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RMRS Rocky Mountain Remediation Services, L L C
protecting the environment
Rocky Flats Environmental Technology Site
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February 18, 1997

CORRES CONTROL
LTR NO

DOE Order #

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BENGEL, P R		
BENSON, C A.		
FINDLEY, M E		
FITZ, R C		
GUINN, L.A		
JIERREE, C C		
McANALLY, J L		
TYSON, A.M		
POWER, A.P		
WAGNER M.J		
ZEILE, H.J		
BOURGEOIS T G		
CHAPIN, J A		
GUTHRIE C L	X	X
MCANDREW, W J		
RMRS CORRES		
CONTROL	X	X
CORRES CONTROL	X	X
TRAFFIC		
PATS/T130G		

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Date

IN REPLY TO RFP CC NO

ACTION ITEM STATUS
☐ PARTIAL/OPEN
☐ CLOSED

LTR APPROVALS

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RF-46469(Rev 10/96)

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B L Evans
Kaiser-Hill Company, L L C
Construction/Project Management Services
Building 130
Rocky Flats Environmental Technology Site

SAFE SHUTDOWN OF BUILDING 444 — WJM-006-97

PURPOSE
The purpose of this letter is to remit the plan for the Safe Shutdown of the Building 444 Cluster

DISCUSSION
Attached, please find the plan for the Safe Shutdown of the Building 444 Cluster The plan describes the activities, costs, and schedule involved in the Safe Shutdown of Building 444 This plan was used to establish the initial scope for the Safe Shutdown Following approval of the $400K in the Baseline Change Proposal, the schedule and the details of what can be accomplished for the $400K will be established

RESPONSE REQUIREMENTS
No response is required If there are any questions, please do not hesitate to contact me at extension 5454, Digital Page 4262, or Facsimile 8244

W J McAndrew
Engineering Manager, Engineering/Construction/Decommissioning

alk

Attachment
As Stated

cc
J P McAndrew - Kaiser-Hill Company, L L C

FEB 1997
RECEIVED
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ADMIN RECCRD

B444-A-000004

RMRS Rocky Mountain Remediation Services, L L C
protecting the environment

Plan for Safe Shutdown of

Building 444 Cluster

Rocky Flats Environmental Technology Site

ENGINEERING/CONSTRUCTION/DECOMMISSIONING

February 1997

Revision 0

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TABLE OF CONTENTS

1.0 INTRODUCTION

This document describes the plan for the safe shutdown of the Building 444 Cluster The safe shutdown will greatly reduce the operating costs of the building by suspending operations, removing personnel from the building, eliminating preventive maintenance, and eliminating all corrective maintenance with the exception of emergency maintenance The safe shutdown will also reduce the operating risks such as a radiological or Resource Conservation and Recovery Act (RCRA) release to the environment or fire water piping freeze breaks as occurred in January 1997 Safe shutdown of the Building 444 Cluster would reduce the liabilities associated with the facilities, being essentially unused and unoccupied until they are scheduled for Decontamination and Decommissioning beginning in Fiscal Year 2006

2.0 FACILITY DESCRIPTION

2 1 LOCATION, PHYSICAL LAYOUT, AND DIMENSIONS

The Building 444 Cluster consists of Buildings 427, 427A, 444, T444A, 445, 447, 448, 449, 450, 451, 453, 454, 455, and 457 The core of the Cluster are Buildings 444, 445, 447, and 448 as shown in Figures 1 & 2 The Cluster is located south of Cottonwood Avenue, directly east of Building 460, and several hundred feet west of Seventh Street The total Cluster floor area is approximately 238,000 ft^2, with 188,900 ft^2 on the ground floor, 23,700 ft^2 in the basement, and 25,400 ft^2 on the second floor and mezzanines

The original Building 444 was constructed in 1953 and consists entirely of reinforced concrete This part of the building comprises the majority of the existing building area and contains the former foundry, machine shops, beryllium shop, plating laboratory, pressure and leak-testing laboratories, building maintenance shops, and portions of the non-destructive testing laboratory The west addition to Building 444 includes two former X–ray vaults, precision shops and a calibration laboratory with precision measuring instruments The structure of this portion of the building consists of reinforced-concrete exterior walls, steel interior columns, and steel roof framing covered with corrugated metal

