



EAST TENNESSEE STATE UNIVERSITY

Facilities Management

Policy Number: 700.35
Title: Indoor Air Quality Policy
Implementation Date: May, 2011
Last Audited: March, 2017
Last Revised: April 12th, 2017

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 the 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 ensure that all employees working in 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 at 439-7900 or EH&S at 439-6028 for emergency IAQ issues and place a work order through the TMA system for all non-emergency IAQ issues at <http://etsutma2.etsu.edu:81/home.html>.
- EH&S will investigate first by interviewing the affected occupant(s). A walk-through of the area will be conducted with the occupant(s) to

investigate potential sources. This may include the use of monitors such as handheld multi-gas detectors or data loggers for measuring IAQ parameters, including temperature, humidity, carbon dioxide, carbon monoxide, volatile organic compounds and gases. If the source is not identified, additional expertise from Facilities Management may be brought in. Usually the source is identified and more extensive testing is unnecessary.

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

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 some of 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 the initial complaint to the department. Facilities Management shops will assist EH&S in remediating IAQ problems when requested.

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

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