

DEPARTMENT OF THE ARMY  
U.S. Army Medical Department Center And School  
And Fort Sam Houston  
Fort Sam Houston, Texas 78234-5014

AMEDDC&S & FSH Memorandum  
No. 385-6

Occupational Safety  
**Confined Space Program**

1. **History.** This memorandum supersedes AMEDDC&S & FSH Memos, Regs, and other publications related to the confined space entry.

2. **PURPOSE.**

a. To provide the U.S. Army Medical Department Center and School (AMEDDC&S) and Fort Sam Houston (FSH) personnel with the guidance and regulatory requirements for practices and procedures to protect employees from the hazards of entry into confined spaces and in particular, permit-required confined spaces.

b. To implement the Occupational Safety and Health Administration (OSHA) standard, 29 Code of Federal Regulations (CFR) 1910.146 at FSH.

c. To provide employees at FSH with information that will enable them to recognize the hazards associated with confined spaces and to implement the necessary controls that provide them a safe entry into and exit from confined spaces.

3. **APPLICABILITY.**

a. This memorandum applies to all military, civilian, and contractor personnel working at AMEDDC&S, FSH Garrison and its satellite installations such as Camp Bullis, Canyon Lake, and Camp Stanley (collectively referred to in this memorandum as FSH).

b. Telecommunications work in manholes and underground vaults is covered under 29 CFR 1910.268 and shall continue to be covered under this standard as long as the provisions protect against the recognized hazards, associated with such activities.

4. **REFERENCES.** Paper copies of the following references are available for review at the Installation Safety Office, FSH, Texas.

a. Army Regulation (AR) 11-34, The Army Respiratory Protection Program.

b. AMEDDC&S & FSH Regulation 385-10, Occupational Safety and Health Program.

c. FSH Memorandum 385-5, Respiratory Protection Program.

d. FSH Form 98-E, Employee Safety and Health Training Record (Appendix A; 2 pages).

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\*This memorandum supersedes AMEDDC&S & FSH Memo 385-6, 15 Dec 98.

- e. FSH Form 109-E, Confined Space Entry Permit (Appendix B; 1 page).
- f. FSH Form 110-E, Confined Space Entry Permit Tracking Log (Appendix C; 1 page).
- g. FSH REG 420-8; 1 May 96; Permit Required Confined Space.
- h. FSH Memo 385-6; 15 DEC 98; Confined Space Program.
- i. OSHA Standard 29 CFR §1910.146, Permit-Required Confined Spaces.
- j. OSHA Standard 29 CFR §1910, Subpart Z-Toxic and Hazardous Substances; 29 CFR §1910.1000, Air Contaminants.
- k. The following websites can be accessed for additional resources such as regulations, updates, etc.

<http://safety.army.mil/home.html>  
<http://www.osha.gov>  
<http://web.ansi.org>

## 5. **POLICY.**

a. It is the policy of Fort Sam Houston to ensure safe and healthful conditions are maintained for personnel performing service or maintenance activities in designated confined spaces. Potential health and safety hazards associated with confined space entry shall be identified and classified based on the type or severity of the hazard. These hazards may include oxygen deficiency; presence of combustible gases, vapors, or toxic substances; presence of physical or mechanical hazards; and, impaired communications. FSH Regulation 385-10, Occupational Safety and Health Program, provides general policy requirements in support of this memorandum.

b. It is the policy of FSH that any entry into a confined space shall be in compliance with the requirements of OSHA and the procedures defined in this memorandum.

c. It is the policy of FSH that any planned Hot Work in a confined space shall not be conducted unless the Fire Emergency Services Division (FESD) has issued a job specific DA Form 5383-R, Hot Work Permit.

d. It is the policy of FSH that unit commanders are ultimately responsible for implementing this memorandum for each confined space under their control.

## 6. **EXPLANATION OF TERMS.**

a. Confined Space. All the three following conditions must be present for a space to be considered a confined space. A confined space:

(1) Is large enough and so configured for an employee to bodily enter and perform assigned work;

(2) Has limited or restricted means for entry or exit (can be by size or location); and

- (3) Is not designed for continuous occupancy.

