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

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January 26, 2001

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

Dear Mr. Legare:

We have received the Building 779 Decommissioning Closeout Report Revision 0, dated April 2000. Our staff has reviewed the report, and with several minor revisions added based on consultation during the review process, finds the document to be acceptable.

This completes all decommissioning activities for the building 779 project. Our building project coordinator, Edd Kray, would like to thank the building 779 project staff for making this project so successful.

This was the first decommissioning of a significantly contaminated plutonium weapons production building to have ever occurred anywhere. This was also the first large-scale removal of plutonium production gloveboxes and HVAC systems. The project staff had little if any previous decommissioning examples upon which to base its plans and actions. Nevertheless, implementation of the Integrated Safety Management System (ISM) on D&D was pioneered by this project and set an example and lesson for subsequent Rocky Flats decommissioning projects. Involvement of D&D workers in hazards analysis and work planning was a major reason for the safety and success of the project.

It is difficult to single out just a few individuals for recognition, but we wish to especially thank Mr. Mike Korenko and Mr. Mark Hickman for project planning and management excellence. Mr. John Whiting of Kaiser Hill was outstanding in his role as project coordinator, informing the regulators of arising issues and bringing appropriate people together to quickly and efficiently resolve these issues. Mrs. Kathy Zbryk deserves special recognition for daily solving complex waste-management issues and keeping the project moving forward. Finally, the radiological engineering staff in 779 including Mike Grube and Sarah Roberts, were essential to project planning, safety and final survey success and efficiency.



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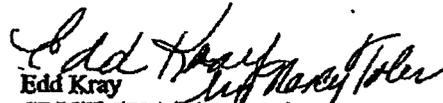
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Bldg. 779 Decommissioning Closeout Report

The experience and knowledge from 779 has paved the way for success in decommissioning the other plutonium buildings at Rocky Flats and across the Department of Energy complex.

We look forward to working with the 779 staff as they move on to these other plutonium buildings and wish to acknowledge their pioneering status within the DOE system.

Sincerely,


Steven H. Gunderson
CDPHE RFCA Project Coordinator


Edd Kray
CDPHE 779 Project Lead

cc: Dave Shelton, K.H.
Tim Rehder, EPA
Glenn Doyle, DOE
Administrative Records, Bldg. 850

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KAISER•HILL
COMPANY

RF/RMRS-2000-012.UN

DECOMMISSIONING CLOSEOUT REPORT

for the

779 CLOSURE PROJECT

Revision 0
April 2000



REVIEWED FOR CLASSIFICATION
By Kent H. [Signature]
Date 5/24/00

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	A	B	C	D	E	F	G	H	I	J
	Unit No.	Building	Unit Description	Regulatory Status	Closure Status	Closure Date	Closure Document Approval	SET	Closure document submittal	CDPHE approval
166	90.123	779	Container Storage, Glove box in Rm. 222							
167	90.124	779	Container Storage, Rm. 148	WITHDRAWN - Never used for haz. waste	WITHDRAWN 10/26/94 (ref. 94-DOE-10453)					
186	90.144	779	Container Storage, Rms. 153, 153A, 153B			NA	NA		NA	NA
187	90.145	779	Container Storage, 149 Hall	WITHDRAWN - Never used for haz. waste	WITHDRAWN 10/26/94 (ref. 94-DOE-10453)				NA	NA
213	90.37	779	Container Storage, Glove boxes in Rm. 131 (GBs 131A, B, D, E)	INTERIM STATUS - CLOSED per a RFCA decision document		NA	NA		NA	NA
214	90.37	779	Container Storage, Rm. 131	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED by removal in accordance with the B779 Decommissioning Operations Plan (DOP). CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); Closure Certification signed 8/28/96 (ref. 06-DOE-03030, 10/7/96)		DOP 2/6/98		COR 5/24/00	COR 1/26/01
215	90.38	779	Container Storage, Glove box in Rm. 133 (GB 959)	WITHDRAWN - Never used for haz. waste	WITHDRAWN 2/21/95 (ref. 95-DOE-09213)	8/28/96	DOP 2/6/98		CC 8/28/96 COR 5/24/00	COR 1/26/01
216	90.38	779	Container Storage, Rm. 133	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 9/11/96 (ref. 96-DOE-03031, 10/7/96)	NA	NA		NA	NA
217	90.39	779	Container Storage, Rm. 137	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 8/28/96 (ref. 06-DOE-03030, 10/7/96)	9/11/96	DOP 2/6/98		CC 9/11/96 COR 5/24/00	COR 1/26/01
218	90.39	779	Container Storage, Rm. 137, Hoods 106-1, 106-2 and Glove boxes 106-1, 106-2, 106-3, 106-4, 106-5	INTERIM STATUS - CLOSED per a RFCA decision document		8/28/96	DOP 2/6/98		CC 8/28/96 COR 5/24/00	COR 1/26/01
219	90.40	779	Container Storage, Rm. 139	WITHDRAWN - Never used for haz. waste	CLOSED by removal in accordance with the B779 Decommissioning Operations Plan (DOP).	6/22/05	DOP 2/6/98		COR 5/24/00	COR 1/26/01
221	90.41	779	Container Storage, Rm. 156	WITHDRAWN - Never used for haz. waste	WITHDRAWN 10/26/94 (ref. 94-DOE-10453).	NA	NA		NA	NA
222	90.42	779	Container Storage, Rm. 159 and Cage	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 8/28/96 (ref. 06-DOE-03030, 10/7/96)	NA	NA		NA	NA
223	90.43	779	Container Storage, Glove box in Rm. 160 (GB 860)	INTERIM STATUS - CLOSED per a RFCA decision document		8/28/96	DOP 2/6/98		CC 8/28/96 COR 5/24/00	COR 1/26/01
224	90.43	779	Container Storage, Rm. 160	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	CLOSED by removal in accordance with the B779 Decommissioning Operations Plan (DOP)	6/22/05	DOP 2/6/98		COR 5/24/00	COR 1/26/01
225	90.44	779	Container Storage, Rm. 218	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 8/28/96 (ref. 06-DOE-03030, 10/7/96)				CC 8/28/96 COR 5/24/00	
251	90.91	779	Container Storage, Rm. 152	WITHDRAWN - Never used for haz. waste	WITHDRAWN 10/26/94 (ref. 94-DOE-10453).	8/28/96	DOP 2/6/98		CC 8/28/96 COR 5/24/00	COR 1/26/01
252	90.92	779	Container Storage, Rm. 160A	Mixed Residue - CLOSED per Closure Plan for Mixed Residue Container Storage Plan	WITHDRAWN 10/26/94 (ref. 94-DOE-10453).	NA	NA		NA	NA
253	90.93	779	Container Storage, Rms. 171 and 172	WITHDRAWN - Never used for haz. waste	CLOSED in accordance with "RCRA Closure Plan for Mixed Residue Container Storage Units," (11/22/98); Closure Certification signed 2/4/97 (ref. 97-DOE-05188, 3/18/97)	2/4/97	DOP 2/6/98		CC 2/4/97 COR 5/24/00	
					WITHDRAWN 2/21/95 (ref. 95-DOE-09213).	NA	NA		NA	COR 1/26/01

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1.0 INTRODUCTION

The 779 Cluster Closure Project was located in the north central section of the RFETS protected area. Main structures in the 779 Cluster were the main R&D facility, Building 779; a filter plenum and emergency generator facility, Building 729; a filter plenum building, Building 782; an emergency generator facility, Building 727; and a cooling tower pump house, Building 783. Additional support structures included a paint storage facility, Building 780; a metal storage facility, Building 780A; a gas bottle storage facility, Building 780B; and ten (10) cooling towers (Buildings 784A/B/C/D, 785, 786, 787A/B/C/D). See Figure 1-1, *Building 779 Cluster Layout*, for layout of the 779 Cluster. In general, the D&D effort, as defined in the 779 DOP, removed interior equipment, decontaminated the remaining structures, and dismantled the facilities, leaving facility foundations, basements, and underground utilities in place.

The 779 Closure Project was completed in accordance with the project's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) decision document, the Decommissioning Operations Plan (DOP) for the 779 Cluster Interim Measure/Interim Remedial Action, approved February 1998. Exceptions taken to the 779 DOP during implementation of the closure project are identified in Section 7.0 of this document. This document summarizes the final condition of the 779 Cluster facilities. Following is a listing of the facilities that were deactivated and demolished under the 779 Closure Project and a summary of the tasks performed to render those facilities suitable for demolition.

Building 727, Emergency Diesel Generator Building

Building 727 was a single-story building with a 5-in thick reinforced concrete roof slab supported by 8-in concrete block walls resting on 8-in thick by 5 ft deep foundation walls. The structure was approximately 16 ft. wide by 24 ft. long by 12 ft. high.

