Gettysburg College

INDOOR AIR QUALITY
&
WATER INTRUSION PLAN
BEST MANAGEMENT PRACTICES
GUIDANCE PLAN

Updated January 2014
TABLE OF CONTENTS

I. Introduction
II. Responsibility
III. Information and Training
IV. Hazard Identification
   A. Building Profiles
   B. Building Audits
   C. Complaint/Response Process
      1. Reporting IAQ Complaints
      2. Response to IAQ Complaints
   D. Mold
      1. Background
      2. Health Effects of Mold
      3. Testing for Mold
      4. Mold Remediation
V. Control Methods
   A. Source Management Protocols
      1. Remodeling/Renovation
      2. Painting
      3. Pest Control
      4. Shipping/Receiving
      5. Smoking
      6. Pets
      7. Managing Moisture & Mold
   B. HVAC Operations & Maintenance
   C. Housekeeping
VI. Record Keeping

Appendix A: Indoor Air Quality Survey Form
Appendix B: Pesticide Hypersensitivity Registry Application
I. Introduction

Legal standards pertaining to indoor air quality (IAQ), with respect to employees, are governed by Section 5(a)(1) of the Occupational Safety and Health Act (the Act; General Duty Clause) which requires that employers provide employment and a place of employment that are free from recognized hazards that are causing or are likely to cause death or serious physical harm. OSHA has identified four situational components that, if present, and when no specific OSHA standard has been promulgated to address the recognized hazard, may trigger enforcement action under the General Duty Clause. These four components are: 1) the employer failed to keep his/her workplace free of a "hazard"; 2) the hazard was "recognized" either by the cited employer individually or by the employer's industry generally; 3) the recognized hazard was causing or was likely to cause death or serious physical harm; and 4) there was a feasible means available that would eliminate or materially reduce the hazard.

Generally, there are no laws specifically governing occupant exposures to IAQ, or any specifically addressing IAQ for Colleges and Universities. Nonetheless, Gettysburg College is voluntarily identifying certain Best Management Practices that it will consider as its guide to IAQ as more fully stated in this document.

It is the policy of Gettysburg College to provide a safe and healthful environment, free from recognized hazards that may cause serious injury to students, employees, and visitors. This is accomplished by maintaining a comprehensive safety, health, and environmental program that involves all university employees. Gettysburg College will conduct all of its activities in compliance with applicable standards, codes, regulations, and laws. Each and every person at the institution understands that safety and health is not an additional job responsibility, but that it is an integral part of every task.

In addition to the above, with respect to IAQ specifically, it is Gettysburg College's policy to fully comply with all applicable law and regulations, including the General Duty Clause.

Any specific testing conducted may be considered a record subject to OSHA's Access to employee exposure and medical records standard, 29 CFR 1910.1020. Thus, each testing record will be reviewed, and counsel consulted, as appropriate, in order to properly classify the document under the standard.

The Environmental Protection Agency (EPA) defines Indoor Air Quality (IAQ) as the quality of the air inside buildings as represented by
concentrations of pollutants and thermal (temperature and relative humidity) conditions that affect the health, comfort, and performance of occupants.

Specifically, IAQ address the air and ventilation within a building and the potential effects of building materials and consumer products used within the building.

The goals of the Gettysburg College Indoor Air Quality Best Management Practices Guidance Plan are to further support a safe and healthy working environment by proactively identifying and controlling pollutants and conditions that negatively impact indoor air quality and to respond appropriately whenever a unhealthy condition is identified.

The *IAQ Building Evaluation and Assessment Tool (I-BEAM)*, produced by the EPA was an invaluable resource for developing this program. References to I-BEAM protocols and forms appear in brackets throughout this document. You can download a copy of I-BEAM from the EPA website [http://www.epa.gov/iaq/largebldgs/i-beam/forms.html](http://www.epa.gov/iaq/largebldgs/i-beam/forms.html). These forms are available for use when practical for documentation of IAQ and Water Intrusion issues.

**II. Information and Training**

College will make available to anyone the IAQ plan, the factors that contribute to poor IAQ, their role in minimizing the problem, and the process used to identify and resolve IAQ problems. Risk Management will provide additional appropriate training to college personnel who could impact IAQ (e.g. Housekeeping staff, and HVAC technicians). An introductory course will be given to all impacted employees who have responsibilities of identifying and mitigating IAQ responsibilities. This course will be given every three years.

