UNIVERSITY OF ROCHESTER
ENVIRONMENTAL HEALTH & SAFETY

Policy No.: OS006	**Approved by: Carolyn Place**
Title: Mold and Water-Damaged Building Materials Management Policy	**Date: 12/01/2023**
Revision No.: 4	**Page 1 of 8**
Updated by: Daniel Ziegler	

I. PURPOSE

New York State Labor Law Article 32, Titles 1 and 2, administered by the New York State Department of Labor, regulate the licensing of mold inspection, assessment and remediation specialists and set minimum work standards for mold assessments and remediation. While University of Rochester personnel engaging in mold assessments or remediation projects for the University are not required to be licensed, the established minimal work practices will be used as reference for this policy to ensure such work is conducted safely and in accordance with the practices established by the law.

A building and systems management approach is generally taken that emphasizes management of water-damaged and/or mold-contaminated building materials through proper assessment, development of a work plan, and proper execution of remedial activities before microbial content becomes problematic. Procedures for water-impacted building materials and mold cleanup are based on exposure control objectives, the extent of contamination, site-conditions, and the sensitivity of the area. Objectives of remediation and restoration projects are to:

A. Assess the extent of water damage and/or mold contamination

B. Identify and eliminate underlying moisture sources

C. Restore building conditions (repair water damaged building material, control musty odor, restore esthetic conditions, etc.).

D. Manage building materials and systems in order to maintain the building/room integrity and to prevent the likelihood of mold contamination.

E. Establish conditions acceptable for building occupants (e.g., minimize potential for adverse health effects, etc.).

F. Evaluate each event or project on a case-by-case basis

II. SCOPE

The scope of this document covers small and medium-sized projects where mold and/or water-damaged materials are impacted throughout University of Rochester owned buildings, excluding any hospital and patient care areas. Hospital and patient care areas should refer to the policy maintained by MCFO; reference “Mold and Water Damaged Building Materials Policy” (See Reference I)

III. PERSONNEL AFFECTED

All University personnel, excluding URMC personnel

IV. DEFINITIONS

EH&S - Environmental Health and Safety
MCFO – Medical Center Facilities Operations
UHS - University Health Services

V. RESPONSIBILITIES

A. Environmental Health and Safety (EH&S) will:

1. Provide oversight and guidance as needed to assure compliance with this policy.
2. Consult with University Health Services regarding potential work-related cases related to potential mold exposure.
3. Coordinate and assist in arranging for any air, bulk, or other sampling, and evaluating any data generated from the sampling.
4. Maintain this policy, and associated documentation necessary to support this policy.
5. Maintain indoor air quality reports on file as necessary for future reference
6. Distribute written final reports to affected parties.
7. Coordinate contractors used for sampling or remediation
8. Ensure that any and all outside mold assessment or remediation contractors are licensed by New York State to perform the required work.
9. Work with the Directors/Supervisors/Managers to verify that medium or large-sized projects have been completed to a satisfactory condition.

B. Directors, Supervisors, and Managers will:

1. Notify EH&S of any University employee health concerns or questions pertaining to microbial content or general air quality of their work environment, or when there are employee questions pertaining to the health impacts of water-impacted building materials upon their general work environment.
2. Consult with EH&S whenever there are significant restorations, particularly those projects where employee health could be impacted by either microbial content within the employee's work environment, or released materials.
3. Provide documentation, building/systems and other information, and on-site assistance to EH&S to assure that all reasonable steps have been taken to identify and evaluate the source and impact of excessive moisture and potential microbial content in the work environment.
4. Ensure that employees who are involved in cleanup, remediation, and restoration activities are properly trained and know how to protect themselves to comply with this policy
5. Monitor that the established remediation plan is being followed throughout the remediation project.
6. Verify satisfactory completion of the remediation project for small-sized projects.
7. Work with EH&S to verify that medium or large-sized projects have been completed to a satisfactory condition.

C. All employees affected by this policy must:

1. Comply with the procedures described in this University-wide policy.
2. When performing cleanup and restoration, report any signs or symptoms that may

indicate a reaction to mold exposure, or other agents associated with the work, to their Supervisor, and complete an employee incident report (https://www.safety.rochester.edu/SMH115.html).

VI. PROCEDURES

Each project or restoration must be evaluated on a case-by-case basis. The following information provides general, minimal procedures to manage these projects.

A. Managing Water-Impacted Building Materials and Mold

If water/moisture is present in sufficient quantity in organically-based materials for more than about 48 hours, the likelihood of mold growth becomes significant. Sufficient quantity of moisture is considered to be 5% greater than the established baseline or 14% moisture, as determined by EH&S. It is vital that standing water is removed and water-affected materials are dried as quickly as possible to minimize mold growth potential.