Rocky Flats Environmental Technology Site (RFETS) garage personnel drained the emergency diesel generator's fuel oil system. The fuel was transported to the garage for redistribution and use in other RFETS equipment. The above ground storage tank was closed out in accordance with 7 CCR 1101-14, *Storage Tank Regulations*, Colorado Department of Labor and Employment, Oil Inspection Section. The connecting fuel piping was disposed of as industrial waste. The below ground storage tank was closed under a different project, (the tank was foamed and left in place). The demolition contractor drained the diesel cooling system and the coolant transferred to Building 374 for processing. The emergency diesel generator was sent to Property Utilization and Disposal (PU&D) for processing. The remaining piping and components in Building 727 were recycled as scrap metal or disposed of as industrial waste.

Roof media samples taken from Building 782 indicated that the roof was radioactively contaminated above release levels (Reference the Radiological Closeout Survey Plan for the Building 779 Cluster, Rev. 2, June 1999 for relevant release levels.). Due to the proximity of Building 727 to Building 782 (within 20

ponds), the Building 727 roofing material was treated as contaminated, removed and disposed of as contaminated waste. The remaining building structure was surveyed and released as non-contaminated material. Building 727 was demolished and transported to the 980 pad where the material is stored for future use. Penetrations in the Building 727 slab have been plugged and grouted.

Building 729, Filter Plenum Building

Building 729 was a single-story building approximately 72 ft. long by 38 ft. wide by 16½ ft. high. Reinforced concrete spread footings, 2 ft. high by 3½ ft. wide by 1 ft. thick, supported reinforced concrete grade walls. The internal equipment and components were removed and asbestos was abated from Building 729. In-process characterization surveys identified several areas and systems within Building 729 that were radiologically contaminated. The identified contaminated areas and systems were removed and packaged as waste or the area was decontaminated. The building was demolished and the resulting rubble was transported to the Erie Landfill. The Building 729 foundation slab was left undisturbed.

Building 779, Research and Development Facility

Building 779 was comprised of three main areas: 779 proper, 779A, and 779B (Reference Figure 1-2, *Building 779 Layout*). The foundations for Building 779 are horizontal and poured-in-place with reinforced concrete spread footings. Dimensions vary from 1½ ft. square to 6½ ft. square and from 10 in. to 16 in. thick. In depth below grade, the footings vary from 3 ft. to 9 ft. Reinforced concrete grade beams, 16 in. to 18 in. wide and 10 in. to 13 in. thick rest on the spread footings. The first floor slab is poured-in-place, reinforced concrete 6 in. to 8 in. thick with a barrier on a gravel base.

The internal equipment and components were removed and asbestos was abated from Building 779. In-process characterization surveys identified several areas on the slab and systems within Building 779 that were radiologically contaminated. The newly identified contaminated areas and systems were removed and packaged as waste or the area was decontaminated. The building was demolished and the resulting rubble was transported for storage at the 980 pad. The Building 779 foundation slab was left undisturbed.

Foundation penetrations are discussed in Section 9.0 of this document. The Building 779 basement opening was sealed with a watertight cover. Four penetrations were drilled through the basement ceiling to allow for groundwater sampling and removal from the below grade pits. These pits were sampled and the data is included later in this report. (This data is also contained in IWCP TOO96268, *Waste Sampling Characterization for Building 779*.) Hinged lids that are raised 6 inches above the openings protect the water removal penetrations. The raised openings eliminate rain and snow melt accumulation in the basement pits. A metal watertight cover was also installed over the ventilation tunnel between B779 and B782 and an elevator shaft. Pipe and conduit openings in the building slab were plugged and grouted at the foundation level. Process waste

piping penetrations were also covered with metal plates that are fastened to the foundation.

Building 780, Paint and Solvent Storage Shed

Building 780 was a corrugated sheet-metal shed. Material, equipment and components were removed from Building 780; asbestos was then abated. The Building 780 structure was then removed and packaged as radioactively contaminated waste, leaving a 140 ft² 12-in thick reinforced concrete slab.

Building 780A/B, Storage Sheds

Material was removed from the sheds. Building 780A was dismantled and packaged as radioactively contaminated waste. Building 780B was surveyed, released, and packaged as scrap metal.

Building 782, Plenum Filter Building

Building 782 was a single-story building approx. 100 ft. long x 62 ft. wide by 16 ft. high. Reinforced concrete caissons, varying from 2 ft. to 2½ ft. in diameter and from 6 ft. to 24 ft. deep, supported reinforced concrete grade beams that are 10 in. thick by 5 ft. deep. Internal equipment and components were removed and asbestos was abated from Building 782. In-process contamination surveys identified that three areas of Building 782 were contaminated; the internal radioactively contaminated structures were decontaminated. The Building 782 roofing material was found to have fixed radioactive contamination and was removed and packaged prior to demolition. The building was demolished and the building rubble transported and stored at the 980 pad. The Building 782 foundation slab was left undisturbed.

Pipe and conduit openings in the Building 782 slab were plugged and grouted at the foundation level. Process waste piping penetrations were covered with metal plates that are fastened to the foundation. After the Building 782 structure was removed, a cover was constructed over the Building 782 pit. The pit cover is constructed so that groundwater migration into the Building 782 pit can be sampled and removed. Preliminary data has been obtained from water samples that have been collected from this pit. (This data is contained in IWCP TOO96268, *Waste Sampling Characterization for Building 779.*) The groundwater infiltrate will be sampled on a periodic basis.

Building 783, Cooling Tower Pump House

Building 783 was constructed of aluminum and steel on reinforced concrete pedestals on a reinforced concrete foundation. The internal equipment and components were removed and the cooling water was removed from the pump basins. The cooling tower water was sampled and characterized prior to removal. (This data is contained in IWCP TOO96268, *Waste Sampling Characterization for Building 779.*) Because the cooling tower water was determined to be above free release criteria for beta activity, it was collected and



779 Closure Project

BUILDING 779 CLUSTER CLOSURE PROJECT

**Non-Radiological
Closeout Report**

for

BUILDINGS 727, 782, 783

**Revision 0
February 1, 2000**

**Rocky Mountain
Remediation Services, L.L.C.**

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By [Signature]
Date 2/1/00

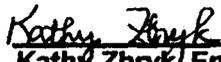


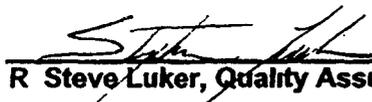
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NON-RADIOLOGICAL CLOSEOUT REPORT
for BUILDINGS 727, 782, 783
Revision 0
February 2000

This Non-Radiological Closeout Report has been reviewed and approved
by


Kathy Zbryk Environmental Scientist, B779 (RMRS) 2-3-00
Date


R Steve Luker, Quality Assurance, B779 (RMRS) 2-3-00
Date


Mark E Hickman, Integration Manager, B779 (RMRS) 2-3-00
Date


Mark Zachary, Industrial Safety & Hygiene, B779 (RMRS) 2-3-00
Date


Thomas Dieter, Project Manager, B779 (RMRS) 2-3-00
Date

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2 1	Asbestos Data, Building 782
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1.0 INTRODUCTION

1.1 Purpose

The purpose of this Report is to provide the information required by the 779 Cluster Closure Project Non-Radiological Closeout Plan for Buildings 727, 782 and 783. Additionally, this document provides characterization information that supports the RFETS' decision to demolish Buildings 727, 782 and 783.

1.2 Scope

The scope of this document is to provide information appropriate to Buildings 727, 782 and 783. The scope includes a summary of the applicable information and survey data that has been conducted since the Reconnaissance Level Characterization Report was issued. This information demonstrates that all contaminants of concern (COCs) within Buildings 727, 782 and 783 have been identified, removed, or remediated to a level below regulated levels.

Radiological closeout activities are not addressed in this plan. Refer to RF/RMRS-97-123 UN "Closeout Radiological Survey Plan for Building 779 Cluster", Rev 2, June 1999 for information concerning radiological surveys.

2.0 Removal of Contaminants of Concern (COCs)

The following sections discuss the current status of COCs for Buildings 727, 782 and 783. Each section also discusses what actions were taken to remove/abate the COCs.

2.1 Asbestos

The following paragraphs identify the amount of asbestos initially identified in Buildings 727, 782 and 783, and the actions taken to abate the identified asbestos. Each area designated in Table 2.1, *Asbestos Data, Buildings 727, 782, and 783*, was visually inspected and aggressively cleared as an abatement area according to requirements in CCR #8, Part B, Asbestos. An independent laboratory performed analysis of air samples by Phase Contrast Microscopy (PCM). In the event that PCM analysis exceeded 0.1 f/cc (fibers per cubic centimeter) on any sample, additional analysis would be performed by Transmission Electron Microscope (TEM) on all samples in the batch. There were no exceedences of 0.1 f/cc for PCM data obtained in Buildings 727, 782, and 783; therefore, no TEM analysis was required to confirm asbestos content.

Building 727

Pipe insulation and exhaust flue insulation were identified as suspect asbestos containing materials in Building 727 and were subsequently sampled. No detectable levels of asbestos were identified in the suspect insulation as the result of the sampling and analysis, therefore no abatement was performed.

