

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE REGULATORY CONTACT RECORD

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**Date/Time:** 9-01-04 / 1230 hours

**Site Contact(s):** Duane Hunter  
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**Regulatory Contact:** Denise Onyskiw and David Kruchek  
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**Agency:** CDPHE

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**Purpose of Contact:** Regularly scheduled biweekly meeting

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## Discussion

RISS Area 4 Project presented a white paper on plans to perform contaminated component removal during demolition of buildings 559 and 561. The paper (attached) describes the radioactive contaminated (or potentially radioactive contaminated) components that will be removed during the demolition and the general approach that will be used. This document was a predecessor to detailed work plans (IWCP and/or Building Demolition Plan) that will be prepared and approved prior to the start of work.

CDPHE representatives agreed with the initial plans outlined in the attached white paper with the understanding that specific detail would be included in the Building Demolition Plan. Additionally, CDPHE provided an email noting the following concerns with respect to formal RCRA Closure for noted systems. First, that the NPWL should be included as part of a RCRA Unit and properly characterized and closed. Secondly, that RCRA consideration is addressed for other associated systems and ductwork from the 11 gloveboxes. These concerns are answered as follows:

- The NPWL connecting B559 and B528 were used to transfer waste to the B528 pit tanks as part of a 90-day unit subsequent to system closure in the mid-1990s. It was determined that copious amounts of additional water ran through the NPWL in the ensuing time frame and that no additional action was required. This system was closed; paperwork to this effect is in the operating record.
- Exhaust hoods are not considered part of the RCRA unit system boundary.

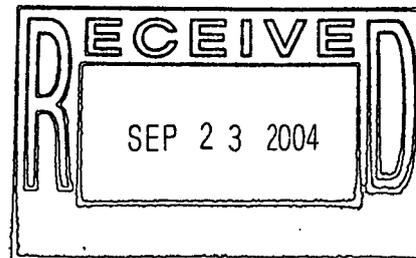
## BUILDING 559 CONTAMINATED COMPONENT REMOVAL

### SUMMARY OF WORK

Revision E  
August 3, 2004

Contact Record 4/10/00  
Rev. 5/24/04

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ADMIN RECORD

TA-A-002335

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## 1.0 PURPOSE

This document provides a description of the underground component removal work to occur in conjunction with Building 559 demolition. Building demolition will be performed after completion of structural decontamination and free release of the structure; however, several underground pipes, ducts, and components will remain which cannot be decontaminated or removed prior to demolition. This document provides a description of methods to be employed for the safe removal of these components. This document is produced as a predecessor to detailed work plans (IWCP or Building Demolition Plan) that will be prepared and approved prior to the start of work. The methods identified in this document have been successfully employed for other instances of contaminated component removal at Building 566.

## 2.0 B559 COMPONENTS & SYSTEMS

The following systems exist under B559, which are contaminated or are suspected to be contaminated. Contamination levels will be identified/verified during building strip-out. Additionally, the original process waste lines will require environmental characterization if liquid or sludge is encountered.

- Original Process Waste Lines (abandoned)
- New Process Waste Lines (radiological contamination)
- Underground Lab Area Exhaust
- Glovebox Exhaust Duct FP-302 in B559/561 underground corridor
- Fume Hood Duct FP-301 in B559/561 underground corridor
- Health Physics Vacuum System
- Plenum Deluge Tank

The following systems exist under B559, which are uncontaminated and will be verified during final building strip-out and surveys.

- Building Exhaust FP-300 in B559/561 underground corridor
- Utilities (power, water)

## 3.0 SYSTEM/COMPONENT REMOVAL

Contaminated systems/components will have the contamination fixed in place prior to building demolition. These systems will be covered or sealed and marked to prevent damage during structural demolition. Any component which will be disturbed by demolition (vent pipes in walls for example) will be filled with epoxy if application is approved, clearly identified on the structure, and then segregated during demolition.

After demolition, systems or components under the structure or in the B559/561 underground corridor will be removed and appropriately packaged as waste. For components in the underground corridor and pits, they will be removed as part of the corridor/pit demolition. All removed contaminated components will be disposed of as SCO Low Level waste.

The technique employed for fixing contamination will depend on the extent of contamination and size of the pipe or component. Small diameter pipes (<6 inches diameter) will typically be filled with epoxy or grout. Large diameter pipes and ducts will typically be filled or plugged with foam or grout as applicable per foam application

instructions listed in governing documents. Large duct sections will typically have the internal surfaces coated with fixative and capped. Large tanks will be sealed at the openings and removed intact.