**III. Hazard Identification and Prevention**

**A. Building Maintenance and Upkeep**

The Facilities Services has established normal daily preventative measures and best preventative practices of IAQ concerns. These measures and practices are as follows:

- Regular housekeeping for dust, germs and cleanliness.
- Temperature controls to limit moisture and dampness.
- “As built” blue-prints including modifications and renovations that reflect current conditions
- Commissioning reports (including testing and balancing reports)
• Records of major space use changes not reflected in original design. (e.g. office space changed to laboratory; significant increases in occupant density)
• Up-to-date manufacturer’s operating instructions for HVAC system components
• Maintenance schedules for HVAC system components
• Documentation of HVAC control system set points and ranges
• Drawings of pressure relationships
• Records of equipment modifications/replacement
• IAQ history including complaints, results of monitoring, and corrective actions taken
• M.S.D.S. for products used in the building

B. Building Audits [I-BEAM Forms A1, A2, and A-3 maybe used]

The Facilities Services and Public Safety conducts periodic building walkthroughs to identify indicators of poor IAQ, including but not limited to:

• Odors
• Dirty or unsanitary conditions
• Visible mold growth
• Moisture
• Stained or discolored building material
• Presence of hazardous substances
• Cracks or holes where soil gas may enter
• Poorly maintained filters
• Uneven temperatures
• Overcrowding
• Personal air cleaners (e.g. – ozone generators) or fans
• Inadequate ventilation
• Blocked vents
• Dirty or full drain pans
• HVAC equipment in need of repair/maintenance
• Contaminate sources (combustion appliances, photocopiers/printers, waste containers, chemical storage)
C. Evaluation of concentrations of substances that might exceed appropriate limits and to support thermal conditions being maintained within an appropriate range of comfort as indicated in Table 1. When special equipment or laboratory analysis is necessary, outside contractors may be used to perform monitoring or to provide remediation.

**TABLE 1: Physical and Chemical Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Guidance Limit/Range</th>
<th>References</th>
<th>Common Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>73-79°F summer; 68-74.5°F winter</td>
<td>ASHRAE Standard 55-1992: Thermal Environmental Conditions for Human Occupancy</td>
<td></td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>30—60% (less than 50% if possible to control dust mites)</td>
<td>EPA “Mold, Moisture, and Your Home”</td>
<td></td>
</tr>
<tr>
<td>Wood Moisture Equivalent (Pine)</td>
<td>Less than 20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO₂</td>
<td>700 ppm over ambient (equates to 15 cfm per person for sedentary persons)</td>
<td>ASHRAE Standard 62-1999: Ventilation for Acceptable Indoor Air Quality</td>
<td>Building Occupants</td>
</tr>
<tr>
<td>CO</td>
<td>9 ppm</td>
<td>US EPA, National Ambient Air Quality Standard for a Maximum Allowable Outdoor Average Over 8 hours.</td>
<td>Leaking Vented or Unvented Combustion Appliances; Parking Garages; Outdoor Air</td>
</tr>
<tr>
<td>O₃</td>
<td>0.05 ppm</td>
<td>World Health Organization</td>
<td>Electrostatic appliances; office machines; ozone generators; outdoor air</td>
</tr>
<tr>
<td>SO₂</td>
<td>0.03 ppm</td>
<td>US EPA, National Ambient Air Quality Standard Long Term</td>
<td>Unvented space heaters (kerosene); diesel</td>
</tr>
<tr>
<td>Compound</td>
<td>Concentration</td>
<td>Source Description</td>
<td>Source</td>
</tr>
<tr>
<td>------------</td>
<td>---------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>NO₂</td>
<td>0.05 ppm</td>
<td>US EPA, National Ambient Air Quality Standard Long Term</td>
<td>Leaking vented or unvented combustion appliances; outdoor air</td>
</tr>
<tr>
<td>NO</td>
<td>25 ppm</td>
<td>ACGIH TLV and NIOSH REL</td>
<td>Combustion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOTE: Rapidly converted in air to NO₂</td>
<td></td>
</tr>
<tr>
<td>H₂S</td>
<td>0.001 ppm</td>
<td>Minimum odor threshold per NIH National Library of Medicine</td>
<td>Sewar Gas</td>
</tr>
<tr>
<td>NH₃</td>
<td>0.04 ppm</td>
<td>Minimum odor threshold per NIH National Library of Medicine</td>
<td>Cleaning Supplies; Fertilizer</td>
</tr>
<tr>
<td>Cl₂</td>
<td>0.02 ppm</td>
<td>Minimum odor threshold per NIH National Library of Medicine</td>
<td>Cleaning Supplies; Pool Chemicals</td>
</tr>
<tr>
<td>Total VOCs</td>
<td>0.64 ppm</td>
<td>Molhave, Institute of Environmental and Occupational Medicine, 1990</td>
<td>Paints and Solvents; Waxes, Adhesives; Cleaning Supplies; New Building Materials and Furnishings</td>
</tr>
<tr>
<td>Radon</td>
<td>4 picoCuries/liter</td>
<td>US EPA</td>
<td>Soil Gas</td>
</tr>
</tbody>
</table>