Building 782

Building 782 had approximately 551 linear feet of pipe insulation in the main building and tunnel to Building 779. Abatement was accomplished in a negative pressure secondary containment connected to a HEPA-filtered ventilation system. The insulation was abated using glove bags and/or wrap/cut operations. The work was started on August 23, 1999 and completed on August 30, 1999. A visual inspection was performed and 5 PCM clearance air samples were acquired on August 30, 1999. Based on the visual and air sample results, the building was released for normal occupancy. The air clearance samples for all rooms where asbestos was abated are summarized below (Table 2.1) and the results are documented in Appendix B.

Building 783

No suspect asbestos containing materials were identified in Building 783 therefore no sampling or abatement was performed.

TABLE 2.1
Building 727, 782, and 783

BUILDING	ROOM NUMBER(S)	PCM SAMPLES	TEM SAMPLES	DATE CLEARED
727	N/A	N/A	N/A	N/A
782	Tunnel	5	0	8/30/99
783	N/A	N/A	N/A	N/A

2.2 Beryllium

The beryllium analytical method and control limit changed during FY99. At the beginning of FY99, beryllium was controlled to a housekeeping limit of 25 µg/ft². Beryllium smears were being analyzed at RFETS on the Beryllium Activation Swipe Tester (BEAST). The Site beryllium equipment-release limit was established at 0.2 µg/100 cm² on September 30, 1998. After this date, smear samples were sent to an off-site laboratory that could analyze to the lower level. The RFETS analytical method is incapable of analyzing to the lower 0.2 µg/100 cm² limit.

During completion of the stripout activities in the Buildings 727, 782 and 783, the 779 Closure Project Beryllium Assessment Plans were used to identify the personnel monitoring and beryllium exposure controls that were used. No Beryllium parts were stored or processed in Buildings 727, 782 and 783. Therefore, a significant number of beryllium swipes were not taken in these areas. The equipment and components identified as beryllium-contaminated (above the DOE free-release criteria of 0.2 µg/100 cm²) were removed from the facility and packaged as low-level waste. Building surfaces identified as being

beryllium-contaminated were decontaminated and re-sampled to verify that the surface was less than $0.2 \mu\text{g}/100 \text{ cm}^2$. Results of the Buildings 727, 782 and 783 beryllium analyses are included as Appendix C. Beryllium samples were managed using the chain-of-custody process.

2.3 Polychlorinated Biphenyl (PCBs)

No areas within Buildings 727, 782 and 783 required sampling for PCBs per the 779 Cluster Reconnaissance Level Characterization Report. Light ballasts in Buildings 727, 782 and 783 were inspected prior to removal and handled as either TSCA, non-hazardous or low level (TSCA or non-hazardous) waste based on results of this inspection.

2.4 Solid Material Containing Regulated Levels of RCRA Metals

An analysis of materials that fall within this category were evaluated as part of a Site-wide lead-based paint evaluation and included Building 779 Cluster. The analysis is discussed below. The result of this evaluation was used to make decisions about Buildings 727, 782 and 783.

Painted surfaces are the only material of potential concern in this category. Characterization of lead-based paints is required for worker protection under OSHA's Lead Abatement Program and for hazardous waste characterization in

accordance with 6 CCR 1007-3, Part 261.64. Consequently, both Inductively Coupled Plasma (ICP) and Toxicity Characteristic Leaching Procedure (TCLP) analyses were performed on paint within the 779 Cluster. Based on ICP data, painted surfaces within the 779 Cluster were treated as containing lead for the purposes of personnel protection. For the purpose of this report, only TCLP data is considered (Appendix D) because the hazardous waste determination for Buildings 727, 782 and 783 are derived from TCLP data even though an ICP summary is included.

RFETS personnel have evaluated different types of surfaces painted with lead-based paints and other paint containing heavy metals (cadmium, chromium). The RFETS evaluation concluded that, in general, the painted surfaces at RFETS are non-hazardous waste forms. This determination was based upon hundreds of samples taken throughout RFETS. As part of a continuing characterization, 52 samples (including duplicates, see Appendix D) from the 779 Cluster were analyzed for heavy metals using the TCLP. Each paint sample was of a unique paint color and/or combination of paint colors. These samples consisted of paint chips rather than the total media (cinder block, concrete, and paint) so that a conservative characterization would result. The sample result ranges for the RCRA metals of concern are as follows:

- ◆ Cd (06-0 1857 mg/l,)
- ◆ Cr (15 - 2 2 mg/l) (Excluding one sample from a painted metal door in Room 218)
- ◆ Pb (24 - 3 6 mg/l, Excluding Room 160 which is discussed below)

The characterization results demonstrate that the building debris is non-hazardous with respect to painted surfaces, based on TCLP analysis. Even though there are two TCLP analysis results that indicated some leachability, the non-hazardous determination is based on an interpretation from EPA guidance and the RFETS' Environmental Leadership Team.

The two results above regulatory threshold values for TCLP analysis were:

1. Paint on one metal door (chromium level of 19.7 mg/l, sample identification number 779-980416-MS-023)
2. Paint sampled from Room 160 in Building 779 (lead levels of 11.9 mg/l, sample identification number 779-0980416-MS-039). Painted surfaces in Room 160 have been scarified (all paint has been removed) and the entire waste matrix (paint and substrate) has been physically removed from the facility.

2.5 RCRA Regulated Waste Chemicals

Chemicals were stored in flame-proof cabinets in Buildings 782 and 783 throughout the use of the facilities. All of the chemicals, oils, and solvents have been removed from Building 782 and 783. Appendix E identifies the results of sampling that was performed on chemicals in Building 727, 782 and 783. Currently no hazardous waste chemicals are located in Buildings 727, 782 and 783.

2 6 RCRA Units and Above Ground Storage Tanks (ASTs)

There were no permitted RCRA units in Buildings 727, 782 and 783

One satellite accumulation area, Unit 782-947, existed in Building 782. The unit was activated on January 1, 1990 and inactivated on February 12, 1993.

An AST was located on the west-side of Building 727. Closure of Tank 18 was initiated on October 10 – 12, 1999, in accordance with 7CCR 1101-14, Storage Tank Regulations, Colorado Department of Labor and Employment, Oil Inspection Section. The diesel tank was drained of fuel, the inlets to the tank were secured and the secondary containment was visually inspected for leakage. No leakage was observed. The tank was removed on October 12, 1999 and shipped to the Site garage, Building 331, for future re-use.

2 7 Staining Inspection

A visual inspection of Buildings 727, 782 and 783 is provided under Section 5. No unusual staining or odors were identified in these buildings.

2 8 Quality Assurance

The sampling, analysis, and data for this report was obtained in accordance with the Quality Assurance Program used by RFETS Analytical Services. Consequently, Quality Assurance requirements described in Section 5 of the Building 779 Non-Radiological Closeout Plan were met.

3.0 CONCLUSION

In conclusion, waste chemicals, and hazardous and toxic contaminants, introduced into Buildings 727, 782, and 783 have been removed or reduced to levels that are no longer hazardous or toxic. The release criteria identified in Section 2.0 of this report were accomplished through the building stripout process. Physical evaluation of the building and sampling were performed to confirm that Buildings 727, 782 and 783 met the release criteria in support of facility demolition.

5 0 Visual Inspection Check Sheet

779 CLUSTER CLOSURE PROJECT NON-RADIOLOGICAL CLOSEOUT VISUAL INSPECTION CHECK SHEET			
AREA/ROOMS INSPECTED the following rooms were inspected 100, 101, 101A, 103, 103A, 103B, 104, 116, 118, 119, 120, 121, 121A, 121B, 122, 123, 124, 125, 126, 127, 128, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 140A, 141, 141A, 141B, 141C, 142, 170, 171, 172 and the southern portion of the east loading dock			
Note All walls within the main part of the building have been removed and inspected, therefore, not all rooms identified in Section 2 are called out on this inspection check sheet			
INSPECTION CATEGORY	YES	NO	COMMENTS
STAINING OBSERVED	X		Several locations showed signs of roof leakage There were no indications of unusual color There were no floor stains
UNUSUAL ODOR PRESENT		X	No unusual odors were identified
SPECIFIED COMPONENTS REMOVED	X		
ACTIONS REQUIRED None			
PERFORMED BY <u>hathy Byrk</u> DATE <u>2-3-00</u>			

RF/RMRS-99-452.UN



779 Closure Project

BUILDING 779 CLUSTER CLOSURE PROJECT

**Non-Radiological
Closeout Report
for the
A-Annex**

**Revision 0
November 3, 1999**

**Rocky Mountain
Remediation Services, L.L.C.**



REVIEWED FOR CLASSIFICATION

By [Signature]
Date 11/3/99 [Signature]

