

15 MAY 2004



Safety

CONFINED SPACE PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFD 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 or who work on Hickam AFB, to include all active duty, reserve, and Air National Guard personnel. It establishes procedures for the identification and entry into all confined spaces located on Hickam AFB. All Air Force and National Guard operations or tasks that require entry into confined spaces, will comply with requirements in AFOSH Standard 91-25, 29 CFR 1910.146 and this instruction. Specific procedures or technical orders (TO) incorporating the requirements of AFOSH Standard 91-25 may be used for permit-required confined spaces entry in lieu of this instruction. Individual units on Hickam AFB may publish additional unit level guidance regarding their confined space programs in unit supplements, however, the guidance may not be less restrictive.

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

- 1.1. The 15 AW Confined Spaces Program Team (CSPT) will consist of:
 - 1.1.1. The 15 AW/SEG, Ground Safety.
 - 1.1.2. The 15 ADS/SGGB, Bioenvironmental Engineering.
 - 1.1.3. The 15 CES/CEF, Fire Department.
 - 1.1.4. The 154 WG Occupational Safety and Health Manager.
 - 1.1.5. Functional managers of sections with confined spaces.

2. Responsibilities:

2.1. 15 AW/SEG will:

- 2.1.1. Maintain the 15 AW master listing of confined spaces, units and sections with confined spaces, and a letter of appointment from the unit for each functional manager. Provide copies of the master listings to 15 CES/CEF and 15 ADS/SGGB with updated copies of the listing when there are changes.
- 2.1.2. Schedule quarterly CSPT meetings and develop an agenda including section program reviews that will be accomplished during each meeting. Ensure all section programs are scheduled for CSPT review at least once every calendar year.
- 2.1.3. Coordinate CSPT site visits and confined space evaluations.
- 2.1.4. Provide or arrange for entry supervisor training for each section with confined spaces.

2.2. 15 CES/CEF will:

- 2.2.1. Attend CSPT meetings and support confined space classifications.
- 2.2.2. Provide a centrally located rescue team for sections without an organizational rescue team. Provide confined space rescue training to organizational rescue teams.
- 2.2.3. Coordinate AF Form 592 approval if hot riveting, welding, cutting, burning, or heating operations will be accomplished in a confined space. Consult with 15 ADS/SGGB to ensure that a toxic atmospheric health hazard is not introduced into a confined space.

2.3. 15 ADS/SGGB will:

- 2.3.1. Attend CSPT meetings and support confined space classifications.
- 2.3.2. Coordinate on AF Form 592 approvals and make recommendations to reduce exposures as required.
- 2.3.3. Ensure that section atmospheric monitoring training is sufficient and provide guidance to section training managers.
- 2.3.4. Verify respiratory protection and personal protective equipment required to control hazards are adequately identified in entry plans.

2.4. Unit Commanders will:

2.4.1. Appoint, in writing, Section Confined Space (CS) Functional Managers to serve as the unit representatives to the CSPT for confined spaces within the functional managers control and assist in the development of MEP's

2.4.2. Identify, evaluate, and classify all confined spaces within their organization.

2.4.3. IAW AFOSH Standard 91-25 para 2.12.7, review all non-permit required confined spaces within their area of responsibility at least annually to ascertain that no changes occurred which would affect the original classification and provide a letter to 15 AW/SE certifying the results of the review.

2.5. Section CS Functional Managers will:

2.5.1. Identify all potential confined spaces within their section to the unit commander and 15 AW/SEG for CSPT evaluation support.

2.5.2. Attend CSPT meetings scheduled by 15 AW/SEG.

2.5.3. Develop and manage a section confined space training program.

2.5.4. Develop and maintain copies of all section confined space documentation.

2.5.5. Maintain a section Confined Space Program Binder with the information outlined in [Attachment 1](#).

3. Identification and Classification of Confined Spaces:

3.1. Identification of Confined Spaces.

3.1.1. Section CS Functional Managers will identify all potential confined spaces within their area of responsibility and also all areas where section personnel enter potential confined spaces under the control of another organization. Section CS Functional Managers will evaluate existing locations as well as new construction, remodeling, or changes in usage 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.