Construction of the original section of Building 447 was completed in 1956, several major additions have subsequently been constructed, including Building 448 Building 447 is attached to the southwest end of Building 444 The majority of the building is one-story with a ground-floor area of about 12,100 ft^2 The western portion of the building has a basement and a second-story of about 4,700 ft^2 each Entry to the building is through Building 444, Room 101 The Building 447 structure is steel frame on concrete foundation Each addition to the building has a separate structure Exterior walls are corrugated asbestos-cement, metal, and concrete masonry units, the majority of the interior walls are concrete masonry units

Building 445 is attached to the east end of Building 444 The building was constructed in 1956 and provides about 3,200 ft^2 of floor space on one level The superstructure consists of rigid tapered steel bents spanning east to west, which are stabilized laterally by cross bracing, there are no interior columns Wall and roof sheeting is corrugated metal

2 3 OPERATIONAL HISTORY

Former missions of the Building 444 Cluster included the manufacturing of components of depleted uranium, depleted uranium composites, stainless steel, beryllium, and other metals Operations performed on these components included machining, casting, heating treating, welding, plating, coating, testing, and inspection Former missions of Building 445 included tool manufacturing, machining carbon molds for foundry use, storage and cutting of graphite, metals, plastic, Teflon, and other synthetic materials Former missions of Building 447 included assembly cleaning, assembly material analysis, assembly welding, and heat treating of stainless steel, beryllium,

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aluminum, depleted uranium, and vanadium parts Roasting of uranium chips, vacuum arc melting of metals, composite chip cementation, and drum cleaning were also performed in Building 447 The former mission of Building 448 was the receipt, inventory, storage, and shipment of parts and materials, including beryllium, depleted uranium, stainless steel, vanadium, titanium, and composites

2 4 CURRENT MISSION

The primary mission of the Building 444 Cluster consists of storage for classified scrap and classified components of depleted uranium, stainless steel, beryllium, graphite stock, depleted uranium stock, and molds Also, beryllium drums from across the site are temporarily stored, repacked in Building 444, and then shipped to an off-site vendor

2 5 ENVIRONMENTAL ISSUES

Environmental issues associated with the safe shutdown of the Building 444 Cluster originate from the processes previously performed within these facilities Machining of beryllium and uranium created a petroleum waste stream containing bi-products from the process Chemical inventories, utilized in these processes and other actions, must be segregated into appropriate waste streams for proper disposal or reuse RCRA recyclable, such as lead bricks and batteries, will be integrated into the appropriate site infrastructure process for final management RCRA permitted units will be closed or placed in an approved configuration to minimize required inspections and risk associated with these units

An evaluation of impacted permits will be conducted Air issues will be documented, whether one exists or not, in a letter to file indicating requirements for monitoring, development of Air Pollution Emission Notice (APEN), and/or appropriate methodologies to minimize the origination of an effluent Water issues will be identified and monitoring will continue with a baseline of at least one month to identify deviations Waste will be generated by a site approved waste generator and shall be managed in accordance with the Waste Management Plan for this project Notification to Waste Management should be given as far in the future as can be provided to allow them to identify final disposal sites, conduct waste minimization, and develop new treatment process for these waste streams RCRA permitted units will be closed in accordance with State regulation and the Rocky Flats Part "B" Permit

3.0 PROJECT DESCRIPTION

3 1 GOALS

The goal of this project is to complete a safe and compliant shutdown of the Building 444 Cluster, which is defined as

- No activities or personnel are inside the building on a routine basis
- Placing the building in a RCRA stable configuration
- No heat to the building
- No power to the building
- All utilities disconnected to the building
- Drain all freezable process and utility systems
- Set up routine surveillance

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This process will eliminate the need for regulatory inspections and allow the building to be de-energized awaiting demolition It is projected that the shutdown will reduce the yearly operating budget from the current $1,900K to less than $300K The hazards associated with operating the building with personnel inside will also be reduced RCRA inspections will initially be reduced to quarterly and ultimately eliminated as a RCRA stable configuration is confirmed and all RCRA regulated wastes are removed from the building

3 2 PREREQUISITES

Several tasks will be performed in parallel with the safe shutdown tasks These are listed below because their completion impacts work on project activities While these are funded by other budgets, Rocky Mountain Remediation Services, L L C will expedite their completion