Best Available Copy

ADMIN RECORD

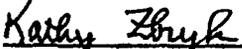
B779-A-000203

1254

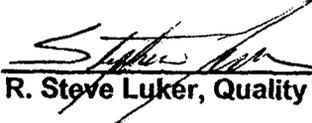
**BUILDING 779
NON-RADIOLOGICAL CLOSEOUT REPORT
for the A-Annex**

**Revision 0
November 1999**

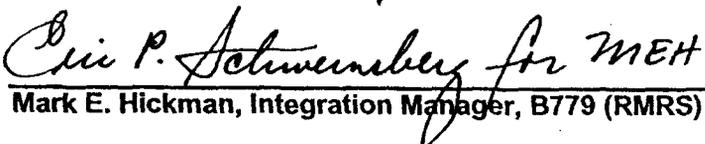
This Non-Radiological Closeout Report has been reviewed and approved
by:



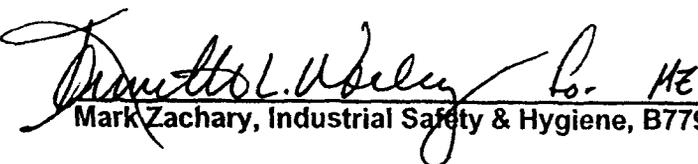
Kathy Zbryk, Environmental Scientist, B779 (RMRS) 11/3/99
Date



R. Steve Luker, Quality Assurance, B779 (RMRS) 11-3-99
Date



Mark E. Hickman, Integration Manager, B779 (RMRS) 11/3/99
Date



Mark Zachary, Industrial Safety & Hygiene, B779 (RMRS) 11-3-99
Date



Thomas Dieter, Project Manager, B779 (RMRS) 11/3/99
Date

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APPENDICES

- A Maps Depicting the Building 779 A-Annex Area
- B Asbestos Results
- C Beryllium Results
- D RCRA Hazardous Substances Results (Solids)
- E RCRA Hazardous Substances Results (Chemicals)
- F Waste and Environmental Management System Area Location Report,
Temporary Units
- G Building 779 Glovebox Removal Checklist, RCRA Units

TABLES

- 2.1 Asbestos Data, Building 779 A-Annex

1.0 INTRODUCTION

1.1 Purpose

The purpose of this Report is to provide the information required by the 779 Cluster Closure Project Non-Radiological Closeout Plan for the A-Annex Area of Building 779. Additionally, this document provides characterization information that supports the RFETS' decision to demolish the Building 779 A-Annex Area.

1.2 Scope

The scope of this document is to provide information appropriate to the Building 779 A-Annex Area. The scope includes a summary of the applicable information and survey data that has been conducted since the Reconnaissance Level Characterization Report was issued. This information demonstrates that all contaminants of concern (COCs) within the A-Annex Area of Building 779 have been identified, removed, or remediated to a level below regulated levels. Building 779 will be demolished in sections; the A-Annex is the second section to be demolished (See Maps in Appendix A). Non-Radiological Closeout Reports for final portions (B-Annex and Main Building) of Building 779 and other buildings within the 779 Cluster will be covered by separate reports.

Radiological closeout activities are not addressed in this plan. Refer to RF/RMRS-97-123.UN "Closeout Radiological Survey Plan for the Building 779 Cluster", Rev. 2, June 1999 for information concerning radiological surveys.

2.0 Removal of Contaminants of Concern (COCs)

The following sections discuss the current status of COCs within the A-Annex Area of Building 779. Each section also discusses what actions were taken to remove/abate the COCs.

2.1 Asbestos

The following paragraphs identify the amount of asbestos initially identified in the A-Annex Area and the actions taken to abate the identified asbestos. Each area designated in Table 2.1, *Asbestos Data, Building 779 A-Annex Area*, as an abatement area was visually inspected and aggressively cleared according to requirements in CCR #8, Part B, Asbestos. An independent laboratory performed analysis of air samples by Phase Contrast Microscopy (PCM). In the event that PCM analysis exceeded 0.1 f/cc (fibers per cubic centimeter) on any sample, additional analysis by Transmission Electron Microscope (TEM) on all samples in the batch would be performed. There were no exceedences of 0.1 f/cc for PCM data obtained in the A-Annex; therefore, no TEM analysis was required.

A-Annex Area

This area includes Rooms 143 through 157, 159, 160, 160A, 161, 162, 163, 163A, 164, 165, 166, 167, 167A and the northern portion of the east loading dock. The A-Annex Area asbestos abatement required the removal of approximately 2,677 square feet of floor tile and mastic, 1,930 square feet of drywall, tape and joint compound, 1,988 linear feet of insulation on pipes, and approximately 138 square feet of duct/pipe/wall penetration filler.

Asbestos abatement for each area was accomplished within a negative pressure secondary containment connected to a HEPA-filtered ventilation system. The insulation was abated using glove bags and/or wrap/cut operations. Abatement of A-Annex was performed in stages due to access priorities and began on April 8, 1999 and was completed on August 14, 1999. Based on the results of a visual inspection and analytical results from thirty-seven air samples, the A-Annex Area was cleared, in total, for normal occupancy on August 14, 1999. The air clearance samples for all rooms where asbestos was abated are summarized below (Table 2.1) and the results are documented in Appendix B.

**TABLE 2.1
 Asbestos Data, Building 779 A-Annex Area**

ROOM NUMBER(S)	PCM SAMPLES	TEM SAMPLES	DATE CLEARED
143, 144, 145, 146, 147, 148, 149 Hall, 151 (cleared with 236 and 237); 148 Airlock	3	0	7/26/99 6/17/99
149 Hallway, West End	5	0	4/27/99
149 East Hall, 156, 161, 163, 164, 166	4	0	7/1/99
150	3	0	4/29/99
150 North Wall			7/28/99
152, 154	3	0	4/22/99 4/20/99
153, 155	3	0	4/20/99 4/21/99
157	3	0	4/16/99
159	2	0	4/8/99
160, 160A	3	0	8/2/99
162	3	0	8/14/99
163A, 165, 167, 167A,	3	0	7/1/99
164/165 Airlocks			7/14/99

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2.2 Beryllium

The beryllium analytical method and control limit changed during FY99. At the beginning of FY99, beryllium was controlled to a housekeeping limit of 25 $\mu\text{g}/\text{ft}^2$. Beryllium smears were being analyzed at RFETS on the Beryllium Activation Swipe Tester (BEAST). The Site beryllium equipment-release limit was established at 0.2 $\mu\text{g}/100 \text{ cm}^2$ on September 30, 1998. After this date, smear samples were sent to an off-site laboratory that could analyze to the lower level. The RFETS analytical method is incapable of analyzing to the lower 0.2 $\mu\text{g}/100 \text{ cm}^2$ limit.

During completion of the stripout activities in the A-Annex Area, the 779 Closure Project Beryllium Assessment Plans were used to identify the personnel monitoring and beryllium exposure controls that were used. Beryllium parts were stored and processed in the A-Annex during the facility's operation. Therefore, a significant number of beryllium swipes were taken in this area. The equipment and components identified as beryllium-contaminated (above the DOE free-release criteria of 0.2 $\mu\text{g}/100 \text{ cm}^2$) were removed from the facility and packaged as low-level waste. Protective material such as tent and tent airlock floor coverings were treated in the same manner as equipment. When the tents and tent airlocks were removed, the entire floor area was re-sampled (i.e., Room 150 floor was re-sampled August 10, 1999 after removal of tent and airlock). Building surfaces identified as being beryllium-contaminated were decontaminated and re-sampled to verify that the surface was less than 0.2 $\mu\text{g}/100 \text{ cm}^2$. Results of the A-Annex Area beryllium analyses are included as Appendix C. Beryllium samples were managed using the chain-of-custody process.

2.3 Polychlorinated Biphenyl (PCBs)

No areas within the A-Annex of Building 779 required sampling for PCBs per the 779 Cluster Reconnaissance Level Characterization Report. The A-Annex Area light ballasts were inspected prior to removal and handled as either TSCA, non-hazardous or low level (TSCA or non-hazardous) waste based on results of this inspection.

2.4 Solid Material Containing Regulated Levels of RCRA Metals

An analysis of materials that fall within this category were evaluated as part of a Site-wide lead-based paint evaluation and included Building 779 Cluster. The analysis is discussed below. The result of this evaluation was used to make decisions about the A-Annex Area.

Painted surfaces are the only material of potential concern in this category. Characterization of lead-based paints is required for worker protection under OSHA's Lead Abatement Program and for hazardous waste characterization in

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accordance with 6 CCR 1007-3, Part 261.64. Consequently, both Inductively Coupled Plasma (ICP) and Toxicity Characteristic Leaching Procedure (TCLP) analyses were performed on paint within the 779 Cluster. Based on ICP data, all of the painted surfaces within the 779 Cluster were treated as containing lead for the purposes of personnel protection. For the purpose of this report, only TCLP data is considered (Appendix D) because the hazardous waste determination for the A-Annex Area is derived from TCLP data even though an ICP summary is included.

