

UNIVERSITY OF WEST GEORGIA
INDOOR AIR QUALITY COMMITMENT AND PROTOCOL

The University of West Georgia recognizes the impact that indoor air quality has in the workplace and in your residence. In an effort to provide the community with optimum Indoor Air Quality (IAQ), UWG has procedures in place aimed to maintain indoor air quality standards that protect the health of faculty, staff and students in all buildings owned or leased by UWG.

These procedures aim to:


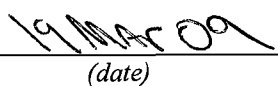
- Prevent illness, injury, and adverse health symptoms associated with poor indoor air quality
- Respond to indoor air quality complaints effectively and to make recommendations for improvement
- Maintain indoor air quality within acceptable levels according to consensus guidelines
- Provide recommendations on IAQ issues to be considered in new building design.

The building occupant's line of communication for IAQ issues depends on their association with the university. Resident students contact their assigned Resident Coordinator or Resident Assistant under the Department of Housing and Residence Life. Faculty and staff communicate to a supervisor and/or Facilities and Ground. The university's policy is to initiate a review of any IAQ concerns no more than 24 hours after a complaint is submitted.

IAQ investigations are conducted using a team approach. Team members may include representatives from Housing and Residence Life, Risk Management, Facilities [custodial and maintenance/HVAC], Project Services and Construction, the Building Manager, senior management. Investigations include site visits, occupant interviews and if needed diagnostic assessments. An outside agency may be consulted if the source and/or remediation plan is not determined.

University of West Georgia

Document No.: RM-04010
Department: Risk Management/Environmental Health & Safety (RM/EHS)
Title: Standard Operating Procedure for Indoor Air Quality (IAQ)
Investigations
Supersedes: New

Implementation Date: March 20 th , 2009
Approved By:  
<u>Theresa Jablecki-Kriel</u> <u>Director, Risk Management/EHS</u>
(name) (title)

1.0 PURPOSE

To provide guidance in maintaining indoor air quality standards that protect the health and provide a level of comfort to the faculty, staff and students in all owned or leased UWG buildings.

2.0 SCOPE

This guidance supports IAQ investigations for all University leased or owned buildings.

3.0 RESPONSIBILITIES

- 3.1 The Director, RM/EHS will manage all elements of the IAQ Program as outlined in the IAQ SOP.
- 3.2 The Director, RM/EHS will assign an IAQ Coordinator to administer the program. Program administration includes:
 - 3.2.1 Conducting IAQ investigations as outlined in section 4.0 *Procedures*
 - 3.2.2 Maintain program documentation as outlined in section 5.0 *Documentation.*

4.0 PROCEDURE

4.1 Initial Response to Indoor Air Quality Concerns

4.1.1 Indoor Air Quality concerns which require prompt attention from RM/EHS will be responded to within 24 hours from initial contact. The communication will include an email or phone call to discuss concerns and, if needed, a site visit. At minimum, the response for a complaint will

include a discussion with the room occupant(s) and the supervisor or the Resident Advisor.

4.1.2 If concerns cannot be address after an initial site visit, the investigation will go through the following phase assessments:

4.2 Phase I Assessment:

4.2.1 A walk-through inspection of the building or area(s) of complaint will be conducted. The walk-through may include other IAQ team members such as residence life, custodial and/or maintenance representatives.

4.2.2 Occupant(s) will be interviewed by the IAQ Coordinator and provided an employee questionnaire (Appendix A) and an occupant diary (Appendix B).

4.2.3 If the immediate cause or source cannot be found, a Phase II assessment may be required.

4.3 Phase II Assessment

4.3.1 IAQ Coordinator shall attempt to identify and – if possible - quantify other stressors and building conditions, including temperature, relative humidity and carbon dioxide levels (Appendix C).

4.3.2 UWG Energy Policy temperature parameters must be maintained when reviewing any quantitative data.

4.4 Phase III Assessment

4.4.1 A Phase III Assessment is performed when a definitive cause for the symptoms cannot be determined during the Phase II Assessment of the investigation. Phase III Assessments consist of extensive and more specific monitoring and sampling for chemical and/or microbial contaminants.

4.4.2 RM/EHS may consider contracting other professional consultants to conduct the Phase III Assessment.

5.0 DOCUMENTATION

5.1 RM/EHS will maintain all indoor air quality forms and reports on file for future reference. The IAQ coordinator will distribute final written reports to interested parties, as needed.