Some examples of a confined space are: crawl spaces under buildings; attics; underground/above ground storage tanks; boilers; sewers and manholes; underground utility pits and vaults. Not all confined spaces are hazardous and thus, do not need to be regulated by entry permit(s).

b. Permit-required Confined Space. (Has one or more of the following characteristics):

- (1) Contains or has a potential to contain a hazardous/toxic atmosphere;
- (2) Contains a material that has the potential for engulfing an entrant (gases other than oxygen and fill material such as sand or dirt);
- (3) Has an internal configuration where an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; and
- (4) Contains any other recognized serious safety or health hazard.

c. Engulfment. The surrounding and effective capture of a person by gaseous substances or a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction or crushing.

d. Hazardous Atmosphere. An atmosphere that may expose employees to the risk of death, incapacitation, impairment or ability of self-rescue (that is unaided escape from a permit required space), injury, or acute illness from one or more of the following causes:

- (1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
- (2) Airborne combustible dust at a concentration that meets or exceeds its LFL;
- (3) Atmospheric oxygen concentration below 19.5% or above 23.5%;
- (4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic Hazardous Substances, of 29 CFR Section 1910.146 and which could result in employee exposure in excess of its dose or permissible exposure limit. An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision;
- (5) Any other atmospheric condition that is immediately dangerous to life or health.

e. Hazard Classification. Determining if the confined space is a permit required or non-permit required confined space.

(1) Permit required confined spaces could be further classified based upon the particular hazard:

- (a) Immediately Dangerous to Life and Health environment.
- (b) Combustible/flammable environment.
- (c) Oxygen deficient/enriched environment.
- (d) Permissible exposure limit exceeded environment.

(2) Non-permit required confined spaces.

(f) Immediately Dangerous to Life and Health (IDLH). Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit-required space.

(g) Oxygen Deficient. An atmosphere containing less than 19.5% oxygen by volume.

(h) Inerting. The displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

(i) Permit System. The written procedures for preparing and issuing permits for entry into and for returning the permit space to service following termination of entry.

(j) Entry. The action by which a person passes through an opening into a permit-required confined space.

(k) Entry Permit. The written or printed document that allows and controls entry into a permit space and that contains the specific information on the hazards and worker protection measures.

(l) Attendant. The individual(s) stationed outside one or more permit required space(s) who monitors the authorized entrants and who performs all assigned duties listed in this memorandum.

(m) Prohibited Condition. Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

(n) Testing. The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

**NOTE:** Testing provides information to develop and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

(o) Non-permit Confined Space. A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm. Examples of

non-permit confined spaces include: freezers, motor control cabinets, or attics. Although these are "confined spaces," these spaces have either natural or permanent mechanical ventilation to prevent the accumulation of a hazardous atmosphere and they do not present engulfment or other potentially serious hazards. However, if there is a change in the atmospheric conditions inside a non-permit required confined space, the confined space must be re-evaluated to determine if the space has become a permit required confined space.

(p) Hot Work Permit. The FSH authorization (DA Form 5383-R, Hot Work Permit) to perform operations capable of providing a source of ignition. Example sources of ignition include but are not limited to riveting, welding, cutting, burning, and heating.

**7. GENERAL REQUIREMENTS.**

a. Employees shall assume that all confined spaces contain hazardous and unsafe conditions and entry into or work in such a space is prohibited until they have been trained, the atmosphere has been tested and the required safety procedures implemented.

b. No individual shall be permitted to enter a confined space until a complete assessment of the confined space is made and when applicable, an authorization by entry permit (CSFS Form 109-E or civilian equivalent form) is obtained. See paragraph 7.

c. Hazard classification of a confined space shall be based on the most hazardous condition probable in the working area. Assume all confined spaces to be classified as permit-required. Only after testing and professional evaluations have determined that a confined space does not meet the requirements of a permit required confined space shall the space be classified as a non-permit confined space.

d. To prevent inadvertent or unauthorized entry into confined spaces, information concerning the location and existence of the potential dangers shall be disseminated to all the personnel, by posting warning signs by the respective organization responsible for the safe maintenance of such confined spaces. The Installation Safety Office (ISO) and the Preventive Medicine (PM) Service can assist in determining which spaces require the posting of a sign along with written identification. Posted signs at permit-required confined spaces shall include such wording as:

**DANGER - DO NOT ENTER  
PERMIT-REQUIRED CONFINED SPACE**

e. Personnel working in a confined space shall be trained, certified, and authorized prior to working their assigned tasks.

f. Before personnel are permitted to enter or work in a confined space, the following procedures shall be followed:

(1) Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.