Preparations for removal will be completed prior to demolition, including fixing, sizing and sealing. The technique chosen will protect both the environment and the workers from accidental contamination release by demolition or excavation equipment.

### **3.1 Original Process Waste Lines (OPWL)**

OPWL locations are identified on the attached Figure 1. The lines were abandoned in the mid 1970s by cutting and capping or plugging at floor level. The lines are typically between 2" and 6" in diameter. The lines were constructed of glass (Pyrex) and due to leakage problems were flushed, sealed and abandoned in place. Little is currently known about the potential contamination levels in these lines and they will likely be filled with epoxy or foam prior to demolition. Inaccessible sections will be left in place pending removal during demolition.

### **3.2 New Process Waste Lines**

The new Process Waste Lines are primarily PVC and run above grade except in five locations where they connect to short sections of the OPWL. These sections will be filled with epoxy where they are inaccessible and left in place pending removal during demolition, see Figure 2 for locations. Accessible sections will be removed and disposed of as low level waste.

### **3.3 Underground Lab Area Exhaust**

Building 559 has a unique underground room exhaust system that branches out from the re-circulation tunnel; see Figure 3 for the locations and sizes. The sections under the floor will be grouted or foamed closed prior to demolition. The underground sections range from 10" to 24" in diameter.

### **3.4 Glovebox Exhaust Duct FP-302**

The glovebox exhaust system runs overhead except where it is routed through the underground corridor between Buildings 559 and 561. The duct in the underground corridor is 28" in diameter stainless steel pipe. Ducting leading to and from the corridor will be removed. The duct remaining in the corridor will have fixative applied, capped, and lowered to the floor. The remaining section (approximately 50' long) will be removed after the corridor is opened up. This section will then be size reduced per Radcon directions and packaged for waste shipment. If the duct is significantly contaminated, a contamination control enclosure will be required for size reduction activities.

### **3.5 Fume Hood Exhaust Duct FP-301**

The fume hood exhaust duct is similar to the glovebox exhaust duct except that it is 32" in diameter. The duct runs through the underground corridor and will be handled in the same fashion as the glovebox exhaust duct.

### **3.6 Health Physics Vacuum System**

The health physics vacuum system has underground branch lines running from the main header in the re-circulation tunnel to room locations (typically at lab exhaust locations). The health physics lines are typically 1 inch diameter steel pipe. The lines will be cut off

at the floor slab and tunnel wall. Depending on the contamination levels, the lines will be plugged with epoxy/grout, pinched close, capped, or potentially left open.

### 3.7 Plenum Deluge Tank

The plenum deluge tank does not have a history of use, but is connected to the Zone 1 exhaust system. The tank will be characterized by removing and analyzing rasching rings from several locations and levels. The tank will be disposed of in one piece as SCO I waste. The tank openings will be sealed with the rasching rings in place and the tank will be removed intact after the pit structure has been opened up (roof demolished).

### 3.8 Uncontaminated Underground Systems

Other underground utilities and the building exhaust (FP-300) are not anticipated to be contaminated. This will be verified during building strip-out activities. If contamination is found in any of these systems, the components will have the contamination fixed in place and sealed/capped as described above.

The building exhaust duct running between the re-circulation air system and Building 561 is routed through the underground corridor. It is 32" diameter galvanized steel with a non-friable asbestos sleeve insert. This ductwork will remain in the corridor for removal at the same time as the hood and glovebox exhaust duct. In addition, the corridor/pit ventilation ductwork will also remain in the corridor for removal once the corridor roof is demolished.

## 4.0 Contamination Levels

The following are the bounding contamination levels known to exist in the systems/components to be removed. Survey results and controls will be included in the detailed work planning to be performed prior to conduct of work.

OPWL	SCO I Waste (< 1M dpm/100 cm <sup>2</sup> )
New Process Waste Lines	SCO I Waste (< 1M dpm/100 cm <sup>2</sup> )
Underground Room Exhaust	SCO II Waste (< 24M dpm/100 cm <sup>2</sup> )
Glovebox Exhaust Duct	SCO II Waste (< 24M dpm/100 cm <sup>2</sup> )
Fume Hood Exhaust Duct	SCO I Waste (< 1M dpm/100 cm <sup>2</sup> )
Plenum Deluge Tank	SCO I Waste (< 1M dpm/100 cm <sup>2</sup> )

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Contact Record Prepared By: Duane Hunter

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Required Distribution:

Contact Record 4/10/00  
Rev. 5/24/04

Additional Distribution:

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S. Bell, DOE-RFPO  
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