

UNIVERSITY OF ALASKA FAIRBANKS SAFETY SYSTEM POLICY AND PROCEDURE

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SUBJECT: Confined Space Policy

CONFINED SPACE POLICY

PURPOSE: The purpose of this policy is to comply with Alaska Occupational Health and Safety (AKOSHA) Standard 29 CFR 1910.146, and to establish and maintain a safe environment for UAF personnel entering confined spaces.

OBJECTIVE: To properly identify hazards; institute appropriate controls, safeguards and actions to protect personnel; and to coordinate "Hot Work" and/or "Lockout/Tagout".

SCOPE: Applies to all UAF employees, students, faculty, and staff who enter a hazardous atmosphere which may expose them to the risk of death, incapacitation, or impairment of ability to escape unaided from the workplace.

I. CONFINED SPACES

Confined spaces are workplaces which:

- A. Are large enough, and so configured, that an employee can bodily enter and perform the assigned work; and
- B. Have limited or restricted means for entry and exit; and
- C. Are not designed for continuous employee occupancy; and
- D. Have one or more of the following characteristics:
 - 1. Contain, or have the potential to contain, a hazardous atmosphere.
 - 2. Contain material that has the potential for engulfing the entrant (i.e., water, sludge, coal, fire, etc.)

3. Have an internal configuration such that an entrant could be asphyxiated by inwardly converging walls, or by a floor which slopes downward and tapers to a smaller cross section.

4. Contain any other recognized serious safety or health hazard.

E. Examples of spaces that would typically meet the criteria identified above include, but are not limited to tanks, sumps, pits, sewers, lift stations, compartments with a manhole, pits, and excavations more than four feet deep.

F. Entry into spaces meeting the criteria listed in items 1 through 3, but that **DO NOT** meet any of the criteria listed in item 4 shall be executed utilizing the Department's normal work practices, however, with careful scrutiny. Examples of spaces that could typically fall under the exception include plenums, soffits, utilidors, etc.

G. For purposes of this policy, a hazardous atmosphere is one which may expose employees to the risk of death, incapacitation, impairment of ability to escape unaided from the workspace, injury, or acute illness from one or more of the following.

1. Flammable gas, vapor, or mist in excess of 10% of the LEL.
2. Atmospheric oxygen concentration below 19.5% or above 23%.
3. Atmospheric concentration of a toxic or hazardous substance which could result in a dose in excess of its Permissible Exposure Limit (PEL).
4. Any other atmospheric condition that is immediately dangerous to life or health, or poses an immediate or delayed threat to life, would cause irreversible adverse health effects, or that would interfere with an individual's ability to escape, unaided, from the space.

NOTE: Entry is defined as the breaking of the plane of the opening into the space by any part of the entrant's body.

II. PERMIT INITIATION

The First-Line Supervisor responsible for getting the work done will initiate the permit.

III. CONTRACTOR REQUIREMENTS

Contractors, who conduct entries into UAF confined spaces as defined in this policy, shall be informed of the elements included in this Policy; the hazards identified with respect to the space; and any precautions or procedures that UAF has implemented.

Contractors may use this policy as a guideline, or provide an acceptable alternative. UAF EHS&RM will review all alternative proposals.

IV. GENERAL REQUIREMENTS

Every reasonable effort should be taken to avoid the necessity of entering a confined space containing a known, or potentially hazardous, environment.

Entry into any confined space, containing a potentially hazardous atmosphere as defined in this policy, shall require the use of a confined space entry permit.

Confined spaces shall be cleaned and/or decontaminated to the extent practical through the use of water wash, purging, ventilation, or other acceptable means. Ventilation equipment shall be bonded and grounded to prevent buildup of static electricity.

Prior to entry into a confined space, all potential energy sources shall be isolated in accordance with the UAF LockOut/TagOut procedure. Once a confined space has been thoroughly depressurized, isolated, purged, cleaned, or flushed as applicable, it shall be tested prior to the removal of hatches, manways, etc. A confined space is considered safe to open if concentrations of flammable vapors are below 10% of the LEL and provisions are made to evacuate any vapors that may be emitted from the space to the exterior of the work area.

To assure that personnel do not enter a confined space until safe to do so, a **"DO NOT ENTER"** tag shall be attached to all points of entry that have been opened.

Such tags shall not be removed until a properly completed entry permit is issued. Flagging tape may also be used to further highlight the restriction of entry.

Should any opening in the confined space be so configured that a person could enter the space unknowingly or accidentally, additional physical barriers and warning signs shall be put in place as the situation dictates.

Prior to entry, atmospheric monitoring, including at a minimum, oxygen content followed by flammability (%LEL), shall be conducted. Additional testing for toxic or hazardous substances, temperature, Ph, radioactive material, etc. will be performed as warranted. Periodic monitoring during the entry operation shall be conducted at a minimum of once each shift; not to exceed every 4 hours. More frequent monitoring, up to and including continuous monitoring, may be evaluated and specified by the EHS&RM, Safety Officer. All test results shall be recorded on the permit.

Upon the completion of the necessary re-entry checks and testing, the completed permit shall be posted in a clearly visible location near the main entry point.

All portable ladders used for entry/exit of a confined space shall be appropriately secured.

V. RESPONSIBILITIES

First-Line Supervisor

A. Obtain a copy of the confined space entry policy and permit and begin its initiation. A copy of the required permit is attached and extra copies can be obtained from the EHS&RM, 474-5413.

B. Ensure that the entrant(s), standby person(s), and entry supervisor have received the required training and can perform their assigned duties.

