).	NA	NA	NA	NA	NA
206	90.30	771	Container Storage, Rm. 146A	WITHDRAWN - Never used for haz. waste	WITHDRAWN 10/26/94 (ref. 94-DOE-10453).	NA	NA	NA	NA	NA
208	90.31	771	Container Storage, Rm. 179	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); Closure Certification signed 9/18/97 (ref. 97-DOE-05528, 10/30/97).	11/22/98	DOP 1/31/99 last mod (6) 3/24/04		CC 9/18/97 COR 5/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04 COR 9/9/05
209	90.33	771	Container Storage, Dock 10	WITHDRAWN - Loading docks are excluded	WITHDRAWN 10/26/94 (ref. 94-DOE-10453).	NA	NA	NA	NA	NA
210	90.34	771	Container Storage, Rm. 249	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); Closure Certification signed 9/18/97 (ref. 97-DOE-05528, 10/30/97).	11/22/98	DOP 1/31/99 last mod (6) 3/24/04		CC 9/18/97 COR 5/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04 COR 9/9/05
211	90.35	771	Container Storage, Dock 23	WITHDRAWN - Loading docks are excluded	WITHDRAWN 10/26/94 (ref. 94-DOE-10453).	NA	NA	NA	NA	NA
212	90.36	771	Container Storage, Rm. 182A	WITHDRAWN - Never used for haz. waste	WITHDRAWN 2/21/95 (ref. 95-DOE-09213).	NA	NA	NA	NA	NA
245	90.82	771	Container Storage, Rm. 188	INTERIM STATUS - CLOSED per a RFCA	Closed in accordance with the B771/B774 Decommissioning Operations Plan (DOP)	8/4/04	DOP 1/31/99 last mod (6)		COR 5/25/05	PDSR 7/14/04, 9/14/04.
246	90.84	771	Container Storage, Rm. 180B	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); Closure Certification signed 9/3/98 (ref. 98-RF-04653, 9/15/98).	9/3/98	DOP 1/31/99 last mod (6) 3/24/04		CC 9/3/98 COR 5/25/05	PDSR 7/14/04, 9/14/04, 9/21/04, 10/20/04 COR 9/9/05
256	90.97	771	Container Storage, Rm. 147	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); original Closure Certification signed 10/21/97(ref. 97-DOE-05533, 11/3/97); revised Closure Certification completed 4/30/98 (ref. 98-DOE-10657, 5/13/98); 11 of 27 storage bins CLOSED; remaining storage bins removed slated for 1999; Request for Approval of Summary Report of Final Closure Activities submitted to	6/1/00	DOP 1/31/99 last mod (6) 3/24/04		CC 10/21/97 CC 4/30/98 CSR 2/21/00 COR 5/25/05	CSR 6/1/00 PDSR 7/14/05, 9/14/05, 9/21/04, 10/20/04 COR 9/9/05

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1	Unit No.	Building	Unit Description	Regulatory Status	Closure Status	Closure Date	Closure Document Approval	SET	Closure document submittal	CDPHE approval
318	93.001	771	Tank D-500, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 2/11/02.	2/11/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	CSR 6/1/00 PDSR 7/14/05, 9/14/05, 9/21/04, 10/20/04 COR 9/9/05
319	93.002	771	Tank D-501, Rm. 114							
320	93.003	771	Tank D-502, Rm. 114							
321	93.004	771	Tank D-503, Rm. 114							
322	93.005	771	Tank D-504, Rm. 114							
323	93.006	771	Tank D-505, Rm. 114							
324	93.007	771	Tank D-506, Rm. 114							
325	93.008	771	Tank D-507 (OLD), Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/10/02.	6/10/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	CSR 6/1/00 PDSR 7/14/05, 9/14/05, 9/21/04, 10/20/04 COR 9/9/05
326	93.009	771	Tank D-508 (OLD), Rm. 114							
327	93.010	771	Tank DA-509 (OLD), Rm. 114							
328	93.011	771	Tank DB-510 (OLD), Rm. 114							
329	93.012	771	Tank D-529							
330	93.013	771	Tank D-530, Rm. 114							
331	93.014	771	Tank D-544, Rm. 114							
332	93.015	771	Tank D-545, Rm. 114							
333	93.016	771	Tank D-546, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 2/11/02.	2/11/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