3.1.2. 15 AW/SEG, 15 CES/CEF and 15 ADS/SGGB personnel will review unit operations during routine ground safety inspections, fire inspections, and occupational health assessments to help identify confined spaces with shop supervisors and Section CS Functional Managers

3.1.3. Section CS Functional Managers will use the Confined Spaces Assessment Worksheet ([Attachment 2](#)) to document each potential confined space. The Section CS Functional Managers will complete the evaluation, attach additional documents as required by the worksheet, and submit the package to 15 AW/SEG.

3.1.4. Section CS Functional Managers may submit a Confined Space Assessment Worksheet package for numerous confined spaces which are similar in type and hazards (fuel pits, sewer manholes, and so forth), providing the specific location of each space is described.

3.1.5. Section CS Functional Managers will develop a separate Confined Space Assessment Worksheet for each activity conducted in the confined space if the activities are significantly different and generate different hazard conditions.

3.2. Classification of Confined Spaces.

3.2.1. 15 AW/SEG will review all Confined Space Assessment Worksheet Packages submitted by Section CS Functional Managers and coordinate any additional information needed to properly complete the package. 15 AW/SEG will make an initial classification determination of the space following AFOSH Std 91-25 para 3.4, and draft a Confined Space Assessment Certification (**Attachment 3**).

3.2.2. 15 AW/SEG will route the CS Assessment Certification to 15 ADS/SGGP and 15 CES/CEF with a standard suspense of 2 weeks for routine space assessments (CSPT members needing more review time will inform 15 AW/SEG). For newly identified spaces or spaces requiring additional evaluation, 15 AW/SEG will schedule a CSPT site visit to the space (or representative spaces) with the Section CS Functional Manager.

3.2.3. After the CSPT has certified the classification of a space, 15 AW/SEG will file the original, provide a copy for the Section CS Functional Manager to file in the section program binder, and provide copies of the signed assessment/certification package to CSPT members.

4. Entry Permit Procedures and Documentation:

4.1. Entry Permits for Permit-Required Confined Spaces - Occasional Entry:

4.1.1. 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 Section CS Functional Manager should use the completed Confined Spaces Assessment as guidance for the AF Form 1024. As a minimum requirement, the following information must be annotated on the AF Form 1024; Identification of all hazards; implementation of interim control measures; and results of pre-entry and periodic continuous atmospheric testing, and monitoring.

4.1.2. The AF Form 1024 must be completed by the Section CS Functional Manager and reviewed by 15 AW/SEG, 15 ADS/SGGB, and 15 CES/CEF. To facilitate a thorough review, Section CS Functional Managers should strive to submit their AF Form 1024 not less than 3 duty days prior to entry and they must submit AF Form 1024 at least 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.

4.1.3. If any conditions have changed since the space was evaluated and certified by the CSPT, a new Confined Space Assessment Worksheet must be submitted along with the AF Form 1024.

4.1.4. After all members of the CSPT have approved the entry by signing the AF Form 1024, the authorized entry may proceed after the Entry Supervisor signs the permit. Confined Space Entry Permits will be maintained on file in the section program binder by the Section CS Functional Manager for one year after the date of entry.

4.2. Master Entry Plan/Permits for Permit-Required Confined Spaces - Frequent Entry:

4.2.1. A Master Entry Plan (MEP) may be issued by the CSPT 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). A CSPT certified MEP authorizes section entry supervisors to issue individual entry permits into the confined space as required, provided all conditions set in the MEP are met. Examples of this type of space are lateral fuel pits, valve fuel pits, lift stations, and so forth.

4.2.2. The Section CS Functional Manager will draft an MEP using the MEP Template ([Attachment 4](#)) and information from personnel tasked to enter the confined space, sampling conducted and corporate knowledge of the CSPT members.

