

WNC Policies and Procedures Manual

Procedure: **INDOOR AIR QUALITY PROGRAM**

Policy number: 11-8-2

Department: Environmental Health and Safety (EH&S)

Contact: EH&S Officer

Policy: This policy reflects the WNC commitment to provide air quality and minimize discomfort and illness related to indoor air contaminants. This program applies to all WNC facilities.

Section 1. Responsibilities

- A. Facilities Services Department shall perform the following
 1. Notify contractors and their personnel of responsibilities to minimize generation of airborne contaminants during maintenance, renovation, or construction activities.
 2. Require contractors and their personnel to implement controls such as ventilations, dust suppression, and containment to minimize the production of airborne contaminants.
 3. Notify EH&S when Facilities or contractor work will be performed that may generate air contaminants which may be odorous, irritating, or toxic.
 4. Not generate or allow contractors to generate air contaminants in excess of American Conference of Governmental Industrial Hygienist (ACCGIH) Threshold Limit Values (TLVs) or OSHA Permissible Exposure Levels (PELs), whichever is lower.
 5. Maintain readily accessible Material Safety Data Sheets (MSDS's) for any chemical(s) used during construction/maintenance activities.
 6. Provide contractor safety plans to EH&S for review prior to work commencement.
 7. Provide and maintain indoor ventilation rates at WNC facilities in accordance with ANSI/ASHRAE 62-1999 "Ventilation for Acceptable Indoor Air Quality".

B.WNC Division and Department managers shall support the indoor air quality program:

1. Provide adequate notice to the Facilities Department and EH&S of upcoming circulation changes that may require HVAC changes.
2. Notifies EH&S when performing academic or research activities that may generate air contaminants which may be odorous, irritating or toxic.
3. Implement controls such as ventilation, dust suppression, and containment to minimize the production of airborne contaminants.
4. Does not generate air contaminants in excess of America Conference of Governmental Industrial Hygienist (ACCGIH) Threshold Limit Values (TLVs) or OSHA permissible exposure levels (PELs), whichever is lower.
5. Maintains on-site MSDS's for any chemical (s) used during construction/maintenance activities.

C. Environmental Health and Safety Department (EH&S)

1. Develop and implement written indoor air quality program.
2. Performs review of processes and materials used in maintenance, renovation, and/or construction activities.
3. Reviews contractors' safety plans as submitted by Facilities Service Department.
4. Conducts monitoring to determine airborne contaminants
5. Recommends corrective action(s) and methods to control air contaminants in WNC facilities.

Section 2. Procedures

A. All WNC personnel and outside contractors shall make every effort to prevent the migration of construction/maintenance-generated contaminants into occupied areas. This may include recommendation or implementation of one or more of the following methods:

1. Contain construction/maintenance generated contaminants by sealing doors, HVAC supply & return grills and any openings in floors or ceilings where contaminants can migrate from the construction zone occupied areas.

2. Provide a means of exhausting construction/ maintenance containments out of the building, ensuring that the exhaust is not contaminating occupied areas through open doors, windows, or fresh air intakes.
 3. Provide containment vestibule(s) into the construction/ maintenance zone to allow building access while controlling the exposure of contaminants to areas outside of the construction zone.
 4. When construction activities require roto-hammer, drilling into, or hammering against the structure thereby creating structure-borne noise, coordinate with the scheduling office to ensure that these operations do not conflict with classroom instruction.
 5. Clean equipment outside of the building where vapors from solvent, degreasers, or other chemical solutions will not contaminate occupied areas. Cleaning operations shall not stain exterior surface, harm existing landscape vegetation, or pollute drainage systems.
 6. Keep gas-powered equipment outside of the building. Prevent exhaust from entering the building through open doors, windows, or fresh air intake vents.
 7. If the above requirements cannot be met, contact EH&S for additional solutions to control construction/maintenance generated contaminants.
 8. WNC expects outside contractors to understand that construction activities, while vital to our continued growth, must be performed in a manner which minimize exposures to staff and students. If any of the above requirements cannot be met the Contractor must provide a written explanation to the WNC project representative and propose a solution that will appropriately minimize contaminants. No work shall occur until a solution has been approved by the WNC project representative.
 9. Create Standard Operating Procedures (SOPs), which specify controls to minimize the generation of indoor air quality contaminants.
 10. Utilize laboratory hoods and other local exhaust ventilation when generating contaminants that may be odorous, irritating, or toxic.
- B. The Environmental Health & Safety Department shall perform routine indoor air quality surveys, which include:
- Building walkthroughs to assess building odor, moisture/drainage concerns, and contaminant sources;

- Inspection of heating, ventilation, and air conditioning system to assess air intakes, filters, coils drain pans, and accessible ductwork for potential contaminant sources;

Section 3. Definitions

- Construction/ Maintenance Activities: Those activities which are performed to maintain and/or construct equipment, facilities, or grounds of Western Nevada College. These may include parts/equipment cleaning; disturbing materials which may be asbestos containing; painting/coating activities; sanding or cutting; welding, soldering, and/or torch-cutting.
- Construction/ Maintenance Generated Contaminants: Construction and/or maintenance generated containment are defined, but not necessarily limited to, the following: dust (from cutting and sanding operations); atomized sprays (from painting or sealing operations); vapors (from coating, chemical applications, or cleaning activities); gases (from internal combustion equipment); and noises (from hammering, drilling, sawing, etc.).
- HEPA: A pleated filter media High Efficiency Particulate Arrestor capable of filtering 99.97% of particulates 0.3 um in size.
- HVAC: Heating, Ventilating, and Air Conditioning systems that provide fresh tempered air to occupants of indoor environments.
- Indoor Air Quality: Indoor air quality is a term used to characterize the acceptability of the indoor air and is defined as: “The nature of air that affects the health and well-being of occupants.” Acceptable indoor air quality is defined by the American Society of Heating, Refrigeration and Air conditioning Engineers (ASHRAE) as “air in which there are no known contaminants at harmful concentrations and with which a substantial majority of the people exposed do not express dissatisfaction.”
- Material Safety Data Sheet (MSDS): Written or printed material concerning a hazardous chemical which contains: the chemical’s identity, constituents, physical and chemical characteristics, physical hazards, health hazards, primary routes of entry, exposure limits, carcinogen status, safe handling methods, control methods, emergency and first aid procedures, date of preparation, and the name address, and telephone number of the chemical manufacturer or distributor.
- Permissible Exposure Limit (PEL): Maximum airborne concentration of substances and conditions that workers may be legally exposed to.

- Threshold Limit Value (TLV): Airborne concentrations of substance and conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects.

Section 4. References

American Conference of Industrial Hygienist (ACCGIH) Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices (Latest Version)

American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHAE)
62-1999 “Ventilation for Acceptable Indoor Air Quality.”

American Society for Testing and Materials (ASTM) D6245-98 “Standard Guide for Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality and Ventilation”

Indoor Air Quality and HVAC Workbook, Burton, J.D., 2000.

Occupational Safety and Health Administration (OSHA) Code of Federal Regulations 29 CFR 1910.1000 “Air Contaminants”

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