

29 OCTOBER 1999



Safety

CONFINED SPACE PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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Distribution: F

This instruction implements AFPD 91-2, *Safety Programs*, and is used in conjunction with 29 CFR 1910.146, *Permit-Required Confined Spaces*, and AFOSH Standard 91-25, *Confined Spaces*, and Occupational Safety and Health Administration (OSHA) and Air Force Occupational Safety and Health (AFOSH) requirements for confined space entry. This instruction is applicable to all personnel assigned to the 3rd Wing, and all collocated active duty units. It establishes procedures for the identification and entry into confined spaces located on Elmendorf AFB. Air Force operations or tasks that require entry into confined spaces, will comply with requirements in AFOSH Standard 91-25 and this instruction. Specific procedures or technical orders (TO), which incorporate the requirements of AFOSH Standard 91-25 may be used, for permit-required confined spaces entry in lieu of this instruction. This publication does not apply to US Reserves or Air National Guard units and members.

1. Description. Standard terminology for the Confined Spaces Program is contained in AFOSH Standard 91-25, Attachment 1, Section C.

1.1. The 3 WG Confined Spaces Program Team (CSPT) will consist of:

1.1.1. The 3 WG/SEG, Ground Safety.

1.1.2. The 3 AMDS/SGPB, Bioenvironmental Engineering.

1.1.3. The 3 CES/CEF, Fire Department.

1.1.4. Functional managers of areas with confined spaces.

2. Identification and Classification:

2.1. Identification of Confined Spaces. Supervisors will, in coordination with the CSPT, identify all confined spaces within their area of responsibility. Existing locations as well as new construction, remodeling, or changes in usage must be evaluated for the possibility of confined spaces. Trenching

operations may result in a confined space depending on the depth of the trench and type of soil being trenched.

2.1.1. A confined spaces assessment worksheet (see attachment 1) will be used to document each confined space. The supervisor will complete the evaluation, attach additional documents as required by the evaluation worksheet, and submit the package to 3 WG/SEG. The 3 WG/SEG, 3 AMDS/SGPB, and 3 CES/CEF will review the assessment and complete the confined space assessment certification (see attachment 2).

2.1.2. One evaluation package may be submitted for numerous confined spaces which are similar in type and hazards, for example, fuel pits, steam pits, and so forth, providing the specific location of each space is described.

2.2. Review of Confined Space Assessment Worksheet. The CSPT will review the evaluation package and if any of the following conditions are present, the space will be classified **PERMIT-REQUIRED**.

2.2.1. Any actual or potential atmospheric hazards.

2.2.2. Materials present which could cause engulfment.

2.2.3. Any actual or potential entrapment or asphyxiation hazard.

2.2.4. Any other condition that renders the space immediately dangerous to life or health (IDLH).

2.2.5. Other serious physical hazards.

2.3. Securing Permit Areas. Confined spaces meeting the definition of **PERMIT-REQUIRED** will be secured to prevent inadvertent entry. If this is not possible they must be posted with signs in accordance with AFOSH Standard 91-25, paragraph 3.5.

2.4. Contractor Work. Contractors who are required to perform work in confined spaces controlled by the 3 WG will be briefed by the responsible supervisor in accordance with the requirements in AFOSH Standard 91-25, Chapter 7. A written record of the briefing signed by both the supervisor and the contractor or designated representative will be maintained for one year after entry and work is completed (see paragraph 3.4. this instruction).

3. Documentation:

3.1. Permit-Required Confined Spaces - Occasional Entry:

3.1.1. Permit-required confined spaces which are entered occasionally (not more than four times per year) will require an individual AF Form 1024, *Confined Spaces Entry Permit*, for each entry. The supervisor should use the completed Confined Spaces Assessment as guidance for the AF Form 1024.

3.1.2. The AF Form 1024 must be completed by the supervisor and reviewed by 3 WG/SEG, 3 AMDS/SGPB, and 3 CES/CEF 24 hours in advance of the required entry. **NO ENTRY** will be made into permit-required confined spaces until the permit is approved by the CSPT.

3.1.3. If any conditions have changed since the space was evaluated and certified by the CSPT, a new evaluation worksheet must be submitted along with the AF Form 1024.

3.1.4. After review and approval by the CSPT, the authorized entry may proceed. Confined Spaces Entry Permits will be maintained on file by the supervisor for one year after the date of entry (see paragraph 3.4. this instruction).

3.2. Permit-Required Confined Spaces - Frequent Entry:

3.2.1. A *Master Entry Plan* (MEP) (see attachment 3) may be issued for routinely recurring work in permit-required confined spaces where the confined space must be entered on a regular basis (more than four times per year). Examples of this type of space are lateral fuel pits, steam pits, and so forth.