4.2.3. The Section CS Functional Manager will forward an electronic draft copy of the MEP to 15 AW/SEG, 15 ADS/SGGP and 15 CES/CEF for review at least 30 days prior to expiration. After review, any changes will be forwarded by each CSPT agency back to the Section CS Functional Manager. The CS functional manager will make appropriate changes and then route a paper copy through 15 ADS/SGGP, 15 CES/CEF and 15 AW/SEG for signature. The 15 AW/SEG representative will be the last signature on the MEP, at which time it will become effective.

4.2.4. Using a CSPT certified MEP the entry supervisor prepares an AF Form 1024 for each entry. Instructions for completing the AF Form 1024 can be found in Attachment 2 to AFOSH Std 91-25.

4.2.5. Section CS Functional Managers will maintain copies of the MEP (including all AF Forms 1024 issued by section entry supervisors during the effective period) on file in the section CS Program Binder for one year after expiration of the permit.

5. Confined Space Program Management

5.1. **Confined Spaces Program Binder.** Section CS Functional Managers will maintain a Confined Spaces Program Binder containing the following items organized as outlined in [Attachment 1](#):

5.1.1. Appointment letter from unit commander designating a primary and alternate confined space manager for each area responsible for permit required confined spaces

5.1.2. A current copy of AFOSH Standard 91-25, *Confined Spaces*.

5.1.3. A current copy of 29 CFR 1910.146, *Permit Required Confined Spaces*.

5.1.4. A copy of this instruction (15 AWI 91-25).

5.1.5. A copy of the organization's MEP(s).

5.1.6. Written briefing between non-AF organizations and owning organization on the contents of the space and the known hazards that make the space permit-required.

5.1.7. A copy of all confined spaces entry permits issued within the last 12 months.

5.1.8. A copy of confined space training outline(s) or lesson plan(s).

5.1.9. A copy of all confined space training records, including AF Form 55s, CSPT authorized computerized information management system print-outs, and AF Form 2767s or a cross-reference to where the training data is maintained.

5.2. Securing Permit Required Confined Spaces.

5.2.1. Section CS Functional Managers will ensure all permit required confined spaces controlled by their section are secured to prevent unauthorized or inadvertent entry. If Section CS Functional Managers believe securing the space is not possible, they must coordinate the decision with the CSPT and post the space entry with warning signs in accordance with AFOSH Standard 91-25, paragraph 3.5.

5.2.2. Section CS Functional Managers will ensure that persons entering confined spaces they control have a current and valid entry permit from the 15 AW CSPT or that non-AF organizations are properly informed of the space hazards as outlined in Section 5.3.

5.3. Non-AF Personnel Entry Into Permit Required Confined Spaces.

If personnel from organizations not included in the 15 AW Confined Space Program (contractors or non-AF government personnel) require entry into permit required spaces, the Section CS Functional Manager will prepare a brief informing them of the space definition and identified hazards in accordance with the requirements in AFOSH Standard 91-25, Chapter 7. The Section CS Functional Manager will coordinate approval of the briefing template with the CSPT. A written record of the briefing signed by both the Section CS Functional Manager and a designated non-AF organizational representative will be maintained by the Section CS Functional Manager for one year after entry and work is completed.

5.4. Training:

5.4.1. **Section CS Training Program.** A structured and effective training program is designed to establish safe work practices and techniques. This program is to be based on specific hazards that may be encountered in the confined spaces entered by personnel in the section.

5.4.1.1. The Section CS Functional Managers will prepare, for each type of permit-required confined space, a written training outline or lesson plan for all persons involved with confined space entry (Entry Supervisors, Entrants, Attendants, CS Testers/Monitors, and Organizational Rescue Team Members) that outlines the hazards, control measures, and procedures of the sections permit required spaces (and complies with the requirements of AFOSH Standard 91-25, Chapter 5 for Entrants, Attendants and Supervisors). The Section CS Functional Manager will coordinate initial approval of the lesson plan by the installation CSPT. The Section CS Functional Manager will update and coordinate CSPT re-approval of the training every 12 months, and anytime there are changes to potential confined space hazards or entry plans. An Air Force approved Computer Based Training (CBT) program will be used in conjunction with the in-house training program for all qualified confined space positions.