(2) A railing, temporary cover, or other temporary barrier shall be promptly installed around the opening to protect employees from accidentally falling through the opening and that protects each employee working in the space from objects entering the space.

(3) Before an employee enters the space, the internal atmosphere shall be tested, with a calibrated direct-reading instrument, in the following order.

- (a) Oxygen content,
- (b) Flammable gases and vapors, and
- (c) Potential toxic air contaminants.

Any employee, who enters the space, or that employee's authorized representative, shall be provided an opportunity to observe the pre-entry testing.

(4) There may be no hazardous atmosphere within the space whenever any employee is inside of the space.

(5) Continuous forced air ventilation shall be used, as follows:

(a) An employee shall not enter the space until the forced air ventilation has eliminated any hazardous atmosphere.

(b) The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space.

(c) The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space.

g. The atmosphere within the space shall be periodically tested to verify that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Any employee, who enters the space, or that employee's authorized representative, shall be provided an opportunity to observe this periodic testing.

h. If a hazardous atmosphere is detected each employee in the space shall immediately exit and the space shall be evaluated to determine how the hazardous atmosphere developed.

i. Corrective actions shall be taken to protect employees from the hazardous atmosphere prior to anyone re-entering the confined space. The employer shall verify that the space is safe for reentry and that the pre-entry measures required by paragraph (6f) have been taken, through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification shall be made available to each employee re-entering the space or to the employee's authorized representative.

j. Rescue procedures and operations shall consist of the following, in the order mentioned.

(1) Self Rescue whenever possible, shall be the first line of defense. The entrants shall be trained in the emergency evacuation procedures to include communication and self-rescue.

(2) The non-entry rescue of entrants from the confined spaces shall be attempted because of the conditions developed after the entry. The attendants and on-site supervisors shall be trained in the emergency evacuation and non-entry rescue procedures to include the use of retrieval equipment such as a retrieval line, chest or full-body harness, wristlets, and a lifting device or anchor etc.

(3) The entry rescue of entrants from the confined spaces shall be attempted only when no IDLH conditions exist and rescue personnel are properly equipped to avoid being overcome in the confined space.

k. Every FSH employee and contractor who may be called upon to enter a permit-required confined space as an authorized entrant, an attendant or an entry supervisor shall receive and have documentation of job specific training with regard to the duties he/she has been assigned. Entry into a confined space is prohibited unless all individuals are appropriately qualified and trained.

l. Contractors working on FSH that may be involved with confined space entry:

(1) Shall be informed when work is to be done in a permit-required space and that the work shall be conducted through compliance with a permit-required space program meeting OSHA standard 29 CFR 1910.146.

(2) Shall be provided information on the elements, including the hazards identified and FSHs experience with the space, that make the space a permit-required space. They shall also receive information on the precautions or procedures FSH has implemented for the protection of FSH employees in or near the permit-required space where the contractor will be working.

(3) Shall provide proof that their personnel have received the appropriate confined space training prior to performing work that requires them to enter a confined space on FSH, if requested by the Contracting Officer.

(4) Shall coordinate their entry operations with the Contracting Officer when both FSH and contractor personnel will be working in or near permit spaces.

m. Contractors who plan to perform Hot Work in a confined space on FSH shall first coordinate with the Fire Emergency Services Division (FESD) who shall review the contractor's work procedures for adequacy in protecting their workers, government employees, and government property. If the FESD determines the procedures meet standards, then they shall issue a job specific DA Form 5383-R, Hot Work Permit.

**NOTE:** DA Form 5383-R, Hot work permit, is required from the Fire Emergency Services Division (FESD) before performing any operations capable of providing a source of ignition, such as riveting, welding, cutting, burning, heating, and possibly grinding. Any type of operation requiring a hot work

permit is considered non-routine; therefore, the permit must be signed by the FESD.

**8. RESPONSIBILITIES.**

a. Commanders/organization chiefs shall:

(1) Follow the guidance and implement the policies stated in this memorandum.

(2) Identify both the non-permit required and the permit-required confined spaces within their areas of responsibility as defined in paragraph 6, above.

