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I. OBJECTIVES
The objectives of the Mould Control Program include:

(1) the prevention of occupational illness arising from exposure to airborne mould spores through reporting, training, identification, notification, safe work procedures, sampling, remediation and waste handling;

(3) compliance with the general duty clauses in the Act.

II. PHILOSOPHY

Although moulds are naturally occurring, there has been a growing recognition in the past that when they begin to grow in buildings, they may cause a variety of health problems in the occupants or workers in the building. This program contains safe working procedures for maintenance workers to follow to prevent occupants and workers from exposure to mould during assessment and remediation.

III. PROGRAM REVIEW

This program will be reviewed once every two years in consultation with the JHSC.

IV. ROLES AND RESPONSIBILITIES

DOHS Trainer

Training sessions in Mould Control are provided by DOHS Occupational Hygienists on request. Supervisors and members of Joint Health and Safety Committees who wish to obtain the training for themselves or their staff should contact the DOHS at ext.55491.

Director

The Director of DOHS supervises the development and review of Health and Safety Programs that support the University policy on Occupational Health and Safety. He/she advises members of the community on mould control and manages all services provided by DOHS as outlined in this program.

Occupational Hygienists

Provide response to mould incidences with expert consultation in occupational hygiene including assessment, control of mould exposure, and recommendations for corrective action. DOHS occupational hygienists also provide mould safety training.

Joint Health & Safety Committee (JHSC)
Worker Members

Worker members have the right to be present during occupational hygiene testing. Worker members consult on remediation of mould hazards.

Department Heads

Department Heads are responsible for ensuring that their supervisors know and fulfil their responsibilities as stated in the Act, and that they are competent in the skills and procedures that address health and safety concerns.

Supervisors

Supervisors are responsible for identifying hazards in the work area under their authority, and for informing those who report to them of potential or actual hazards.

Supervisors are required to provide clear instruction to workers under their direction as to measures and procedures in order to minimize or eliminate risks and to ensure workers work safely and with the required devices and protective clothing.

Workers

Workers are responsible for working in compliance with the Act. They must use the equipment, protective devices or clothing required by the University.

They are expected to be familiar with the University’s Health and Safety Policy and with procedures that apply to their work.

Workers performing mould-related work are required to take the mould control training prior to the start of work.

They are required to report all mould hazards to their supervisor.

Workers must report all accidents or occupational illness to their supervisor immediately, so that corrective action can be taken.

V. EDUCATION

Mould control training is provided by the DOHS to workers who will be performing mould related work and where there is probable exposure to mould.

A refresher-training course will be available upon request by contacting DOHS.

VI. MOULD INVESTIGATION PROCEDURE
Once mould containing materials have been identified in an area, it shall be removed. If necessary, sampling (air/bulk) will be conducted.

**Method** – See Appendix II

VII. MOULD RELATED WORK PROCEDURES

1. **Mould-related Work Classification**

Operations that may cause exposure of a worker to mould are referred to as Level I, Level II and Level III. In general, Level I operation involves the least exposure potential; Level II, operations involve significant exposure potential with some health risk; and Level III operations involve high exposure with high risk.

To summarize:

From the Environmental Abatement Council of Ontario (EACO):

- **Level I** - Operation includes the removal of less than 1 square metre (10 square feet) contiguous area of mould.

- **Level II** - Operation includes the removal of 1-10 square metre (10-100 square feet) contiguous area of mould.

- HVAC Systems with less than 1 square metre (10 square feet) of mould.

**Large Scale Remediation (Level III removal) Includes:**

- Includes the removal of more than 10 square metres (100 square feet) contiguous area of contiguous mould.

- Remediation of HVAC systems with more than 1 square metre (10 square feet) of mould of contiguous mould.

- These are to be completed by contractors that specialize in mould removal.

2. **Mould Removal Work Procedure at York**
The procedure herein is to be followed for all mould related work at York:

a. Work involving potential exposure to mould is identified.

b. CSBO notifies DOHS and the community in area of proposed work.

c. CSBO obtains work permit from DOHS for Level II and higher operations prior to work.

d. CSBO does work as prescribed following correct approved procedures (see Appendix III).

3. Reporting Procedure for Discovery of Mould

a. CSBO Employees
   1. Report the discovery of mould during work to the CSBO supervisor.
   2. If required, the CSBO supervisor makes arrangement for the collection of bulk samples and delivers it to DOHS or has the material removed as though it contained mould.
   3. If not removed seal mouldy area with plastic or tape while waiting for further instruction from DOHS.

b. All other employees
   1. Report the discovery to their supervisor.
   2. Supervisor reports to DOHS.
VIII. PERSONAL PROTECTIVE EQUIPMENT

1. Respirator

i. Distribution:

- Respirators are provided by the supervisor.

ii. Selection:

- Respirators must be certified by the U.S. National Institute for Occupational Safety and Health (NIOSH).