334	93.017	771	Tank D-547, Rm. 114							
335	93.018	771	Tank D-548, Rm. 114							
336	93.019	771	Tank D-549, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	CLOSED BY REMOVAL .	2/11/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
337	93.020	771	Tank D-550, Rm. 114							
338	93.021	771	Tank D-551, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/10/02.	6/10/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
339	93.022	771	Tank D-552, Rm. 114							
340	93.023	771	Tank D-553, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 2/11/02 .	2/11/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
341	93.024	771	Tank D-554, Rm. 114							
342	93.025	771	Tank D-705, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	CLOSED BY REMOVAL .	5/10/00	DOP 1/31/99 last mod (6) 3/24/04	60	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
343	93.026	771	Tank D-706, Rm. 114							
344	93.027	771	Tank D-713, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/10/02 .	6/10/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
345	93.028	771	Tank D-714, Rm. 114							
346	93.029	771	Tank D-949, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	CLOSED BY REMOVAL.	2/11/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
347	93.030	771	Tank D-951, Rm. 114							
348	93.031	771	Tank D-952, Rm. 114							
349	93.032	771	Tank D-953, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 2/11/02.	2/11/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
350	93.033	771	Tank D-954, Rm. 114							
351	93.034	771	Tank D-955, Rm. 114	Mixed Residue - CLOSED per a RFCA	REMOVED.	2/11/02	DOP 1/31/99 last mod (6)	63	COR 5/25/05	PDSR 11/2/04 &
352	93.035	771	Tank D-1001, Rm. 146	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 3/29/02.	3/29/02	DOP 1/31/99 last mod (6) 3/24/04	36	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
353	93.036	771	Tank D-1002, Rm. 146							
354	93.037	771	Tank D-1003, Rm. 146							
355	93.038	771	Tank D-1004, Rm. 146							
356	93.039	771	Tank D-1005, Rm. 146							
357	93.040	771	Tank D-1006, Rm. 146							
358	93.041	771	Tank D-1007, Rm. 146							
359	93.042	771	Tank D-1008, Rm. 146							
360	93.043	771	Tank D-1009, Rm. 146							
361	93.044	771	Tank D-1010, Rm. 146							
362	93.045	771	Tank D-1011, Rm. 146							
363	93.046	771	Tank D-1012, Rm. 146							
364	93.047	771	Tank D-1013, Rm. 146							
365	93.048	771	Tank D-1022, Rm. 146							
366	93.049	771	Tank D-1032, Rm. 146	Mixed Residue - CLOSED per a RFCA decision document	CLOSED in accordance with "Closure Plan for Tank and Ancillary Equipment System #9 in B771"; Phase I Summary Report transmitted to CDPHE 10/16/00 (ref. 00-RF-02779).	10/16/00	DOP 1/31/99 last mod (6) 3/24/04		COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
367	93.050	771	Tank D-1014, Rm. 146	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 3/29/02.	3/29/02	DOP 1/31/99 last mod (6)	36	COR 5/25/05	PDSR 11/2/04 &
368	93.051	771	Tank D-1065, Rm. 146	Mixed Residue - CLOSED per a RFCA decision document	CLOSED in accordance with "Closure Plan for Tank and Ancillary Equipment System #9 in B771"; Phase I Summary Report transmitted to CDPHE 10/16/00 (ref. 00-RF-02779). REMOVED during SET 36.	10/16/00	DOP 1/31/99 last mod (6) 3/24/04		COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