RFETS personnel have evaluated different types of surfaces painted with lead-based paints and other paint containing heavy metals (cadmium, chromium). The RFETS evaluation concluded that, in general, the painted surfaces at RFETS are non-hazardous waste forms. This determination was based upon hundreds of samples taken throughout RFETS. As part of a continuing characterization, 52 samples (including duplicates; see Appendix D) from the 779 Cluster were analyzed for heavy metals using the TCLP. Each paint sample was of a unique paint color and/or combination of paint colors. These samples consisted of paint chips rather than the total media (cinder block, concrete, and paint) so that a conservative characterization would result. The sample result ranges for the RCRA metals of concern are as follows:

- ◆ Cd (.06-0.1857 mg/l;)
- ◆ Cr (.15 – 2.2 mg/l) (Excluding one sample from a painted metal door in Room 218)
- ◆ Pb (.24 - 3.6 mg/l; Excluding Room 160 which is discussed below)

The characterization results demonstrate that the building debris is non-hazardous with respect to painted surfaces, based on TCLP analysis. Even though there are two TCLP analysis results that indicated some leachability, the non-hazardous determination is based on an interpretation from EPA guidance and the RFETS' Environmental Leadership Team.

The two results above regulatory threshold values for TCLP analysis were:

1. Paint on one metal door (chromium level of 19.7 mg/l; sample identification number 779-980416-MS-023).
2. Paint sampled from Room 160 in Building 779 (lead levels of 11.9 mg/l; sample identification number 779-0980416-MS-039). Painted surfaces in Room 160 have been scarified (all paint has been removed) and the entire waste matrix (paint and substrate) has been physically removed from the facility.

2.5 RCRA Regulated Waste Chemicals

Chemicals were stored in gloveboxes, hoods, and flame-proof cabinets within the A-Annex rooms throughout the use of the facility for research and development. All of the chemicals, oils, and solvents have been removed from these rooms. Appendix E identifies the results of sampling that was performed on chemicals in the A-Annex Area. Currently no hazardous waste chemicals are located in the A-Annex Area.

2.6 RCRA Units

There was a permitted RCRA unit in the A-Annex. Glovebox 860, RCRA Unit 90.43, was closed by removal and placed into waste crates number S00283 and S00357 in accordance with the 779 DOP, Closure Description Document. Appendix G, *Building 779 Glovebox Removal Checklist, RCRA Units*, documents the removal of Glovebox 860, RCRA Unit 90.43.

Two RCRA temporary units and one TSCA 30-day storage unit existed in the A-Annex; they were Units 779-2445 (Rooms 150, 152, and 155), 779-2503 (Room 160), and 779-2524 (Room 152). These units were inactivated in accordance with Site procedures. (Documentation in Appendix F)

2.7 Staining Inspection

A visual inspection of the A-Annex Area is provided under Section 5. No unusual staining or odors were identified in the A-Annex Area.

2.8 Quality Assurance

The sampling, analysis, and data for this report was obtained in accordance with the Quality Assurance Program used by RFETS Analytical Services. Consequently, Quality Assurance requirements described in Section 5 of the Building 779 Non-Radiological Closeout Plan were met.

3.0 CONCLUSION

In conclusion, waste chemicals, and hazardous and toxic contaminants, introduced into Building 779, A-Annex Area, have been removed or reduced to levels that are no longer hazardous or toxic. The release criteria identified in Section 2.0 of this report were accomplished through the building stripout process. Physical evaluation of the building and sampling were performed to confirm that Building 779, A-Annex Area, meets the release criteria in support of facility demolition.

4.0 REFERENCES

- 4.1 *Rocky Flats Cleanup Agreement (RFCA)*
- 4.2 *Decommissioning Operations Plan for the 779 Cluster Interim Measure/Interim Remedial Action, Rev. 0, February 1998*
- 4.3 *Reconnaissance Level Characterization Plan for the 779 Cluster, Rev. 0, December 17, 1997*
- 4.4 *Reconnaissance Level Characterization Report for the 779 Cluster, Rev. 0, December 17, 1997*
- 4.5 *Asbestos Characterization Report for the 779 Cluster Project, Rev. 0, October 1997*
- 4.6 *Lead/Metals in Paint Characterization For Building 779 Cluster, Rev. 0, August 6, 1998*
- 4.7 *Radiological Closeout Survey Plan for the Building 779 Cluster, Rev. 2, June 1999*
- 4.8 *Procedure DA-GR01-v1-1, Analytical Services General Guidelines for Data Verification and Validation*
- 4.9 29 CFR 1926.1101, Colorado Regulation 8, Asbestos
- 4.10 PCBs - 40 CFR 761; EPA 560/5/86-017; SW-846 Method 4020 Screening for PCBs by Immunoassay; Method 8082, PCBs by Gas Chromatography; disposal requirements - 40CFR Part 761.62.
- 4.11 6 CCR 1007-3, Part 262.11, *Hazardous Waste Determination*, and 40 CFR 268. SW-846
- 4.12 Toxicity Characteristic Leaching Procedure, EPA SW 846 Method 1311.
- 4.13 MAN-071-IWCP, *Integrated Work Control Program Manual*

Appendix F
Waste and Environmental Management System
Area Location Report
Temporary Units

WEMS AREA LOCATION REQUEST FORM

1 ACTION REQUIRED (Circle one) ADD INACTIVATE MODIFY RELOCATE

If action is ADD, complete of Sections 1, 2A, and 3 through 6.
 If action is INACTIVATE, complete Sections 1, 2A, and 6. Also, ensure that no active waste packages still reside in this Area Location.
 If action is MODIFY, complete Sections 1, 2A, and 6, and provide ONLY information that has changes in Sections 3, 4, and 5.
 If action is RELOCATE, complete BOTH columns A and B in Section 2, and provide ONLY information that has changed in Sections 3, 4, and 5. Also complete Sections 1 and 6.

2 (A) AREA LOCATION (Current, New, or From) (B) AREA LOCATION (To -- Used for RELOCATE only)

Building 779 Unit 2524 Room 152 Building _____ Unit _____ Room _____

(If this request is applicable to a number of Area Locations, attach the list of affected Area Locations (Building/Unit/Room) to our completed, signed WEMS Area Location Request Form.) **NOTE: If Area Location is offsite, also complete Addendum 1.**

3 UNIT INFORMATION

Unit Type: _____ (Enter one Unit Type from List 1.)	RCRA Units <input type="checkbox"/> Yes <input type="checkbox"/> No (Please \checkmark)	Exceeds U-235 Gross Limit: <input type="checkbox"/> Yes <input type="checkbox"/> No (Please \checkmark) (Note: "Yes" indicates waste packages exceeding 15 grams U-235 cannot be stored in this unit.)
--	---	---

Area Description: _____
(Free form text field. Enter useful information.)

Area Volume: _____
(Optional. Enter storage capacity of Area Location and units of measure.)

Permit Status: (Please \checkmark one.) N/A Permitted

Waste Description: _____
(Free form text field. Enter useful information.)

4 OWNERSHIP INFORMATION

Custodian Employee Number: _____ (R, N, or Social Security Number)	
Custodian Name: _____ (First, Middle Initial, Last)	
Extension: _____ Pager: _____ (If the person has never been involved with WEMS, also provide the following information.)	
Company Name: _____	
Group: _____ Building: _____	

5 WASTE INFORMATION

Waste Types: _____
(Enter ALL Waste Types allowed for storage in this Area Location, from List 2.)

Compatibility Codes: _____
(Enter ALL Compatibility Codes allowed for storage in this Area Location, from List 3.)

EPA Codes: _____
(Enter ALL EPA Codes allowed for storage in this Area Location.)

6 APPROVAL SIGNATURES

Unit Owner: KATHRYN ZBOTEK Kathryn Zbrotek 18-16-99
(Required for all requests.) Print Name Signature Date

I certify that the above mentioned regulated unit has been established or modified in compliance with the applicable permit, Consent Order, and/or regulatory requirements, and that the designated Unit Owner and Custodian are properly trained to conduct their duties.

Environmental Manager: T.A. Hopkins T.A. Hopkins 18/17/99
Print Name Signature Date

(Required for requests for all Unit Types other than NRA and OFF.)