- Types of respirators:

  - Level I, II work: a non-powered half or full face reusable respirator with P100 filters and chlorine filters if necessary.

  - Non-porous surfaces: non-powered half or full face reusable respirator with P100 filters and chlorine filters if required.

  - Level III work: full face respirator, decontamination rooms constructed (not done by York employees)

iii. Fit Testing:

- New respirator must be fit tested by DOHS using irritant smoke before use or other methods. The date of fit testing and confirmation of size is recorded by DOHS.

- Workers must be trained by DOHS on the procedure of fit testing using the positive pressure test and the negative pressure test. This method shall be used during subsequent uses of the respirator.
iii. Care and Maintenance:

- DOHS trains the workers on cleaning of respirators.
- Any damaged or deteriorated parts must be replaced prior to being used by a worker.
- Respirators must be cleaned after use.
- When the respirator is not in use, a worker must store it in a clean and sanitary location (e.g., in the clip-logged plastic bag provided by the manufacturer).
- If there are physical changes in the employee's face or if leakage is suspected, DOHS will perform the fit testing on request.
- Cartridges should be changed after completing mould removal work or when breathing resistance becomes excessive or if the cartridge shows any sign of physical damage. Mark date of first use and replace cartridges at least annually.

2. Protective Clothing and eyewear:

Eye protection and disposable coveralls (with hood) should be worn for all levels.

IX. CONTRACTED SERVICES

York will use contracted services for all level III operations.

All contractors working at York University must comply with the York standards to protect the York Community from mould exposure.
APPENDIX I

DOHS MOULD RESPONSE KIT CONTENTS

Contents

- sample container/bag
- brush
- scraper or putty knife
- marker
- note booklet
- caution tape
- duct tape
- knife/razor
- flash light
- measuring tape
- plastic sheeting
APPENDIX II

DOHS MOULD INVESTIGATION PROCEDURES

1) DOHS receives call about visible mould growth or concern of mould.
2) Contact or ask if CSBO has been informed.
3) Find out from CSBO their action plan.
   a) Visit site with CSBO, if necessary
   b) If immediate visit is not possible, ensure plans are in place to protect occupants.
   c) If occupants exhibit allergic response, advise supervisor to relocate occupants.
   d) Collect bulk sample for analysis (see sampling procedure below) if required.

4) If there are signs of water leakage:
   a) If leak can be stopped and repaired immediately, CSBO fixes leak and replaces damaged material.
   b) If the leak cannot be repaired immediately (e.g., deteriorated roof, source cannot be located, etc.) start plan to protect occupants (e.g., take sample, temporarily cover the area with plastic, or place pail under leak), and assess the health symptoms of occupants.
   c) CSBO removes the mould following the appropriate procedures.

5) If there is visible mould growth but no leakage is visible:
   a) DOHS or CSBO covers area with plastic or duct tape to protect occupants from exposure to mould spores.
   b) CSBO removes the mould following the appropriate procedures.

6) If sampling is required: (Note often it is more practical to assume it is mould and remove it immediately rather than awaiting laboratory results).
   a. DOHS collects bulk sample with assistance from CSBO if required.

7) If results are positive notify/inform appropriate parties of results.
   a) DOHS explains result to original caller.
   b) Send result to CSBO, appropriate JHSC and area supervisor.
   c) Send documentation on mould to occupants if necessary.
   d) CSBO initiates corrective action (see appendix III, mould cleanup procedure).
APPENDIX III

MOULD CLEANUP AND DISPOSAL PROCEDURES BY CSBO

General Points for Mould Remediation

- Workers who have allergies to mould should not do mould removal. These include workers with asthma and rhinitis known to be triggered by mould, and immune suppressive disorders.
- Only vacuum cleaners fitted with High Efficiency Particulate Air (HEPA) filters are to be used.
- Place mould materials into 6 mil clear plastic bags and dispose of as normal municipal waste.
- For Level II and higher operations, CSBO supervisors shall obtain a work permit from DOHS.

Level I: Small Isolated Areas (Ref. EACO)

Less than 1 sq.m. (10 sq.ft) of contiguous mouldy area (e.g., ceiling tiles, small areas on walls)

1. The immediate work area should be unoccupied. Further evacuation may be required in the presence of sensitive individuals.
2. Worker dons gloves, eye protection and a respirator fitted with P100 filters.
3. Turn off ventilation and cover vents.
4. Place drop sheet below mouldy area.
5. If possible tape mouldy area with plastic or duct tape to contain dust during removal.
6. Dust suppression methods, such as misting (not soaking) surfaces prior to remediation, are recommended.
7. Remove porous material for a minimum of 30 cm (12”) beyond visible contamination.
8. Seal contaminated material (including cartridges) in clear 6 mil plastic bags.
9. After removal, clean area with HEPA vacuum or wash area with detergent.
10. All areas should be left dry and visibly free from contamination and debris.
11. Wash hands and face. Clean respirator and ensure it is dry before storage.
12. Dispose of plastic bags as normal municipal waste.
Level II: Mid-Sized Isolated Areas (Ref. EACO)

1-10 sq.m. (10-100) square feet of contiguous mouldy area (e.g., individual drywall panels)
Same procedures as in level 1 but include:

1. Complete a work permit prior to removing the mould.
2. Construct a plastic (6mil) enclosure around the mouldy area.
3. Provide negative pressure with use of HEPA vacuum.
4. Periodically check for defects in the enclosure.