(3) Provide a listing of all the confined spaces under their areas of responsibility to the ISO within 30 days of the effective date of this revision and provide updates to this listing as new confined spaces become known and/or generated.

(4) For non-permit required confined spaces, direct supervisors to:

(a) Prepare Standing Operating Procedures (SOPs).

(b) Provide and document annual training on CSFS Form 98-E, Employee Safety and Health Training Record.

(c) Consult with the ISO or PM on the requirements for monitoring the confined space atmosphere.

(d) Establish procedures to re-evaluate the non-permit space when there are changes in the use or configuration of the space that might increase the hazards to the entrants and if necessary, reclassify the space to a permit-required space.

(5) For permit-required confined spaces, direct supervisors to:

(a) Designate entry supervisors (competent person), attendants, and entrants.

(b) Identify the functional job duties and assign responsibilities to personnel who are properly trained, equipped, and qualified, and that all the training is documented on CSFS Form 98-E.

(c) Procure the required equipment to support entry into a confined space to include calibrated instrumentation to test and monitor the atmosphere prior to entry and during the time personnel are in the confined space. Other equipment procured shall include ventilating, communication, appropriate personal protective equipment (PPE), lighting (as needed), barriers, ladders, and rescue and emergency, as a minimum.

(6) Prohibit Soldiers Awaiting Training (SAT) or other soldiers in a casual status from being assigned duties requiring entry into and working either in permit-required or non-permit required confined spaces.

(7) Provide each authorized entrant or entrant's authorized

representative an opportunity to observe the pre-entry and any subsequent testing or monitoring or permit spaces.

b. On-site entry supervisors for permit-required confined spaces shall:

(1) Determine acceptable conditions are present at a permit required confined space when an entry is planned.

(2) Appoint a competent person (trained in the calibration and operation of direct-reading oxygen, flammability, and toxicity monitoring equipment) to evaluate and classify the confined space.

(3) Notify the ISO and the FESD 48 hours before entering into a permit-required confined space (except in case of emergencies).

(4) Coordinate specific requests for technical assistance or regulatory guidance from the PM Service, FESD, and ISO, as necessary.

(5) Verify personnel are properly trained and certified in the safe operating and emergency procedures, use of protective equipment, and methods of exiting the confined space.

(6) Brief employees of the potential and job specific hazards, i.e., toxic substances or vapors that may be present, and other hazards inherent to the confined space operations.

(7) Inspect the work area, tools and equipment looking for and identifying potential hazards. Determine and evaluate the source (i.e., removal of residue from the space, repair of leaking valve or pipe in the space, etc.), of any suspected atmospheric condition found at the time of entry.

(8) Select and verify the availability of the appropriate PPE.

(9) Enforce the use of all the necessary PPE for safe operations.

(10) Verify respiratory equipment is in a safe operating condition and that all personnel are trained in the proper procedures for its use.

(11) Provide an attendant for each permit-required entry.

(12) Provide the necessary means of communication to summon assistance where visual or oral contact with the entrant is not possible.

(13) Verify all electrical power sources and equipment meet safety requirements for the atmosphere in the confined space.

(14) Require that all electrical power and other energy sources are de-energized, locked out, and tagged, as necessary.

(15) Provide appropriate barriers or other means to protect the entrants and attendants from local traffic hazards, and to protect other personnel from the potential hazards of a job-specific confined space.

(16) Determine and evaluate the source (i.e., removal of residue from the space, repair of leaking valve or pipe in the space, etc.), of any suspected atmospheric condition found at the time of entry.

(17) Establish and review the emergency procedures to rescue persons incapacitated in the confined space.

(18) Revoke the entry permit, terminate the entry, and secure the site when becoming aware of a prohibited or unexpected condition. Ensure a new entry permit is processed prior to re-entry.

(19) Be the last person to sign the permit after all conditions are met, and require that the permit is constantly maintained at the site where the entry is planned.

(20) Enter permit number and information on the log sheet (FSH Form 110-E, Confined Space Entry Permit Tracking Log).

c. Confined space attendants shall:

(1) Maintain an accurate log of activities at all times, including the number of personnel present, at a given time, in the confined space.