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WEMS AREA LOCATION REQUEST FORM

1	ACTION REQUIRED (Circle one.) ADD <u>INACTIVATE</u> MODIFY RELOCATE If action is ADD, complete of Sections 1, 2A, and 3 through 6. If action is INACTIVATE, complete Sections 1, 2A, and 6. Also, ensure that no active waste packages still reside in this Area Location. If action is MODIFY, complete Sections 1, 2A, and 6, and provide ONLY information that has changes in Sections 3, 4, and 5. If action is RELOCATE, complete BOTH columns A and B in Section 2, and provide ONLY information that has changed in Sections 3, 4, and 5. Also complete Sections 1 and 6.		
2	(A) AREA LOCATION (Current, New, or Moved) Building <u>779</u> Unit <u>2503</u> Room <u>160</u>		(B) AREA LOCATION (To - Used for RELOCATE only.) Building _____ Unit _____ Room _____
(If this request is applicable to a number of Area Locations, attach the list of affected Area Locations (Building/Unit/Room) to one completed, signed WEMS Area Location Request Form.) NOTE: If Area Location is offsite, also complete Addendum 1.			
3	UNIT INFORMATION Unit Type: _____ (Enter one Unit Type from List 1.)		
		RCRA Unit: <input type="checkbox"/> Yes <input type="checkbox"/> No (Please \checkmark .)	Exceeds U-235 Gross Limit: <input type="checkbox"/> Yes <input type="checkbox"/> No (Please \checkmark .) (Note: "Yes" indicates waste packages exceeding 15 grams U-235 cannot be stored in this unit.)
Area Description: _____ (Free form text field. Enter useful information.)			
Area Volume: _____ (Optional. Enter storage capacity of Area Location and units of measure.)			
Permit Status: (Please \checkmark one.) <input type="checkbox"/> N/A <input type="checkbox"/> Permitted			
Waste Description: _____ (Free form text field. Enter useful information.)			
4	OWNERSHIP INFORMATION Custodian Custodian Employee Number: _____ (R, N, or Social Security Number) Custodian Name: _____ (First, Middle Initial, Last) Extension: _____ Pager: _____ (If the person has never been involved with WEMS, also provide the following information.) Company Name: _____ Group: _____ Building: _____		
5	WASTE INFORMATION Waste Types: _____ (Enter ALL Waste Types allowed for storage in this Area Location, from List 2.) Compatibility Codes: _____ (Enter ALL Compatibility Codes allowed for storage in this Area Location, from List 3.) EPA Codes: _____ (Enter ALL EPA Codes allowed for storage in this Area Location.)		
6	APPROVAL SIGNATURES Unit Owner: <u>KATHRYN ZBRYK</u> <u>Kathryn Zbryk</u> <u>18-16-99</u> (Required for all requests.) Print Name Signature Date I certify that the above mentioned regulated unit has been established or modified in compliance with the applicable permit, Consent Order, and/or regulatory requirements, and that the designated Unit Owner and Custodian are properly trained to conduct their duties. Environmental Manager: <u>J.A. Hopkins</u> <u>Jed Hopkins</u> <u>8/17/99</u> (Required for requests for all Unit Types other than NRA and OFF.) Print Name Signature Date		

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AUTHORIZATION/MODIFICATION
OF SATELLITE AND 90-DAY
ACCUMULATION AREAS

09/09/94

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APPENDIX 2
Page 2 of 2

RFP Tracking # 3115
DOE # 6400.3
Page 1 of 2

ACCUMULATION REQUEST FORM
ADDITION ~~DELETION~~ ~~MODIFICATION~~ ~~RELOCATION~~ ~~CUSTODIAN CHANGE~~
(Circle the appropriate request above)

Date Requested 01/198 Department 779 Tech. Support
Requested By M.H. Conroy Building 779
Extension 6152

AREA INFORMATION
Assigned RCRA ID Number 779-2445 Area Type ETU
Building 779

(Complete Old Information column & only fill modified item(s) in the new information column)

OLD INFORMATION	NEW INFORMATION
Room Number: <u>150, 152</u>	Room Number: <u>DELETE: RM 150</u>
Physical Description of Waste: <u>Misc. Hazard Waste Cont. From O&G Activities</u>	Physical Description of Waste:
Hazardous Constituent(s): <u>DDT, DDE, DDD, PCBS, PAHs in Solids in Solids</u>	Hazardous Constituent(s):
EPA Code(s): <u>↑ ↑</u>	EPA Code(s):
Compatibility Code(s): <u>VARIOUS</u>	Compatibility Code(s):
IDC/WFC/NA: <u>VARIOUS</u>	IDC/WFC/NA:
Volume Allowed: <u>N/A</u>	Volume Allowed:
Storage Unit Destination: <u>N/A</u>	Storage Unit Destination:
Extension/Pager: <u>X 11 830</u>	Extension/Pager:
Name of Unit Owner: <u>M.H. Conroy</u>	Name of Unit Owner:
HAZ <input checked="" type="checkbox"/> LHM <input checked="" type="checkbox"/> TRM <input checked="" type="checkbox"/> REM <input type="checkbox"/> TSCA <input checked="" type="checkbox"/> (Check applicable waste type(s))	

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**AUTHORIZATION/MODIFICATION
OF SATELLITE AND 90-DAY
ACCUMULATION AREAS**

09/09/94

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REVISION 0
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APPENDIX 2
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RFP Tracking # 3114
DOE # 64003
Page 2 of 2

If you are requesting a deletion or relocation of a 90-day Accumulation Area, check the operating record for a incident of a spill or release in the unit. Has a spill or release ever occurred in the unit? (Check (✓) one Yes _____ No _____). If Yes, see Section 1-A09-HWRM-16, in the Hazardous Waste Requirements Manual.

Has all waste been removed from the unit to be deleted (Check (✓) one Yes _____ No _____)

Reason for Request: ADDITIONAL STORAGE SPACE
NEEDED

New Custodian Signature _____ (if applicable)
Unit Owner Signature [Signature]
Ops. Mgr. Signature [Signature] FOR E.P. SCHUBERTS 01/19/98

RCRA Regulatory Programs:

Approval Signature: [Signature] 10-1-98

Reviewed by: _____

Distribution:	Mailing List:
Environmental Waste Assessments (EWA)	EWA, 013
Environmental Coordinator (EC)	<u>[Signature]</u> (FAX 2884)
Environmental Program Manager (EPM)	_____
Operations Manager (OM)	_____
RCRA Regulatory Prgm. Files (orig) and Copy	RRP, 130C
RCRA Custodian	_____
Requestor	_____
Systems Quality Engineering (SQE)	SQE, 130J
Waste Environmental Management Sys. (WEMS)	WEMS, T664
Other	_____

94-DMR-001466

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WEMS AREA LOCATION REQUEST FORM

1	ACTION REQUIRED (Circle one.) ADD INACTIVATE MODIFY RELOCATE If action is ADD, complete Sections 1, 2A, and 3 through 6. If action is INACTIVATE, complete Sections 1, 2A, and 6. Also, ensure that no active waste packages still reside in this Area Location. If action is MODIFY, complete Sections 1, 2A, and 6, and provide ONLY information that has changed in Sections 3, 4, and 5. If action is RELOCATE, complete BOTH columns A and B in Section 2, and provide ONLY information that has changed in Sections 3, 4, and 5. Also complete Sections 1 and 6.		
2	(A) AREA LOCATION (Current, New, or From) (B) AREA LOCATION (To -- Used for RELOCATE only) Building <u>779</u> Unit <u>2524</u> Room <u>152</u> Building _____ Unit _____ Room _____ (If this request is applicable to a number of Area Locations, attach the list of affected Area Locations (Building/Unit/Room) to one completed, signed WEMS Area Location Request Form.) NOTE: If Area Location is offsite, also complete Addendum 1.		
3	UNIT INFORMATION Unit Type: _____ RCRA Units <input type="checkbox"/> Yes <input type="checkbox"/> No Exceeds U-235 Grant Limit: (Enter one Unit Type from List 1.) (Please ✓) <input type="checkbox"/> Yes <input type="checkbox"/> No (Please ✓) (Note: "Yes" indicates waste packages exceeding 15 grams U-235 cannot be stored in this unit.) Area Description: _____ (Free form text field. Enter useful information.) Area Volume: _____ (Optional. Enter storage capacity of Area Location and units of measure.) Permit Status: (Please ✓ one) <input type="checkbox"/> N/A <input type="checkbox"/> Permitted Waste Descriptions: _____ (Free form text field. Enter useful information.)		
4	OWNERSHIP INFORMATION Custodian Custodian Employee Number: _____ (R, N, or Social Security Number) Custodian Name: _____ (First, Middle Initial, Last) Extension: _____ Pager: _____ (If the person has never been involved with WEMS, also provide the following information.) Company Name: _____ Group: _____ Building: _____		
5	WASTE INFORMATION Waste Types: _____ (Enter ALL Waste Types allowed for storage in this Area Location, from List 2.) Compatibility Codes: _____ (Enter ALL Compatibility Codes allowed for storage in this Area Location, from List 2.) EPA Codes: _____ (Enter ALL EPA Codes allowed for storage in this Area Location.)		
6	APPROVAL SIGNATURES Unit Owner: <u>KATHRYN ZBRJK</u> <u>Kathryn Zbrjk</u> <u>18-16-99</u> (Required for all requests.) Print Name Signature Date I certify that the above mentioned regulated unit has been established or modified in compliance with the applicable permit, Consent Order, and/or regulatory requirements, and that the designated Unit Owner and Custodian are properly trained to conduct their duties. Environmental Manager: <u>J.A. Hopkins</u> <u>Jed A Hopkins</u> <u>18/17/99</u> (Required for requests for all Unit Types other than NRA and OFF.) Print Name Signature Date		