An important goal of mold remediation is to prevent migration of contaminants into ventilation systems and adjacent building areas, especially if those areas are occupied. Appendix B of this policy contains more detailed recommendations on managing water-damaged building materials from the EPA's "Investigating, Evaluating, and Remediating Moisture and Mold Problems" tables.

1. Assessment

The extent of water infiltration and damage and the degree of mold contamination present must be determined. Evaluation of damage can include:

- Visual inspection
- Use of a moisture meter to measure moisture content of affected materials
- Use of thermal imaging to determine the location and extent of moisture impacted materials

2. Remediation Plan

A mold remediation plan, specific to the incident should be prepared prior to commencement of work. The plan must specify:

- Areas in which the work will be performed
- Estimated quantities of material to be removed or cleaned
- Work area containment measures to be implemented, including negative pressurization and decontamination procedures
- Notification procedures for occupants
- Required PPE for remediation workers
- Cleaning methods to be used for each material present
- Correction of underlying moisture sources

- Clearance procedures and criteria

3. Minor Restorations (< 10 square feet)

The following minimum steps should be applied to all minor restorations projects:

- Trace and eliminate the source of unwanted moisture and mold.
- Confirm that sources of water and/or mold have been eliminated or minimized where possible before proceeding.
- If room items could become contaminated with mold spores or construction debris, remove all room items from the remediation/construction area (e.g., computer equipment, upholstered furniture, etc.) or cover/seal with plastic.
- Any building or other material that cannot be entirely dried out within 48 hours should be removed from the area and disposed of [exception: some "hard" materials and furnishings may be evaluated for salvage ability]. Materials that have been affected by grossly contaminated (black) water must be removed unless they are non-porous and can be adequately cleaned.
- Clean work area and surrounding surfaces.
  a) Use a HEPA vacuum on all surfaces that may contain loose mold spores which could be released into the air during remediation activities and on any potentially contaminated soft/porous surfaced that have been deemed salvageable.
  b) Non-porous (e.g., metals, glass, and hard plastics) and semi-porous to non-porous (e.g., wood, and concrete) materials that are structurally sound and are potentially or visibly moldy can be cleaned and reused.
     1) Use a mild cleaning solution, and rinse well and dry.
     2) Surfaces may also be cleaned/disinfected with a University of Rochester approved disinfectant.
     3) In most cases, bleach should not be used as it can damage or pit metallic and other hard surfaces, requires excessive contact time to work effectively on mold spores, and can produce strong odors.
  c) Building materials such as wallboard, drywall, ceiling tiles, wallpaper, and other cellulose-based materials that become wet and remain moist for more than 48 hours must be removed and replaced. This guideline also applies to materials that can house mold spores but that cannot be cleaned (e.g., damaged and contaminated fiberglass insulation and insulation wrap).
  d) Carpet that remains wet for more than 48 hours, or that becomes repeatedly wet due to recurrent water intrusion events, should be evaluated for possible removal. If the area is below-grade (e.g., basement work area), carpet should not be reinstalled if the area is susceptible to recurrent water-intrusion or high relative humidity levels (e.g., greater than 60%).
- Use dust suppression methods on materials that should be cut out (e.g.,

moisten surfaces prior to cutting-**DO NOT soak or saturate the material**).

- Place mold- or water-damaged materials in sealed bags or sealed containers prior to removing from the immediate worksite.
- Leave area dry and clean.

4. **Medium (10-100 square feet) and Large (>100 square feet) Restorations**
The procedures outlined above for minor remediation projects shall be followed for all medium and large-sized remediation projects. Additional control measures listed below may be required and shall be determined on a case-by-case basis:
   - Enclose and contain critical areas (e.g., openings to adjacent areas) with plastic sheeting.
   - Protect the HVAC system (e.g., seal supplies and returns and shut off the system where possible).
   - Maintain a slight negative or neutral pressure.
   - Recirculate air through a portable HEPA filter. If use of a HEPA or other portable system could disturb more dust and particles than it captures, or there is no possible discharge point away from occupied areas, it must not be used during the demolition or cleanup.
   - Place a drop cloth and step-off mats outside of the work site.

5. **<u>Verification/Completion of Restoration (Post-Remediation Clearance)</u>**
   - After repairs and remediation are complete, re-inspect the area after 24-48 hours to confirm conditions are acceptable (no visible mold) and in accordance with any other clearance criteria established in the Remediation Plan
   - If the remediation has been deemed successful, a clearance report should be drafted.
   - If it is determined that the remediation was not successful, a new assessment should be considered. Remediation work should be continued, and the underlying cause(s) of the mold must be addressed.