C. Ensure the space is safe to enter.

D. Sign the permit before entry is made.

E. Verify the confined space entry is complete and ready to close, including the verification that all personnel have exited the space and tools, debris, etc. have been removed.

Entry Supervisor

A. Inform the entrants of the hazards identified with respect to the space; plus any precautions or procedures that have been implemented for the employees, in or near, the confined space.

B. Know the hazards that may be faced during entry; including the mode, signs or symptoms, and consequences of exposure.

C. Verify by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted, and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.

D. Verify that rescue services are available and that the means for summoning them are operable prior to allowing entrance into the space.

E. Remove unauthorized individuals who enter, or who attempt to enter, the confined space. F. Determine, whenever responsibility for a confined space is transferred, and at intervals dictated by the hazards and operations conducted in the space, that entry operations remain consistent with the terms of the entry permit and that acceptable entry conditions are maintained.

G. Terminate entry and cancel the permit when the operations covered by the permit are completed or when a condition that is not allowed under the entry permit arises in or near the space.

NOTE: A determination shall be made during the pre-job planning phase of the confined space entry as to who will serve as the designated ENTRY SUPERVISOR. Logical choices depending upon the complexity of the job, anticipated duration, number of entrants, etc. would include the Maintenance Supervisor, Project Manager, Facility Supervisor, or Lead Maintenance Technician.
Authorized Entrant

A. Verify LockOut/TagOut as applicable.

B. Read and understand the Confined Space Entry Permit before entering the confined space. Log in and notify the standby person upon each entrance and exit of the confined space.

C. Know the hazards that may be faced during entry including the mode, signs or symptoms, and consequences of exposure.

D. Properly utilize the equipment provided for testing or monitoring, ventilation, communications, lighting, barricading, access, and PPE.

E. Communicate with the standby person as necessary to enable the stand-by person to alert entrants of the need to evacuate the space.

F. Alert the standby person whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation or the entrant detects a prohibited condition. G. Exit from the confined space as quickly as possible whenever an order to evacuate is given, a warning sign or symptom of exposure is recognized, a prohibited condition is detected, or an evacuation alarm is activated.

H. Clean up and secure the work area after completion of each work shift. If the job is incomplete and the person or crew temporarily leaves the area, the worker must notify the Supervisor.

Stop all work when an alarm or Emergency Announcement is made and exit the confined space. Do not resume until notified by the Entry Supervisor.

Standby Person

A. Read and understand the Confined Space Entry Permit.

B. REMAIN OUTSIDE THE CONFINED SPACE MAIN ENTRYWAY AT ALL TIMES DURING ENTRY OPERATIONS.

C. Continuously maintain an accurate log of all persons in the space.

D. Warn unauthorized persons away from the space. Advise unauthorized persons that they must exit immediately if they have entered the space, and advise the Entry Supervisor and the authorized entrants if unauthorized persons have entered the space.

E. Be knowledgeable of and be able to recognize potential hazards that may be faced during the entry including the mode, signs or symptoms, and consequences of exposure. Be aware of the potential behavioral effects of hazard exposure to entrants.

F. Post copies of permits related to the confined space entry at the main entry of the confined space. G. Monitor activities inside and outside of the confined space to determine if it is safe for the persons making entry to remain in the space.

H. Maintain effective and continuous contact with persons inside the confined space, and have a means of communication with the entry person and Entry Supervisor.

I. Order persons to immediately evacuate the confined space when a prohibited condition is detected behavioral effects of hazardous exposure are detected, a situation outside the space is detected that could endanger entrants, or if the standby person cannot safely and effectively perform all of the required duties.

J. Summon rescue and other emergency services as soon as it is determined that persons inside need assistance to escape from the confined space.

K. The standby person must not enter the space until another trained standby person is available.

L. Properly use any rescue equipment provided for use and perform any other assigned rescue and emergency duties without entering the confined space.

M. Perform no other duties that might interfere with the stand-by person's primary duty to monitor and protect the authorized entrants.

Environmental Health, Safety, and Risk Management (EHS&RM)

A. Ensure the space has been properly prepared.

B. Test for oxygen content, flammability, toxic materials and/or other hazards prior to entry.

C. Coordinate any special precautions and sign the Confined Space Entry Permit. D. Decide what restrictions will be imposed on the permit. E. Ensure the appropriate procedures are followed and documented when de-classifying a confined space.

V. DURATIONS OF PERMITS AND PERMIT CLOSE OUT

Permits will be in effect until job completion, but will not extend beyond the end of the shift, or four (4) hours maximum limit. A new permit must be issued at the beginning of each shift; or every four (4) hours.

VI. SPECIAL CONSIDERATIONS

A. Retrieval systems to facilitate non-entry rescue will be used whenever an authorized entrant enters a confined space meeting the scope of this policy, UNLESS the retrieval system would increase the overall risk of entry, or would not contribute to the rescue of the entrant. Retrieval systems will consist of a chest or full body harness and a retrieval line attached to the harness and the mechanical retrieval equipment. The EHS&RM Safety Officer will evaluate the space to be entered to determine if a retrieval system is needed.

B. Rescue and emergency services for confined space entries will be provided by the UAF Fire Department under existing response protocols.

C. Work shall be stopped if a change occurs which creates an unsafe condition relevant to the permitted work.

VII. TRAINING

No employee shall be allowed to participate in any confined space entry or confined space rescue unless they have been properly trained.

VIII. VARIANCES

Any deviation from this standard requires written approval from the EHS&RM department.