

1. Title: Confined Space Entry Policy

II. Purpose: To describe procedures for entering confined spaces and permit required confined spaces which will comply with applicable regulations and provide for the safety of all entrants.

III. Contact EH&S, Health & Safety Officer

IV. Policy: Entry into confined spaces can pose atmospheric and physical hazards which can be life threatening. This policy establishes procedures designed to ensure the safety of all persons entering confined spaces on UCSC property and comply with regulations established by Cal OSHA.

V. References: Title 8 California Code of Regulations Section 5156, 5157, & 5158

VI. Provisions:

A. These procedures shall apply when university employees or contractors enter into a confined space. A confined space is any space meeting the following specifications:

1. Large enough for an employee to bodily enter and perform work.
2. Has limited or restricted means of entry or exit.
3. Has the potential for oxygen deficient or hazardous atmosphere.
4. Contains other recognized physical hazards such as engulfment or entrapment.
5. Not intended for continuous human occupancy.

Examples include: silos, vaults, pits, tanks, sewers, ducts, pipelines and compartments.

B. Exemption to the requirements for non-permit entry apply only in those spaces known to have no potential for an oxygen deficient atmosphere or other hazardous air contaminant, such as attics and building crawlspaces.

VII. Procedures:

B. Confined Space Entry General Information

1. Training: All members of the confined space entry team, entrant, attendant and entry supervisor must be trained to perform their required duties. At a minimum this training shall include, ability to recognize a confined space, recognition of confined space hazards, familiarity with the UCSC confined space entry policies, use and limitations of atmospheric monitoring equipment, signs and symptoms of exposure to atmospheric hazards, termination of entry, and rescue procedures

2. Duties of Team Members:

- a. Attendants: Attendants shall control unauthorized entry into the space, maintain contact with the entrant, monitor the entrant, conduct atmospheric monitoring, contact the rescue agency if needed and terminate the entry if required.
- b. Entrants: Entrants shall be aware of all potential hazards within the space, know and follow all safety procedures and be trained to perform the work safely.
- c. Entry supervisors: Entry supervisors determine if appropriate pre-entry procedures have been met, issue permits, revoke permits, and cancel permits

3. Confined Space Rescue: The designated rescue agency for confined space rescue on UCSC property is the University Fire Department. The designated rescue agency at Long Marine Lab is the City of Santa Cruz Fire Department. If entrants are equipped with a retrieval apparatus, the attendant may begin non-entry rescue. All members of the University Fire Department rescue team shall perform at least one simulated rescue annually and shall receive training on confined spaces which is equivalent to the training received by entrants, entry supervisors and attendants.
4. Communications: The attendant shall be in voice or visual contact with the entrant or communicate via the 800 MHz radio system. The attendant shall also be in radio contact with the fire department.

A. Confined Space Entry: **No Permit Required**

1. Entry Team Composition and Function: Entry teams shall consist of at least two people. An entrant and an attendant. The attendants job is to monitor the atmosphere of the space, maintain contact with the entrant, maintain communications with the designated rescue agency, and control entry into the space. One attendant can monitor several low hazard spaces such as telecommunications or electrical vaults. **Attendants will never enter a confined space to attempt rescue of an unconscious person.**

2. Pre-entry hazard evaluation: Using the checklist on the back side of the confined space entry form (copy attached), a hazards determination of the space to be entered shall be made by someone familiar with the hazards of the space. This may be someone from UCSC or a contractor who has entered UCSC spaces and is familiar with the potential hazards. This checklist must be available at the site.

3. Hazard Elimination: Lockout/tagout procedures may be used to eliminate potential hazards in confined spaces so the space can be reclassified to a non-permit required space.

4. Atmospheric Testing: The atmosphere shall be tested using a calibrated meter that can measure oxygen, combustible gasses, hydrogen sulfide or other toxic gasses that may be present. If possible, this measurement must be made before removing the lid. The person using the gas meter must have training in the meters use and limitations. Note: Deep spaces must be measured every four feet. Measurements must be made horizontally and vertically. Oxygen is measured first, then combustible gasses and then toxic gasses. All readings must be recorded on the permit form.