Mould on painted drywall (Ref. CMHC)

If mould is only on the painted surface of the drywall it can be removed by cleaning, provided that the moisture problem has been corrected and the drywall was never soaked with water. Cleaning should take seconds or minutes not hours to remove the mould.

1. Wear goggles, gloves, tvex suit e and respirator with P100 filters.
2. Clean with baking soda or detergent, rinse with wet sponge and dry out quickly.
3. If mould is found under the paint or if it returns remove mould using level I or II procedures.

HVAC Systems less than 1 sq.m. (10sq.ft) (Ref. EACO)

1. The immediate area must be unoccupied prior to any work.
2. Shut down the HVAC system prior to work.
3. Worker wears goggles, gloves, tvex suite and respirator fitted with P100 filters.
4. Shut down HVAC system, isolate zone, cover clean components, protect motors, bearings, sensors, etc..
5. Seal return grills, cover carpets and furnishings.
6. When possible, tape mouldy area or tape plastic over mouldy area to contain dust during removal.
7. Dust suppression methods, such as misting (not soaking) prior to remediation are recommended.
8. Dispose of porous materials. Growth supporting materials that are contaminated, such as the paper on the insulation of interior lined ducts and filters, should be removed. Other contaminated materials that cannot be cleaned should be removed.
9. Heavily contaminated components such as coils and condensate pans may need to be replaced.
10. Insulation is removed clean metal before installing new insulation.
11. Seal contaminated material (including cartridges) in plastic bags.
12. After removal, clean with HEPA vacuum or wash area with detergent.
13. Seal contaminated material in plastic bags.
14. All areas should be left dry and visibly free from contaminated debris.

Non-porous Surfaces (plastic, metal and glass)

1. In most cases mould can be removed with water and non-ammoniated detergent. The use of bleach is not necessary except when water and detergent is not effective.
2. Disinfection of the surface renders spores and mycelia inert and incapable of reproducing. Note: MOL recommends a dilution of 1:4 of 5% bleach. Disinfection may not affect the toxic or allergenic properties of the disinfected matter, therefore careful vacuuming and brushing of surfaces is required afterwards.
3. With good ventilation with wearing a respirator with appropriate cartridges P100 and chlorine (if required), apply the bleach solution to the surface with a sponge.
4. Leave for 15 minutes and then clean with additional bleach solution. Rinse thoroughly. All areas should be left dry and visibly free of contamination and debris.

Procedure:

1. Wear tyvex suite, gloves, goggles and respirator fitted with P100 filters or use combination filter P100 and chlorine (part no. 7582P100) if bleach is used.
2. Scrub/brush area with non-ammoniated detergent.
3. If necessary disinfect (kill) trace mould with bleach. Note: Disinfection does remove the toxins produced by the mould. Its usage should be kept to a minimum using the following method:
4. Mix 5% bleach (typical household bleach) to one part bleach and four parts water. Leave on material for 15 minutes, clean with water and dry thoroughly.
5. On concrete use trisodium phosphate (TSP) because bleach can harm concrete. Use the following method (do not allow TSP to come in contact with eyes or skin):
6. Dissolve one cup of TSP in 2 gallons of water and leave on concrete for 15 minutes, clean with water and dry thoroughly.

Large Scale Remediation (Level III)

York will use contracted services for all level III removal work. All contractors working at York University must comply with the York standards to protect the York Community from mould exposure.

Appendix IV
Preventing Mould Growth in Buildings

Preventing Mould Growth in Building Materials

1) Keep relative humidity below 60%
2) Maintain caulking on exterior locations such as doors and window frames.
3) Repair all water leaks quickly
4) Remove water and dry out construction materials with 48 hours using wet vacuums, fans or dehumidifiers.

Preventing Growth in HVAC

1) Use high grade filters to reduce incoming spores
2) Keep bird screens on the air intake
3) Maintain proper concentrations of biocide treatment in the cooling tower water.
4) Replace porous insulation in damp sections of ductwork with nonporous.
5) Keep spray washers and drip pans clean of slime and well drained.
6) Repair all areas where water leakage is occurring in HVAC equipment.
7) Operate HVAC to avoid water droplets from dehumidification.