369	93.052	771	Tank D-1066, Rm. 146	Mixed Residue - CLOSED per a RFCA decision document	CLOSED in accordance with "Closure Plan for Tank and Ancillary Equipment System #9 in B771"; Phase I Summary Report transmitted to CDPHE 10/16/00 (ref. 00-RF-02779). REMOVED during SET 36.	10/16/00	DOP 1/31/99 last mod (6) 3/24/04		COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05

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1	Unit No.	Building	Unit Description	Regulatory Status	Closure Status	Closure Date	Closure Document Approval	SET	Closure document submittal	CDPHE approval
370	93.053	771	Tank D-1976, Rm. 148							
371	93.054	771	Tank D-1977, Rm. 148							
372	93.055	771	Tank D-1978, Rm. 148							
373	93.056	771	Tank D-1979, Rm. 148							
374	93.057	771	Tank D-1980, Rm. 148							
375	93.058	771	Tank D-1981, Rm. 148							
376	93.059	771	Tank D-1982, Rm. 148							
377	93.060	771	Tank D-1983, Rm. 148							
378	93.061	771	Tank D-1984, Rm. 148							
379	93.062	771	Tank D-1985, Rm. 148							
380	93.063	771	Tank D-1986, Rm. 148							
381	93.064	771	Tank D-1987, Rm. 148							
382	93.065	771	Tank D-1988, Rm. 148							
383	93.066	771	Tank D-1989, Rm. 148							
384	93.067	771	Tank D-1990, Rm. 148							
385	93.068	771	Tank D-1991, Rm. 148							
386	93.069	771	Tank D-1992, Rm. 148							
387	93.070	771	Tank D-1993, Rm. 148							
388	93.071	771	Tank D-1925, Rm. 149	WITHDRAWN - Never used for haz. waste	Removed.	NA	NA	NA	NA	NA
389	93.072	771	Tank D-1926, Rm. 149							
390	93.073	771	Tank D-1927, Rm. 149							
391	93.074	771	Tank D-1928, Rm. 149							
392	93.075	771	Tank D-1930, Rm. 149							
393	93.076	771	Tank D-1931, Rm. 149							
394	93.077	771	Tank D-1932, Rm. 149							
395	93.078	771	Tank D-1934, Rm. 149							
396	93.079	771	Tank D-1935, Rm. 149							
397	93.080	771	Tank D-1936, Rm. 149							
398	93.081	771	Tank D-1937, Rm. 149							
399	93.082	771	Tank D-1939, Rm. 149							
400	93.083	771	Tank D-1940, Rm. 149							
401	93.084	771	Tank D-1941, Rm. 149							
402	93.085	771	Tank D-1942, Rm. 149							
403	93.086	771	Tank D-1943, Rm. 149							
404	93.087	771	Tank D-1944, Rm. 149							
405	93.088	771	Tank D-1945, Rm. 149							
406	93.089	771	Tank D-208, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	REMOVED. RCRA STABLE (00-RF-00625, 2/16/00) approved by CDPHE 3/2/00; subject to quarterly inspections; to be closed in accordance with "Closure Description Document for Tank and Ancillary	3/2/00	DOP 1/31/99 last mod (6) 3/24/04	27	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
407	93.090	771	Tank D-360, Rm. 149							
408	93.091	771	Tank D-361, Rm. 149							
409	93.092	771	Tank D-362, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	Removed as of 12/11/02. RCRA STABLE (00-RF-00625, 2/16/00) approved by CDPHE 3/2/00; subject to quarterly inspections; to be closed in accordance with "Closure Description Document for Tank and Ancillary Equipment System #33 in B771."	12/11/02	DOP 1/31/99 last mod (6) 3/24/04	66	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
410	93.093	771	Tank D-363, Rm. 149							
411	93.094	771	Tank D-364, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	Removed as of 12/11/02. RCRA STABLE per 00-RF-??? (mistakenly eliminated from 00-RF-00625, 2/16/00 but included in CDPHE approval letter, 3/2/00); subject to quarterly inspections; to be closed in accordance with "Closure Description Document for Tank and Ancillary Equipment System #33 in B771."	12/11/02	DOP 1/31/99 last mod (6) 3/24/04	66	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
412	93.095	771	Tank D-451, Rm. 149							
