

RADIOACTIVE AND/OR CHEMICALLY CONTAMINATED FILTERS

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APPROVALS

	NAME	SIGNATURE	DATE
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	NAME	SIGNATURE	DATE
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1.0 INTRODUCTION

Filter assemblies may consist of a fire screen or moisture separators (demistors), prefilters, HEPA filters, and chemical adsorbers. The HEPA filters are installed in ventilation systems to prevent the entry of radioactive particulate matter into the atmosphere. Charcoal adsorbers are used for the removal of gaseous emissions from radioactive and chemical process exhaust air.

2.0 PURPOSE

This document establishes methods to be used by personnel required to enter filter plenums or accessing bag-out filter housings to inspect, maintain, change-out and dispose of radioactive or chemical contaminated filters.

3.0 SCOPE

This document describes Maintenance and Operations requirements only. If design and procurement of equipment or systems is required, use the Facilities Engineering Standards.

TA-55 Plutonium Facility and TA-3, SM-29 Chemical Surety and Carcinogenic Laboratories are excluded from the requirements of this standard. Separate documentation exists to cover these areas.

4.0 DEFINITIONS

4.1 Chemical Adsorber

The filtering medium consist of virgin coconut shell carbon. HEPA filters are installed upstream of the first adsorber cell and downstream of the last adsorber cell.

4.2 Fire Screen

An all metal filter installed upstream of the prefilter to prevent fire debris from damaging the HEPA filters and/or chemical adsorbers.

4.3 GFE

Government furnished equipment, contractor installed.

4.4 HEPA Filter

High Efficiency Particulate Air Filter (Nuclear Grade, Type B)

4.5 Moisture Separator (Demistor)

A filter designed to capture entrained water droplets and installed upstream of the prefilter.

4.6 Prefilter

A filter installed upstream of the first HEPA filter.

4.7 SOP

Standard Operating Procedure

5.0 RESPONSIBILITIES

5.1 Facility Manager

Implement a program to ensure that the requirements of this document are met.

5.2 FSS-2 - Competencies and Standards

Maintain and control distribution of this Standard.

5.3 ESH-5 - Industrial Hygiene and Safety

Furnish materials and labor to in-place test HEPA filter assemblies and maintain the LANL HEPA Filter Procurement Standard.

6.0 PRECAUTIONS AND LIMITATIONS

None

7.0 STANDARD REQUIREMENTS

7.1 In-Place Testing

ESH-5 shall in-place test HEPA filters, as required by DOE 6430.1A, when initially installed and following each filter change to determine the efficiency of the filter bank and its supporting framework. Also, during the service life of the filter, it may be necessary to do an in-place test if the efficiency of the filter is in question.

7.2 Utility Outages

Comply with the requirements of the Maintenance and Operations Standards, Utility Outages, MO 3.1-110.

7.3 SOP

Comply with the requirements of SOP, FSS-9-1-R4, when entering filter plenums or accessing a bag-out housing to inspect, maintain, change-out, and dispose of radioactive or chemically contaminated filters.

7.4 HEPA Filter Procurement

HEPA Filters are GFE and contractor installed. HEPA filters shall comply with the LANL (ESH-5) HEPA Filter Procurement Standard.

7.5 System Outage

Coordinate the exhaust system outage to minimize the impact on user whose equipment, e.g., fume hoods, will be affected.

7.6 Filter Change-Out

The frequency of filter change-outs will be determined by the results of the in-place test and the filter drop (dirty filters) across the filters. Refer to the Facility Engineering Standards for the maximum dirty filter pressure drop. The age of the filter may also be a factor. Filter change-out shall be performed only by properly trained personnel.

8.0 REQUIRED RECORDS

In order to carry out a meaningful inspection, maintenance, and testing program, the Facility Manager shall develop a record system that accommodates monitoring of the following:

- Location of filter assemblies.
- Installation date of filters.
- Change-out date of filters.
- Magnehelic differential pressure gauge readings.

9.0 REFERENCES

- LANL HEPA Filter Procurement Standard
- FSS-9-1-R4, SOP for entering Filter Plenums to Inspect, Maintain, and for Change Radioactive and/or Chemically Contaminated Filters
- MO 3.1-110, Utility Outages

10.0 ATTACHMENTS

None