

**INTERIM STATUS CLOSURE PLAN
FOR
OPERABLE UNIT 15: INSIDE BUILDING CLOSURES**

PURPOSE

The intent of this Closure Plan is to provide a description of the closure process for six interim status closure units at the Department of Energy's Rocky Flats Environmental Technology Site (Rocky Flats). This plan addresses requirements contained in 6 CCE 1007-3 Section 265, Subpart G - closure and Post-Closure.

Closure of hazardous waste treatment and storage units are to be conducted in accordance with the closure performance standard contained in 6 CCR 1007-3 Section 265.111. This standard requires the Department of Energy to close these Interim status units in a manner which:

1. Minimizes the need for further maintenance, and
2. Controls, minimizes or eliminates, the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to ground or surface waters or to the atmosphere, and
3. Complies with all other appropriate closure requirements contained in Part 265.

The specific requirements and responsibilities for cleanup activities at Rocky Flats are outlined in the Interagency Agreement (IAG) between the Department of Energy (DOE), the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE). Interim status closure units have been designated in the IAG as Individual Hazardous Substance Sites (IHSSs). Six IHSS, located inside buildings comprise Operable Unit (OU) 15.

DESCRIPTION OF CLOSURE UNIT

The six interim status closure units in OU 15 are located within four buildings in the Industrial Area at Rocky Flats (see Figure). The following is a summary of the physical description and operational history of the closure unit:

IHSS 178, Building 881, Drum Storage Area (Room 165). IHSS 178, which has a maximum storage capacity of five 55-gallon drums, was first used in 1953 when Building 881 operations began. The drums stored in the IHSS contained wastes contaminated with solvents and possibly low-level radioactivity. Thirty radiological smear samples were collected from the IHSS and three hot water rinse samples were obtained from the IHSS, perimeter, and pathway areas. Final radiological surveys at each of the 30 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. Also, none of the data collected during the CERCLA evaluation with respect to radionuclides and beryllium exceeded the screening criteria.

IHSS 179, Building 865, Drum Storage Area (Room 145). IHSS 179, which has a maximum storage capacity of ten 55-gallon drums, was first used for drum storage in 1970. The dimensions of the IHSS are approximately 8 feet by 12 feet. Drums stored in the IHSS contained oils,

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chlorinated solvents, low-level radioactive waste and possibly beryllium. Twenty-three radiological and beryllium smear samples were collected from the IHSS and three hot water rinsate samples were obtained from the IHSS, perimeter, and pathway areas. Final radiological surveys at each of the 23 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. Also, none of the data collected during the CERCLA evaluation with respect to radionuclides and beryllium exceeded the screening criteria.

IHSS 180, Building 883, Drum Storage Area (Room 104). IHSS 180, which has a maximum storage capacity of thirty 55-gallon drums, measures 10 feet by 16 feet and was first used for drum storage in 1981. Drums stored in the IHSS contained oils contaminated with solvents, uranium and beryllium. Forty-nine radiological and beryllium smear samples were collected from the IHSS and four hot water rinsate samples were obtained from the IHSS, perimeter, and pathway areas. Final radiological surveys at each of the 49 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. The data collected during the CERCLA evaluation did not detect radionuclides in the hot water rinsate samples above the permissible levels and none of the post-rinsate smear samples exhibited total alpha or beta activity exceeding the permissible levels. However, seven of the sampling areas surveyed for beta dose-rate exceeded the established screening criteria limit of 2.5 mrem/hr. An evaluation based on occupational exposure showed total effective dose equivalents below 5 rem/yr.

IHSS 204, Building 447, RCRA Unit 45, Original Uranium Chip Roaster (Rooms 32 and 502).

IHSS 204, the Original Uranium Chip Roaster, was used historically to oxidize uranium chips coated with small amounts of oils and coolants, converting the elemental uranium to uranium oxide. The unit is cylindrical with a diameter of 5 feet 6 inches and a height of 7 feet 4 inches. The inlet for the unit is located in Room 502 and the outlet is located directly downstairs in Room 32. No hazardous constituents have been treated in this unit since January 1988, when the uranium chips processed in the unit ceased to be coated with oils and coolants. A total of seventy-seven radiological smear samples were collected from the IHSS (rooms 31, 32, 501, and 502; chip roaster; and wash rack/drum washing basin in room 501). Seven hot water rinsate samples were obtained from the IHSS. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. No radionuclides detected in the hot water rinsate samples from IHSS 204 exceeded the permissible radionuclide levels. The prerinsate smear samples from the floor surfaces in Rooms 32 and 502 and the outside surfaces of the Chip Roaster inlet and outlet confirmed the presence of radiological contamination at IHSS 204. Rooms 32 and 502 are posted and managed as radiological areas.