413	93.096	771	Tank D-452, Rm. 149							
414	93.097	771	Tank D-453, Rm. 149							
415	93.098	771	Tank D-454, Rm. 149							
416	93.099	771	Tank D-466, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	Removed as of 9/17/02.	9/17/02	DOP 1/31/99 last mod (6) 3/24/04	66	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
417	93.100	771	Tank D-467, Rm. 149							
418	93.101	771	Tank D-468, Rm. 149							
419	93.102	771	Tank D-469, Rm. 149							
420	93.103	771	Tank D-470, Rm. 149							
421	93.104	771	Tank D-472, Rm. 149							
422	93.105	771	Tank D-921, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	Removed as of 12/11/02.		DOP 1/31/99 last mod (6) 3/24/04	66	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
423	93.106	771	Tank D-922, Rm. 149	Mixed Residue - CLOSED per a RFCA	Removed as of 12/16/02.	12/11/02	DOP 1/31/99 last mod (6)	66	COR 5/25/05	PDSR 11/2/04 &
424	93.107	771	Tank D-923, Rm. 149	Mixed Residue - CLOSED per a RFCA	Removed as of 12/11/02.	12/16/02	DOP 1/31/99 last mod (6)	66	COR 5/25/05	PDSR 11/2/04 &
425	93.108	771	Tank D-927, Rm. 149	Mixed Residue - CLOSED per a RFCA	Closed in accordance with the 771/774 DOP as of 3/29/02.	12/11/02	DOP 1/31/99 last mod (6)	66	COR 5/25/05	PDSR 11/2/04 &
426	93.109	771	Tank D-928, Rm. 149			3/29/02	DOP 1/31/99 last mod (6)	66	COR 5/25/05	PDSR 11/2/04 &
427	93.110	771	Tank D-931, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	Removed as of 12/11/02.	12/11/02	DOP 1/31/99 last mod (6) 3/24/04	66	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
428	93.111	771	Tank D-932, Rm. 149							
429	93.112	771	Tank D-933, Rm. 149							
430	93.113	771	Tank D-934, Rm. 149							
431	93.114	771	Tank D-971, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	Removed as of 9/17/02.	9/17/02	DOP 1/31/99 last mod (6) 3/24/04	66	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
432	93.115	771	Tank D-972, Rm. 149							
433	93.116	771	Tank D-973, Rm. 149							
434	93.117	771	Tank D-974, Rm. 149							
435	93.118	771	Tank D-975, Rm. 149	Mixed Residue - CLOSED per a RFCA	Removed as of 12/11/02.	12/11/02	DOP 1/31/99 last mod (6)	66	COR 5/25/05	PDSR 11/2/04 &
436	93.119	771	Tank D-976, Rm. 149							
437	93.120	771	Tank D-980, Rm. 149							

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1	Unit No.	Building	Unit Description	Regulatory Status	Closure Status	Closure Date	Closure Document Approval	SET	Closure document submittal	CDPHE approval
438	93.121	771	Tank D-1081, Rm. 174							
439	93.122	771	Tank D-1082, Rm. 174							
440	93.123	771	Tank D-1083, Rm. 174							
441	93.124	771	Tank D-1087, Rm. 174							
442	93.125	771	Tank D-1088, Rm. 174	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 8/27/01.	8/27/01	DOP 1/31/99 last mod (6) 3/24/04	68	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
443	93.126	771	Tank D-1803, Rm. 180A							
444	93.127	771	Tank D-1804, Rm. 180A							
445	93.128	771	Tank D-1805, Rm. 180A							
446	93.129	771	Tank D-1809, Rm. 180A							
447	93.130	771	Tank D-1810, Rm. 180A	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 9/25/01.	9/25/01	DOP 1/31/99 last mod (6) 3/24/04	43	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
448	93.131	771	Tank D-1811, Rm. 180A							
449	93.132	771	Tank D-1813, Rm. 180A							
450	93.133	771	Tank D-1816, Rm. 180A							
451	93.134	771	Tank D-1817, Rm. 180A							
452	93.135	771	Tank D-1818, Rm. 180A							