D. Complaint/Response Process

See Appendix A Indoor Air Quality Employee Questionnaire

1. Reporting IAQ Complaints

The following emergency situations require immediate notification of Public Safety at 6911:
• Hazardous material spill
• Flooding
• Gray water (e.g. Sewer) spills
• Gas leak
• Sudden onset of headaches, dizziness, drowsiness, nausea, and/or combustion odors (could be carbon monoxide poisoning)
• Widespread breathing difficulties, chest tightness, or respiratory infection (potentially serious infectious or allergenic agent)
• Diagnosed Legionnaires disease or tuberculosis
• Other situations involving IAQ with the potential for personal injury or significant property loss

To report a non-emergency IAQ problem, complete a facilities service request or contact the Facilities Services Department at ext. 6700 between the hours of 8:00am—5:00pm, Monday--Friday. Between 5:00pm—8:00am, Monday—Friday and on weekends, contact Public Safety at 6912. Include the following information in your request:

• Nature of problem
• Where the problem occurs (one or more locations)
• When the problem was first experienced
• When the problem occurs or when it is the worst (time of day, day of week, during certain activities/events/seasons)

2. Response to IAQ Complaints

i. For emergency situations, Public Safety will take immediate steps to isolate persons from exposure and once the area is secured will evaluate the situation and notify Facilities Services for mitigation.

ii. IAQ complaints will be assigned based on the area of concern through collaborative efforts between Risk Management, Facilities Services and Public Safety.

iii. All complaints will be managed by Risk Management

iv. The Risk Manager will:
   • Will log the Complaint
   • Will provide the complainant(s) with additional IAQ information as needed
   • Will schedule an interview with the complainant(s) to collect additional information as needed
   • May ask the complainant(s) to keep a diary to record the time, place, and circumstances surrounding the occurrence of symptoms or problems
v. The Facilities Services and Public Safety departments will investigate the complaint promptly and track it through resolution. When special equipment or laboratory analysis is necessary, outside contractors may be used to perform monitoring or to provide remediation.

vi. The Risk Manager will notify the complainant(s) of:

- Progress of the investigation
- Factors that have been investigated and ruled out as causes or contributors
- Expected length of the investigation
- When they will receive further notification
- What they can do to help

vii. The Facilities Services and Public Safety departments will follow-up to insure that remediation is effective.

E. Mold

1. Background

There are more than a million different fungi that could be described as mold, but less than a thousand of these are typically present in indoor environments. To survive, mold needs oxygen, organic nutrients, the right temperature, and moisture. Oxygen is readily available most common building materials could provide organic nutrients; and molds exist at indoor temperatures; thus, controlling moisture is the best way to prevent mold growth. Molds reproduce and spread by producing spores which are dispersed in the air. A single spore can germinate and spread millions more spores in just days. The ubiquitous nature of molds in outdoor and indoor environments makes positive testing a sure bet. Finding indoor mold growth and favorable conditions for mold growth are the real keys to determining if mold problems exist or are likely to occur.

2. Health Effects of Mold

Not all molds are harmful. The complexity of some molds can lead to a variety of health effects including: allergies, respiratory irritation, asthma attacks, and infections; however, since the effects of mold varies with each individual, Gettysburg College recommends that any person who believes they have health problems related to mold seek professional medical attention.

3. Testing for Mold
The main objective of any mold investigation should be to locate sites of indoor mold growth, in order to determine how to best to control the underlying moisture problem and remove the contamination. Mold testing rarely answers the difficult question of “What is the health risk?”, and often leads to unrealistic expectations that can’t be met. The key to solving a mold problem will always be to correct the source of excess moisture and remove mold contamination and these can generally be achieved without mold testing.

If mold testing is performed, it must be done by experienced and competent investigators who have stated a hypothesis(es) and how the test results will be used in determining solutions to the problem. Investigators must describe the limitations of any testing method and the applicability of test results including uncertainties.