B. Remediation Worker Protection (PPE)

1. The assessor shall recommend the proper PPE for each remediation project based on the scope of work and impact to the areas surrounding the remediation site. Below is guidance on minimum recommendations for PPE.
   - Disposable gloves shall be worn by all remediators who may handle materials impacted by the mold. Disposable gloves must provide the proper protection to the worker for any potential chemicals used during the remediation project and/or any additional hazards that may be present in the work area. Discard the gloves in a sealed container or bag prior to leaving the remediation area to prevent the release of contaminated materials.

- Safety goggles designed to keep out dust and small particles shall be worn when there is an elevated potential to release mold spores during the remediation project, or if there is a splash potential of any corrosive cleaning solutions/chemicals being used.
- Tyvek suits/coveralls, hairnets, and foot coverings may be required when the potential to release spores, dust, and/or debris is elevated, or for projects that are in close proximity to sensitive areas. If disposable protective clothing is worn, dispose of it in a sealed bag or container prior to leaving the remediation area.
- Use of an N95 mask is considered optional if the proper work practices are used to prevent mold spores or particles from becoming airborne. Before voluntary use of an N95 respirator, employees must read and sign the EH&S Respiratory Protection Appendix A Form: https://www.safety.rochester.edu/ih/respiratoryprotection/pdf/respprogram_appendA.pdf

2. Any tools or materials for re-use that may have become contaminated must be inspected and cleaned before leaving the worksite if possible, or at the earliest possible moment. Heavily contaminated items must be bagged if they cannot be decontaminated on-site.
3. Employees performing remediation work must report any signs or symptoms that may indicate a reaction to mold exposure, or other agents associated with the work, to their Supervisor.

C. Microbial Sampling

In most conditions, determining the species of mold does not change any remediation procedures, therefore, air or bulk sampling to determine if and what mold is present is not required or recommended as part of the assessment. In the event that air or bulk sampling may be necessary to provide specific information for remediation activities or addressing specific medical/health concerns, the Occupational Safety Unit of EH&S will initiate this action.

If air sampling reveals significantly higher quantities of spores or different mold species indoors compared to outdoors, it may signal that active mold growth is taking place within the area. Similarly, surface/bulk samples may be used to ascertain whether mold contamination is present on a surface.

VII. REFERENCES

A. "Mold Remediation in Schools and Commercial Buildings," United States Environmental Protection Agency: https://www.epa.gov/mold/mold-remediation-schools-and-commercial-buildings-guide-chapter-1

B. "Basic Facts about Mold and Dampness" Center for Disease Control: https://www.cdc.gov/mold/faqs.htm

C. "Guidance for Clinicians on the Recognition and Management of Health Effects Related to Mold Exposure and Moisture Indoors," UConn Health Center, Farmington, Ct: https://health.uconn.edu/occupational-environmental/wp-content/uploads/sites/25/2015/12/mold_guide.pdf

D. "Standard and Reference Guide for Professional Water Damage Restoration," Institute of Inspection, Cleaning and Restoration (IIRC S500)

E. "Standard and Reference Guide for Professional Mold Remediation," Institute of Inspection, Cleaning and Restoration (IIRC S520)

F. "Mold and Fungi," and "A Brief Guide to Mold in the Workplace," Occupational Safety and Health Administration Health & Safety Topics: https://www.osha.gov/publications/shib101003

G. "Army Facilities Management Information Document on Mold Remediation Issues" February 2002, US Army Center for Health Promotion and Preventive Medicine: https://phc.amedd.army.mil/PHC%20Resource%20Library/TG277FINAL28Feb2019.pdf

H. "Industrial Hygiene and Preventive Medicine Mold Assessment Guide", February 2002, Army Center for Health Promotion and Preventive Medicine: https://phc.amedd.army.mil/PHC%20Resource%20Library/TG278.pdf

I. "SMH Mold and Water-Damaged Building Materials Management Policy": http://intranet.urmc-sh.rochester.edu/policy/infControl/Documents/SMHMoldInfectionControlPolicy.pdf

VIII. APPENDICES/FORMS

A. Appendix A - NY State Labor Law, Section1, Article 32: Licensing of Mold Inspection, Assessment, and Remediation Specialists and Minimum Work Standards https://www.lawserver.com/law/state/new-york/ny-laws/new_york_laws_labor_article_32

B. Appendix B - EPA's Investigating, Evaluating, and Remediating Moisture and Mold Problems (see EPA website for complete details) https://www.epa.gov/mold/mold-remediation-schools-and-commercial-buildings-guide-chapter-3

IX. REVISION HISTORY

Date	Revision No.	Description
4/29/2005	New	Establish procedure for handling materials from a mold and water-damaged building
2/24/2009	1	Reviewed, slight wording changes
12/28/2012	2	Reviewed, wording changes, references added
4/13/2018	3	Reviewed, revised to reflect NY State Mold

		Assessment and Remediation Law.
12/01/2023	4	Reviewed, revised to reflect current University procedures. Added Scope section. Removed Indoor Air Quality Investigations section. Fixed broken links.