5. Entry Prohibitions: If there are any hazardous conditions noted on the check list or any other hazardous conditions, of which the entrants are aware, **stop**, it is a permit required confined space. Follow procedures for entering permit required confined spaces below.

6. Protection of Confined Space Opening: After removing the utility vault cover the opening must be protected by the use of railings, temporary cover or other means to protect employees working near the opening and to prevent materials from falling into the space and injuring the entrant.

7. Entry Allowed: If there are no hazards or all hazards have been eliminated, a permit is not required and entry may proceed.

8. Air Monitoring Requirements: Periodic monitoring of the air is required, after entry, to ensure that work activities have not altered the atmosphere. This interval is not specified in the regulations but OSHA recommends continuous monitoring.

VIII. Procedure: Confined Space Entry **Permit Required**

Note: The requirements, listed below, for entry into a permit required confined space are in addition to the requirements for entry into a non permit required confined space.

Definition: A permit required confined space is: Any space meeting the definition of a confined space and containing any recognized hazard which may be immediately dangerous and cannot be eliminated before entry or any confined space where the hazards cannot be indentified prior to entry. Confined spaces in which hot work is performed are permit required confined spaces under all circumstances. Hot work is defined as any acitivity that involves open flame, sparks, high temperature, chipping, grinding or any other potential source of ignition.

1. Meet all conditions 1-8 of non-permit required confined space entry.
2. Pre-Entry Approval: Entrants into permit required confined spaces must have the entry approved and the entry permit signed by the entry supervisor. The entry supervisor must be familiar with the hazards presented and the safety measures taken to protect the entrant.
3. Required Equipment: Entrants must wear a retrieval apparatus for permit spaces over five feet deep to enable non-entry rescue in the event of an emergency. The requirement to wear a retrieval apparatus can only be waived if it would interfere with rescue. **EH&S is the only department authorized to waive the wearing of a retrieval apparatus.**
4. Attendant Requirements: A dedicated attendant is required for each permit required space.
5. Hazard Training: Entrant and attendant must be trained on the hazards of the space to be entered and symptoms of exposure to atmospheric hazards. They must also be trained on any safety measures needed to protect the entrant.
6. Personal Protective Equipment: Employer must provide any personal protective equipment needed to protect the entrant from hazards that could not be eliminated e.g. respiratory protection, insulated tools etc.
7. MSDS Requirement: If an entrant is exposed to or uses a material for which an MSDS is available, the MSDS must be at the work site.
8. Air Monitoring: Continuous monitoring of the air is required if forced ventilation is used to remove an atmospheric hazard. Readings must be recorded every two hours at a minimum.
9. Ventilation: When ventilating a confined space, the fresh air supply intake must be positioned so that only clean air is introduced into the space. Atmopsheric readings must be taken at an adequate interval adequate to insure contaminants are effectively removed.
10. Canceling a Permit: permits are good for the duration of the time to perform the work specified or until the time limit on the permit expires or unless terminated by the entry supervisor, attendant or EH&S. Continuation of work beyond the time specified or if cancelled due to conditions that develop within the space requires the issuance of a new permit.
11. Permit Review: All canceled permits shall be retained for a period of one year. Annual reviews of canceled permits may be conducted by EH&S.

C. Procedures When Contractor Employees Enter Confined or Permit Required Confined Spaces on University Property.

1. Pre-entry Notification: U.C.S.C. representative Informs contractor of confined spaces and permit required confined spaces and that entry is only allowed through compliance with an appropriate confined space entry program.
2. Hazard Appraisal: U.C.S.C. representative Apprises contractor of hazards and why a confined space is a permit required confined space.
3. Entry Coordination: U.C.S.C. representative Coordinate entry if both contractors employees and host employees enter the space.
4. Contractor De-briefing: U.C.S.C. representative Debrief the contractor at the conclusion regarding any hazards created or found during entry operations.
5. Notification of Safety Measures: U.C.S.C. representative Apprise contractor of any measures taken in or near permit spaces to protect employees in the confined space.
6. Compliance with Entry procedures: Contractors must comply with U.C.S.C. confined space entry procedures.

IX. REVIEW TEAM: EH&S, Fire Department, CAMFAC

Revised December 17, 2003