



Indoor Air Quality (IAQ) Program

Latest Revision Date: 8/2016

1.0 PURPOSE

Across the country, concerns with Indoor Air Quality (IAQ) have increased since energy conservation measures were instituted in office buildings during the 1970s, minimizing the infiltration of outside air and contributing to the buildup of contaminants in the indoor air. Complaints about IAQ can range from simple comfort issues (too hot/cold/drafty, etc.) and odd smells, to more complex problems, where the air quality may be suspected of causing illness and lost work time.

It can be difficult to identify a single reason for IAQ complaints due to the number and variety of possible causes, as well as varying individual sensitivities. Nevertheless, Bucknell University is committed to doing its part to provide students, employees, and visitors an indoor environment free of irritants and airborne disease agents. The IAQ Plan as presented here will serve as the University's guide to preventing, investigating and remediating IAQ issues.

2.0 SCOPE

The scope of this program includes all Bucknell owned, leased and occupied buildings, recognizing that there may be limitations arising where a building is within the control of a third party or is located outside of the United States. The plan is designed to be used for all staff, faculty, and students.

3.0 RESPONSIBILITIES

IAQ Coordinator

For purposes of the IAQ Program, the Asst. Director of Risk Management/ EH&S will serve as the IAQ Coordinator.

IAQ Coordinator responsibilities include:

- Training employees in the recognition, prevention, and resolution of IAQ issues.
- Communicating with building occupants concerning IAQ issues.
- Developing a procedure for documenting and responding to IAQ complaints and concerns.
- Maintaining IAQ records, including IAQ complaints/concerns and resolutions, and records related to any maintenance, repair, or remodeling activity that could adversely impact indoor air quality.
- Conducting documented inspections of buildings related to IAQ.

4.0 PROGRAM ELEMENTS

4.1 IAQ Inspections

The IAQ Coordinator or designee conducts periodic walkthrough inspections of buildings, including both occupied areas and mechanical rooms. During the walkthrough, IAQ problem indicators are checked and noted on a floor plan or comparable drawing, including:

- Odors
- Dirty or unsanitary conditions
- Visible fungal growth or moldy odors
- Evident moisture in inappropriate locations (e.g., moisture on walls, floors, or carpets)
- Staining or discoloration of building material(s)
- Smoke damage
- Presence of hazardous substances
- Unusual odors from equipment
- Poorly-maintained filters

- Uneven temperatures
- Personal air cleaners (e.g., ozone generators, portable filtration units) or fans
- Inadequate ventilation
- Inadequate exhaust air flow
- Blocked vents
- Other conditions that could impact IAQ, including risk factors requiring regular inspection to prevent IAQ problems (e.g., drain pans that do not fully drain).

The condition and operations of the HVAC system are also periodically inspected, including:

- The identification of and preparation of work orders for components requiring repair, adjustment, cleaning, or replacement, and confirmation that prior work orders have been addressed.
- Confirmation that actual control settings and operating schedules for each air handling unit have been recorded and filed, and checked against the design intent.

4.2 Addressing Existing and Potential IAQ Problems

The IAQ Coordinator works with appropriate Bucknell personnel to address existing and potential IAQ issues.

4.3 Training

The IAQ Coordinator provides IAQ training and information to University personnel. Training is provided annually for key departments (e.g., Facilities, Housing Services, EHS and others as appropriate).

5.0 Facilities Preventative Maintenance

5.1 HVAC Operations

Operating schedules for HVAC equipment have been established and are updated as needed.

5.2 Preventive Maintenance

Preventive maintenance plans have been established and are updated as needed.

Preventive maintenance plans generally include the following maintenance items (as applicable):

- Inspect outside air intakes for nearby sources of contaminants.
- Ensure air distribution dampers are maintained clear of obstructions and operating properly.
- Monitor air filter pressure drops, and clean or replace regularly.
- Inspect and clean drain pans to ensure proper drainage.
- Inspect and clean heating and cooling coils.
- Inspect interior of air handling units, cleaning as warranted.
- Inspect fan motor and belts, replacing as warranted.
- Inspect air humidification and controls, cleaning regularly.
- Inspect, clean, and treat cooling towers according to schedule.
- Inspect air distribution pathways and VAV boxes, cleaning as needed.

The IAQ Coordinator will update the preventative maintenance plan when equipment is added, removed, or replaced.

5.3 Unscheduled Maintenance

Procedures for unscheduled maintenance events (e.g., equipment failure) have been communicated to building staff. Facilities personnel will promptly contact the IAQ Coordinator if IAQ issues are expected.

5.4 Custodial Products

The Facilities Department will maintain a current inventory of all chemicals used by custodians in a particular building, providing up-to-date inventories to the IAQ Coordinator. When possible, products that produce strong odors, are potential irritants or may have other IAQ impacts will be replaced by other products.

The Custodial Director has prepared procedures detailing proper use, storage, and purchase of cleaning materials, which are updated as needed. Custodial staff and contractors are educated about the IAQ implications of proper cleaning methods and schedules, proper materials use and storage, and proper trash disposal.

