



EAST TENNESSEE STATE UNIVERSITY

Facilities Management

Policy Number: 700.35
Title: Indoor Air Quality Policy
Implementation Date: May, 2011
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Introduction

Indoor air quality (IAQ) is a real but highly complex issue that often involves a multitude of factors and building systems. IAQ problems may cover a wide range of issues from ventilation system deficiencies, overcrowding, microbiological contamination, outside air pollutants, off gassing from materials in the office and mechanical equipment.

Symptoms arising from poor indoor air quality are often similar to common cold or allergies. These symptoms may include upper respiratory irritation, sinus congestion, headaches, fatigue, and itchy or watery eyes.

Scope

This policy is intended to assure that all employees working in an ETSU owned or leased buildings are provided with an indoor environment that is safe, comfortable and free from contaminants or conditions that may adversely impact health outcomes.

Purpose

The purpose of this program is to provide ETSU buildings with the optimum level of Indoor Air Quality (IAQ).

Procedures

- Contact Facilities Management 9-7900 or EH&S 9-6028 for emergency IAQ issues and place a Work Order through the TMA system <http://tma.etsu.edu/> for all non-emergency IAQ issues.
- EH&S will investigate first by interviewing the affected occupant(s). A walk-through of the area will be evaluated with the occupant(s) to

eliminate potential sources of contaminated areas. This may include the use of monitors for IAQ parameters, including temperature, humidity, carbon dioxide, carbon monoxide, VOC's and gases. If the source of contamination is not identified, additional expertise from Facilities Management will be brought in to help in identifying the source. Usually the source is identified and more extensive testing is unnecessary.

- If there is a definitive cause for symptoms that cannot be determined, then more extensive monitoring and sampling may be necessary. Sampling may help in determining the cause and may need assistance from an Occupational Health Physician or seek guidance from Disability Services.

There are several factors and sources that may affect Indoor Air Quality and/or comfort as noted below. This is not an all-inclusive IAQ factor list, but these are the most common.

- **Temperature:** Temperature ranges vary from the summer and winter months, however ASHRAE's guidelines are intended to achieve thermal conditions in a given environment that at least 80% of occupants will find it acceptable or comfortable.
- **Relative Humidity:** Relative humidity levels that are higher than normal ranges can affect the potential growth of microbial organisms. Humidity levels can directly affect worker comfort.
- **Carbon Dioxide:** Carbon dioxide (CO₂) is a major product of human respiration and is used as an indicator to evaluate the performance of ventilation systems. Outside air usually contains 300-500 parts per million (ppm) and ASHRAE recommends that CO₂ levels be maintained around or below 1,000 ppm. Increased levels of carbon monoxide can cause headaches and fatigue.
- **Carbon Monoxide:** Carbon monoxide is an odorless and tasteless gas that can have adverse health effects if not detected early. Carbon monoxide usually comes from automobile exhaust, power tool exhaust, and tobacco smoke and can be distributed throughout a building if they are near fresh air intakes. Early symptoms include a mild headache, nausea, fatigue and dizziness. OSHA's permissible exposure limit (PEL) is 50ppm during an 8-hour period.
- **Volatile Organic Compounds (VOC's):** VOC's are emitted as gases from certain solids and liquids, which may have some adverse health effects. Examples of VOC's are solvents, adhesives, carpet, paints, lacquers, caulking, perfumes and hairsprays.

- **Microbial Contamination:** This type of problem is usually associated with water leaks, water intrusion, elevated indoor humidity, humidifiers, and insufficient pipe insulation. Individual sensitivities will cause each person to react differently.

Responsibilities

Environmental Health & Safety will investigate indoor air quality complaints within 48 hours of initial complaint to the department. EH&S will rely on Facilities Management for proper communication and expertise from the shops.

References

Occupational Safety and Health Administration (OSHA)-General Duty Clause

American Society of Heating, Refrigeration and Air conditioning Engineers (ASHRAE) standard 62-1989 (Ventilation for Acceptable Indoor Air Quality)

Environmental Protection Agency (EPA)-Building Air Quality

Contact Persons

Associate Vice President
Director of Environmental Health and Safety
Environmental Compliance Manager
Health and Safety Specialist
Business Director

Approved by: _____
William Brady Rasnick, Jr., Associate Vice President, Facilities Management

Date approved: _____