

TITLE:

SAF-369, MOLD OPERATIONS AND MAINTENANCE PROGRAM

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1.0 Introduction

1.1 Purpose

The purpose of the Mold Operations and Maintenance (O&M) Program is to serve as a guide to prevent, identify and mitigate moisture conditions conducive to property damage and mold growth.

1.2 Scope

This program applies to Emory University employees and to contractors.

1.3 Definitions

ANSI. American National Standards Institute

ASHRAE. American Society of Heating, Refrigerating and Air-Conditioning Engineers

EHSO. Environmental Health and Safety Office

IICRC. Institute of Inspection, Cleaning and Restoration Certification

1.4 Responsibilities

Environmental Health and Safety Office (EHSO)

- Development, implementation, and administration of the Mold O & M Program;
- Ensuring that contractors employed by EHSO are made aware of the Program contents;
- Reviewing reported health concerns/complaints;
- Assisting with mold assessments and inspections;
- Providing assistance with training and technical assistance on mold hazards and basic remediation levels;
- Documenting, reviewing, and updating EHSO training;
- Assisting in the approval of products used within facilities and residences to help minimize contribution to indoor air contamination;
- Coordinating remediation activities;
- Pre-qualifying third-party consultants and contractors; and
- Reviewing, updating, and evaluating overall effectiveness of the Mold O&M Program.

Emory Residence Life & Housing

Residence Life & Housing has primary responsibility for implementation, management, and enforcement of the Mold O & M Program Manual (the Manual) in their areas. This entails ensuring that:

- Students residing on campus are made aware of the Manual contents;
- Complaints/concerns are reported to EHSO within two (2) days;
- EHSO has access to affected areas for investigation or any remediation activities; and
- Complaints/concerns are reported appropriately following the Indoor Air Quality Complaint Process as indicated in Section 5.

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- Ensuring that appropriate maintenance has been completed and communicated to employees in their areas;
- Ensuring contractors employed by Campus Services are made aware of the Manual contents;
- Completing required training for Water Intrusion and Flood Response;
- Reporting complaints/concerns to EHSO in a timely manner;
- Coordinating access to buildings for EHSO investigation or any remediation activities;
- Coordinating maintenance activities on a regular basis;
- Using the heating, ventilating, and air conditioning (HVAC) system effectively;
- Maintaining appropriate relative humidity;
- Documenting complaints/concerns; and
- Ensuring that personnel use work practices, engineering controls, and products/materials that minimize release of pollutants in facilities.

Building and Residential Services

- Completing required training for Water Intrusion and Flood Response;
- Ensuring good housekeeping practices are used in their areas;
- Removing visible moisture accumulation on windows, walls, and other surfaces as soon as possible;
- Drying wet areas or materials within 24-48 hours using appropriate equipment and work practices;
- Using the heating, ventilating, and air conditioning (HVAC) system effectively; Maintaining appropriate relative humidity;
- Keeping windows closed and secure; and
- Not damaging or altering bathroom vents.

1.5 Training Requirements

EHSO is responsible for ensuring that water intrusion and flood response training is provided to applicable employees annually. Training topics will include the following:

- Proper responses to water intrusion
- Categories of water intrusion
- Equipment to use during an assessment
- Drying techniques and equipment
- Causes and health effects of mold growth
- Proper responses to mold growth

1.6 Recordkeeping Requirements

Records pertaining to the Mold O&M Program will be retained as follows:

- Area exposure monitoring records will be retained by EHSO indefinitely.
- Where EHSO has determined that monitoring is not necessary, a record of the objective data used is retained by EHSO indefinitely.
- Training records are retained in EHSO until replaced by a more recent record. Records will include the name of the individual trained, training title, type of training (classroom or online), completion status and date of training.

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1.7 Program Evaluation

The Mold O&M Program will be evaluated every two years by EHSO and revised as necessary.

2.0 Communications

Communications between EHSO and faculty, staff, and students follows the Indoor Air Quality (IAQ) Complaint Process, available on the EHSO web site at www.ehso.emory.edu.

3.0 Visual Inspections and Monitoring

Visual inspections and monitoring are conducted to identify moisture/mold problems, signs of mold growth, potential moisture/mold problems, or building conditions that may promote mold growth.

- The visual inspections are designed to avoid, control, or prevent mold growth.
- Monitoring is conducted to quantify mold growth.
- Visual inspections and monitoring are conducted upon request or when an area is suspected of containing water damage and/or mold growth.
- Key elements of inspections and monitoring may include the following:
- Building interiors (e.g. materials/surfaces, mechanical systems, odors, excessive humidity, temperature, moisture content, occupant complaints) are inspected;
- If necessary, environmental sampling;
- Photo documentation; or
- Written inspection records.

4.0 Review of Inspection Results

Upon completion of inspections, findings and results are reviewed by EHSO in a timely manner. EHSO works with Campus Services to determine appropriate prevention or corrective actions that can be taken. In all situations, the underlying cause of water accumulation is rectified in order to prevent fungal growth.

5.0 Mold Remediation

The goal of remediation is to remove or clean contaminated materials using methodologies that prevent the proliferation of fungi and dust contaminated with fungi. Documents identified in Section 7, References, are used when initiating mold remediation activities.

- The extent of remediation is identified by EHSO. The table below shows the levels of remediation are used to identify remediation protocol.

LEVEL	DESCRIPTION	SQUARE FOOTAGE
I	Small Isolated Areas	10 SF or less
II	Mid-Sized Isolated Areas	10 - 30 SF
III	Large Isolated Areas	30 – 100 SF
IV	Extensive Contamination	greater than 100 contiguous SF
V	Remediation of HVAC Systems	n/a

- Basic mold remediation procedures are available on the EHSO web site at www.ehso.emory.edu.
- A follow-up inspection is conducted by EHSO following the completion of

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remediation activities to determine the effectiveness of remediation work and if the remediated area can be reoccupied.

6.0 Control Measures

Control measures are used to eliminate or reduce exposure to hazards through the use of engineering controls, administrative controls, and personal protective equipment (PPE).

- Engineering controls (e.g. HEPA vacuum, HEPA-filtered negative air units, mild cleaning detergents) are used to prevent migration of spores to unaffected areas.
- Appropriate containment units consist of polyethylene sheeting in order to minimize cross-contamination from affected areas to unaffected areas.
- Workers are properly trained prior to performing remediation or general cleaning activities.
- Personal Protective Equipment (PPE) is used during cleaning and remediation activities.

7.0 References

- Mold Remediation in Schools and Commercial Buildings, US EPA (current)
- Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health and Mental Hygiene (current)
- ANSI/ASHRAE Standard 62.1 (current)
- ANSI/ASHRAE Standard 55-2004
- IICRC S520 Standard and Reference Guide for Professional Mold Remediation (current)
- IICRC S500 Standard and Reference Guide for Professional Water Damage Restoration (current)
- Centers for Disease Control and Prevention Mold Clean-up Fact Sheet
- General Sanitation Requirements for Mold – California (current)
- Texas Mold Assessment and Remediation Rules (TMARR)

8.0 List of Associated Documents

- Basic Principles of Mold Remediation
- Response to Clean Water Damage