3.2.2. The Master Entry Plan will be developed using information from the Master Entry Plan Assessment, (see attachment 4), personnel tasked to enter the confined space, and corporate knowledge of the CSPT members. Issuance of a Master Entry Plan authorizes the entry supervisor to approve individual entries into the confined space as required, provided all conditions in the Master Entry Plan are met. Each MEP will be certified (see attachment 3) by 3 WG/SE, 3 AMDS/SGPB, and 3 CES/CEF.

3.2.3. Using the Master Entry Plan the supervisor prepares a *Confined Space Entry Permit*, AF Form 1024 for each entry. The AF Form 1024 will be annotated in Block 1 with the Master Entry Plan Number and an entry control number beginning with 001 for the first entry under the Master Entry Plan and continuing sequentially through the year for each subsequent entry.

3.2.4. Supervisors will maintain copies of Master Entry Plan (including all AF Forms 1024 issued by the supervisor during the effective period) on file for one year after expiration of the permit (see paragraph 3.4, this instruction).

3.2.5. Supervisors will complete a new Confined Space Assessment Worksheet annually. Then review and submit their Master Entry Plan annually for re-certification by the CSPT to ensure conditions have not changed.

3.3. Non-Permit-Required Confined Spaces:

3.3.1. The supervisor will submit the *Confined Spaces Assessment* to 3 WG/SEG annually for review by the CSPT. If any circumstances change which affect the utilization, condition, or environment of the space, the supervisor will submit a new evaluation package to 3 WG/SEG.

3.3.2. Supervisors will maintain a copy of the *Confined Spaces Assessment* package on file for one year after CSPT certification (see paragraph 3.4, this instruction).

3.4. Confined Spaces Program File. Supervisors will maintain a Confined Spaces Program file or binder containing the following items:

3.4.1. A copy of AFOSH Standard 91-25.

3.4.2. A copy of 29 CFR 1910.146.

3.4.3. A copy of this instruction.

3.4.4. Shop Operating Instruction (OI). Before implementing an OI, ensure unit OIs are coordinated through Safety, Fire Department, and Bioenvironmental.

3.4.5. Approved confined spaces entry permits for all permit-required confined spaces. This will include Master Entry Permits along with associated individual entry permits (AF Form 1024) issued by the supervisor.

3.4.6. Completed Confined Space Assessment package for all identified non-permit-required confined spaces.

3.4.7. Training outline or lesson plan (see paragraph 4.2, this instruction).

3.4.8. These documents will be maintained on file for one year. A review/update of information contained in this file will be performed as part of the annual review.

4. Training and Emergency Procedures:

4.1. The 3 WG/SEG Responsibilities. The 3 WG/SEG will provide Confined Spaces training videos to entry supervisors. Training will be documented on the AF Form 55, *Employee Safety and Health Record*.

4.2. Supervisors Responsibilities. Supervisors will prepare, for each permit-required confined space, a written training outline or lesson plan for entrants and attendants which complies with the requirements of AFOSH Standard 91-25, Chapter 5.

4.2.1. All confined space entry training will be documented on AF Form 55. A list of individuals trained will be provided to 3 WG/SEG by the trainer or supervisor.

4.2.2. Supervisors will ensure an organizational rescue team (as defined in AFOSH Standard 91-25, Chapter 4) is identified, properly trained, and available when required.

4.3. The 3 CES/CEF Responsibilities. The Elmendorf AFB Fire Department does not normally serve as the centrally located rescue team. Organizations that perform confined space entries must provide and train their own rescue team.

The 3 AMDS/SGPB Responsibilities. Bioenvironmental Engineering will provide local training on the use, calibration (user), and care of atmosphere testing and monitoring equipment. Certify organizational personnel, as required, to test confined spaces.

5. Atmospheric Testing/Monitoring:

5.1. Atmosphere Testing and Monitoring Equipment. Units will purchase, maintain and calibrate equipment. Wing Safety and Bioenvironmental Engineering will be consulted during the selection process.

5.1.1. Supervisors will ensure verification testing is accomplished prior to entry into permit-required confined spaces. Testing for classification is to be accomplished by a qualified and certified worker in accordance with AFOSH Standard 91-25, paragraph 5.6. A bioenvironmental engineering technician will normally test permit-require areas not included in an MEP.

5.1.2. Supervisor will ensure the areas being tested include oxygen, flammability, and toxicity, in accordance with Table 3.1, *Confined Spaces Classification--Atmospheric Conditions in AFOSH Standard 91-25, page 13*.

