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RCRA Facilities Assessment (RFA) Oak Ridge National Laboratory Container Storage Accumulation Areas

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ORNL/RAP-12/V4

RCRA FACILITIES ASSESSMENT (RFA)
OAK RIDGE NATIONAL LABORATORY
CONTAINER STORAGE ACCUMULATION AREAS

ENVIRONMENTAL COMPLIANCE AND HEALTH
PROTECTION DIVISION

Date of Issue: October 25, 1987

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1. INTRODUCTION

The Oak Ridge National Laboratory (ORNL) remedial action strategy is based on a memorandum from the Environmental Protection Agency (EPA) to the Department of Energy (DOE) in which EPA elected to enforce regulatory requirements for ORNL through its amended Resource Conservation and Recovery Act (RCRA) authority (Scarbrough 1986). A listing of known active and inactive waste management areas, contaminated facilities, and potential sources of continuing releases to the environment was prepared as the initial step in identifying compliance requirements. The listing of waste management areas, rationale for identifying releases, and existing data on waste area groups (WAGs) given in the listing were published in the *RCRA Facilities Assessment (RFA)—Oak Ridge National Laboratory* (ORNL 1987a) and *RCRA Facilities Assessment (RFA)—Oak Ridge National Laboratory Addendum, August 25, 1987* (ORNL 1987b). The RFA also included background information on the rationale for designating WAGs and descriptions of the WAGs.

This report, which completes the requirements of II.A.1 of the Hazardous and Solid Waste Amendments (HSWA) permit, identifies areas near the point of waste generation in which wastes are accumulated before they are transferred into the permitted waste storage facilities. It includes background information on each area and an assessment of the need for further remedial attention. The waste accumulation areas described in this addendum bear identification numbers indicative of the WAGs of which they are a part. Waste accumulation areas that are located inside a building and in which there is no potential for releases to the environment are not included in this report.

1.1 PURPOSE

The RCRA Section 3004(u) corrective action program currently consists of four phases (USEPA 1986):

1. The RFA to identify releases or potential releases requiring further investigation.

2. The RCRA facility investigation to fully characterize the extent of releases.

3. Corrective measures study to determine the need for and extent of remedial measures.

4. Corrective measures implementation to design, construct, operate, maintain, and monitor the performance of the measure(s) selected.

This report is the second addendum to the RFA submitted to meet requirements of Section 3004(u). This addendum includes (1) a listing of waste accumulation areas to be considered as potential sources of releases; (2) background information on each of these sites, including location, type, size, period of operation, current operational status, types of wastes present, and observed or potential releases; and (3) ORNL's assessment of the need for further remedial attention. In many cases, the period of operation is not known. Individuals working in the area are aware that the area has been used for the duration of their work there but do not know when use was initiated.

The original RFA was published in two volumes. This addendum relies on descriptive information and maps included in the original document. A detailed description of the format of the RFA is included in Volume 1 (ORNL 1987a). Part 1 of Volume 1 encompasses descriptive information on compliance activities at ORNL, waste management operations, a summary of the WAGs and their solid waste management units (SWMUs), and the status of WAGs and SWMUs with regard to the corrective action requirements of Section 3004(u) of RCRA. Part 2 contains summary sheets requested by EPA under Section II.A.1 of the RCRA permit for the ORNL Hazardous Waste Storage Facility (Building 7652). Volume 2 contains topographic maps that show the locations of the SWMUs. This addendum includes information on scope, purpose, and rationale for identifying releases and the EPA summary sheets for waste accumulation areas.

1.2 RATIONALE FOR IDENTIFYING RELEASES

Areas of waste accumulation were identified through the environmental protection officers (EPOs) for each division. The EPOs are the primary division contacts for areas of environmental compliance. Each EPO identified additional contacts who managed areas for waste accumulation. Either these contacts were interviewed or they responded to a questionnaire that was followed up for clarification. They supplied information on the location of the accumulation area, waste types and volumes accumulated there, management practices used to mitigate potential for release, dates of operation, and information regarding past releases. Many accumulation areas occur within

buildings with no exit (such as a floor drain) for environmental release. They are excluded from this report unless a release occurred in them in the past.

Data were gathered on the volume of release, estimated time elapsed before discovery, corrective actions taken, and environmental harm produced. This information was used to assess the potential for continuing problems from a past release. Basic management practices were used as a means of assessing potential for future environmental releases.