- All classified tools, fixtures, gauges, etc , will be removed by June 30, 1997 under another super stretch goal If this is not accomplished, then it is assumed security and radiation requirements will allow these components to remain in the building
- All machines and tools wanted by Los Alamos National Laboratory and Allied-Signal will be removed by June 30, 1997, or allowed to stay in the building
- All other economically removable machinery and tools will be removed by June 30, 1997 for Rocky Flats Local Initiative Project, or allowed to stay in the building
- Office equipment removed under other super stretch goal by August 30, 1997, or allowed to stay in the building
- All beryllium is removed by Safe Site of Colorado by April 30, 1997, or allowed to stay in the building

3 3 SAFE SHUTDOWN ACTIVITIES

The scope of the safe shutdown is discussed below

- Remove and dispose of 178,000 lbs of uranium stock (not chips or contamination)
- Remove and dispose of RCRA-regulated materials, shutdown RCRA systems, eliminate inspections, and complete RCRA closure on RCRA permitted units
- Remove and dispose of hazardous materials, chemicals and radioactive materials (not waste)
- Remove and dispose of loose combustible materials, drain and isolate the fire sprinkler system (5 locations), verify fire hazards are acceptable and alternate protection is available
- Establish passive High Efficiency Particulate Air (HEPA) ventilation, drain steam/condensate and process liquids from systems, disconnect all utilities, Move all personnel out of the Building 444 Cluster, lock and post building, Establish surveillance program

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4.0 WASTE MANAGEMENT PLAN

4 1 TYPES AND QUANTITIES OF WASTE

It is estimated that the following quantities will be generated by this project

Type of Waste	Primary Matrix	Quantity Cu Meters	Type of Waste Package
Mixed	Chemicals Roll Filters Process Waste Lines	10	Drums Crates
Hazardous	Lead Bricks NDT Film Lead Acid Batteries	1	Drums
Mixed	Waste Water	20,000 gal	N/A
Low-Level	Combustibles, Chemicals Pipe Fittings	84	Crates
Depleted Uranium	Stock	178,000 lbs	Crates
Combustibles	Paper, Wood, Cardboard	56	Rolloff

4 2 HANDLING, PACKAGING, STAGING, AND DISPOSITION

Hazardous and Low-Level Waste will be packaged according to approved procedures, trucked, staged, and shipped off-site Sanitary waste will be disposed of in the on-site Sanitary Landfill All costs related to handling, packaging, staging, and disposition of all wastes generated during this project are included in the cost estimate

5.0 REGULATORY PLAN

All actions in Section 2 3 will be conducted in conjunction with placing this cluster in a "safe and stable" condition, thus minimizing compliance related issues and maintenance cost All action will be of a deactivation nature and will utilize that structure

RCRA units and RCRA waste generated by this action will be managed utilizing Site procedures These procedures integrate the State and Federal Regulations and provide a standardized approach for handling the waste streams RCRA permitted units currently located in Building 444 will be closed utilizing a closure as specified in RCRA Part "B" Permit Current units in this facility include two RCRA holdup tanks, process waste transfer and collection system, acid dumpsters, uranium chip cementation, roaster and drum storage area, and fabric filtration The facility Waste Steam and Residue Identification and Characterization (WSRIC) program identifies the RCRA waste streams inside each building and includes characterization information for the processing of these waste streams

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As specified in Site procedures, an Environmental Checklist shall be created during the planning phase This document will assist the project manager in the identification of any environmental issues The reconnaissance level characterization will document the status of these issues and provide a path or identify the need for additional sampling The characterization process is created to assist the project managers in their determinations and prioritization in planning, cost, integration, and required documentation for this project

Surface water monitoring will be conducted in a designated drainage area located adjacent to Building 444 that will cover all buildings in the 444 Cluster The 444 Cluster all lies within an Industrial Area surface water sub-basin, comprising approximately 10 acres Surface water samples from the 444 Cluster drainage sub-basin will be collected using an automated water sampling station When surface water runoff from a storm event and/or snow melt rises to a predesignated level, the flow meter will trigger the sampling unit A Geomation remote measurement and control radio-telemetry unit will be used to notify Surface Water personnel when a sample has been collected

Air issues associated with the 444 Cluster will be address in an evaluation of APEN permit values for this action, as well as, annual air stack emissions reviews Required monitoring will be evaluated for each stage of the project

Other environmental issues will be addressed in the Reconnaissance Characterization Report with the materials identified, contaminates of concern documented, and the process for confirmation of analysis identified The Waste Management Plan will identify what streams will be generated, approximate volumes, waste minimization, and any other requirements needed for a smooth transition of waste generated to the assigned Waste Acceptance Criteria