(2) Remain outside the permit space and not attempt a rescue mission involving entry, until the rescue team has been notified and assistance has arrived; attempt non-entry rescue efforts by means of the lifeline or other devices until assistance arrives. That is, the attendant shall not attempt or initiate the rescue operations requiring entry until the assistance arrives and not before all the other precautions have been taken.

(3) Maintain continuous communication with all the entrants within the confined space by voice, radio, telephone, visual observation or other equally effective means.

(4) Have authority to order entrants to exit the confined space at the first indication of hazards developing, (e.g., unusual conduct by the entrants, or if a situation occurs outside the space that could pose a hazard to the entrants).

(5) Be knowledgeable of the procedures and have the means to summon immediate emergency assistance, as necessary.

(6) Require all personnel in the confined space to exit if the attendant must leave for any reason (except self-preservation), unless replaced by an equally qualified individual. The attendant shall verify that all the entrants have exited the space before leaving and that there is no alternative available. The attendant shall appoint an individual to guard the entrance and prohibit any personnel from entering the confined space until the attendant returns.

(7) Keep unauthorized persons from entering the permit space.

d. Confined space entrants are individuals who enter confined spaces. The entrants of a confined space shall:

(1) Be trained in and demonstrate an understanding of all the procedures, safeguards and emergency egress, and/or rescue operations associated with the entry. This includes understanding the signs and symptoms employees may exhibit in the event a self-rescue needs to be initiated.

(2) Exit a confined space, if hazardous conditions develop or known hazards or conditions are not corrected prior to starting the work; and, will immediately notify the entry supervisor of the hazardous nature of the conditions, upon exit.

(3) Follow all safe work procedures required by supervisory personnel, safety, preventive medicine, and fire representatives.

e. The ISO shall:

(1) Serve as the technical and regulatory advisor to the extent possible and appropriate for the FSH Confined Space Program.

(2) Develop and periodically review the policy and procedures for safe entry into permit-required confined spaces.

(3) Assist in the identification and classification of all the confined spaces at FSH, as "permit required" or "non-permit required."

(4) Provide technical oversight and project management support, as related to the Occupational Health and Safety aspects, to all the projects requiring Confined Space entry. The technical assistance shall include:

(a) Performing a review of the documentation necessary in keeping regulatory compliance with the requirements for issuing a Confined Space Entry Permit, e.g., (CSFS Form 109-E).

(b) Verifying that reasonable and possible safety measures have been employed to help reduce the hazard classification of a confined space.

(c) Verifying that the entry supervisors are trained, qualified, and they possess adequate experience to authorize and monitor permit-required confined space entry.

(d) Verifying the proper procedures are in place to confirm that appropriate rescue teams and equipment would be available prior to a planned confined space entry.

(e) Conduct spot checks and field visits at work sites to verify compliance with OSHA standards and this memorandum.

(5) Assist the entry supervisors, as necessary, with the selection of appropriate PPE.

(6) Provide or arrange for the training of entry supervisors and personnel responsible for entering permit-required confined spaces.

(7) Evaluate the effectiveness of organizational procedures implemented to protect the entrants.

(8) Perform a review of the Confined Space Program at least once a year by verifying the entry logs, any changes in the locations of the confined spaces, the training records, and investigating employee complaints about the effectiveness of the program.

f. Preventive Medicine Services shall:

(1) Provide training on the use, calibration, and care of atmospheric testing and monitoring equipment, and certify government personnel as trained and authorized to test confined spaces.

(2) As required by AR 11-34, The Army Respiratory Protection Program, and the FSH Memo 385-5, Respiratory Protection Program, verify that the personnel are fit tested and medically cleared to use the appropriate respirators.

(3) Assist in the training of personnel for confined space duties.

(4) Assist entry supervisors in the selection of appropriate respiratory protection equipment and other PPE.

(5) Assist entry supervisors in the interpretation of monitoring results.

(6) Evaluate confined spaces for hazardous atmospheres and IDLH conditions.

(7) Coordinate on permits for confined space work, as appropriate.

g. The FESD shall:

(1) Provide rescue support as requested and as necessary.

(2) Be familiar and/or acquainted with all confined spaces at FSH.

(3) Train and maintain proficiency in confined space rescue as it pertains to FSH and document all the training on CSFS Form 98-E.

(4) Maintain rescue equipment in excellent working condition and have it "ready" for use at all times.

(5) Assist in the training of personnel as appropriate.