2. SUMMARY OF THE STATUS OF ACCUMULATION AREAS AS POTENTIAL SITES FOR ENVIRONMENTAL RELEASES

The summary of waste accumulation areas and recommended actions indicates that none of the areas is a site of continuing release (Table 1). The few releases that have occurred have been small in quantity and have not resulted in environmental damage or residues. In addition, management of waste accumulation areas is continually improving because of increased internal oversight and requirements. The Environmental Protection Manual is the set of approved procedures used to transmit information on environmental requirements to ORNL personnel. The diking requirements outlined in EPM Chapter 13.0, "Diking Criteria," and the management requirements for waste accumulation areas proposed for inclusion in EPM Chapter 17, "Solid Waste Disposal," ensure that the potential for environmental releases from waste accumulation areas is being further reduced.

Table 1. Summary of accumulation areas and recommended actions

ID number	Description (ORNL building number)	Recommended action	Comment
1.61a	Waste Accumulation Area (1503)	None	No reported releases have occurred; the area will be diked to ensure that releases do not occur.
1.61b	Oil Storage Area (2013)	None	No reported releases have occurred. Because of secondary containment, the potential for release is low.
1.61c	Waste Oil Storage Area (2018)	None	No reported release has occurred. The storage building is diked and has a sump for secondary containment.
1.61d	Fluorescent Tube Container Storage Area (3025)	None	No reported release has occurred. Because of secondary containment and periodic inspections, potential for release is low.

Table 1 (continued)

ID number	Description (ORNL building number)	Recommended action	Comment
16.1e	Waste Oil Storage Area (3038)	None	No reported release has occurred.
1.61f	Oil Storage Area (3103)	None	No reported release has occurred. Because of secondary containment, the potential for release is low.
1.61g	Hazardous Waste Accumulation Area (3500)	None	A small amount of nickel chloride washed onto the parking lot in 1986. None reached the adjacent soil. Because of secondary containment put in place since this incident, the potential for release is low.
1.61h	Waste Oil Storage Area (3550)	None	No reported release has occurred. Because of high visibility of the area, the potential for unobserved release is low.
1.61i	Waste Oil Storage Area (4500N)	None	In the past, one leaking drum was delivered. The leak was promptly identified and controlled.
1.61j	Oil Storage Area (4500S)	None	No reported release has occurred.
1.61k	Waste Oil Storage Area (4509)	None	A small oil leak occurred in the past. Cleanup and corrective action was taken.
1.61l	PCB Waste Container Storage Area (6000)	None	No reported release has occurred.
8.12a	Waste Oil Storage Area (7900)	None	No reported release has occurred.
8.12b	PCB Waste Container Storage Area (7930)	None	No reported release has occurred. Because of secondary containment, the potential for release is low.
18.6	PCB Waste Container Storage Area (7606)	None	No reported release has occurred.

REFERENCES

Oak Ridge National Laboratory (ORNL). 1987a. *RCRA Facilities Assessment (RFA)—Oak Ridge National Laboratory*. ORNL/RAP-12/V1 and ORNL/RAP-12/V2.

Oak Ridge National Laboratory (ORNL). 1987b. *RCRA Facilities Assessment (RFA)—Oak Ridge National Laboratory, Addendum*, August 25, 1987. ORNL/RAP-12/V3.

Scarbrough, J. H. 1986. Letter to J. Lenhard, U. S. Department of Energy, Oak Ridge, Tennessee, "Draft Permit for 1984 RCRA Amendments, Hazardous Waste Storage Facility—Building 7652, Oak Ridge National Laboratory, EPA I.D. Number TN1 890 090 003." May 2, 1986. U.S. Environmental Protection Agency—Region IV, Atlanta, Georgia.

U.S. Environmental Protection Agency (USEPA). 1986. *RCRA Facility Investigation Guidance, Vol. I, Development of an RFI Plan*, October 1986. Draft. Washington, D.C.

Appendix

EPA II.A.1 DATA SUMMARY SHEETS

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61a

SWMU Name: Waste Accumulation Area (1503)

Location of the Unit: The 1503 Dock is an old cylinder dock located southwest of Building 1503.

General Dimensions and Capacities: The dock is a covered 10 ft × 30 ft concrete pad that is elevated 4 ft. A 30 ft × 30 ft concrete pad is located in front of the old cylinder dock. One drum of waste vacuum oil and nine drums of potentially hazardous sludges (lab packed) are on the dock. The pad in front of the old cylinder dock supports a dumpster for solid low-level waste, one drum of noncompactible solid low-level waste, one drum for disposal of aerosol cans, and one drum for disposal of scintillation vials packed in vermiculite.

Function of the Unit: Storage of wastes prior to pickup.

Dates of Operation: Since 1978.