Asbestos actions will be completed in accordance with state air emission standards, Regulation Eight Actions will be conduct as a non-public access area with State trained and certified personnel

Toxic Substances Control Act (TSCA) related materials are not identified in this scope of action If contamination is found, the project will be stopped until the correct path forward is specified

6 0 COST AND SCHEDULE

6 1 Cost

Costs estimates are provided for the associated tasks Estimates of material movements, ventilation requirements and individual systems to be drained, isolated and closed were performed These costs represent the expenditure of approximately 37,000 man hours of project effort

6 2 Schedule

The duration of the entire safe shutdown effort is based upon engineering judgement Procurement actions, permitting and characterization results tend to have the largest impact to the schedule 220 calendar days will be required from the date the funds are made available and 90 calendar days from the time the facility is empty of classified items, machines, tools, and beryllium

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Description	Burdened Cost
Remove and dispose of uranium stock	$430K
Remove and dispose of RCRA-regulated materials, shutdown RCRA systems, eliminate inspections, and complete RCRA closure on RCRA permitted units	$750K
Remove and dispose of hazardous materials, chemicals, and radioactive materials	$200K
Remove and dispose of loose combustible materials, drain and isolate the fire sprinkler system (5 locations), verify fire hazards are acceptable and alternate protection is available	$540K
Establish passive HEPA ventilation, drain steam/condensate and process liquids from systems, disconnect all utilities, move all personnel out of the Building 444 Complex, lock and post building, establish surveillance program	$880K
Total	$2,800K

7.0 ASSUMPTIONS

The following assumptions are part of the safe shutdown cost estimate

- All prerequisites are completed by their stated dates
- RCRA closure plan is approved by April 30, 1997
- Davis-Bacon determination states that the work will be performed by steelworkers
- Maximum release from the Building 444 Complex under the worst case scenario is acceptable
- The project is not a Rocky Flats Cleanup Agreement activity, thus, it does not require a regulatory document
- Idle equipment in Building 444 is not a regulatory issue
- The DAC Utility Control System supporting Building 460 is replaced by DOE
- None of the utilities are set up for long term storage for future use
- No cleanup or fixing of loose contamination is required
- No emergency lighting will be required or use of emergency generator after safe shutdown
- No Polychlorinated Biphenyl removals are required
- Asbestos will only be spot removed to accomplish draining of utilities
- Windows will not be covered when building is sealed