5.4.1.2. Section CS Functional Managers will coordinate Entry Supervisor, CS Tester/Monitor, and CS Rescue Team Member training with 15 AW SEG, 15 ADS/SGGB, and 15 CES/CEF as required.

5.4.1.3. Section CS Functional Managers will ensure all section CS training is documented on the AF Form 55, *Employee Safety and Health Record*, (or CSPT authorized computerized information management system) to ensure that all training has been completed.

5.4.2. **Entry Supervisor Training.** 15 AW/SEG will provide copies of an Air Force approved CBT program to all Section Confined Space Functional Managers. The CBT will be used in conjunction with the section in-house training program for qualification of all Entry Supervisors. If available, training may be conducted by a qualified outside training course. Section CS Functional Managers will ensure all training is documented on the AF Form 55 (or CSPT authorized computerized information management system).

5.4.3. **Confined Space Tester/Monitor Training.** Section CS Functional Managers can either develop an in-house CS Tester/Monitor training program or coordinate for 15 ADS/SGGB to pro-

vide training on the use, calibration (user), and care of atmosphere testing and monitoring equipment.

5.4.3.1. Section CS Functional Managers who choose to develop an in-house CS Tester/Monitor training program will develop a training plan and coordinate approval of the plan by 15 ADS/SGGB. The Section CS Functional Manager will update and coordinate 15 ADS/SGGB re-approval of the training every 12 months, and anytime there are changes to potential confined space hazards or entry plans.

5.4.3.2. Section CS Functional Managers who chose to have 15 ADS/SGGB provide training will coordinate CS Tester/Monitor training dates with 15 ADS/SGGB at least one month in advance. 15 ADS/SGGB will provide an AF Form 2767 certifying the training or will certify the equivalent automated report from CSPT authorized computerized information management systems.

5.4.3.3. Section CS Functional Managers will ensure section CS Tester/Monitors are trained prior to conducting any CS Tester/Monitor duty and retrained every 12 months. Section CS Functional Managers will record CS Tester/Monitor training on employee AF Form 55s (or CSPT authorized computerized information management system).

5.4.4. **Confined Space Organizational Rescue Team Training.**

5.4.4.1. Section CS Functional Managers with an in-house organizational rescue team will develop an Organizational Rescue Team Member training plan and coordinate approval of the plan by 15 CES/CEF. 15 CES/CEF will assist training of Organizational Rescue Teams as required. The Section CS Functional Manager will update and coordinate 15 CES/CEF re-approval of the training every 12 months, and anytime there are changes to potential confined space hazards or entry plans.

5.4.4.2. Section CS Functional Managers will ensure section Organizational Rescue Team Members are trained prior to conducting any rescue duty and are retrained every 12 months. Section CS Functional Managers will record Organizational Rescue Team Members training on employee AF Form 55s (or CSPT authorized computerized information management system).

5.5. **Atmospheric Testing and Monitoring Equipment.** Section CS Functional Managers will ensure their section purchases, maintains, and calibrates the necessary CS atmospheric testing and monitoring equipment. Section CS Functional Managers will consult Wing Safety and Bioenvironmental Engineering during the equipment selection process prior to purchase of the equipment.

6. Permit Required Confined Space Entry Procedures. After obtaining and entry permit or master entry plan from the CSPT, sections may have properly trained and equipped personnel enter permit-required confined spaces following the procedures outlined in this section.

6.1. **Emergency Rescue Coordination.** The Hickam AFB Fire Department (15 CES/CEF) will serve as the centrally located rescue team (even when sections have organizational rescue teams). Entry Supervisors will contact the Fire Control Center (449-8103) and get approval to proceed prior to entering a permit-required confined space. Entry Supervisors will notify the Fire Control Center upon exiting the space. Entry Supervisors will notify Organizational Rescue Teams as outlined in their MEP.

6.2. Entry Team Assignment/Verification.

Entry Supervisors will ensure that all Entrants, Attendants, CS Testers/Monitors, and Organizational Rescue Team Members (if used) have documented training as outlined in Section 5.4 of this instruction prior to an entry. Entry Supervisors will list all personnel involved in an entry and the position they fill on the entry permit (AF Form 1024) prior to signing the entry permit and allowing entry.