Testing should not delay corrective actions, or divert resources from moisture control and mold remediation.

4. Mold Remediation

From a public health perspective, there is no practical reason to test visible mold growth. Instead, the growth should be promptly removed by cleaning or disposal. However, testing may be appropriate to verify a suspected material is mold in order to justify expenditures or corrective steps.

WARNING: Mold cleanup will cause the release of spores into the air. General precautions adopted for clean in may include wearing appropriate personal protective equipment, including but not limited to:

- Unvented goggles
- nitrile gloves
- N-95 filtering face piece respirator (N-100 is strongly recommended for large areas of contamination)

The following guidelines are recommended when cleaning and removing mold covering an area of less than 100 square feet:

i. identify the source of moisture and begin to remove excess moisture as soon as possible. NOTE: Dehumidification may take days or weeks to return to normal levels.
ii. trap or capture as much surface mold growth as possible from accessible surfaces by vacuuming all
visible mold with a HEPA vacuum or wet vacuum or carefully and systematically wipe up mold with a damp cloth (NOTE: damp not wet)

iii. determine if the material(s) supporting mold growth can be cleaned or must be discarded;
- discard porous materials (e.g. – processed wood, ceiling tiles, insulation) in sealed plastic bags.
- clean non-porous materials (e.g. – solid wood) with an all-purpose cleaner or detergent

iv. Expand cleaning to areas and materials in the vicinity of the visible mold growth, where it is likely pedestrian traffic has carried contaminants from the primary growth site. Use HEPA vacuums and damp cleaning (do not sweep, dust, or brush)

v. Determine if disinfection is needed. For example, when hard-surfaced porous materials (e.g. – concrete floors/walls; ceramic tiles, linoleum) are impractical to replace, they should be disinfected with a diluted bleach solution (10 parts water to 1 part bleach). The solution should be applied by light misting or wiping on to avoid runoff; treat the entire area that supported visible growth. The surfaces should be kept damp for at least 30 minutes, rinsed, and allowed to air dry. Facilitate drying with fans or dehumidifiers if needed. NOTE: It is critical to thoroughly clean off visible growth and soiling before disinfecting.

vi. Monitor for signs of moisture return or mold growth before replacing building materials or furnishings. If growth reappears, repeat cleaning and disinfecting with a stronger bleach solution (e.g. -- 5:1) and allow a longer contact time. Consider that regrowth may indicate that the material supporting the growth should be removed and/or that excess moisture has not been controlled adequately.

When mold covers an area greater than 100 square feet, professional remediation services may be necessary due to increased containment and PPE requirements. These services will be coordinated by the Departments of Facilities Services and Public Safety.

E. Radon. See Radon Best Management Guidance Practice.

F. Asbestos. See Asbestos portion of Health and Safety Program.

IV. Control Methods
A. Source Management Protocols

The following protocols are provided as a tool to manage pollution sources with high potential to cause IAQ problems. If applicable, any deviations from these protocols should first be approved by the Risk Manager.

1. Remodeling/Renovation
   - notify employees of planned remodeling/renovation
   - create a complete physical enclosure of the construction zone
   - keep construction areas under negative pressure and occupant areas under positive pressure
   - seal return ducts to insure contaminants do not enter HVAC system
   - schedule work during periods of minimum occupancy
   - provide increased ventilation before, during, and after construction
   - choose building materials and work processes (e.g. – wet sanding of walls) that are low-emitting
   - minimize emissions from new furnishings (request information on potential indoor air contaminant emissions from product suppliers, air out furnishings before installation)
   - during clean-up use vacuums with HEPA filters
   - change air filters more frequently, especially after work is completed

2. Painting
   - use low-emitting products (water based and fast-drying paints where feasible)
   - paint during unoccupied hours
   - provide increased ventilation before, during, and after painting
   - avoid spraying when possible
   - notify occupants

3. Pest Control
   - ensure that pesticides are stored, used, and disposed of according to the label and MSDS
   - choose non-chemical pest control strategies where possible (e.g. -- control dirt, moisture, clutter, foodstuff that attract or harbor pests, and close building penetrations which allow pest access)
   - use baits and traps rather than sprays where possible
- avoid periodic pesticide application for “prevention” of pests
- apply pesticides only where pests are located
- choose a pesticide that is specifically formulated for the targeted pest
- apply pesticides during unoccupied hours
- provide increased ventilation before, during, and after application
- if applying outside, avoid areas near air intakes
- notify individuals on pesticide hypersensitivity registry of planned pest control activities.