5.2. Atmospheric Monitoring of Confined Spaces:

5.2.1. Supervisors will conduct atmospheric monitoring to ensure safe conditions are maintained. See AFOSH Standard 91-25, paragraph 3.9.

5.2.2. Atmospheric monitoring requirements will be listed on the MEP and included on the permit (AF Form 1024).

6. Confined Space Assessment, MEP, and AF Form 1024 Coordination:

6.1. Confined Spaces Assessment:

6.1.1. Functional Managers, or commanders, will ensure all confined spaces under their control are evaluated annually through use of a Confined Space Assessment package (attachment 2).

6.1.2. Supervisors will ensure the confined space assessment package has been completed. It will be taken to 3 WG/SEG and evaluated by Fire Department, Bioenvironmental Engineering, and Ground Safety.

6.1.3. Appropriate agencies (Fire Department and Bioenvironmental) will ensure coordination is made within 5 duty days and forward the package to the Safety Office.

6.2. MEPs:

6.2.1. Functional Managers, or commanders, requesting MEPs, will designate an entry supervisor and point of contact to assist Fire Department, Bioenvironmental Engineering, and Ground Safety in creating the MEP.

6.3. Confined Space Entry Permit, AF Form 1024:

6.3.1. Coordination of AF Form 1024 is required for occasional entry into a Permit-Required Confined Space (see paragraph 3.1.2, this instruction).

6.3.2. The AF Form 1024 must be completed by the supervisor and reviewed by 3 WG/SEG, 3 AMDS/SGPB, and 3 CES/CEF 24 hours in advance of the required entry.

JONATHAN S. GRATION, Brigadier General, USAF
Commander

Attachment 1
CONFINED SPACES ASSESSMENT WORKSHEET

A1.1. Does the size and shape of this space allow a person to enter and perform work?

YES/NO If yes, describe or explain:

A1.2. Are there limited or restricted openings making entry and egress difficult?

YES/NO If yes, describe or explain:

A1.3. Is the space designed for continuous human occupancy?

YES/NO If no, describe or explain:

If you answered **YES** to questions 1 and 2, and no to question 3 above, the space is classified as a **Confined Space**. Go on to question 4.

If you answered **NO** to questions 1 or 2, or yes to question 3, the space **is not** classified as a **Confined Space**. STOP HERE.

A1.4. Does the space contain or have the potential to contain a hazardous atmosphere? **NOTE:** See AFOSH Standard 91-25, Attachment 1, for the definition of hazardous atmosphere.

YES/NO If yes, describe the type of hazardous atmosphere.

A1.5. Does the space contain or have the potential to contain a liquid or finely-divided solid material such as sand or sawdust that could surround or engulf an entrant?

NOTE: Trenching operations may result in confined spaces.

YES/NO If yes, describe the type of material.

A1.6. Does the space have an internal shape (such as inwardly converging walls or a floor that slopes downward and tapers to a smaller cross section) that could cause an entrant to be trapped or asphyxiated, or does the space contain a threat that would interfere with an individual's ability to escape unaided from it?

YES/NO If yes, describe the configuration or threat.

A1.7. Does the space contain any other characteristic that is recognized as a serious safety or health hazard?

YES/NO If yes, describe or explain the characteristic.

If you answered **YES** to any one of questions 4, 5, 6, and 7 above, the space is a **PERMIT-REQUIRED CONFINED SPACE**. Go to question 8.

If you answered **NO** to all of questions 4, 5, 6, and 7 above, the space is a non-permit-required confined space. Submit this evaluation worksheet to 3 WG/SEG for certification.

A1.8. Can the space be locked or sealed to prevent entry?

YES/NO If yes, what method will you use?

LOCK COVER FENCE GUARDRAIL OTHER

If no, signs must be posted. See AFOSH Standard 91-25, paragraph 3.5. Go to question 9.

A1.9. Is it possible to eliminate all the hazards without anyone entering the space?

YES/NO If yes, how?

It's possible that the space may be reclassified as a non-permit-required confined space. Submit this evaluation package to 3 WG/SEG for certification.

If no, go to question 10.

A1.10. Will the space be entered less than four times per year?

YES/NO

If yes, complete AF Form 1024 (see AFOSH Standard 91-25, Attachment 2,) and attach it to this evaluation.

If no, complete a Master Entry Plan (see Attachment 2) and attach it to this evaluation.