Waste Characteristics: Waste oil, scintillation vials, solid low-level waste, and some potentially hazardous wastes awaiting disposal.

Release Data: No release has been reported. One section of the dock is scheduled to be diked to further minimize potential for release.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61b

SWMU Name: Oil Storage Area (2013)

Location of Unit: This unit is located on the north side of Building 2013.

General Dimensions and Capacities: SWMU 1.61b is bulk oil storage unit consisting of four 55-gal drums and several 4- to 5-gal storage containers.

Function of the SWMU. Bulk oil storage is provided at Building 2013 in a shed with metal framing. Both new and used oil is stored at the site.

Dates of Operation: Since 1967.

Waste Characteristics: New and used oil.

Release Data: No reported releases.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61c

SWMU Name: Waste Oil Storage Area (2018)

Location of Unit: This unit is an oil storage house attached to Building 2018.

General Dimensions and Capacities: SWMU 1.61c is an oil storage house that has been operational for approximately two years. Dimensions are approximately 25 x 12 feet. It has a total storage capacity of 1500 gal. One 500-gal tank is housed at this facility and is used for transformer oil storage.

Function of the SWMU: This site has been utilized for oil storage during the last 24 months.

Dates of Operation: Since late 1985.

Waste Characteristics: Various storage oils include transformer oil, refrigerator oil, BG oil, and PCB-contaminated oil.

Release Data: The oil storage house has a concrete floor with a sump and is diked. A spill occurred from a non-PCB-containing transformer. All oil was absorbed by "Absorb All" (an oil absorbent). The spill was contained within the oil house and no environmental release occurred. In addition to the dike and sump, the use of secondary catch basins filled with oil absorbent minimizes the potential for release.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61d

SWMU Name: Fluorescent Tube Container Storage Area (3025)

Location of Unit: This unit is a dock located south of room E-101.

General Dimensions and Capacities: The area is on a covered porch and receives approximately 50 gal of crushed fluorescent tubes per year.

Function of the SWMU: Waste storage.

Dates of Operation: This area is currently operational; however, the date these operations began is unknown.

Waste Characteristics: Crushed fluorescent tubes contained in bags within steel drums.

Release Data: No reported releases.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61e

SWMU Name: Waste Oil Storage Area (3038)

Location of Unit: This unit consists of a dock located on the east end of Building 3038.

General Dimensions and Capacities: The area receives about 10 gal of contaminated vacuum pump oil per year.

Function of the SWMU: Waste storage prior to pickup.

Dates of Operation: Currently operational. The exact date that these activities began is unknown.

Waste Characteristics: Contaminated vacuum pump oil.

Release Data: No reported releases.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61f

SWMU Name: Oil Storage Area (3103)

Location of Unit: Outside cooling tower, Building 3103.

General Dimensions and Capacities: A 60-gal fiberglass vessel is contained within a 95-gal fiberglass container.

Function of the SWMU: Storage of gear oil.

Dates of Operation: Although this area has been in use for several years, the date that storage began is unknown.

Waste Characteristics: Gear oil.

Release Data: No reported releases.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61g

SWMU Name: Hazardous Waste Accumulation Area (3500)

Location of Unit: The storage area is located on a dock on the lower right (southeast) side of Building 3500.

General Dimensions and Capacities: Storage volumes range up to 5 gal. A 10 × 10 ft metal building is located on the southeast side of the dock and is newly designated for storage of hazardous chemicals awaiting waste pickup.

Function of the SWMU: This unit has functioned in the past as a receiving dock and a storage site for small quantities of hazardous chemicals awaiting pickup. No chemical storage will remain on the dock. The newly acquired metal building will be utilized solely for chemical waste storage, and the access door at this facility will remain locked.

Dates of Operation: The area has been used for approximately 40 years as a receiving dock. Dates of operation for storage of hazardous chemicals is unknown.

Waste characteristics: Various hazardous chemicals, including discarded laboratory reagents and flammable liquids.

Release Data: A small quantity of nickel chloride was released during August 1986. Rain washed material onto the asphalt, where it remained. The Laboratory Shift Supervisor was notified of the incident, which occurred on the weekend. The damaged vessel was contained in a large barrel and picked up for disposal. By Monday there was no remaining chemical residue to clean. Because of the new storage building and its secondary containment features, the potential for future releases is very low.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61h

SWMU Name: Waste Oil Storage Area (3550)

Location of Unit: The unit is located on the south side of Building 3550.

General Dimensions and Capacities: The area contains two 55-gal storage drums. The drums are stored on an asphalt paved site that is not diked.

Function of the SWMU: This area is used to accumulate used oil. The accumulated oil is stored until the containers are full, when they are removed for disposal.