4. Shipping/Receiving
   - do not allow idling of vehicles at loading docks, post signs and enforce the ban
   - maintain receiving area under positive pressure to insure contaminants from the loading area do not enter the building [can you do this?]
   - notify delivery companies of policy

5. Smoking

Smoking in any form is prohibited inside all college-owned or leased buildings including both residential and non-residential buildings and all recognized student housing including fraternities. In addition, smoking is prohibited in any college-owned or rented vehicles. Individuals who choose to smoke must smoke outside and must stand at least 15 feet away from any campus building. [consider a larger buffer area away from used doorways or operable windows, say 50 feet]

6. Pets

With the exception of certified service animals and animals specially approved for the educational purposes of the College, the presence of animals in all college-owned or leased buildings, including residential and non-residential buildings is prohibited, with the possible exception of College rental housing. For rental properties, this issue will be addressed on a case-by-case basis. Dogs and other animals are permitted on campus roads, walks, and grounds, as they are in the local community, when they are on a leash and controlled by the owner. It is the owner’s responsibility to clean up after the animal. All pets must be tagged, registered, and vaccinated in accordance with Pennsylvania State Law.

7. Managing Moisture and Mold
• attempt to maintain relative humidity below 60% (50% if possible to control dust mites)
• insulate exterior walls and ceilings to avoid condensation on cold surfaces
• insulate cold water pipes to avoid sweating
• thoroughly clean and dry water from porous surfaces (such as carpet) within 24 hours or discard the material
• maintain proper drainage around the perimeter of buildings
• provide exhaust ventilation in showers and kitchens producing steam
• clean drain pans often and insure a proper slope to keep water draining
• insure proper maintenance of cooling towers and treat cooling water
• discard building materials and furniture having a persistent musty odor
• discard all ceiling tiles with visible water stains

B. HVAC Operations and Maintenance[ I Beam Forms B-1, B-2 maybe used]

The HVAC services department may perform or contract services to perform preventive and unscheduled maintenance to establish good indoor air quality, including but not limited to:

• Inspecting equipment for unusual conditions like excessive noise and heat
• Inspecting equipment for leaks, rust, dirt, and mechanical problems
• Performing mechanical and electrical adjustments (e.g. adjusting belt tension, tightening bolts)
• Performing HVAC testing and balancing
• Inspecting outside air intakes for nearby sources of contaminants
• Maintaining air distribution dampers, diffusers, and grilles that are clear of obstructions and operating properly
• Changing filters per manufacturer’s instructions
• Lubricating equipment per manufacturer’s instructions
• Cleaning heating and cooling coils and inspecting for leaks
• Cleaning drain pans and inspecting for proper drainage
• Inspecting and cleaning the interior of air handling units
• Inspecting and replacing fan motors and belts
• Inspecting and cleaning air humidification systems
• Inspecting and cleaning cooling towers and treating water according to schedule
• Inspecting and cleaning air distribution pathways and CAV/VAV boxes as needed
• Cleaning boilers and performing combustion and flue gas tests
• Analyzing and adjusting chemicals for chiller
• Draining water from compressor tanks

C. Housekeeping

The Custodial Services department may perform or contract services to perform preventive and unscheduled maintenance to establish good indoor air quality, including but not limited to:

• Preventing dirt from entering and removing it once there (e.g. – cleaning outside buildings, using walk off mats)
• Purchasing products (e.g., avoid aerosols) and choosing cleaning methods that minimize the introduction of pollutants and maximize removal of pollutants (e.g., vacuums with HEPA filters, lint free dust clothes, no feather dusters)
• Restricting smoking outside building entrances
• Deep cleaning carpet at regular intervals
• Minimize use of ammonia, chlorine, and volatile acid products and maximizing the use of ‘green’ cleaning products
• Drying wet carpet or other porous materials within 24 hours or discarding material.
• Removing trash from building as soon as possible
• Following storage, use, and disposal guidelines on container labels and in MSDS.

V. Record Keeping

Records of all complaints and mitigations will be kept on file with the Risk Manager. Day to day maintenance, upkeep, and audits will not necessarily be recorded unless there is reason to do so. Public Safety conducts monthly building inspections that are recorded and would reflect any IAQ issues that were discovered.
Appendix A:

Indoor Air Quality Employee Questionnaire
The purpose of this questionnaire is to gain valuable information pertaining to the indoor air quality of the subject location. Please complete all appropriate sections as subjectively and accurately as possible and return to David Taylor in Public Safety Department. Although all questions are optional, it is recommended that each question be carefully read, understood, and a response indicated. For questions that are not applicable, please respond with “NA”.