**SUBMIT THIS ASSESSMENT PACKAGE TO 3WG/SEG WITH
APPLICABLE ATTACHMENTS**

Attachment 2

3RD WING CONFINED SPACES ASSESSMENT

CONTROL NUMBER

(To be assigned by 3 WG/SEG)

CERTIFICATION DATE:

(To be assigned by 3 WG/SEG)

SQUADRON:

OFFICE SYMBOL:

ADDRESS:

SUPERVISOR'S NAME AND GRADE:

TELEPHONE:

LOCATION AND DESCRIPTION OF SPACE TO BE ENTERED:

(Attach separate list with specific locations and descriptions if more than one space of this type)

PURPOSE OF ENTRY:

TASKS OR OPERATIONS TO BE PERFORMED:

DATE OF ASSESSMENT

SIGNATURE OF SUPERVISOR

CONFINED SPACES ASSESSMENT CERTIFICATION

The space described above has been determined to meet the criteria in 29 CFR 1910.146 and AFOSH Standard 91-25 for classification as shown below.

PERMIT-REQUIRED (Occasional Entry - Submit AF Form 1024 to 3 WG/SEG for each required entry). Concur/Nonconcur

PERMIT-REQUIRED (Frequent Entry - AF Form 1024 issued by supervisor in accordance with Master Entry Plan). Concur/Nonconcur

NON-PERMIT-REQUIRED (See AFOSH Standard 91-25, paragraph 6.5 for entry considerations).
Concur/Nonconcur

3 WG/SEG (Ground Safety)
Concur/Nonconcur

3 AMDS/SGPB (Bioenvironmental Engineering)
Concur/Nonconcur

3 CES/CEF (Fire Department)
Concur/Non-concur

Attachment 3

3RD WING MASTER ENTRY PLAN

CONFINED SPACES ASSESSMENT CONTROL NUMBER:

(Assigned by 3 WG/SEG)

MASTER PERMIT NUMBER:

EXPIRATION DATE:

(To be assigned by 3 WG/SEG) (To be assigned by 3 WG/SEG)

SQUADRON:

OFFICE SYMBOL:

ADDRESS:

SUPERVISOR'S NAME AND GRADE:

TELEPHONE:

IS THERE A POSSIBILITY THAT PERSONNEL OTHER THAN 3 WG PERSONNEL WILL REQUIRE ENTRY TO THIS SPACE? YES/NO If yes, who?

WHAT ARRANGEMENTS WILL BE MADE TO COORDINATE AND CONTROL ENTRY BY OTHERS?

DATE OF APPLICATION:

SIGNATURE:

MASTER ENTRY PLAN CERTIFICATION

The Master Entry Plan (MEP) for the confined spaces described in the Confined Spaces Assessment Control Number has been determined to meet the criteria in 29 CFR 1910.146 and AFOSH Standard 91-25 for frequent and regular entry when the same conditions and entry requirements described in the plan are present.

The entry supervisors listed in Item 4.14 are authorized to issue individual entry permits (AF Form 1024) in accordance with the requirements in AFOSH Standard 91-25 and Wing Instruction 91-25. Permits will not be issued when unexpected conditions exist that have not been anticipated or allowed for in the MEP unless the condition can be eliminated or controlled. If hazardous conditions develop after entry that can-

not be eliminated or controlled, the entry will be terminated, the permit revoked and retained for 1 year, and the Confined Spaces Program Team (CSPT) will be contacted before proceeding further.

3 WG/SEG (Ground Safety)

Concur/Nonconcur

3 AMDS/SGPB (Bioenvironmental Engineering)

Concur/Nonconcur

3 CES/CEF (Fire Department)

Concur/Non-concur

Attachment 4

MASTER ENTRY PLAN ASSESSMENT

A4.1. HAZARDS. Mark the actual or potential hazards present in the confined space:

Oxygen Deficiency (less than 19.5% oxygen)

Oxygen Enrichment (greater than 23.5% oxygen)

Flammable Gases, Vapors, or Mists

Airborne Combustible Dust

Materials Harmful to Skin

Toxic Air Contaminants - What Type? _____

Engulfment - ex. Liquid, Water, Powder or Dirt _____

Mechanical Hazards

Electrical Hazards (shock)

Heat or Burn Hazards

Chemical Hazards - What Type? _____

Noise Hazards

Other (describe)

A4.2. Controls Needed to Eliminate or Control Hazards:

Initial Testing of Atmosphere

Continuous Monitoring of Atmosphere

Atmospheric Ventilation

Purge/Clean

Inert

Blank/Blind Pipes, Lines, or Ducts

Double Block and Bleed

Electrical Lockout/Tagout

Mechanical Lockout/Tagout

Other (specify)

A4.3. Atmospheric Testing and Monitoring:

A4.3.1. Type of Hazard to be Monitored (mark all that apply):

Oxygen

Flammability

Carbon Monoxide

Hydrogen Sulfide

Chlorine

Sulfur Dioxide

Other Toxic Contaminant (specify)

Heat

Other (specify)

A4.3.2. State acceptable conditions for entry:

A4.3.3. Describe the testing method to be used:

Who will test the atmosphere?

