I. PURPOSE

This procedure establishes guidelines for dealing with mold in the workplace as presently there are no explicit regulations pertaining to occupational exposure to mold.

A building and systems management approach is generally taken that emphasizes management of water-damaged building materials 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. Restore building conditions (repair water damage, control musty odor, restore esthetic conditions, etc.).
B. Maintain buildings and utilities in a way to prevent or minimize excessive mold populations from becoming established.
C. Establish conditions acceptable for the general patient populations (e.g., minimize potential for generic and minor allergic reactions, etc.).
D. Protect extremely sensitive individuals (e.g., adverse responses in the general or known susceptible/sensitive populations).
E. Evaluate each case or project on a case-by-case basis

II. PERSONNEL AFFECTED

All University personnel


III. DEFINITIONS

EH&S - Environmental Health and Safety
UHS - University Health Services
ICRA - Infection Control Risk Assessment

IV. 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 Infection Prevention, upon request, for SMH-related cases.
   3. Consult with University Health Services regarding potential work-related cases.
   4. Provide awareness training for employees who must comply with this policy.
   5. Coordinate and assist in arranging for any air, bulk, or other sampling, and
evaluating any data generated from the sampling.

6. Maintain this policy, and associated documentation necessary to support this policy.

7. Maintain indoor air quality reports on file as necessary for future reference

8. Distribute written final reports to affected parties.

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 and/or Infection Prevention (as requested) 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. Notify Infection Prevention when there are mold or water intrusion concerns that could impact Hospital and Patient Care or other areas.

5. Assure that employees who are involved in cleanup, remediation, and restoration activities are aware of and know how to protect themselves and comply with this policy.

C. All employees affected by this policy must:

1. Comply with the procedures described in this University-wide policy.

2. Follow ICRA, the SMH Mold and Water-Damaged Building Materials Management Policy, and related Infection Prevention policies as they apply to Hospital and Patient Care areas.

3. 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.

V. 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. Hospital and Patient Care Areas

Refer to and follow the Infection Prevention Unit’s “Mold and Water-Damaged Building Materials Management Policy” for cases involving Hospital and/or Patient Care Areas.
B. Managing Water-Impacted Building Materials and Mold

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. Minor Restorations in Non-Sensitive Occupied or Unoccupied area

The following minimum steps should be applied to all remediation projects, and for minor restorations in non-sensitive or unoccupied areas:

a. Trace and eliminate the source of unwanted moisture and mold.

b. Confirm that sources of water and/or mold have been eliminated or minimized where possible before proceeding.

c. 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.

d. 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 salvageability].

e. Clean work area and surrounding surfaces.

(1) Use a HEPA vacuum where possible.

(2) 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.

(a) Use a mild cleaning solution, and rinse well and dry.

(b) Surfaces may also be cleaned/disinfected with the Hospital-approved cleaner (e.g., Virex II or similar mild cleaning solution).

(c) 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.

(3) 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).

(4) 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%).

e. 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).

g. Remove mold or water-damaged materials in sealed bags or sealed containers.
h. Leave area dry and clean.

2. Large Restorations in Occupied, or Sensitive Areas

Additional control measures should be applied to larger projects or sensitive areas such as patient care or vivarium spaces. Application of these measures must be made on a case-by-case basis:

a. Enclose and contain critical areas with plastic sheeting (e.g., openings to adjacent areas).

b. Protect the HVAC system (e.g., sealing supplies and returns and shutting off the system where possible).

c. Maintain a slight negative or neutral pressure.

d. 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. [Note: the portable Microcon Units must not be used for this purpose. Microcon units are for relatively “clean” patient care environments, and not for managing dusts and particles associated with demolition or construction projects.]

e. Place a drop cloth and step-off mats outside of the work site.

f. Clean all surfaces potentially impacted by the remediation work (including areas beyond the immediate work site). Cleaning includes use of a HEPA vacuum, damp cleaning of desks or other hard surfaces where people could come into contact with released mold spores, and in Hospital/Patient care or other highly sensitive areas it may also include damp cleaning of walls and ceilings to remove released materials.