6.3. Atmospheric Testing and Monitoring of Confined Spaces.

6.3.1. Entry Supervisors will ensure a properly trained CS Tester/Monitor conducts atmospheric testing prior to entry and any continuous monitoring required by the entry permit/MEP to ensure safe conditions are maintained. When organizations do not have a qualified CS Tester/Monitor, 15 ADS/SGGB may support atmospheric testing for an entry, however the Entry Supervisor will need prior coordination (typically at least 3 work days) with 15 ADS/SGGB to ensure support will be available.

6.3.2. Entry Supervisors and CS Tester/Monitors will ensure the parameters being tested include all testing and monitoring requirements listed on the MEP and included on the entry permit (AF Form 1024).

6.3.3. Entry Supervisors and CS Tester/Monitors will ensure monitoring equipment used to evaluate confined spaces is calibrated and field checked prior to entry in accordance with AFOSH Std 91-25, paragraph 3.8.

6.4. Temporary Confined Space Reclassification.

Entry Supervisors may temporarily (one entry) reclassify a permit-required confined space to a non-permit required confined space, allowing entry without harness/lifelines or attendant provided:

6.4.1. The MEP specifically allows reclassification and all MEP provisions for reclassification are met.

6.4.2. Atmospheric testing required by the MEP shows the space to be free of all atmospheric hazards and recognized potential to develop an atmospheric hazard.

6.4.3. A trained CS Tester/Monitor provides continuous atmospheric monitoring of oxygen content, flammability, and any additional parameters identified by the MEP.

6.4.4. The space is free of any credible potential for engulfment or entrapment hazards.

6.4.5. The Entry Supervisor briefs the Entrant(s) and CS Tester/Monitor to immediately exit the space and notify the Entry Supervisor if any hazardous condition or potential development of a hazardous condition is identified.

6.4.6. The Entry Supervisor documents the basis for reclassification, signs the document, and attaches it to the entry permit.

RAYMOND G. TORRES, Colonel, USAF
Commander, 15th Airlift Wing

Attachment 1**SECTION CONFINED SPACE BINDER ORGANIZATION**

TAB 1 – REGULATIONS

- TAB 1-1 AFOSH Standard 91-25, *Confined Spaces*
- TAB 1-2 29 CFR 1910.146, *Permit Required Confined Spaces*
- TAB 1-3 15 AWI 91-25, *Confined Space Program*

TAB 2 – MASTER ENTRY PLAN(S)

- Include copies of all AF Form 592 (if used for this space)*

TAB 3 – ENTRY PERMITS (AF FORM 1024)

- Include copies of all AF Form 592 (if used for this space)*

TAB 4 – SECTION CONFINED SPACE INVENTORY

- TAB 4-1 Inventory
- TAB 4-2 Confined Space Assessment Worksheet(s)
- TAB 4-3 Confined Space Assessment Certification(s)

TAB 5 – SECTION CONFINED SPACE FUNCTIONAL MGR APPOINTMENT LETTER

TAB 6 – SECTION CONFINED SPACE EQUIPMENT LISTING

TAB 7 – TRAINING PLANS AND DOCUMENTATION

- TAB 7-1 Section Confined Space Training Outline (Entrant/Attendant/Supervisor.0)
- TAB 7-2 Section Confined Space Tester/Monitor Training Outline (if applicable)
- TAB 7-3 Section Confined Space Rescue Team Training Outline (if applicable)
- TAB 7-4 AF Form 55s, CSPT authorized computerized information management system print outs, and AF Form 2767s (or cross reference to training data location)

TAB 8 – CSPT MEETING MINUTES

TAB 9 – SECTION CONFINED SPACE ENTRY CHECKLISTS

TAB 10 – REPORTS AND CORRESPONDANCE

- TAB 10-1 – CSPT Approved Contractor Hazard Briefing Template (if used for this space)
- TAB 10-2 – Documentation of Contractor Hazard Briefings Accomplished

Attachment 2**CONFINED SPACES ASSESSMENT WORKSHEET**

A2.1. Does the size and shape of this space allow a person to enter and perform work?

