



Confined Space Entry and Permitting

Purpose

The purpose of this plan is to meet the obligation of OSHA 29 CFR 1910.146 in preventing harm to Normandale's staff due most often in confined spaces to asphyxiation.

Confined Space Defined

The following are the conditions at Normandale which will define a confined space:

- The space is large enough to enter and perform work
- The space has limited means of entry
- The space is not designed for continuous employee occupancy

Some examples of these would include, but are not limited to boilers, pits, manholes, electrical vaults and pipe chases.

The following are permit required confined spaces. They would have one or more of the following characteristics:

- ❖ Contains or has the potential to contain a hazardous atmosphere
- ❖ Contains a material which has the potential to engulf someone entering the space
- ❖ Has an internal configuration formed in such a way that an entrant could become trapped or asphyxiated by inwardly converging walls or floors that slope downward and taper to a smaller cross section
- ❖ Contains any safety or health hazard

A permit must be obtained before entering these spaces.



Non Permit Confined Space: A confined space that does not have the potential to contain any hazards capable of death or serious physical harm.

Entry Permit: The written or printed document that is provided by supervisory to allow and control entry into a permit space.

Engulfment: The surrounding and capture of a person by a liquid or finely divided (Flowable) solid substance that can cause death by filling or plugging the respiratory system causing death by strangulation, constriction or crushing.

Authorized Entrant: An employee who is authorized by a Building Services Supervisor to enter a permit confined space.

Acceptable Entry conditions: The conditions which must exist in a permit space to ensure the safe entry of an employee.

Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of the ability to self-rescue, injury or illness from the following causes:

- ✦ Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL)
- ✦ Airborne combustible dust at a concentration that meets or exceeds its LFL
- ✦ Atmospheric oxygen concentrations below 19.5% or above 23.5%
- ✦ Atmospheric concentration of any substance for which a dose or permissible exposure limit (PEL) is exceeded
- ✦ Any other atmospheric condition that is immediately dangerous to life or health. (IDLH)

Immediate Danger to Life or Health (IDLH): Any condition that poses an immediate or delayed threat to life or cause irreversible health effects or interferes with an employee's ability to escape unaided from a permit required space.



Oxygen Deficient Atmosphere: An atmosphere with less than 19.5% oxygen by volume. **Oxygen Enriched Atmosphere-** An atmosphere containing more than 23.5% oxygen by volume.

Permissible Exposure Level (PEL): The airborne concentration of hazardous materials that is regulated by OSHA that must not be exceeded over a specific time or concentration.

Threshold Limit Value (TLV): A time weighted concentration under which most people can work for 8 hours per day with no harmful effects.

Responsibility for Compliance

The contact for this plan at Normandale Community College is Jon Hanson.

Responsibilities:

- Provide annual training regarding confined spaces
- To assist in the determination of non-permit and permit required spaces
- Coordinate the posting of signs by each confined space
- Provide medical screening for respirator use
- Coordinate management /employee roles
- Provide to College Staff the current version of the plan
- Provide all required personal protection equipment including a 4 gas meter
- To ensure that the gas meter is properly calibrated

Building Services Supervisor's Role

- ❖ To know when employees are entering a confined space
- ❖ Notification to Security that we have an employee in a confined space for emergency purposes
- ❖ Verifying that the proper atmospheric tests have been performed
- ❖ Verification that the permit has been properly filled out
- ❖ Terminating or cancelling the permit
- ❖ Removing un-authorized individuals from the permit required space
- ❖ Providing a stand by employee to monitor entry
- ❖ Be constantly available by radio
- ❖ To make sure that all Lock Out / Tag Out procedures are in place



Building Services Staff Role

- Recognition of the hazards which may be present in a permit required confined space
- Notification of a Building Services Supervisor of the work to be done in the confined space
- Filling out the permit located in the Building Services office and turning it in to a supervisor
- Ensuring that the stand by employee is always present with a radio when working in the permit required confined space
- Ensuring that the stand by staff member is informed as hazardous conditions are identified
- To ensure that a respirator is being used as required
- To ensure that any man hole opened is properly barricaded to prevent an accidental fall as well as to prevent any debris from entering the man hole
- Only Authorized Staff should enter confined spaces and only trained staff will be allowed to enter permit required confined spaces
- If there is any question as to whether an area should be reclassified, please contact Jon Hanson

Public Safety's Role

- ✓ To be available for emergency response
- ✓ To have a staff member on duty trained in CPR when a Building Service enters a confined space

Identification of Confined Spaces

Normandale's confined space inventory is located in the Confined Spaces Plan book and on-line under the Environmental Health and Safety website located on the INET. As equipment is changed or added this inventory will be reviewed and updated. The current list of confined spaces was put together by I.E.A., the Institute for Environmental Assessment.



Ventilation of Confined Spaces

If a confined space is found to contain a hazardous atmosphere, forced air ventilation may be used to bring the air quality to acceptable limits. If the hazard still exists, then the confined space will become a “permit required confined space”.

When ventilation is used the following rules will apply:

- ✚ Keep the blower at least 10' from the confined space
- ✚ Ensure the exhaust system is placed so that it prevents students and employees in the surrounding area from being contaminated
- ✚ Ensure that the ventilation system is fully operational
- ✚ Ensure that contaminated air is not re- circulated into the confined space.

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