453	93.136	771	Tank D-1819, Rm. 180A	Mixed Residue - CLOSED per a RFCA decision document	CLOSED per 00-RF-01768 (07/10/00) in accordance with "Closure Description Document for Tank and Ancillary Equipment System #17 in B771."	7/10/00	DOP 1/31/99 last mod (6) 3/24/04		COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
454	93.137	771	Tank D-83, Rm. 180K							
455	93.138	771	Tank D-84, Rm. 180K	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 7/26/01.	7/26/01	DOP 1/31/99 last mod (6) 3/24/04	69	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
456	93.139	771	Tank D-85, Rm. 180K							
457	93.140	771	Tank D-1401, Rm. 181A							
458	93.141	771	Tank D-1402, Rm. 181A							
459	93.142	771	Tank D-1406, Rm. 181A							
460	93.143	771	Tank D-1407, Rm. 181A	Mixed Residue - CLOSED per a RFCA decision document	CLOSED in accordance with "Closure Description Document for Tank and Ancillary Equipment System #3 in B771"; Phase II Summary Report submitted to CDPHE 2/21/00 (00-RF-00661)	2/21/00	DOP 1/31/99 last mod (6) 3/24/04	37	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
461	93.144	771	Tank D-1409, Rm. 181A							
462	93.145	771	Tank D-1410, Rm. 181A							
463	93.146	771	Tank D-1411, Rm. 181A							
464	93.147	771	Tank D-1414, Rm. 181A							
465	93.148	771	Tank D-1415, Rm. 181A							
466	93.149	771	Tank D-80, Rm. 180K							
467	93.150	771	Tank D-81, Rm. 180K	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 7/26/01.	7/26/01	DOP 1/31/99 last mod (6) 3/24/04	69	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
468	93.151	771	Tank D-82, Rm. 180K							
469	93.152	771	Tank D-950, Rm. 114	Mixed Residue - CLOSED per a RFCA	Closed in accordance with the 771/774 DOP as of 2/11/02.	2/11/02	DOP 1/31/99 last mod (6)	61	COR 5/25/05	PDSR 11/2/04 &
470	93.154	771	Oxalate Precipitation, Glove box A-20,	WITHDRAWN - Never installed	Withdrawn	NA	NA	NA	NA	NA
551	771.1	771	Container Storage, Rm. 186 (90.32)	PERMITTED - CLOSED per a RFCA decision	CLOSED in accordance with the B771/B774 Decommissioning Operations Plan (DOP)	8/4/04	DOP 1/31/99 last Mod (3)		COR 5/25/05	PDSR 11/2/04 &
552	771.1	771	Container Storage, Annex (90.25)	PERMITTED - CLOSED per a RFCA decision	CLOSED in accordance with the B771/774 Decommissinoning Operations Plan (DOP) per email from Chris	6/3/04	DOP 1/31/99 last Mod (3)		COR 5/25/05	PDSR 11/2/04 &
553	771.1	771	Container Storage, Rm. 163, Glove boxes 108, 109, 110, 112, 113, 114, and 115 (90.115)							
554	771.1	771	Container Storage, Rm. 164, Glove boxes 62, 68, 72, 74, 98, 101, and 103 (90.116)	PERMITTED - CLOSED per a RFCA decision document	CLOSED BY REMOVAL in accordance with "Closure Description Document for Permitted Glove box Storage Areas in Unit 771.1"; Closure Summary Report submitted to CDPHE 5/9/00 (00-RF-01494).	5/9/00	DOP 1/31/99 last Mod (3) 11/2/04		COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
555	771.1	771	Container Storage, Rm. 172 (90.64)	PERMITTED - CLOSED per a RFCA decision	CLOSED in accordance with the B771/B774 Decommissioning Operations Plan (DOP)	8/4/04	DOP 1/31/99 last Mod (3)		COR 5/25/05	PDSR 11/2/04 &
556	771.1	771	Container Storage, Rm. 180A, Glove boxes A-31, A-51, A-52, and A-53 (90.117)	PERMITTED - CLOSED per a RFCA decision document	Glove box A31 CLOSED in accordance with the 771/774 DOP as of 9/25/01. NOTE: A-51/52/53 have been removed/CLOSED in Set 67 per e-mail from Evangelos Glestos (06/12/01)	9/25/01	DOP 1/31/99 last Mod (3) 11/2/04	43	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