(6) Assist the ISO in evaluating the effectiveness of the safety programs.

(7) Be the final approval authority for Hot Work permits.

h. The FSH Medical Command (MEDCOM) Contracting Center shall incorporate into all contracts requiring entry into confined spaces, contractual clauses that require the contractor(s) performing the work to have a Confined Space Program that is consistent with the OSHA standards including monitoring equipment, training, and having personnel authorized to perform work in confined spaces. The MEDCOM Contracting Center shall notify contractors of

potential confined space entries and other requirements as mentioned in paragraph 6.

i. Operations and maintenance contractors shall comply with the OSHA standards, with FSH Memo 385-6, and shall implement their own Confined Space Program. A contractor's Quality Control/Safety Officer shall initiate and complete all the paperwork necessary for obtaining and maintaining a permit current for entry into and working in a confined space at FSH.

j. All other contractors shall demonstrate that their Confined Space Program is in compliance with both OSHA regulations and FSH Memo 385-6, if their work requires entry into a confined space. All the supporting documentation will be provided to the Contracting Officer's Representative (COR) for due review and approval prior to starting the work. In addition, the following shall be verified at the job site, prior to starting the work:

(1) All the required equipment and monitoring devices are available and are in excellent working condition.

(2) All the contractor's personnel scheduled to work have been properly trained for confined space entry to include non-entry rescue.

(3) The contractor is informed of the applicable regulatory standards of a "permit-required confined space," and FSH Memo 385-6.

(4) The contractor is apprised of the potential hazards.

(5) Authorized contractor personnel are to document any change in the conditions or developed hazards in a confined space, and are to inform the ISO immediately of such a confined space.

9. **TRAINING.** OSHA requires three levels of training concerning confined spaces. This training must be conducted and documented on CSFS Form 98-E, Employee Safety and Health Training Record.

a. General confined space training for all employees who work around confined spaces shall include:

(1) General overview of the FSH Confined Spaces Program.

(2) Specific types of confined spaces at or near the workplace and the related potential hazards and when there is a change in operations that may present a hazard to the employee.

(3) General signs and symptoms along with the consequences of an exposure to toxic and oxygen deficient atmospheres.

(4) Explanation of the permit system.

(5) Emergency procedures.

b. Training for non-permit required confined space entrants shall include:

(1) Paragraph 9(a).

(2) Explanation as to why the confined spaces are considered "non-permit required."

(3) Changes that have the potential to make the spaces "permit required."

(4) Review worksite specific operating procedures.

(5) Communication procedures to follow in case an emergency develops.

c. Training for permit required confined space shall include:

(1) Paragraphs 9(a) and (b) contents.

(2) Additionally, for entrants:

(a) Use of personal protective and other safety equipment.

(b) Attendant alerting procedures.

(c) Evacuation procedures.

(d) Isolation of hazardous energy sources (lockout/tagout).

(3) Additionally, for attendants:

(a) Control of access and maintaining accurate records of entrants.

(b) Observation of entrants' behavior.

(c) Methods of communicating with authorized entrants.

(d) Emergency procedures to include summoning help.

(4) Additionally, for supervisors:

(a) Determining acceptable entry conditions.

(b) Authorizing entry and removing unauthorized individuals who may enter or attempt to enter the permit space.

(c) Compliance requirements for permit required confined spaces to include reporting and record keeping.

(d) Oversight of entry operations such as proper placement of fresh air circulation systems, vehicles aren't idling near-by, and terminating entry, etc.

(5) Training for emergency procedures includes the use of life-saving equipment, evacuation plan, making contacts with emergency personnel, etc.

(6) Training of personnel responsible for atmospheric monitoring to include:

(a) Priority for the monitoring of contaminants or gases.

(b) Permissible exposure levels for the contaminants or gases to be monitored.

d. Additional training is required when:

(1) There is a change in the responsibilities of the personnel (job duties).

(2) There is a change in the confined space or operations present a new hazard.

(3) When employee's job performance reflects that there are inadequacies in the employee's knowledge or use of confined space procedures.

10. **OPERATING PROCEDURES.**

a. Whenever it is determined that confined space work must be done, the following procedures must be followed:

(1) The appointed entry supervisor will select employees to participate in the confined space operation and assign them their respective roles such as entrants or attendants, etc.