Dates of Operation: Since 1960 until the present.

Waste Characteristics: Waste petroleum oil.

Release Data: There have been no reported releases at this facility. Plans are in process for installation of a concrete diked storage pad with cover.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61i

SWMU Name: Waste Oil Storage Area (4500N)

Location of Unit: This area is known as the north elevator dock and is located in the center section of Building 4500N.

General Dimensions and Capacities: Typically one to two 55-gal storage drums are located at this site.

Function of the SWMU: Oil drums are stored at the unit awaiting waste disposal pickup.

Dates of Operation: The operational history of the site cannot be determined. It is likely, however, that the dock has been used for oil storage for several years.

Waste Characteristics: Petroleum.

Release Data: The drums are stored on a rack with trays or catch pans filled with oil absorbent. In the past it was noted that one drum was delivered with a puncture. This was identified and controlled promptly. This is the only known release.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61j

SWMU Name: Oil Storage Area (4500S)

Location of Unit: This unit is located at the west end of Building 4500S between Buildings 4508 and 4500S.

General Dimensions and Capacities: Typically 4 to 10 storage drums (55-gal capacity) are stored at this unit.

Function of the SWMU: Petroleum storage.

Dates of Operation: From about 1983 to the present.

Waste Characteristics: Petroleum (new and used).

Release Data: This facility is located on a concrete pad with a ramp. The area was sealed with an absorbent mortar-type mixture. A dike-like installation will be installed in the spring of 1988 to provide additional control. There have been no reported releases at this facility.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61k

SWMU Name: Waste Oil Storage Area (4509)

Location of Unit: This area is located near the cooling tower just behind 4500S, south of White Oak Creek.

General Dimensions and Capacities: The area accumulates about one 55-gal drum of oil per year.

Function of the SWMU: Waste oil storage prior to pickup and disposal.

Dates of Operation: Currently operational. The date that storage began is unknown.

Waste Characteristics: Waste oil.

Release Data: A leak of a small amount of oil occurred in 1986. The oil was transferred to another drum and the contaminants were removed.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 1.0

WAG Name: Main Plant Area

SWMU ID Number: 1.61l

SWMU Name: PCB Waste Container Storage Area (6000)

Location of Unit: This unit is located on the south side of Building 6000 near the shop.

General Dimensions and Capacities: The area receives about 250 gal of waste per year.

Function of the SWMU: Storage of wastes awaiting pickup.

Dates of Operation: Currently operational. The date that storage began is unknown.

Waste Characteristics: Light fixtures, ballasts, capacitors, and PCB-contaminated oil (approximately 50 gal per year); vacuum pump oil (approximately 200 gal per year).

Release Data: No reported releases.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 8.0

WAG Name: Melton Valley Area

SWMU ID Number: 8.12a

SWMU Name: Waste Oil Storage Area (7900)

Location of Unit: This unit is located east of Building 7900.

General Dimensions and Capacities: 60-gal fiberglass vessel with 95-gal fiberglass secondary containment vessel.

Function of the SWMU: Waste oil storage prior to pickup.

Dates of Operation: Currently operational. Date that waste oil storage began is unknown.

Waste Characteristics: Waste oil.

Release Data: No reported releases.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 8.0

WAG Name: Melton Valley Area

SWMU ID Number: 8.12b

SWMU Name: PCB Waste Container Storage Area (7930)

Location of Unit: This unit is located at Building 7930.

General Dimensions and Capacities: The area receives about 25 gal of wastes per year.

Function of the SWMU: Storage of wastes prior to pickup.

Dates of Operation: Currently operational. Date that waste storage began is unknown.

Waste Characteristics: Light fixtures, ballasts, and PCB-contaminated oil.

Release Data: No reported releases. Potential for release is low because most wastes are contained within plastic bags inside steel drums. In addition, drums are examined routinely for leaks and are disposed of soon after filling.

EPA II.A.1 DATA SUMMARY SHEET

WAG ID Number: 18.0

WAG Name: Consolidated Fuel Reprocessing Area

SWMU ID Number: 18.6

SWMU Name: PCB Waste Container Storage Area (7606)

Location of Unit: Outside and east of Building 7606.

General Dimensions and Capacities: The unit consists of a covered area roughly 4 ft by 20 ft, housing a fluorescent tube crusher and on 55-gal drum.

Function of the SWMU: To store discarded fluorescent tubes prior to pickup. Tubes are stored in plastic bags held in drums.

Dates of Operation: In use since 1982.

Waste Characteristics: Crushed fluorescent tubes.

Release Data: No reported releases.

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