**Job Description and Related Information**

1. What is your name?
2. What is your job title?
3. Describe your job and job function(s):
4. When did you begin working/living at this building?
5. What area of building do you spend the majority of time?
6. What other area of the building do you commonly work in?
7. Do you work another job with another employer? If so, please describe that job, including how much time you work there, and what you do?
8. Do you perform hobbies such as crafting, painting, welding, lawn care, etc? If so please explain?
9. Do any of the people you spend time near at work have pets? If so what kind?
10. Please make any additional comments, or provide any other information or insights pertaining to your job that you feel are important
General Indoor Air Quality, Concerns and Symptoms

1. What is the nature of your Indoor Air Quality Concern?

2. Describe the symptoms you have noticed?

3. When did you begin to notice symptoms or have general indoor air quality concerns?

4. Do the symptoms occur at class, work, home, and/or other places?

5. Do the symptoms increase or decrease at work/resident hall?

6. Do the symptoms increase or decrease in other areas of the building? At night? On weekends, holidays or vacation? Explain.

7. Do you associate your symptoms/concerns with any physical or chemical agents at work? If so, can you identify or describe such associations?

8. Are there certain times that may be associated with your symptoms/concerns, such as certain weekdays, afternoon, springtime, after working greater than 4 hours, or only when the air seems musty, etc?

9. Do you suspect that your workplace/resident hall is potentially related to your symptoms/concerns? If so can you explain why?
10. Is there currently of has there recently been sources of water intrusion in the area? If so, is there visible microbial growth?

11. Circle any of the following that you may experience at work, or regard as a condition your work environment:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Condition</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stuffy air</td>
<td>Solvent odors</td>
<td>Musty odors</td>
</tr>
<tr>
<td>Vehicle exhaust</td>
<td>Moldy smell</td>
<td>Tobacco</td>
</tr>
<tr>
<td>smoke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Too warm</td>
<td>Too cool</td>
<td>Too dry</td>
</tr>
<tr>
<td>Too humid</td>
<td>Itchy eyes</td>
<td>Burning eyes</td>
</tr>
<tr>
<td>Red eyes</td>
<td>Sore throat</td>
<td>Itchy skin</td>
</tr>
<tr>
<td>Difficulty breathing</td>
<td>Respiratory irritation</td>
<td>Headache</td>
</tr>
<tr>
<td>Excessive tiredness</td>
<td>Cough</td>
<td>Nausea</td>
</tr>
<tr>
<td>Sinus congestion</td>
<td>Dizziness</td>
<td>Dampness</td>
</tr>
<tr>
<td>Sneezing</td>
<td>Mold/Mildew</td>
<td>Noise</td>
</tr>
<tr>
<td>Poor lighting</td>
<td>Shortness of breath</td>
<td>Overcrowding</td>
</tr>
</tbody>
</table>

12. Do you work with any chemicals in your job/in lab?

13. Do you perform any functions, or are you in the vicinity of functions, which produce airborne dusts, mists, gases, or other airborne contaminants?

14. Has your office/resident hall room been recently remodeled, renovated, or undergone some other significant physical change?

15. Has new furniture been installed in your work/resident hall area? If so, when?

16. Has new carpet of flooring been installed in your work/resident hall area? If so, when?

17. Has painting been done recently in your work/resident hall area? If so, when?
18. Has pest/rodent control been performed recently in your work/resident hall area? If so, when?

19. Please make any additional comments, or provide any other information or insights pertaining to the indoor air quality of your building.

Personal Information

1. Are you in the care of a physician with regards to your symptoms/conditions/concerns? You may answer and/or explain at your option.

2. Do you own any pets? If so what kind? How long have you had them?

3. Do you notice any significant difference in your symptoms near or away from your pets?

4. Did you notice any significant increase in your symptoms since the acquisition of a new pet?

5. Have you changed perfumes, cologne, after shave, soap, mouthwash, toothpaste, shampoo, deodorant, or other personal items that could be related to your symptoms/concerns/condition?

6. Do you use household cleaning or laundry products that may coincide with your symptoms/condition/concern? If so, list.

7. Have you changed or added household cleaning or laundry products? If so, did you notice any significant increase or decrease in your symptoms since that
change?

8. Additional comments?
Appendix B:

Pesticide Hypersensitivity Registry Application