

Radford University

Indoor Air Quality Management Plan

Spring 2015

Introduction

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 range from simple complaints from 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 may not be easy to identify a single reason for IAQ complaints because of the number and variety of possible sources, causes, and varying individual sensitivities. Nevertheless, Radford University is committed to providing its students, employees, and visitors an indoor environment free of contaminants and airborne disease agents.

Responsibilities

IAQ assessments at Radford University are performed by the department of Environmental Health and Safety. EHS is responsible for managing the Indoor Air Quality Management Program at Radford University. IAQ Coordinator responsibilities include:

- Training employees in the recognition, prevention, and resolution of IAQ problems.
- Communicating with building occupants concerning IAQ issues or problems.
- Developing a procedure for documenting and responding to IAQ complaints and problems.
- Maintaining IAQ records. IAQ records include: IAQ complaints and resolutions; and documentation of any maintenance, repair, or remodeling activity that could adversely impact indoor air quality.
- Conducting an annual, at the minimum, documented inspection of the premises.

Conducting periodic walkthroughs to assess the current IAQ situation

The IAQ coordinator or designate conducts periodic walkthrough inspections which involves 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, especially risk factors that need regular inspection to prevent IAQ problems from occurring (e.g., drain pans that do not fully drain).

The condition and operations of the HVAC system are inspected, including: Components that need to be repaired, adjusted, cleaned, or replaced have been, and work orders prepared.

Actual control settings and operating schedules for each air handling unit have been recorded and filed, and checked against the design intent. Areas with significant sources of contaminants (e.g., copy rooms, food service areas, and printing/photographic areas) are provided with adequate exhaust. Other sources are moved as close to exhaust as possible.

Existing and Potential IAQ Problems

EHS conducts an ongoing assessment of agency buildings for existing problems. Identified IAQ problems are corrected and steps are taken to control them, including both source related IAQ problems and ventilation-related IAQ problems.

Training

EHS provides IAQ training and information to agency personnel and contractors, especially regarding use of hazardous chemicals.

Plan for Facility Operations and Maintenance

HVAC Operations

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

Preventive Maintenance

Radford University conducts preventive maintenance on a regular schedule; this schedule is updated as needed. Preventive maintenance includes the following maintenance items:

- Outside air intakes are inspected for nearby sources of contaminants
- Air distribution dampers are maintained clear of obstructions and operating properly
- Air filters have the pressure drops monitored, and replacement or cleaning is performed regularly
- Drain pans are inspected and cleaned to ensure proper drainage
- Heating and cooling coils are inspected and cleaned
- Interior of air handling units are inspected and cleaned, as warranted
- Fan motor and belts are inspected and replaced as warranted
- Air humidification and controls are inspected and regularly cleaned
- Cooling towers are inspected, cleaned, and water treated according to schedule
- Air distribution pathways and VAV boxes are inspected and cleaned as needed.
- The preventative maintenance plan and operation manuals are updated when equipment is added, removed, or replaced.

Unscheduled Maintenance

Unscheduled maintenance events (e.g., equipment failure) will be communicated to building staff. They include:

- University personnel immediately may contact Facilities Maintenance to inform that a maintenance event has occurred.
- If applicable, EHS ensures that notification to occupants is provided in a timely manner, addressing how IAQ is being protected.
- Any necessary remedial action is then taken.
- Facilities Maintenance or EHS then informs occupants that corrective actions have been completed.

Housekeeping

All housekeeping equipment and products used in the building are in compliance with GS-42 Green Seal Standards. Additionally, housekeeping maintains an inventory of all chemicals used, and keeps EHS updated on the inventory. The products used at Radford University that may produce strong odors, are potential irritants, or may have other IAQ impacts have been determined, and, where possible, have been replaced by products without such impacts.

Radford University has procedures that detail proper use, storage, and purchase of cleaning materials; these are updated as needed.

The housekeeping staff is trained about the IAQ implications, appropriate use, and application of the following to improve IAQ:

- Proper cleaning methods
- Cleaning schedules
- Proper materials storage and use
- Proper trash disposal

Management of Processes with Potentially Significant Pollutant Sources

Purchasing Practices

When new products are purchased, information on potential indoor air contaminant emissions is reviewed using the Safety Data Sheet of the product by EHS. [Note: Emission information may not be readily available for many products; however information that is available is collected.] When the services of architects, engineers, contractors, or other professionals are used, IAQ concerns, such as special exhaust needs, are discussed.

Remodeling and Renovation

Procedures to minimize the generation and migration of contaminants or odors to occupied areas of the building are used and required of contractors. The procedures used at Radford University are:

- EHS reviews designs and construction activities for all proposed remodeling and renovation activities prior to their initiation.
- Work is scheduled during periods of minimum occupancy.

- Ventilation is provided in order to isolate work areas, as necessary.
- Lower-emitting work processes are used (e.g., wet-sanding dry wall)
- Specialized cleaning procedures are used (e.g., use of HEPA vacuums)
- Filters are changed more frequently, especially after work is completed
- Emissions from new furnishings are minimized when possible (e.g., buying lower-emitting airing out furnishings before installation, increased amount and duration of after installation)
- Ventilation and distribution equipment are protected from contamination during construction.

Painting

Exposure to paint vapors is minimized by using low-emitting products, scheduling work during periods of minimum occupancy, and increasing ventilation.

Pest Control

Integrated Pest Management (IPM) procedures are used to the fullest extent possible:

- The pest control products being used in the building are communicated to the IPM Coordinator.
- Facilities Maintenance and EHS ensures that all people who use pest control products read and follow all label directions for proper use, mixing, storage and disposal.
- Non-chemical pest control strategies are used where possible.
- The safest available pest control products that meet the building's needs are used or reviewed with pest control contractor.

Shipping or Receiving Activities

Vehicle exhaust will be handled on a case by case incident and all precautions will be made to keep all fumes from entering a building. Some areas to be checked are including through air intakes and building openings and some of the correct measures can be by installing barriers to airflow from loading dock areas (e.g., doors, curtains, etc.) and using pressurization to prevent mixing of vehicle exhaust with building air.

Smoking

Smoking is prohibited in all Radford University buildings, subject to the University Smoking Policy.

Maintaining Cooperative Relations with Occupants

The IAQ Coordinator keep occupants routinely informed about building conditions and policies that may impact IAQ (e.g., practices that attract insects or smoking policy clarifications). Additionally, occupants are notified about planned major renovation, remodeling, maintenance or pest control activities.

Procedures for Responding to IAQ Complaints

Procedures for responding to IAQ complaints have been written and are followed, including:

- IAQ problems are logged into the existing work-order system.
- Information is collected from complainants.

- Information and records obtained from complainants are kept confidential.
- The capability of in-house staff to respond to complaints is assessed.
- Appropriate outside sources of assistance are identified.

Feedback is provided in a timely manner to the complainant.

- Remedial actions are taken.
- Remedial actions are followed-up to determine if the action has been effective.
- Building staff have been informed of these procedures.
- Building occupants have been informed of these procedures and are periodically reminded of how to locate responsible staff and how to submit a complaint.