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8.0 FIGURES & EXHIBITS

Figures 1 & 2

Exhibits 1 - 10

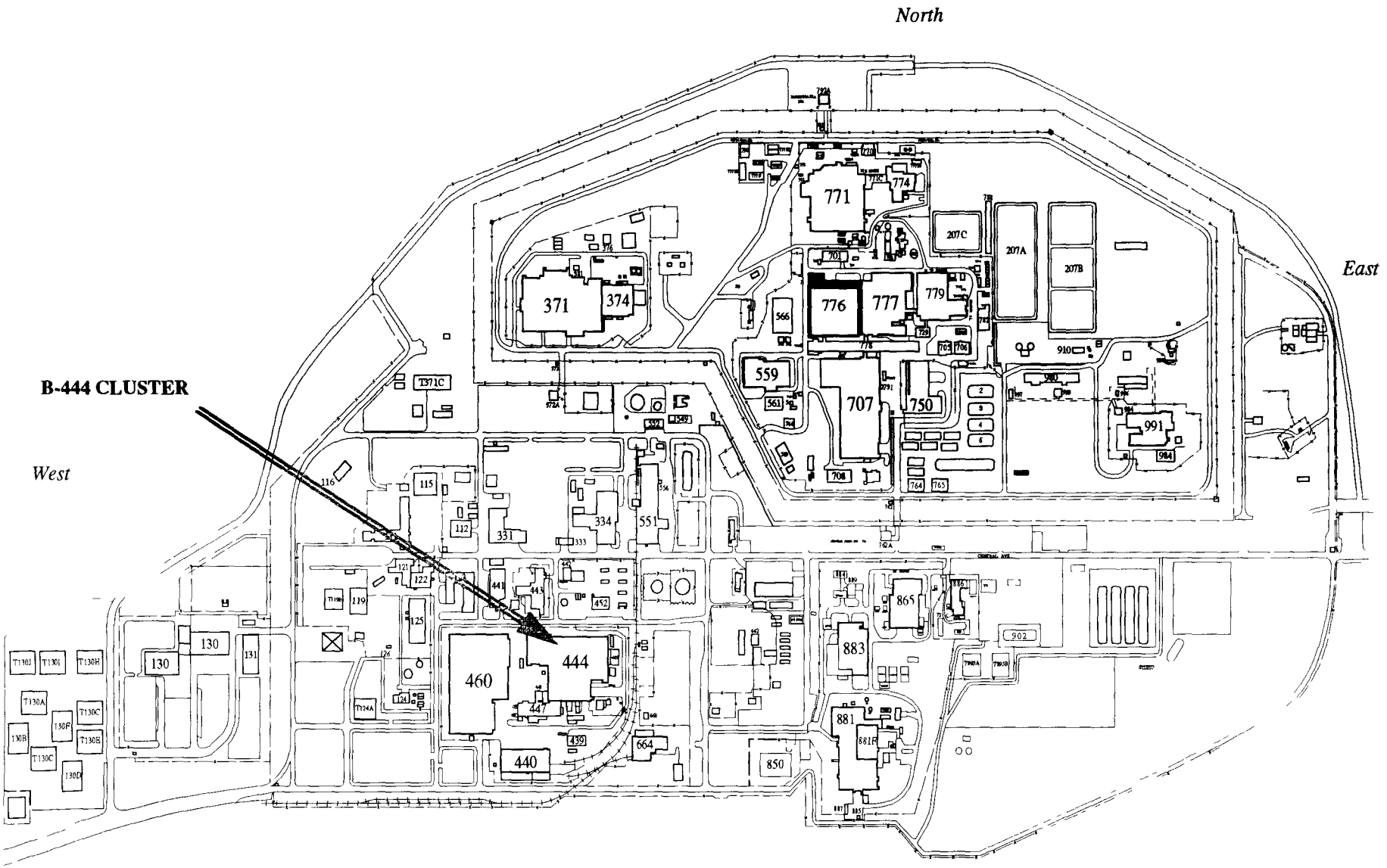


Figure1 Site Map

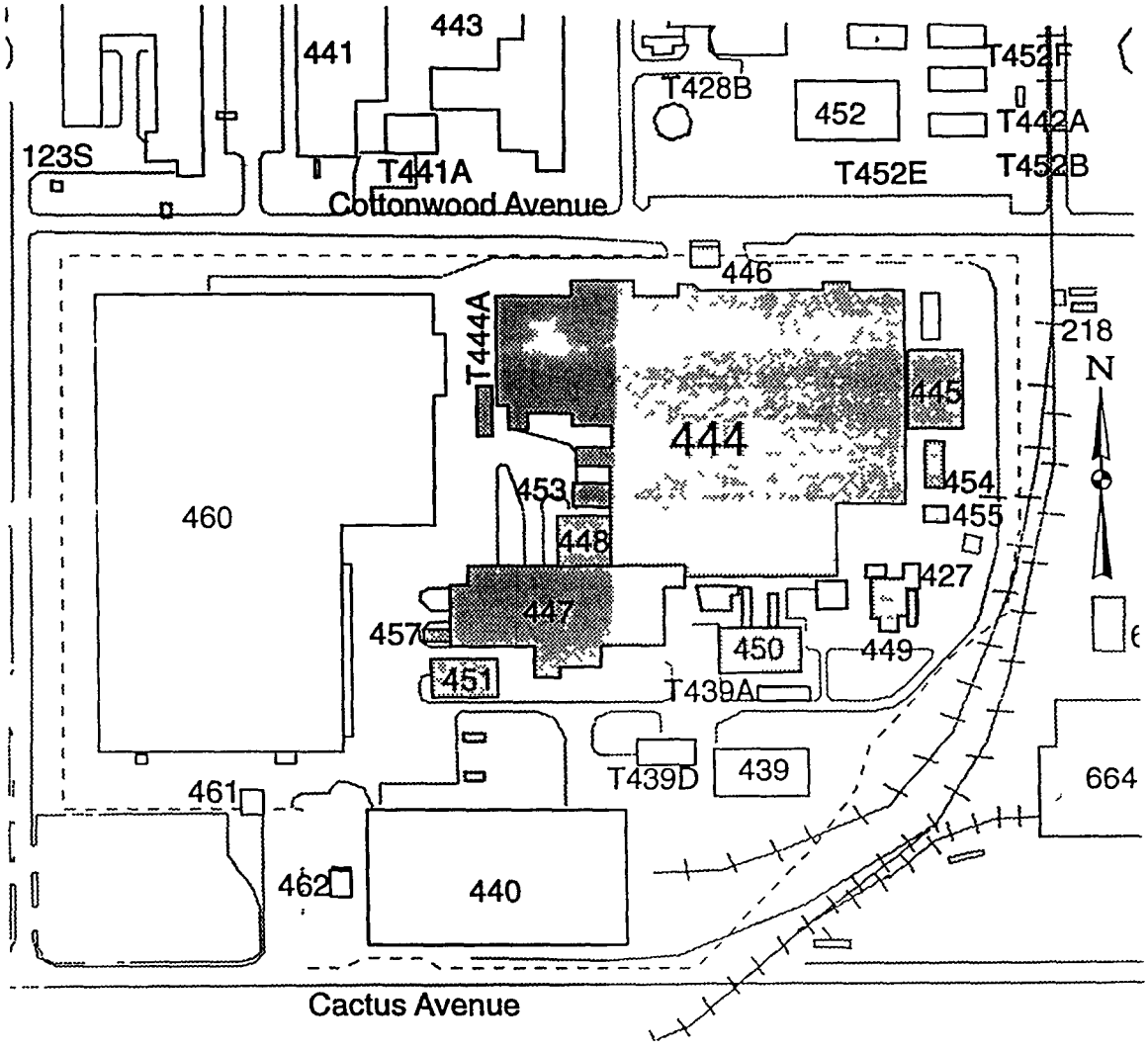