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AUTHORIZATION/MODIFICATION OF SATELLITE AND 90-DAY ACCUMULATION AREAS

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DOE # 6400.3
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ACCUMULATION REQUEST FORM
ADDITION/DELETION/MODIFICATION/RELOCATION/CUSTODIAN CHANGE

(Circle the appropriate request above)

Date Requested 1/15/99
Requested By M. H. Conitopke
Extension 26152
Department 779 Tech Sppt.
Building 779

AREA INFORMATION

Assigned RCRA ID Number 779-2445
Building 779
Area Type RTU

(Complete Old information column & only the modified item(s) in the new information column)

OLD INFORMATION	NEW INFORMATION
Room Number: 150	Room Number:
Physical Description of Waste: MISC. REMEDIATION WASTE GENERATED DURING STD ACTIVITIES	Physical Description of Waste:
Hazardous Constituent(s): 0001-0043, F001-F005, U-SERIES, U-SERIES	Hazardous Constituent(s):
EPA Code(s): 7, 7	EPA Code(s):
Compatibility Code(s): VARIOUS	Compatibility Code(s):
IDC/WFC/NA: VARIOUS	IDC/WFC/NA:
Volume Allowed: N/A	Volume Allowed:
Storage Unit Destination: N/A	Storage Unit Destination:
Extension/Pager: 26153	Extension/Pager:
Name of Unit Owner: M. Conitopke	Name of Unit Owner:
HAZ <input checked="" type="checkbox"/> ILM <input checked="" type="checkbox"/> TRM <input checked="" type="checkbox"/> REM <input checked="" type="checkbox"/> TSCA <input checked="" type="checkbox"/>	(Check applicable waste type(s))

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**AUTHORIZATION/MODIFICATION
OF SATELLITE AND 90-DAY
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If you are requesting a deletion or relocation of a 90-day Accumulation Area, check the operating record for a incident of a spill or release in the unit. Has a spill or release ever occurred in the unit? (Check (✓) one Yes _____ No X). If Yes, see Section 1-A09-HWRM-15, in the Hazardous Waste Requirements Manual.

Has all waste been removed from the unit to be deleted (Check (✓) one Yes X, No _____)

Reason for Request: No longer needed

New Custodian Signature _____ (if applicable)

Unit Owner Signature _____

Ops. Mgr. Signature _____

FOR E.P. SCHWENKBOEG

RCRA Regulatory Programs:

Approval Signature: [Signature] 1-11-99

Reviewed by: _____

Distribution:

Mailing List:

Environmental Waste Assessments (EWA)

EWA, 013

Environmental Coordinator (EC)

Environmental Program Manager (EPM)

Operations Manager (OM)

RCRA Regulatory Prgm. Files (orig. and Copy)

RRP, 190C

RCRA Custodian

Requestor

Systems Quality Engineering (SQE)

SQE, 130J

Waste Environmental Management Sys. (WEMS)

WEMS, T664

Other

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AUTHORIZATION/MODIFICATION
OF SATELLITE AND 90-DAY
ACCUMULATION AREAS

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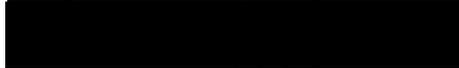
RFP Tracking # 3187
DOE # 5400.3
Page 1 of 2

ACCUMULATION REQUEST FORM
ADDITION/DELETION/MODIFICATION/RELOCATION/CUSTODIAN CHANGE
(Circle the appropriate request above)

Date Requested 1/20/99 Department 779 TECH SPAT.
Requested By M. H. Conlogue Building 779
Extension 10152

AREA INFORMATION
Assigned RCRA ID Number 779-2445 Area Type RTU
Building 779

(Complete Old information column & only the modified item(s) in the new information column)

OLD INFORMATION	NEW INFORMATION
Room Number: <u>155</u>	Room Number: _____
Physical Description of Waste: <u>Misc. Remediation Waste</u> <u>GENERATED DURING 870</u> <u>ACTIVITIES</u>	Physical Description of Waste: _____
Hazardous Constituent(s): <u>D001-D043</u> <u>F001-F005</u> <u>P-SPECIES, U-SPECIES</u>	Hazardous Constituent(s): _____
EPA Code(s): <u>91 7</u>	EPA Code(s): _____
Compatibility Code(s): <u>VARIOUS</u>	Compatibility Code(s): _____
IDC/WFC/NA: <u>VARIOUS</u>	IDC/WFC/NA: _____
Volume Allowed: <u>N/A</u>	Volume Allowed: _____
Storage Unit Destination: <u>N/A</u>	Storage Unit Destination: _____
	Custodian's Name: _____
	Custodian's Employee #: _____
Extension/Pager: <u>2063</u>	Extension/Pager: _____
Name of Unit Owner: <u>M. H. Conlogue</u>	Name of Unit Owner: _____
HAZ <input checked="" type="checkbox"/> ILM <input checked="" type="checkbox"/> TRM <input checked="" type="checkbox"/> REM <input checked="" type="checkbox"/> TSCA <input checked="" type="checkbox"/> (Check applicable waste type(s))	

AUTHORIZATION/MODIFICATION OF SATELLITE AND 90-DAY ACCUMULATION AREAS

09/09/94

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RFP Tracking # 3187
DOE # 5400.3
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If you are requesting a deletion or relocation of a 90-day Accumulation Area, check the operating record for a incident of a spill or release in the unit. Has a spill or release ever occurred in the unit? (Check (✓) one Yes ___ No ___). If Yes, see Section 1-A09-HWRM-15, in the Hazardous Waste Requirements Manual.

Has all waste been removed from the unit to be deleted (Check (✓) one Yes X No ___)

Reason for Request: No longer needed

New Custodian Signature _____ (if applicable)

Unit Owner Signature _____

Ops. Mgr. Signature _____

[Signature]
FOR E.P. SEAWARDS B6721
1/26/99

RCRA Regulatory Programs:

Approval Signature: [Signature] - 1-26-99

Reviewed by: _____

Distribution:

Environmental Waste Assessments (EWA)

Environmental Coordinator (EC)

Environmental Program Manager (EPM)

Operations Manager (OM)

RCRA Regulatory Prgr. Files (orig. and Copy)

RCRA Custodian

Requestor

Systems Quality Engineering (SQE)

Waste Environmental Management Sys. (WEMS)

Other

Mailing List:

EWA, 013

[Signature]

RRP, 130C

SQE, 130J

WEMS, T864

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Appendix G

Building 779 Glovebox Removal Checklist

RCRA UNITS

RFETS
10/21/98

October 21, 1998

Building 779 Glovebox Removal Checklist Fourth Set of 10 for Standard Performance Measure

Room	Glovebox	Property Control Number	Waste Crate Number	Removed YES	Removed NO
154	1363	00035952-00	S00321, S00322	X	
154	1364	00035953-00	S00273, S00327	X	
154	1365	00035954-00	S00301	X	
154	2025	00036103-00	S00302	X	
154	4933	00031310-00	S00338, S00319	X	
154	7248	00036047-00	S00027	X	
160	859	00036730-00	S00318, S00320	X	
160	863	00036491-00	S00301	X	
160	862	00036491-00	S00027	X	
160	860	00036615-00	S00283, S00357	X	

I certify that the Gloveboxes/Hoods/B-Boxes listed above have been removed from Building 779; placed in a waste crate, and have been placed in the RFETS waste stream for disposal.

John W. Whiting Proj. Mgr.
Signature/K-H Title

10/21/98
Date

David Walker
Signature/DOE Title

10/21/98
Date

254/254

STATE OF COLORADO

Roy Romer, Governor
Patti Shwyder, Executive Director

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

4300 Cherry Creek Dr. S.
Denver, Colorado 80222-1530
Phone (303) 692-2000

Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver CO 80220-6928
(303) 692-3090



Colorado Department
of Public Health
and Environment

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

February 6, 1998

Steve Slaten
RFCA Project Coordinator
Rocky Flats Environmental Technology Site
PO Box 928
Golden, CO 80402-0928

Re: B779 DOP Approval

Dear Steve:

The State has received and reviewed the Decommissioning Operations Plan (DOP) for the 779 Cluster Interim Measure/Interim Remedial Action, RF/RMRS-97-085.UN, dated February 1998. Pursuant to authority described in the Rocky Flats Cleanup Agreement (RFCA), sections 69 and 70, approval is granted to initiate and pursue decommissioning activities within the 779 cluster in accordance with plans and commitments as described within the DOP and with the stipulations outlined as follows:

- 1) Section 3.2 of the DOP indicates that initiation of any activities associated with this decommissioning project is contingent on completion of a "management review" [readiness assessment] of the projects infrastructure, procedures and personnel by DOE, CDPHE and the Integrating Contractor management. CDPHE sees this commitment of the DOP as essential and reminds RFETS that no activities are authorized without completion of these collaborative reviews.
- 2) Paragraph 60 of RFCA provides CDPHE authority to: a) "observe all activities performed pursuant to this agreement" b) "review records, files, and documents relevant to this agreement" and c) "ensure that work is performed properly and pursuant to EPA and CDPHE protocols, standards, regulations, and guidance, as well as pursuant to the Attachments [of RFCA] and approved decision documents..."