6.0 Management of Processes with Potentially Significant Pollutant Sources

6.1 Remodeling and Renovation

Bucknell staff and contractors are required to adhere to the following procedures in order to minimize the generation and migration of contaminants and odors to occupied areas of the building:

- The Project Manager reviews designs and construction activities for all proposed remodeling and renovation activities prior to commencing work.
- Work is scheduled during periods of minimum occupancy.
- Ventilation is used to isolate work areas.
- Lower-emitting work processes are used (e.g., wet-sanding dry wall).
- Specialized cleaning procedures are used (e.g., HEPA vacuums).
- Filters are changed more frequently, especially after work is completed.
- Emissions from new furnishings are minimized (e.g., buying lower-emitting furnishings and airing out before installation).
- Ventilation and distribution equipment are protected from contamination during construction.

6.2 Painting

Painting should be performed with low-emitting products, with increased ventilation. Work should be scheduled during periods of minimum occupancy.

6.3 Integrated Pest Control

Integrated Pest Management procedures are used to the extent possible:

- The pest control products to be used in a building should be communicated to the IAQ Coordinator, with a goal of using the safest available product that meets applicable needs.

- Procedures and contract language should require that all individuals using pest control products do so consistent with label instructions for proper use, mixing, storage and disposal.
- Non-chemical pest control strategies are used where possible.

6.4 Smoking

To promote the health and safety of all members of the campus community, the University prohibits smoking in any of the following University environments: buildings, University vehicles, the stadium, tent events, outdoor eating areas, and sporting and recreation events, as well as near windows and openings of University buildings or within 25' of public University entrances.

7.0 Procedures for responding to IAQ Complaints and Issues

All IAQ issues, concerns and complaints are to be filed with the IAQ Coordinator, regardless of the department that initially received the report. The IAQ Coordinator or designee will be responsible for investigating all complaints, in consultation with the appropriate campus offices (e.g. Facilities, Dean of Students, Risk Management, General Counsel, etc.). Such investigations will be documented in a form similar to that attached hereto.

INDOOR AIR QUALITY (IAQ) Initial Investigation Form

INSTRUCTIONS

This form is a component of an Indoor Air Quality (IAQ) investigation and is completed by the Bucknell University IAQ Coordinator or Facilities Representative. This form is completed AFTER receipt of an IAQ concern from staff, students or faculty.

GENERAL INFORMATION

Building Name:	Date:
Room Number:	Name:
Department:	Title:
Floor Level:	Phone No:

DESCRIPTION OF IAQ CONCERN

When did the IAQ concern start?	Number of occupants in area?	
How many occupants are affected?	Is the concern resulting in lost work hours?:	
Describe all symptoms YOU encounter during walk-through check all that apply)	<input type="checkbox"/> Nasal <input type="checkbox"/> Throat <input type="checkbox"/> Eye <input type="checkbox"/> Respiratory <input type="checkbox"/> Skin <input type="checkbox"/> Pain	
	<input type="checkbox"/> Other (describe)	
Describe all IAQ concerns YOU encounter (check all that apply)	<input type="checkbox"/> Too Hot <input type="checkbox"/> Too Cold <input type="checkbox"/> Too humid <input type="checkbox"/> Too dry <input type="checkbox"/> Drafty <input type="checkbox"/> Too stale	
	<input type="checkbox"/> Dusty <input type="checkbox"/> Moisture/flood <input type="checkbox"/> Odor: { <input type="checkbox"/> Sewer, <input type="checkbox"/> Mold, <input type="checkbox"/> Chemical}	
	<input type="checkbox"/> Other (describe)	

DESCRIPTION OF WORK ENVIRONMENT OR LIVING AREA

Are any of the following conditions present in the interior of workplace or living area?

☐ Water damage - ☐ Fungal growth - ☐ Potted plants - ☐ Unusual noises - ☐ Poor lighting
☐ Staining - ☐ Smoke Damage - ☐ Structural faults - ☐ Uneven heat/cooling - ☐ Overcrowding
☐ Inadequate ventilation - ☐ Poorly maintained filters ☐ Dust - ☐ Fans - ☐ Dehumidifier - ☐ Blocked vents -
☐ Dry Plumbing Traps - ☐ Pollutant sources within 30 ft. (describe)

☐ Odors, describe

Are any of the following conditions present on the exterior of workplace or living area?

☐ Water damage, poor drainage - ☐ Damaged foundation - ☐ Damaged roof - ☐ Damaged walls/windows/siding - ☐ Staining - ☐ Recent pesticide application - ☐ Pollutant sources near air intake (describe)

DESCRIPTION OF HEATING VENTILATION AND AIR CONDITIONING

Inspect the following and check if problem is encountered?

☐ **Mechanical Room** (☐ Clean - ☐ Dry - ☐ Refuse or Chemicals)
☐ HVAC System (☐ Air Movement - ☐ Serviced Recently - ☐ Ductwork - ☐ Vents - ☐ Dust/Dirt
☐ Filters - ☐ Exhaust Vent - ☐ Outdoor Air Intake - ☐ Controllers (ie thermostat) - ☐ Dampers - ☐ Pollutant sources within 30 ft. (describe)

COMMENTS

ACTION TAKEN

Corrective Action ☐ Add actions here to be taken:

IAQ Coordinator USE ONLY

File Number	Date Started	Date Completed
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