



**OFFICE OF
FACILITIES**
Occupational and
Environmental
Safety

Last Modified:

Last Reviewed:08/2018

Approved: Sharmila Pradhan
Occupational & Environmental Safety Manager

Indoor Air Quality Concerns – Standard Operating Procedure

Purpose

When responding to an IAQ Complaint, it is important that Facilities O&M/Building Services, Occupational and Environmental Safety, Human Resources, and the supervisor of the affected unit or employee, all work together and communicate key findings and actions with each other. The purpose of this standard operating procedure (SOP) is to document steps to investigate and respond to indoor air quality (IAQ) issues reported by employees. This SOP should be used in conjunction with a pro-active preventive maintenance program to identify and correct building issues before they impact the indoor air quality.

Notification and Communication

Service requests by e-mail or phone call to Occupational and Environmental Safety

- When Occupational and Environmental Safety receives an IAQ request, staff will conduct a phone interview with the requestor to acquire background information.
- Occupational and Environmental Safety will notify the affected person(s) supervisor and keep them informed throughout the investigation process.
- Occupational and Environmental Safety staff will notify Campus Facilities, or the Building Coordinator for leased spaces, about the IAQ request. The survey will continue as detailed in this SOP. Updates will be provided to the Facilities Director/Manager, Building Coordinator (for leased spaces), HR representative, and the affected group or person's supervisor.

Service requests called into the Facilities Helpdesks

- IAQ requests submitted to the Helpdesk for a campus or CT building, will be directed to the appropriate Campus Facilities personnel and to Occupational and Environmental Safety.
- If the request is for temperature fluctuation, or can be resolved by simple maintenance or housekeeping, the appropriate personnel will be notified



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to rectify the issue. The request, findings and resolution will be documented in the Facilities Work Request database.

- If the requestor is concerned about their health in a space, Occupational and Environmental Safety shall be notified and will contact them directly for an IAQ survey.
- Occupational and Environmental Safety will notify the affected person(s) supervisor and keep them informed throughout the investigation process.

Initial Assessment by Facilities Personnel

The initial assessment of IAQ complaints are typically conducted by Facilities Operations or Building Services staff. Facilities staff shall maintain communication with Occupational and Environmental Safety regarding the findings of their initial assessment. This may include the following:

Ventilation

- Verify that the HVAC system(s) serving the space is working properly.
- Ensure that the outside air intakes, distribution dampers, air filters, drain pans, heating/cooling coils, inside of the air handling unit, fan motor, belts, ducts, VAV boxes, controls are functioning and are clean and free of obstructions.
- Determine the last service dates of the unit(s) for activities such as cleaning, filter changes, repairs, flushing condensate drains, etc.
- Verify the system is capable and provides adequate air exchanges for the area of concern.

Moisture-affected Building Materials

- Take measures to repair any leaks or water infiltration.
- Contact Occupational and Environmental Safety for an evaluation of the moisture-affected materials if the affected area(s) is greater than 10 square feet within 24 hours of the flood event to schedule an inspection.

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Suspect Mold Growth on Materials (Greater than 10 square feet)

- Contact Occupational and Environmental Safety for an evaluation of suspect visible mold growth on building materials if the affected area(s) is greater than 10 square feet to write a mold remediation scope of work for a third party mold remediation contractor.
- If only ceiling tiles are affected, Building Services personnel will remove, bag and discard the ceiling tiles. Building Services MUST submit a Work request for Operations & Maintenance to inspect and repair leaks near the ceiling tiles.
- If suspect mold growth is 10 square feet or less, follow SOP for “Removing Less Than 10 Square Feet of Mold Colonized Materials.”
- If window unit are affected, service/clean the units, including, but not limited to:
 - outer metal casing
 - interior of the unit
 - coils
 - condensate tray
 - filter change
- Ensure unit ventilator is working and inform office occupant to check its operation.
- If repairs and/or maintenance will impact work areas (shutting down a/c, drywall removal), maintain regular contact with office occupants to keep them informed.

Following Initial Assessment

- If the initial assessment by Facilities personnel resolves IAQ issues/concerns, no further action is necessary. Facilities personnel will follow up with the customer to ensure the issues have been resolved.
- Call Occupational and Environmental Safety if the following occur to conduct a Phase I IAQ Survey if one or more of the following are present:
 - There are health concerns in a space.
 - All operations of the building have been checked, but complaints are still being recorded.

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- The cause of the presence of stain on building materials is unclear.

Phase I IAQ Survey

The scope of the Phase I IAQ survey will include the following:

- Interviews with those in the building who are and are not having concerns.
- A visual inspection of the space and surrounding areas (including the exterior of the building, if relevant).
- Obtain general IAQ parameters including carbon dioxide, temperature, and relative humidity.
 - Real time measurements for total VOCs and carbon monoxide may also be obtained, if a suspect source is present or nearby.
- Contact with building personnel will be maintained throughout the survey process.

Report

- A report will be submitted to the requestor who will then make it available to others.
- Occupational and Environmental Safety can also send reports to those who request them.
- A mold scope of work will be written when mold growth on material is greater than 10 square feet.
- Facilities personnel will hire a qualified mold remediation contractor to remove and/or clean mold colonized materials.



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Phase II IAQ Survey

Air sampling for Specific Suspected Contaminants

- If a source of specific air or surface contaminants are identified or suspected, such as volatile organic compounds, formaldehyde, etc, samples may be collected to determine specific concentrations and compare them with established permissible exposure limits (PEL) or threshold limit values (TLV).
- If a mechanical issue is identified with the HVAC system, or other building component, a Work Order will be placed with the appropriate Campus Facilities Office. Occupational and Environmental Safety will track the completion of this work order and document the final outcome or, resolution of the complaint.

Mold Sampling

- Mold is present in the indoor and outdoor air and on surfaces all around us each day. It requires moisture and a food source to colonize materials. Targeting the source of moisture is an effective way to prevent mold from growing.
- Obtaining air samples for mold growth is not recommended by Occupational and Environmental Safety. It is difficult to interpret the data, associate it to a negative health effect, and act. Everyone is allergic to different molds, and industry guidelines recommend removing any mold, regardless of what is present on surfaces.
- Typically, mold growth on surfaces can be identified visually. Surface samples to confirm mold presence may be obtained if growth is ambiguous.
 - Conducting visual inspections and refraining from air sampling for mold is consistent with recommendations from the EPA and CDC.



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United States Environmental Protection Agency (EPA)

The EPA states the following with regards to mold sampling and remediation:

- There are no federal limits for mold in building air. This includes standards or threshold limit values (TLV). The EPA states if visible mold growth is presents, sampling is unnecessary.
- Surface samples may occasionally be obtained to determine if an area has been adequately cleaned or remediated.
- The following EPA publications detail mold remediation guidelines and provide additional information on mold in buildings:
 - [“A Brief guide to Mold, Moisture, and Your Home”](#) (EPA 402-K-02-003)
 - [“Mold Remediation in Schools and Commercial Buildings”](#) (EPA 402-K-01-001, March, 2001)

Centers for Disease Control and Prevention (CDC)

The CDC also does not recommend routine sampling for mold and provides the following information:

- Current evidence indicates allergies are the diseases most associated with mold.
- The susceptibility of individuals can vary greatly either because of the amount or type of mold.
- Sampling and culturing are not reliable in determining an individual’s health risk.
- If an individual is susceptible to mold, and mold is seen or smelled, there is a potential health risk, and it should be removed.
- Reliable mold sampling is expensive, and standards for judging acceptable or tolerable quantities have not been established.