- YES/NO If yes, describe or explain:

A2.2. Are there limited or restricted openings making entry and egress difficult?

- YES/NO If yes, describe or explain:

A2.3. 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.

A2.4. 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.

A2.5. 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.

A2.6. 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.

A2.7. 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 15 AW/SEG for certification.

A2.8. 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.

A2.9. Is it possible to eliminate all the hazards without anyone entering the space?

- YES/NO If yes, how?

It is possible that the space may be reclassified as a non-permit-required confined space. Submit this evaluation package to 15 AW/SEG for certification.

If no, go to question 10.

A2.10. 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 to this evaluation.

If no, complete a MEP Assessment (see Attachment 3) and attach to this evaluation.

CONFINED SPACE ID#:

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

Attachment 3

CONFINED SPACES ASSESSMENT CERTIFICATION

CS ID#:

The space described in the Confined Space Assessment Worksheet 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 15 AW/SEG for each required entry). Concur/Non-concur

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

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

15 AW/SEG (Ground Safety)

Concur/Non-concur

15 ADS/SGGB (Bioenvironmental Engineering)

Concur/Non-concur

15 CES/CEF (Fire Department)

Concur/Non-concur

Attachment 4

MASTER ENTRY PLAN TEMPLATE

Figure A4.1. Master Entry Plan Template

MASTER ENTRY PLAN FOR XXXXX		
<i>COMPLIANCE WITH THIS PUBLICATION IS MANDATORY</i>		
Chapter 1 -	PROCEDURAL GUIDANCE	
	Purpose	1.1.
	AF Form 1024	1.2.
	Procedures to Reclassify a Permit	1.3.
Chapter 2 -	GENERAL INFORMATION	
	Characteristics of the XXXX	2.1.
	Purpose for Entry	2.2.
	Other Information	2.3.
Chapter 3 -	PERMIT SPACE HAZARDS	
	Potential Hazard(s) of XXXX Entries	3.1.
	Acceptable Entry Conditions	3.2.
Chapter 4 -	REQUIRED EQUIPMENT	
	Equipment Required for Entry and Work	4.1.
Chapter 5 -	EMERGENCY AND RESCUE SERVICE	
	General	
	Provisions for Entry During Potential Emergency Situations	
	Communication Points of Contact and Phone Numbers	
Chapter 6 -	AUTHORIZED EMPLOYEES	
	Authorized Entry Supervisors	6.1.
	Authorized Entrant/Attendants	6.2.
	Contractor Personnel	6.3.
Chapter 7 -	PREPARATION FOR ENTRY	
	General	6.1.
Chapter 8 -	ATMOSPHERIC TESTING AND MONITORING	
	Recording Results of Monitoring	8.1.
	Order of Testing	8.2.

(Figure continued on next page)

Figure A4.1 Continued

Chapter 9 -	AUTHORIZATION OF PERMIT	
	Authorization of Permit by Entry Supervisor(s)	9.1
Chapter 11 -	HEALTH HAZARDS	
	Health Hazards of Substances Encountered in XXXX Entry	11.1
Tables		Page
3.1.	Section 3 of AF Form 1024, Potential Hazards of XXXX Systems	3
4.1	Equipment Required for Entry and Work	3
7.1.	Preparation for Entry Checklist	4
11.1.	Hazardous Substances	5
Attachments		
1	Coordination Sheet	7
2	Confined Space Listing	8
3	Entry Supervisor Letter	9

Chapter 1

PROCEDURAL GUIDANCE

1.1. Purpose. The **XXXX** shop routinely enters **XXXX** classified as permit-required confined spaces. AFOSH Standard 91-25, *Confined Spaces*, allows organizations to implement Master Entry Plans (MEP) for units making routine entries into Permit-Required Confined Spaces with no immediately dangerous to life or health (IDLH) potential. This MEP authorizes the **XXX** commander to designate entry supervisors (**memorandum needs to be attached before approval**) to issue AF Form 1024, *Confined Space Entry Permit*, and allowing **XXX** shop personnel to make entries. This MEP is part of the shop’s overall written confined space program. It is valid for one year from date of Confined Space Program Team (CSPT) approval. The supervisor can amend this MEP with coordination of the CSPT. **Amendments to MEP/ Permit.** Requests for changes or additions to the areas covered in this plan/permit will be submitted to 15 AW/SEG and must be reviewed and approved by the Confined Spaces Program Team (CSPT) before implementing.