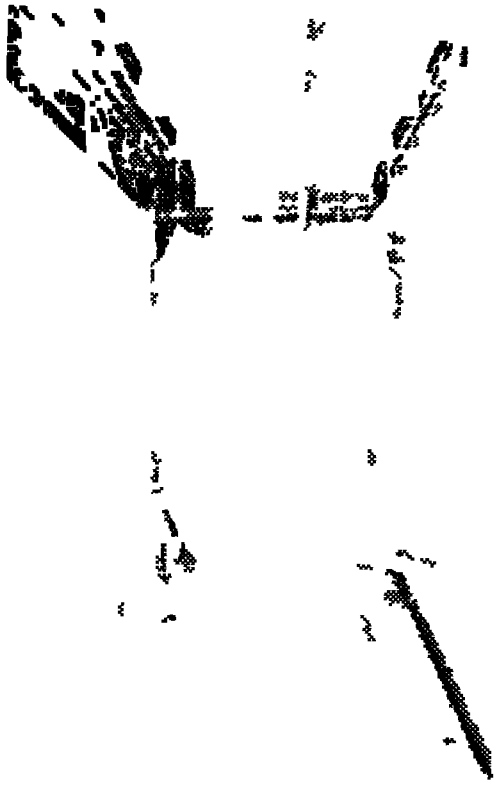


Figure 2 Building 444 Cluster

Exhibit uilding 444

Exhibit 2 Uranium Stock
(Partial)



Room #8 As
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Exhibit 5 RCRA Tanks (2 of 6)