3. Verification/Completion of Restoration

a. After repairs and remediation are complete, re-inspect the area after 24-48 hours to confirm conditions are acceptable.

b. The Supervisor and/or project manager must verify satisfactory completion for small jobs or jobs where there is little or no potential impact on University-employee health.

c. The Construction Supervisor and/or Departmental Supervisor/contact should contact EH&S to help verify that large or complicated projects, or sensitive areas, have been restored to acceptable conditions.

C. Indoor Air Quality Investigations for Occupant Health Concerns

EH&S investigates mold and related indoor air quality complaints and distributes written final reports as necessary to affected parties. The format followed is similar to EH&S’ “Indoor Air Quality Program” and consists of the following basic steps:
UNIVERSITY OF ROCHESTER
ENVIRONMENTAL HEALTH & SAFETY

Policy No.: IH006
Title: Mold and Water-damaged Building Materials Management Policy
Approved by: John Coniglio
Date: 12/28/2012
Revision No.: 2
Page 5 of 7
Updated by: Phil Rogerson

1. Phase I Assessment or preliminary assessment. Phase I assessments include interviewing occupants using an employee questionnaire and occupant diary found in the IAQ policy: http://www.safety.rochester.edu/ih/iaq/iaqpolicy.html. The questionnaire is used to obtain information about the nature of the employee complaints and symptoms and also to determine the magnitude of the problem.

2. A walk through of the affected area or building is performed. Building materials, ventilation and other mechanical systems are evaluated and potential sources of excessive moisture or microbial contamination are evaluated. If the immediate cause for concern cannot be found, a Phase II assessment is required.

3. Phase II Assessment: During a Phase II assessment, common indoor air quality parameters including temperature, relative humidity, and carbon dioxide levels are measured. The purpose of this assessment is to determine whether basic indoor air quality parameters are within recommended ranges.

4. Phase III Assessment: A Phase III Assessment is performed when a definitive cause for the symptoms cannot be determined during the Phase II Assessment of the investigation.

5. Phase III Assessments consists of extensive and more specific monitoring and sampling for microbial contaminants. In some cases, destructive sampling of building or other materials might be recommended. Environmental Health and Safety may contract Phase III Assessments to Professional Indoor Air or Building-Condition Consultants.

6. EH&S may also recommend that the occupant seek the services of an occupational health physician depending upon the findings.

7. Appendix A of this policy contains a building history and investigation form that can be used as part of an investigation.

D. Remediation Worker Protection (PPE)

1. The following practices are required for employees performing the demolition/restoration work.
   a. Wear disposable foot covers and appropriate disposable gloves during the remediation. Discard these items in a sealed container or bag before leaving the remediation area to prevent tracking or release of contaminated materials. Don new foot covers and gloves when you reenter the area.
   b. Tyvek suits/coveralls, and hairnets in some cases, are required to protect the employee and minimize spreading of dusts and contaminants outside the worksite. If disposable protective clothing is worn, dispose of it in a sealed bag or container before leaving the remediation area.
   c. Wear appropriate eye protection for tasks that might expose you to eye hazards.
   d. Wash your hands, face, and any exposed skin before leaving the area, or as soon as possible afterwards.
2. Employees performing this type of 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.

E. Microbial Sampling

In most cases, air sampling, or sampling of potentially impacted surfaces or bulk materials for microbial content is not required or recommended as part of the assessment or remedial process. In the event that air sampling might be necessary to provide specific information to guide remedial activities or to address specific medical and health concerns for patients, the Occupational Safety Unit of EH&S will initiate this action.
VI. REFERENCES
D. “Standard and Reference Guide for Professional Water Damage Restoration,” Institute of Inspection, Cleaning and Restoration (IIRC S500)

VII. APPENDICES/FORMS

VIII. REVISION HISTORY

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<tr>
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<th>Revision No.</th>
<th>Description</th>
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<td>4/29/2005</td>
<td>New</td>
<td>Establish procedure for handling materials from a mold and water-damaged building</td>
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<tr>
<td>2/24/2009</td>
<td>1</td>
<td>Reviewed, slight wording changes</td>
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<tr>
<td>12/28/2012</td>
<td>2</td>
<td>Reviewed, wording changes, references added</td>
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