1.2. AF Form 1024, Confined Space Entry Permit. The entry supervisor will complete an AF Form 1024 using the criteria referenced in this MEP. Maintain a current, completed AF Form 1024, with entry supervisor’s signature, at the entry site. The entry supervisor will not issue a permit when unexpected conditions exist and are not allowed for in the MEP. The entry team preparing for the entry will not deviate the requirements of the permit. If a hazardous condition develops during the entry that cannot be eliminated or controlled, the entry supervisor will terminate the entry; revoke the permit; and contact Safety (SEG), Fire Protection (CEF), and Bio Environmental (SGGB) before proceeding; retain the revoked permit in the shop’s files for one year. The CSPT will review the status of the organizational MEP annually.

(Figure continued on next page)

Figure A4.1 Continued

1.3. Procedures To Reclassify Permit-Required Confined Spaces (as allowed in AFOSH Std 91-25, paragraph 6.4.11 and CFR 1910.146(c)(5)). All **XXX** are considered Permit Required Confined Spaces until the pre-entry procedures demonstrate otherwise. Reclassifying the space as a Non-Permit Space allows an entry without a permit, without an attendant, and without personnel being suited with a harness/lifeline. The entry supervisor may reclassify the space as a Non-permit entry under the following conditions:

- 1.3.1. Testing is accomplished prior to entry with the results showing the space to be free of all hazards.
- 1.3.2. The actual or potential atmospheric hazards are eliminated and continuous monitoring is used to ensure the atmosphere remains free of hazards.
- 1.3.3. The entrant does not introduce material or perform work in the space that could cause a hazardous condition.
- 1.3.4. The entry supervisor documents the basis for the reclassification on a separate sheet, attaches it to the entry permit, and signs the statement.

Chapter 2

GENERAL INFORMATION

2.1. Characteristics of the XXXX System: **XXX** system access is made through (describe in detail the characteristics of entry i.e. . . . a 3 foot diameter metal cover (manhole) to a 4 foot diameter vertical manway that varies in depth from 3 feet to 15 feet. The average manway is 6 feet deep etc).

2.2. Purpose For Entry: List the types of tasks or operations to be performed and the guidance used (be specific) i.e. remove debris, seal cracks with cement, seal termination points of lateral line, and replace line sections. Small amounts of cement used in the process (no task ever exceeds 50 lb. of cement used). Work is performed IAW T.O. 0000000, AFI 00-000 or 29 CFR 1926.

2.3. Other Information: List other information useful in the review process. I.E. Routine entry does not entail around-the-clock operations. Any entry operation exceeding a single work shift is not a routine entry covered by this MEP. Complete a separate AF Form 1024 for SGGB, CEF, and SEG approval prior to beginning multiple work-shift entries.

Chapter 3

PERMIT SPACE HAZARDS

3.1. Potential Hazard(s) Of XXXX Entries. **XXXX** entries expose **XXXX** shop personnel to the following potential hazards: (List all potential or actual hazards, i.e. toxic gasses, explosive/flammable gasses, oxygen deficiency, and fall hazard etc).

3.2. Acceptable Entry Conditions. The Entry Supervisor is responsible for ensuring acceptable entry conditions exist in the permit required confined space. The following are acceptable atmospheric conditions for issuing an entry permit through this MEP. The items marked by an "X" indicate the expected hazards for **XXXX** entry.