Exhibit 6 Chemical Storage

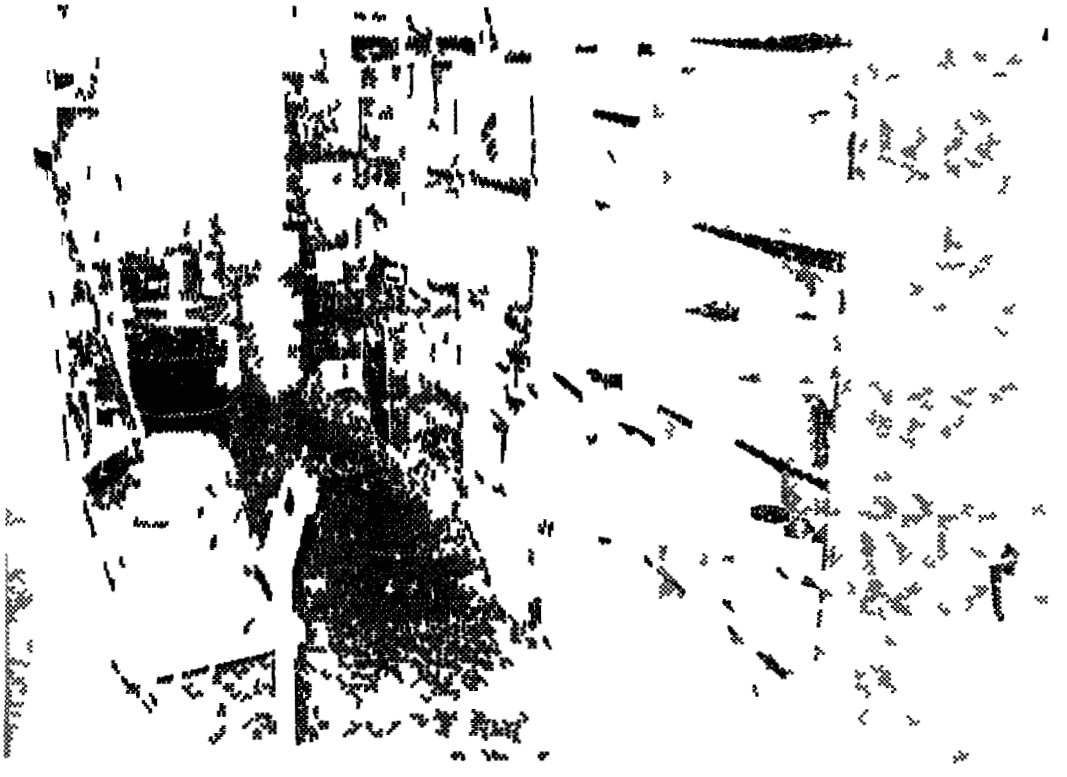
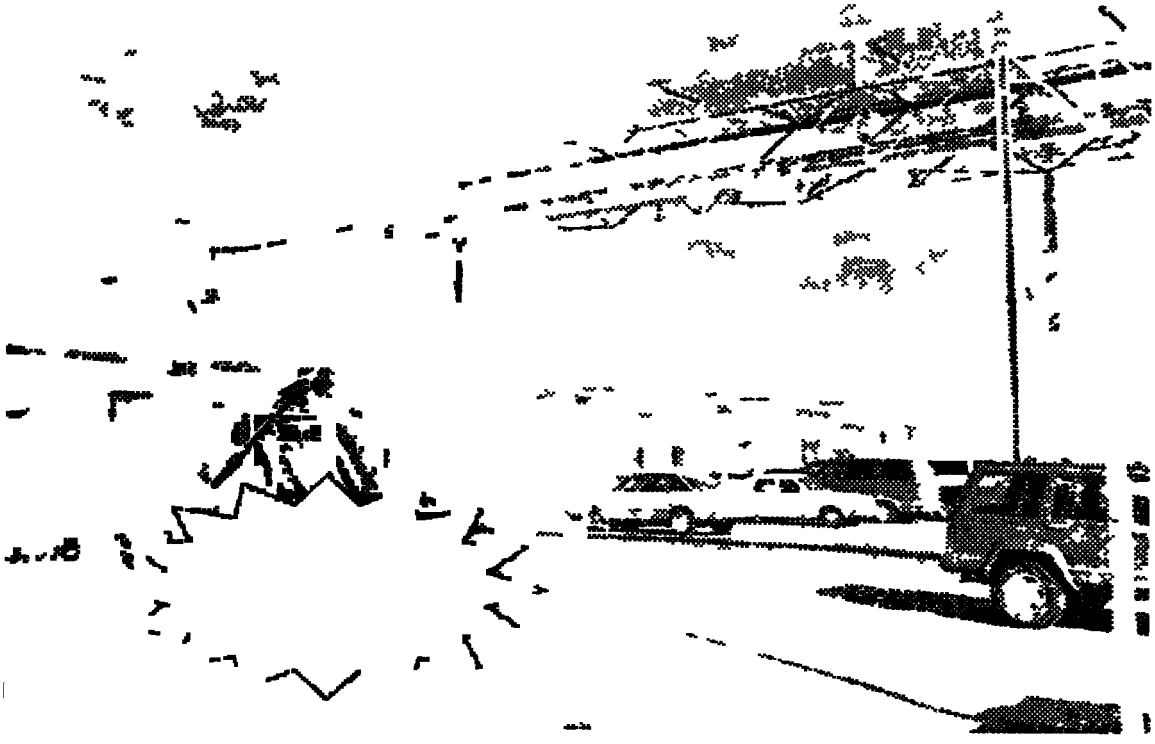


Exhibit 9 Classified Scrap Storage

Exhibit 10



NOTICE:

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PORTIONS OF THE FOLLOWING

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