Be advised that CDPHE intends to carry out its regulatory responsibilities conscientiously through regular inspections of the decommissioning work.

- 3) Work authorized is as described within the DOP. In accordance with RFCA, any changes to work and scope beyond those described in the approved DOP must be authorized in accordance with provisions of Part 10 of RFCA. The CDPHE project coordinator may request or require field modifications to work in accordance with RFCA Paragraph 60(e).
- 4) By agreement, the demolition plan for the facility will be submitted to CDPHE later during the decommissioning process, after additional characterization data for the stripped-out building is available. No demolition activities, nor activities which breach the building shell are authorized without submittal, review and approval of the demolition plan by CDPHE. A combined management review will also be necessary prior to demolition. Final survey plans and independent verification details will also be required at this time. Be advised that public involvement on review of this sensitive step of the project will be required by the State. We recommend that the time for regulator and public review be factored into your scheduling and work planning for completion of the project.

ADMIN RECORD

B779-A-000168

2/12 JD
CC:
Kelly
Charlie
Mark

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Steve Slaten
February 6, 1998
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- 5) The DOP includes a closure description document (CDD) for eight gloveboxes (RCRA Units 90.37, 90.39 and 90.43) located in Building 779, which the Site had been previously unable to decontaminate in order to meet the RCRA clean closure standard identified in Section X of the RFETS RCRA Permit. As a result, further decontamination of the gloveboxes was deferred to decommissioning. Submittal of a CDD was therefore necessary to provide the necessary information to complete RCRA closure for these gloveboxes. CDPHE's approval of the 779 DOP constitutes approval of the CDD for the RCRA Units 90.37, 90.39 and 90.43.

CDPHE, EPA and RFETS staff have worked collaboratively within the spirit of RFCA for almost 1 ½ years towards production of this first Decommissioning Operations Plan for a major plutonium building within the DOE complex. CDPHE believes that we have captured the necessary information, regulatory commitments and activity controls within the approved DOP so that the decommissioning of this first plutonium building can proceed safely without worker exposures and environmental releases. Although this document may likely serve as a base-template for future DOPs, we recognize that lessons may be learned during the implementation phase of the decommissioning which may indicate the need to augment or alter future DOPs.

Should you have any questions or regard clarification regarding this letter you may call Edd Kray at 966-2115.

Sincerely,



Steve Gunderson
RFCA Project Coordinator

cc:

Jessie Roberson, RFFO
John Whiting, KH
Mike Korenko SSOC
John Rampe, DOE
Paul Golan, DOE
Bob Card, KH
Fred Gerdeman, DOE
Tim Hedahl, KH
Alan Parker, KH
Mark Hickman, RMRS
Kathy Zbryk, RMRS
Mark Aguilar, EPA
Tim Rehder, EPA
Howard Roitman, CDPHE
Joan Sowinski, CDPHE
Bob Warther, DNFSB

The Project Safety personnel developed a project-specific "Health and Safety Notes" Newsletter to distribute lessons learned to project personnel. The newsletter was very beneficial in transmitting project information.

During the initial staffing of the 779 Closure Project, certain assumptions were made about the responsibilities and the workload of each of the project members. The assumptions were based more on organizational layout, cost, intuition and perceived project needs rather than a detailed evaluation of the duties of each position. The assumptions were made at a cognitive level and not fully documented. This condition led to problems later in the project. The resulting problems are identified below:

- The project members assumed that the actual workload could not be compared and modified as project demands changed. The result was that some personnel were over worked, some personnel were under-worked, and there was some confusion about project member responsibilities.
- The project was understaffed to complete the entire project reporting requirements. This led to misleading information being passed on to project oversight personnel.

The transition from an operating facility to a decommissioning project was one of the most difficult tasks in completing the 779 Closure Project. The greatest challenge in this transition was complying with the project's authorization basis document while completing aggressive dismantlement activities. The ventilation system operational requirements, room differential pressure requirements, and maintenance of the fire protection and alarm systems were the components impacting the project the most. Special attention to these systems needs to be considered when modifying the facility's authorization basis document to allow for decommissioning activities. Several examples of problems identified during the 779 decommissioning work include the following:

- The fire protection alarm reporting system cable routing was directly below and interfering with piping and duct removal. This condition meant that the alarm cable and conduit should be removed before the pipe and duct. However, based on the facility's authorization basis document, the piping and duct required removal prior to deactivating the alarm circuit. The 779 Closure Project resolution was to reroute the alarm circuit and then remove the other components. Although the condition was corrected, the situation caused work delays as the condition was corrected.
- Based on the facility's authorization basis document, the fire suppression system was to be the last system removed from the facility. The 779 Closure Project found that this situation caused two problems. First, the fire water piping and sprinklers interfered with removal of other components; and second, the entire facility had to be operationally clean before the system could be removed. The 779 Closure Project ended up sectioning the fire suppression system using freeze plugs as temporary isolation barriers. The project experienced delays while the work was completed. Prior planning in modifying the authorization basis document could have facilitated a more workable environment, such as allowing a fire watch in place of the fire system.

Several other points to consider in planning future projects are:

- The processes used in completing the decommissioning work were effective, and safety was maintained at a very high level through involvement of the craft in planning the dismantlement tasks. The project also had daily pre-evolution meetings and weekly safety meetings. An informal project safety committee was used to address project safety concerns as quickly as possible.
- The 779 Closure Project under-estimated the number of size reduction and component handling tools necessary to complete the project. The large number of tools required can be attributed to the large quantity of tools broken, and those discarded as contaminated. Better training of the craft in proper use, maintenance and handling could reduce the number of tools required.
- Early in the project the decision was made to minimize the amount of glovebox internal decontamination. In place of decontamination, fixatives were used to help minimize the transport of contamination during size reduction. This decision led to project personnel spending additional time in breathing air during the size reduction process. The benefit of this decision should be evaluated on a case-by-case basis.
- The 779 Closure Project's final survey team was assembled early in the project. Early use of this team was very beneficial to the project as many potential hurdles were avoided. The final survey team wrote the final closure plans, discussed the release process with the regulators, met with and provided immediate response to the independent verification group. The final survey team also classified the buildings and wrote supporting survey documents. The timing for starting the final survey process should be evaluated for each project. The 779 Closure Project benefited by having the final survey contractor start early because numerous areas required pre-final survey characterization and re-work (decontamination). However, there was a tradeoff in costs and starting the process too soon would not be cost effective.

14. REFERENCES

Asbestos Characterization Report for the 779 Cluster Project, Rev. 0, October 1997

Building 779 Cluster Closure Project Health and Safety Plan, Rev. XI, Sept. 16, 1999

Lead/Metals in Paint Characterization for Building 779 Cluster, Rev. 0, August 6, 1998

Rocky Flats Cleanup Agreement (RFCA)

Decommissioning Operations Plan for the 779 Cluster Interim Measure/Interim Remedial Action, Rev. 0, February 1998

Closeout Radiological Survey Plan for the Building 779 Cluster, Rev. 3, October 1999,
RF/RMRS-97-123.UN

Closeout Radiological Survey Report for Building 729, Volumes 1-3, RF/RMRS-99-358.UN

Closeout Radiological Survey Report for Building 779, Annex B, Rev. 1, October 1999, RF/RMRS-99-437.UN

Closeout Radiological Survey Report for Building 779, Administration Building, Rev. 0, October 1999, RF/RMRS-99-437.UN

Closeout Radiological Survey Report for Building 779, "A" Annex, Rev. 0, November 1999, RF/RMRS-99-431.UN

Closeout Radiological Survey Report for Building 779, Main Building, Rev. 0, December 1999, RF/RMRS-99-476.UN

Closeout Radiological Survey Report for Buildings 727, 782, and 783, Rev. 0, February 2000, RF/RMRS-2000-019.UN

779 Cluster Closure Project Non- Radiological Closeout Plan, Rev. 0, Sept 13, 1999

Building 779 Cluster Closure Project, Non-Radiological Closeout Report for Building 779, A-Annex, Rev.0, Sept. 3, 1999

779 Cluster Closure Project, Non-Radiological Closeout Report for the Administrative Area of Building 779, Rev. 0, Sept. 29, 1999

Building 779 Cluster Closure Project, Non-Radiological Closeout Report for Main, Utility Area and B-Annex, Rev. 0, Dec. 13, 1999

Building 779 Cluster Closure Project, Non-Radiological Closeout Report for Buildings 727, 782 and 783, Rev. 0, Feb. 1, 2000

Reconnaissance Level Characterization Plan for the 779 Cluster, Rev. 0, December 17, 1997

Reconnaissance Level Characterization Report for the 779 Cluster, Rev. 0, December 17, 1997

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