(2) The entry supervisor will verify and ensure that the employees have had the required training for the roles that they have been assigned.

(3) The entry supervisor completes the Confined Space Entry Permit (FSH Form 109-E) request, logs it in the Confined Space Entry permit Tracking Log (FSH Form 110-E), and submits it to the Project Manager prior to entry for his review and approval. Contractors working at FSH facilities must follow the same procedures and coordinate all their activities through the Contracting Officer and the designated Contracting Officer's Representative (COR).

(4) Initial atmospheric conditions within a confined space must be evaluated prior to planning and moments prior to entering.

(5) All test equipment will be calibrated in accordance with manufacturer's specifications and tested to ensure that all units are in proper operating condition at all times.

b. If the results of the test indicate no hazardous conditions exist:

(1) The entry supervisor will issue the confined space entry permit. A copy of the current permit must be maintained at the work site while the assigned tasks are performed.

(2) Prior to making the space accessible to entrants, appropriate barriers are to be set at the entrance to prohibit unauthorized persons from entering the space, and to protect entrants from external hazards.

(3) Entrants are required to don appropriate PPE before entering the space. The PPE must include non-entry rescue equipment.

(4) The entry supervisor, or a competent person designated by the supervisor, must conduct continuous monitoring.

(5) If at any point the atmospheric conditions change, entrants must exit the space and the appropriate personnel or organizations such as the COR, ISO etc. must be apprised of the events.

(6) Entry Permits must be maintained for at least 1 year from the date of completion.

c. If the results of the tests indicate hazardous conditions or IDLH exist, the confined space is to be ventilated for at least an hour. The atmosphere must be retested and the process of ventilation continued until the recognized hazards are eliminated.

d. If personnel from more than one employer or organization are scheduled to enter a permit-required confined space at the same time, a pre-entry meeting must be held with the appropriate personnel such as entry supervisors, COR, ISO, etc. All entry procedures and issues will be agreed upon and written into the permit.

#### 11. **EMERGENCY PROCEDURES.**

a. The attendant, upon recognizing that an emergency situation exists will ensure that all the entrants exit the confined space immediately.

b. The attendant will contact (without leaving the area or without being replaced by another authorized attendant) the following in this order:

- (1) FESD (designated Confined Space Rescue Team).
- (2) Entry supervisor.
- (3) Collateral Duty Safety Officer.
- (4) ISO.
- (5) Preventive Medicine Service.
- (6) Security.
- (7) The COR as necessary.

c. The attendant will assist the arriving responders by providing them with any information that will be helpful to their rescue attempts, including:

- (1) Information on the entry permit.
- (2) Observations noted of the situation.
- (3) Information provided to the attendant by the entrants.
- (4) Any other helpful or pertinent information.

d. The entry supervisor will immediately cancel the entry permit, noting the nature of the problem causing the emergency situation.

**12. CONCLUDING CONFINED SPACE OPERATIONS.**

a. All entrants must exit the space, removing any equipment or tools that were taken into the space as part of the operation.

b. Entrances to the space must be closed, locked or sealed as appropriate.

c. The entry supervisor will cancel the permit and close it out on the permit-tracking log. All the events that take place during confined space operations would need to be documented and the appropriate personnel and organizations, such as the COR, ISO, etc. must be apprised of the events.

d. Equipment will be cleaned, necessary maintenance performed, and returned to its proper storage location.

**13. Contractual Requirements (Projects) Involving Confined Space Entry.**

The following paragraphs are applicable to the contractual requirements (projects) to be initiated by respective units or organizations.

a. The Project Manager (or a respective organization) shall be responsible for identifying and for listing all the applicable "confined spaces" in their scope or statement of work, if the project work requires entering a confined space.

b. The Project Manager (or a respective organization) shall be responsible for identifying and for listing all the applicable, appropriate, and relevant regulations in their scope or statement of work, if the project work requires entering a confined space.

**The proponent of this publication is the AMEDDC&S & FSH Safety Office, directorate of Safety, Environment, and Fire. Users Are invited to send comments and suggested improvements on DA Form 2028, (Recommended Changes to Publications Blank Forms) To the Directorate of Safety, Environment, and Fire, ATTN: MCCS-BFE-S, 2404 New Braunfels, Stop 38, Fort Sam Houston, TX 78234.**

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