5.2 Indoor air quality concerns will be logged into the IAQ database. Minimum information for each project includes:

- Project Number – Project number includes the building number and the next sequence number i.e. for Gunn Hall 16-0001, the next project number would be 16-0002;
- Building Name;
- Room or location;
- Primary Use i.e. residencies, administrative etc;
- Date of initial contact;
- Single work description i.e. *mold* for mold concerns, *thermal* for comfort issues such as excessive heat or humidity, etc.;
- Brief description of concern(s);
- Name and contact information;
- Work order number if applicable.

5.3 For more extensive intra-office documentation, the events log format will be used. When advantageous, the events log will be hyperlinked to the database.

Appendix A
IAQ Occupant Worksheet

Building/Location: _____

Occupant Name: _____ Job Description _____

Symptom Patterns

- What kind of symptoms or discomfort are you experiencing?

- Do you have health conditions that may make you particularly susceptible to environmental problems, such as a history of allergies or respiratory problems?

- Have you seen a physician in regards to your concerns?
___ Yes ___ No

Timing Patterns

- When do your symptoms start?

- When are they generally worst?

- Do they go away? If so, when?

- Have you noticed any other events (such as weather, temperature or humidity changes, or activates in the building) that tend to occur around the same time as your symptoms.

Spatial Patterns

- Where are you when you experience symptoms or discomfort and what are you doing?

- Where do you spend most of your time in the building?

Additional Information

- Do you have any observations about the building conditions that might need attention or might help explain your symptoms (e.g., temperature, humidity, drafts, stagnant air, odors)?

- Do you have any other comments?

- In your opinion what do you think would help solve these concerns:

- Over the last three months have there been any significant changes in your work area.

Significant Changes	Date of Changes	Details
New Furniture		
New Carpet		
New Equipment		
New Cleaning Products		
New Operations		
Other		

- Please use this space to add any further comments or conditions you would like to bring to our attention. Use any additional sheets of paper if needed.

**Appendix B
Occupant Diary**

Occupant Name _____ Building Name _____ Room Number/Location _____

Date/Time	Location	Symptom Intensity ¹	Duration ²	Activity ³	Environmental Conditions ⁴	Other Activities ⁵

Comments

- 1: How severe were the symptoms on a scale of 1(mild) to 5(very bad)
- 2: How long did the symptom last?
- 3: What were you doing at the time the symptoms first occurred (e.g. reading, drawing, copying)?
- 4: Include any adverse air quality conditions: e.g. too hot/cold, odor, glare, drafts etc.
- 5: What else was happening nearby (e.g. use of printer, vacuuming, cooking etc.)

Appendix C

ASHRAE Standards

References

- ASHRAE 62-1989, Ventilation for Acceptable Indoor Air Quality
- ASHRAE 55-1992, Thermal Environmental Conditions for Human Occupancy

General

ASHRAE standards are technical documents which can be used as a guideline when assessing indoor air quality parameters. The guidelines will not supersede the UWG Energy Policy. In the event of a discrepancy, the UWG Emergency Policy will be followed.

Carbon Dioxide

Carbon dioxide (CO₂), a major product of human respiration, is used as an indicator to evaluate the performance of ventilation systems. Ordinary outside air in urban areas normally contain about 350 to 400 parts per million (ppm). ASHRAE standard 62-1989 (Ventilation for Acceptable Indoor Air Quality) recommends that CO₂ levels be maintained below 1000 ppm.

Temperature Control

Temperature ranges of 73 F to 79 F during the winter months and 69 to 75 during summer months are recommended by ASHRAE. These guidelines are intended to achieve thermal conditions in a given environment that at least 80% of persons who occupy that environment will find it acceptable or "comfortable."

Relative Humidity

Relative humidity levels can affect the release rate of many indoor contaminants, their concentrations in the air, and the potential growth of microbial organisms. Humidity can also have a direct effect on worker comfort. In ASHRAE 55-1981, a "comfort chart" shows an acceptable range of humidity to be from 20 to 60%.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, and toxic gas. Incomplete combustion of liquid fuels (gasoline, kerosene or propane) solid fuels (wood, charcoal, and coal), or natural gas produces CO. Indoor levels of CO are generally similar to levels found in the air outside of the occupied building. The current regulatory permissible exposure limit (PEL) as set by the Occupational Safety and Health Administration (OSHA) is 50 ppm.

Table I Common Indoor Air Quality Contaminates and their Limitations

Contaminant	Limit
Carbon Dioxide	1000 ppm
Carbon Monoxide	9.0 ppm
Formaldehyde	0.4 ppm
Particulates	75 ug/m ³

Table II Thermal Comfort Levels

Condition	Range
Temperature, Winter	68° F – 74° F
Temperature, Winter	73° F -79° F
Humidity	30% - 60%