IHSS 211, Building 881, RCRA Unit 26, Drum Storage Area (Room 266B). IHSS 211, which has a maximum storage capacity of twenty-nine 55-gallon drums, was first used as a drum storage area in 1981. The dimensions of the IHSS are approximately 10 feet by 20 feet. The wastes stored in the unit have historically included low-level radioactive combustibles (rags, wipes, etc.), metals, glass and materials which contained solvents and/or metals generated by laboratories in the building. Thirty-two radiological smear samples were collected from the IHSS and three hot water rinsate samples were obtained from the IHSS, perimeter, and pathway areas. Final radiological surveys at each of the 32 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. Also, none of the data collected during the CERCLA evaluation with respect to radionuclides exceeded the screening criteria.

IHSS 217, Building 881, RCRA Unit 32, Cyanide Bench Scale Treatment (Room 131C). IHSS 217 consists of a 4 feet by 5 feet painted metal fume hood and laboratory table, three 4-liter polyethylene bottles, a glass beaker and a chlorine-specific ion electrode. The unit was used as a bench scale treatment process to convert cyanide to cyanate. Thirteen radiological smear samples were collected from the IHSS and one hot water rinsate sample was obtained from the IHSS. Final radiological surveys at each of the 13 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS verification sampling. Also, none of the data collected during the CERCLA evaluation with respect to radionuclides exceeded the screening criteria.

REMOVAL OF HAZARDOUS WASTE INVENTORY

There are and will be no containers of waste in treatment or storage for more than 90 days at the six IHSSs during closure; therefore, there is no inventory to be removed.

SAMPLING AND ANALYTICAL METHODS

The methods used to sample and analyze for RCRA hazardous constituents and radiological contamination are described in detail in the Final Phase I RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan. Sampling grids were established for each IHSS and three types of samples were collected and analyzed:

1. surficial soil samples for radionuclides, and beryllium analysis;
2. hot water rinsate samples for TCL volatile organics, TCL semi-volatile organics, and TAL metals analysis; and
3. radiation surveys for fixed radionuclide constituents.

RCRA clean closure is based on comparison of the hot water rinsate analyses to performance standards established for the used rinsate:

1. There must be no detectable levels of hazardous organic constituents;
2. It must not exhibit any characteristics of a hazardous waste as defined in 6 CCR 1007-3 Part 261, Subpart C; and
3. The levels of Toxicity Characteristic (TC) metals must be at or below the background level in the unused rinsate solutions.

Parameter selection for the used rinsate analysis were based on the specific waste stored at the IHSS.

DECONTAMINATION

The results of the sampling performed at these six units have been reported in the Phase I RFI/RI Report for OU15. The report concludes that the IHSSs have met the RCRA clean closure performance standards. Therefore, no additional decontamination is necessary.

ADDITIONAL ACTIONS TO ASSURE COMPLIANCE

In accordance with Section I.B.II.a of the IAG, additional action at an IHSS within OU15 may be required if:

1. There has been a release of hazardous constituents or hazardous substances to the environment external to the IHSS or

2. There is a threat of post-closure escape of hazardous waste, hazardous constituents, run-off, hazardous waste decomposition products, or hazardous substances.

In addition to samples collected from surfaces within the IHSSs, sampling was also conducted in perimeter and pathway areas. The RFI/RI investigation determined that no contamination from wastes stored or treated at the IHSSs had migrated out of an IHSS and so no additional actions are necessary in order to satisfy the closure performance standards.

CERTIFICATION OF CLOSURE

As required in 6 CCR 1007-3, Section 265.115, certification of closure requirements will be submitted to CDPHE. This certification is provided by the owner/operator of the facility and by an independent registered professional engineer and assures that the IHSSs have been closed in accordance with the specifications contained in or referenced by this closure plan.

CLOSURE SCHEDULE

The investigation objectives and proposed sampling and analysis methods were submitted as the Final Phase I RFI/RI Work Plan on October 26, 1992; the results of the investigation were submitted as the Final Phase I RFI/RI Report on December 19, 1994. The remaining schedule for the closure of OU15 consists of the submittal of the Final CAD/ROD by September 29, 1995.

FINANCIAL ASSURANCE

Federal government facilities are exempt from the financial requirements imposed by Subpart H of CHWA, Section 265.140(c). Because Rocky Flats is a federally-owned facility, no cost estimate or financial assurance documentation is required.