557	771.1	771	Container Storage, Rm. 180E, Glove box	PERMITTED - CLOSED per a RFCA decision	REMOVED per the 776/777 DOP	11/7/00	DOP 1/31/99 last Mod (3)	69	COR 5/25/05	PDSR 11/2/04 &
558	771.1	771	Container Storage, Rm. 180F, Glove box	PERMITTED - CLOSED per a RFCA decision	REMOVED per the 776/777DOP	11/7/00	DOP 1/31/99 last Mod (3)	69	COR 5/25/05	PDSR 11/2/04 &
559	771.1	771	Container Storage, Rm. 180K, Glove boxes K-10 and K-20 (90.121)	PERMITTED - CLOSED per a RFCA decision document	CLOSED in accordance with the 771/774 DOP as of 7/26/01.	7/26/01	DOP 1/31/99 last Mod (3) 11/2/04	69	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
560	771.1	771	Container Storage, Rm. 181A (90.23)	PERMITTED - CLOSED per a RFCA decision	CLOSED in accordance with the B771/B774 Decommissioning Operations Plan (DOP)	8/4/04	DOP 1/31/99 last Mod (3)		COR 5/25/05	PDSR 11/2/04 &
561	771.1	771	Container Storage, Rm. 182 (90.24)	PERMITTED - CLOSED per a RFCA decision	CLOSED in accordance with the B771/B774 Decommissioning Operations Plan (DOP)	8/4/04	DOP 1/31/99 last Mod (3)		COR 5/25/05	PDSR 11/2/04 &
562	771.1	771	Container Storage, Rm. 183 (90.129)	PERMITTED - CLOSED per a RFCA decision	CLOSED in accordance with the B771/B774 Decommissioning Operations Plan (DOP)	8/4/04	DOP 1/31/99 last Mod (3)		COR 5/25/05	PDSR 11/2/04 &
563	771.1	771	Container Storage, Rm. 187, Glove boxes 187-A and 187-C	PERMITTED - CLOSED per a RFCA decision document	CLOSED in accordance with "Closure Description Document for Permitted Glove box Storage Areas in Unit 771.1"; Summary Report submitted to CDPHE 3/9/00 (00-RF-00869).	3/9/00	DOP 1/31/99 last Mod (3) 11/2/04		COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
564	771.1	771	Container Storage, Rm. 188 (90.82)	PERMITTED - CLOSED per a RFCA decision	CLOSED in accordance with the B771/B774 Decommissioning Operations Plan (DOP)	8/4/04	DOP 1/31/99 last Mod (3)		COR 5/25/05	PDSR 11/2/04 &
565	771.1	771	Vault Container Storage, Rm. 146C (90.83)	PERMITTED - CLOSED per a RFCA decision document	CLOSED in accordance with "Closure Description Document for Room 146C Vault in Building 771"; Summary Report submitted to CDPHE 9/26/00 (00-RF-02727)	9/26/00	DOP 1/31/99 last Mod (3) 11/2/04		COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
566	771.1	771	Vault Container Storage, Rm. 184	PERMITTED - CLOSED per a RFCA decision	CLOSED in accordance with the B771/B774 Decommissioning Operations Plan (DOP)	8/4/04	DOP 1/31/99 last Mod (3)		COR 5/25/05	PDSR 11/2/04 &
731	771.3A	771	Hydroxide Precipitation Treatment Process, Rm. 180D, Glove box D-2	PERMITTED - CLOSED per a RFCA decision document	CLOSED in accordance with "Closure Description Document for RCRA Unit 771.3A, Hydroxide Precipitation Process, Glove box D-2, Room 180D" (approved by CDPHE 6/16/00); Summary Report	11/1/00	DOP 1/31/99 last Mod (3) 11/2/04	43	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
752	N/A	771	Incinerator, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	Removed under Set 22. CDD approved by CDPHE 01/31/02. CDD submitted to CDPHE March 2001 and amended on January 10, 2002 via email from Chris Gilbreath.	9/24/02	DOP 1/31/99 last Mod (3) 11/2/04	22	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
753	N/A	771	Tank D-1019, Rm. 146							
754	N/A	771	Tank D-1020, Rm. 146	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 3/29/02	3/29/02	DOP 1/31/99 last Mod (3) 11/2/04	36	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
755	N/A	771	Tank D-1023, Rm. 146							
756	N/A	771	Tank D-1024, Rm. 146							
