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*Occupational Safety & Health Environmental Health Laboratory Safety Industrial
Hygiene Radiation Safety Hazardous Waste Pollution Prevention*

OLD DOMINION UNIVERSITY

MOLD MANAGEMENT PLAN

Administered by

ENVIRONMENTAL HEALTH AND SAFETY OFFICE

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Policy Statement

It is the policy of Old Dominion University to take the necessary measures to avoid mold growth and mildew in University facilities. When mold or mildew is discovered a systematic approach will be undertaken to remediate it. In the event of a flood or a large water leak that results in wet building components or furnishings, immediate efforts must be made to stop the leak and dry out the moisture within 24-48 hours. Contact either Housing Maintenance at 683-4948 or Facilities Management at 683-4626 and the Office of Risk Management at 683-4009 to ensure appropriate initial response actions are taken.

Overview

Concern about indoor exposure to mold has been increasing as the public becomes aware that exposure to mold can cause a variety of health effects and symptoms, including allergic reactions. This document presents guidelines for the prevention and remediation/cleanup of mold and moisture problems in facilities at Old Dominion University including measures designed to protect the health of building occupants and remediators.

Mold spores are found almost anywhere and mold will grow on virtually any organic substance as long as moisture, oxygen, and certain temperature ranges are present. It can

grow on wood, paper, carpet, foods, and insulation. When excessive moisture accumulates in buildings or on building materials, mold growth will often occur, particularly if the moisture problem remains undiscovered or unaddressed. It is impossible to eliminate all molds and mold spores from the indoor environment. However, mold growth can be controlled indoors by controlling moisture. Since mold requires water to grow, it is important to prevent moisture problems in buildings

There are numerous indoor air contaminants in addition to mold. The Environmental Health and Safety Office (EHSO) serves as the clearinghouse for all Indoor Air Quality complaints. This Plan only addresses preventing and remediating mold issues. EHSO can assist in investigating and identifying building deficiencies, specific health complaints, and hidden sources of contamination.

Prevention

The control of moisture is the key to mold control. Water leaks or other moisture issues in dorms or other living areas should immediately be reported to Housing Maintenance. Leaks or moisture issues in any other University facility should be reported immediately to Work Management. The following are some guidelines to keep moisture levels at a minimum:

- Fix leaky plumbing and leaks in the building envelope as soon as possible.
- Watch for condensation and wet spots. Fix source(s) of moisture problem(s) as soon as possible.
- Prevent moisture due to condensation by increasing surface temperature or reducing the moisture level in air (humidity). To increase surface temperature, insulate or increase air circulation. To reduce the moisture level in air, repair leaks, increase ventilation (if outside air is cold and dry), or dehumidify (if outdoor air is warm and humid).
- Keep heating, ventilation, and air conditioning (HVAC) drip pans clean, flowing properly, and unobstructed.
- Vent moisture-generating appliances, such as dryers, to the outside where possible.
- Maintain indoor humidity below 60% relative humidity (RH), ideally 30-60%, if possible.
- Perform regular building/HVAC inspections and maintenance as scheduled.
- Clean and dry wet or damp spots within 48 hours.
- Don't let foundations stay wet. Provide drainage and slope the ground away from the foundation.

Hidden Mold

In some cases, indoor mold growth may not be obvious. It is possible that mold may be growing on hidden surfaces, such as the backside of dry wall, wallpaper, or paneling, the top of ceiling tiles, the underside of carpets and pads, etc. Possible locations of hidden mold can include pipe chases and utility tunnels (with leaking or condensing pipes), walls behind furniture (where condensation forms), condensate drain pans inside air handling units, porous thermal or acoustic liners inside ductwork, or roof materials above ceiling tiles (due to roof leaks or insufficient insulation).

Hidden mold may be suspected if a building smells moldy, but the source is not visible, or if there has been water damage and building occupants are reporting health problems.

Procedures

The following procedures are to provide general guidance for actions to be taken for various scenarios relating to mold issues.

1. In the event of flooding or large water leaks, **immediately** inform Facilities Management or Housing Maintenance and Risk Management. In an emergency, contact Public Safety who will coordinate any evacuations and notify the Fire Department if deemed necessary to secure water to a facility. Locate and secure the source of water. An effort will be made to dry wet porous materials (installed carpeting, upholstered furnishings, drywall, etc.) effectively within 24 to 48 hours by vacuum extraction and dehumidification to prevent mold growth. Note: This action only applies when the source of flooding or leakage is categorized as “clean water”. Gray (unsanitary) and black (grossly unsanitary) waters pose additional serious health hazards which will require addressing. Inform EHSO at 683-4495.
2. If a musty/moldy odor exists in the building or occupants have any other reason to suspect the presence of mold but none is visible, contact EHSO to investigate and resolve the problem(s). EHSO will conduct a thorough visual inspection and conduct an assessment of indoor air quality including all sampling deemed necessary. A written report will outline findings and recommendations. The EHSO and Facilities Management will coordinate corrective actions.
3. If visible mold is present, action will be based on the amount of mold present and the type of material contaminated (i.e. whether it can be cleaned or must be discarded). Porous materials from which mold cannot be cleaned must be removed from buildings. Non-porous building materials may be cleaned using detergent, diluted bleach, or cleaners specifically formulated for mold. Remediation activities will be guided in part by Virginia Mold and Remediation Regulations effective July 1, 2011. Any area of visible mold exceeding 10 square feet can only be remediated by properly trained and licensed personnel.

Remediation

The goal of remediation is to restore satisfactory building conditions (repair water damage; eliminate existing mold and odors; etc.). In all situations, the underlying cause of water accumulation must be rectified or mold will recur. Remediation should be conducted in a manner that will remove or clean contaminated materials while preventing the spread of fungi and dust from the work area to adjacent clean areas.

The removal of mold from contaminated surfaces will vary depending on the material, the location, and the extent of mold growth. Generally, some degree of isolation or containment will likely be required, and larger areas may require evacuation of occupants along with the contracting of trained abatement professionals. Representatives of EHSO will assist in making this determination.

As of the revision of this instruction in September 2011, there are no federal or state regulatory limits concerning safe or unsafe levels of measurable airborne mold in air. There is however, sufficient information to justify remediating visible mold contamination to ensure the risk to occupant health is minimized. Under OSHA's General Duty Clause, the employer has an obligation to protect employees from serious and recognized workplace hazards even when there is no standard.

Evaluating the Completeness of Remediation/Cleanup

1. The water or moisture problem should be corrected.
2. Mold removal should be complete. Use professional judgment to determine if the cleanup is sufficient. Visible mold, mold-damaged materials, and moldy odors should not be present. As previously discussed, any areas of mold exceeding 10 square feet must be remediated by properly trained and licensed personnel.
3. If air sampling has been conducted, the kinds and concentrations of mold and mold spores in the building should be similar to those found outside, once cleanup activities have been completed.
4. Revisit the site(s) shortly after remediation. There should be no signs of water damage or mold growth.
5. People should be able to occupy or re-occupy the space without health complaints or physical symptoms.