What equipment will be used?

Make/Model Number

Calibration Schedule

When and how will equipment condition be verified?

A4.3.4. Is continuous monitoring of atmosphere required?

YES/NO Explain:

A4.3.5. Describe the monitoring method to be used.

Who will test the atmosphere?

What equipment will be used?

Make/Model Number

Calibration Schedule

When and how will equipment condition be verified?

A4.4. Reclassification of Confined Space. State conditions under which the space may be reclassified as non-permit-required by the entry supervisor (Reference: AFOSH Standard 91-25, paragraph 6.4.11).

A4.5. Will chemicals be authorized for use in this confined space? State type, quantities to be used, and expected exposure levels.

A4.6. Will hot work permits be required?

YES/NO Explain:

A4.7. Will employees be required to enter this space during nonduty hours?

YES/NO If yes, explain nonduty hour entry procedures

A4.8. Equipment Required for Entry and Work. List all that apply and describe conditions under which it will be used.

A4.8.1. Personal Protective Equipment (PPE):

A4.8.2. Respiratory Protection Equipment:

A4.8.3. Rescue Equipment:

A4.8.4. Other:

A4.9. Communications. Describe communications procedures and list equipment that will be used.

A4.10. Rescue and Emergency Service (Identify who will provide emergency rescue and what procedures will be used for each confined space entry):

A4.10.1. Primary Rescue Agency:

Phone Number:

Method of Contact:

A4.10.2. Alternate Rescue Agency:

Phone Number:

Method of Contact:

A4.10.3. **Rescue Procedures.** Describe self-rescue and attendant rescue procedures to be followed.

A4.11. **Emergency Termination of Entry.** Describe hazardous conditions under which entry must be terminated immediately.

A4.12. Emergency Entry Provisions. Describe provisions for entry under emergency conditions.

A4.13. Preparation For Entry. Identify pre-entry actions that must be accomplished prior to entry into this confined space.

A4.13.1. Preparations:

Notification of service interruption to affected areas

Blank/Blind Lines

Purge/Clean

Inert

Double Block and Bleed

Testing of Atmosphere

Other (specify)

A4.13.2. Hazardous Energy Isolation:

Electrical Lockout/Tagout
Mechanical Lockout/Tagout
Atmospheric
Other (specify)

A4.13.3. Ventilation:

Mechanical
Natural

A4.13.4. Communications:

Visual
Voice
Tug Rope
Radio
Other (specify)

A4.13.5. Additional Permits Required:

AF Form 592, Welding Permit
Other (specify)

A4.13.6. Equipment (PPE, monitoring, respiratory, rescue, tools):

Available
Inspected

A4.13.7. Personnel Awareness/Notification:

Pre-entry briefing to entrants and attendants covering:
Specific Hazards
Work to be Performed

Control Methods and Equipment
Emergency Egress
Signs Posted as required
Pedestrian and Vehicle Barriers
Emergency Rescue Agency Notified
Other (specify)

A4.14. Authorized Entry Supervisors (List all personnel who will be authorized to approve entry under this permit):

GRADE	NAME (Last, First, MI)
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A4.15. Authorized Personnel. (List all personnel who will be entrants [E] or attendants [A]. Personnel may be trained in both categories.)

GRADE	NAME (Last, First, MI)	E/A
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A4.16. Confined Spaces Program Team (CSPT):

3 WG/SEG, Ground Safety:552-6857

3 AMDS/SGPB, Bioenvironmental Engineering580-4047

3 WG/CEF, Fire Department552-2620

Functional Manager for the Organization Listed on page 1

A4.17. Amendments to Master Entry Plan/Permit. Requests for changes or additions to the areas covered in this plan/permit will be submitted to 3 WG/SEG and must be reviewed and approved by the Con-fined Spaces Program Team (CSPT) before implementing.

A4.18. Approvals. Once a Master Entry Plan has been reviewed and approved by the CSPT, a copy of this plan will be maintained by the supervisor along with the originals of all individual entry permits (AF Form 1024). The plan must be resubmitted prior to the expiration date shown on page 1 for review and recertification.