757	N/A	771	Tank D-1062, Rm. 146							
758	N/A	771	Tank D-1063, Rm. 146	Mixed Residue - CLOSED per a RFCA decision document	CLOSED in accordance with "Closure Plan for Tank and Ancillary Equipment System #9 in B771"; Phase I Summary Report transmitted to CDPHE 10/16/00 (ref. 00-RF-02779)	10/16/00	DOP 1/31/99 last Mod (3) 11/2/04	63	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
759	N/A	771	Tank D-1064, Rm. 146							
760	N/A	771	Tank D-1084, Rm. 174	Mixed Residue - CLOSED per a RFCA	CLOSED BY REMOVAL	4/25/01	DOP 1/31/99 last Mod (3)	68	COR 5/25/05	PDSR 11/2/04 &
780	N/A	771	Tank D-177, Rm. 149	Mixed Residue - CLOSED per a RFCA	Closed in accordance with the 771/774 DOP as of 6/24/02	6/24/02	DOP 1/31/99 last Mod (3)	22	COR 5/25/05	PDSR 11/2/04 &

	A	B	C	D	E	F	G	H	I	J
1	Unit No.	Building	Unit Description	Regulatory Status	Closure Status	Closure Date	Closure Document Approval	SET	Closure document submittal	CDPHE approval
783	N/A	771	Tank D-203, Rm. 149	Mixed Residue - CLOSED per the Closure Plan for Interim Status Units	CLOSED BY REMOVAL in accordance with the RCRA Closure Plan for Interim Status Units and the CDD for RCRA Closure Mixed Residue/Interim Status Units Associated with the D&D Sets in B771. Closure Summary Report dated 12/27/00 signed by Chris Gilbreath (00-RF-03292)	1/27/00	DOP 1/31/99 last Mod (3) 11/2/04		COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
784	N/A	771	Tank D-204, Rm. 149							
785	N/A	771	Tank D-205, Rm. 149							
786	N/A	771	Tank D-206, Rm. 149							
787	N/A	771	Tank D-207, Rm. 149							
788	N/A	771	Tank D-218, Rm. 149							
789	N/A	771	Tank D-219, Rm. 149							
797	N/A	771	Tank D-3, Rm. 153	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/28/01	6/28/01	DOP 1/31/99 last Mod (3) 11/2/04	67	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
798	N/A	771	Tank D-4, Rm. 153							
824	N/A	771	Tank D-507 (NEW), Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/10/02	6/10/02	DOP 1/31/99 last Mod (3) 11/2/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
825	N/A	771	Tank D-508 (NEW), Rm. 114							
833	N/A	771	Tank D-609, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 2/11/02	2/11/02	DOP 1/31/99 last Mod (3) 11/2/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
834	N/A	771	Tank D-610, Rm. 114							
835	N/A	771	Tank D-630, Rm. 149	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/24/02	6/24/02	DOP 1/31/99 last Mod (3) 11/2/04	22	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
836	N/A	771	Tank D-631, Rm. 149							
845	N/A	771	Tank D-715, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/10/02	6/10/02	DOP 1/31/99 last Mod (3) 11/2/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
846	N/A	771	Tank D-716, Rm. 114							
849	N/A	771	Tank D-764, Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/10/02	6/10/02	DOP 1/31/99 last Mod (3) 11/2/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
850	N/A	771	Tank D-765, Rm. 114							
851	N/A	771	Tank D-86, Rm. 153	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/28/01	6/28/01	DOP 1/31/99 last Mod (3) 11/2/04	67	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
852	N/A	771	Tank D-87, Rm. 153							
853	N/A	771	Tank D-88, Rm. 153							
854	N/A	771	Tank DA-509 (NEW), Rm. 114	Mixed Residue - CLOSED per a RFCA decision document	Closed in accordance with the 771/774 DOP as of 6/10/02	6/10/02	DOP 1/31/99 last mod (6) 3/24/04	61	COR 5/25/05	PDSR 11/2/04 & 12/7/04 COR 9/28/05
855	N/A	771	Tank DB-510 (NEW), Rm. 114							