ADDITIONAL INFORMATION

The RFI/RI Work Plan, RFI/RI Report, Proposed Plan and other documents contain data pertinent to the closure of the OU15 IHSSs and are available at the information repositories at the following locations:

Rocky Flats Public Reading Room
Front Range Community College
Level B
3645 W. 112th Avenue
Westminster CO 80030

Colorado Department of Public
Health and Environment
Hazardous Materials and Waste
Management Division - Bldg. B2
4300 Cherry Creek Drive South
Denver CO 80222-1530

Citizens Advisory Board
9035 N. Wadsworth Parkway
Suite 2250
Westminster CO 80021

Standley Lake Library
8485 Kipling Street
Arvada CO 80005

U.S. Environmental Protection Agency
Superfund Records Center
5th Floor
999 18th Street
Denver CO 80202-2466

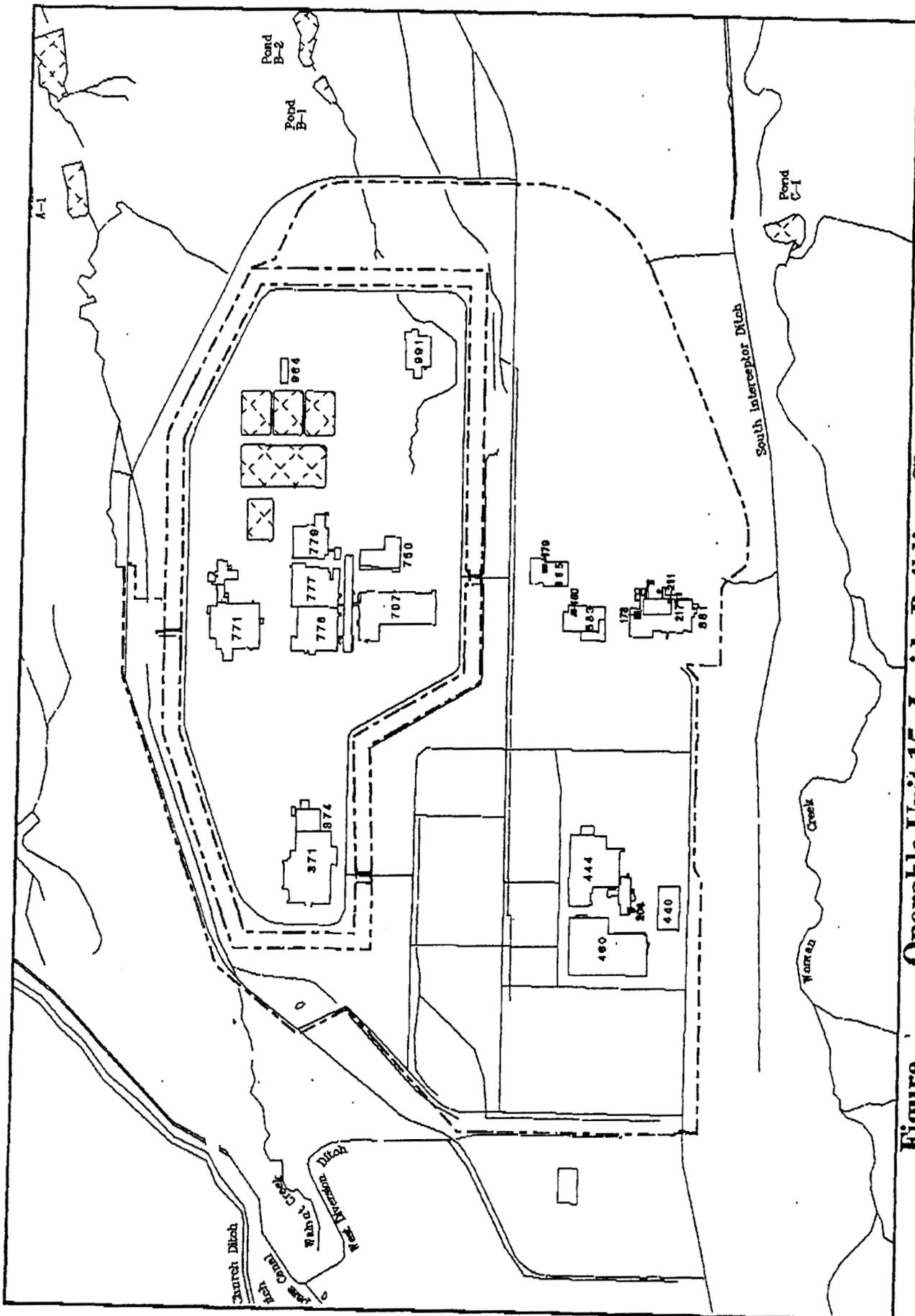


Figure Operable Unit 15: Inside Building Closures

Streams, ditches, and other drainage features
 Security fence
 Paved road
 Individual Hazardous Substance Sites (IHSs)
 Lakes and ponds
 Buildings or other structures
 DATA SOURCE
 Individual Hazardous Substance Sites derived from the Historical Release Report and Operable Unit Workplan
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Rocky Flats Environmental Technology Site - May, 1985

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