(Figure continued on next page)

Figure A4.1 Continued

Table 3.1. Section 3 of AF Form 1024, Potential Hazards of Sewer Systems

PERMIT SPACE HAZARD POTENTIAL	ACCEPTABLE ENTRY CONDITIONS	CONTROL MEASURES
OXYGEN ENRICHMENT	Reading not more than 23.5	
OXYGEN DEFICIENCY:	Reading is not less than 19.5%	
EXPLOSIVE/FLAMMABLE GASSES:	Reading is less than 10 % of the LEL	
TOXIC GASSES: **	Reading < OSHA/AFOSH Criteria *	
Hydrogen Sulfide (H2S)	Reading is less than 10 ppm	
Carbon Monoxide (CO)	Reading less than 25 ppm	
Chlorine (Cl2)	Reading less than 0.5 ppm	
FALL HAZARD:		
ENGULFMENT:	Entry coordinated with weather forecasts	
AIRBORNE COMBUSTIBLE DUST	None present	
MECHANICAL HAZARDS	None present or LO/TO used	
ELECTRICAL SHOCK	None present or LO/TO used	
HEAT		

Chapter 4

REQUIRED EQUIPMENT

4.1. Equipment Required for Entry and Work. The following table provides required equipment:

Table 4.1. Equipment Required for Entry and Work

Personal Protective Equipment:	List all PPE used
Respiratory Protection:	Specify type if used
Engineering controls	List any Mechanical ventilation used
Atmospheric Testing/ Monitoring:	Initial and continuous by calibrated direct-reading unit etc
Make/Model/Number:	<u>XXXX</u> Gas Detector, etc
Communication:	Visual - Voice Attendant to Entrant; Radio/Phone by Attendant to <u>XXXX</u>
Rescue Equipment:	List all equipment if applicable (harnesses, winch etc)
Other:	Extension ladder, flash lights, hand tools, manhole barriers

- **NOTE:** All PPE and monitoring equipment will be verified for serviceability/calibration and condition before entry is made into any confined space.

(Figure continued on next page)

Figure A4.1 Continued

Chapter 5

EMERGENCY AND RESCUE SERVICE

5.1. General. The Attendants' chief rescue responsibility is to summon emergency services.

WARNING: THE ATTENDANT MUST NEVER ENTER THE SPACE TO PERFORM A RESCUE. The attendant must prevent unauthorized personnel from attempting rescue. The attendant will perform non-entry rescue using retrieval line attached to the harness of the entrant(s) for any permit-space. For vertical permit-spaces deeper than 5 feet, a mechanical lifting device must be available. Entrants will use self-rescue by evacuation of the space if monitoring devices indicate an unacceptable atmospheric condition, and anytime when directed to do so by the attendant.

5.2. Provisions for entry during potential emergency situations. The commander, XXXX, may direct appropriate personnel entry into permit-required confined spaces to perform emergency functions or repairs (i.e. unexpected break in line causing the need for immediate attention to sustain the mission) under the following conditions:

- The CSPT has approved the operation and has determined the necessity for rescue personnel.

NOTE: This procedure is extremely uncommon and 15 AW/SEG will be notified through 15 AW/CP at 448-6900 as soon as possible.

5.3. Communication points of contact and phone numbers (for normal and emergency conditions) to be used during the entry. Emergency communications will be by radio contact initiated by the Attendant to the Centrally Located Rescue Team (Fire Control Center) at 449-8103. The FCC will establish telephone link to base emergency services. The entry supervisor will coordinate with the installation SEG, CEF, and BE staffs when required to enter non-routine permit-required confined spaces not included in the MEP and establish emergency rescue procedures prior to entry.

Chapter 6

AUTHORIZED EMPLOYEES

6.1. Authorized Entry Supervisors. Unit commander designated entry supervisors are listed on attached memo. These are the only individuals authorized to sign section 9 of the AF Form 1024.

6.2. Authorized Entrant/Attendants. The entry supervisor lists the names of personnel authorized to enter the system to perform assigned tasks on the AF Form 1024. The Entry Supervisor's signature on the AF Form 1024 is certification that Entrants and the Attendant meet training requirements of AFOSH Standard 91-25.

6.3. Contractor Personnel. This MEP does not authorize entry into Permit Required Confined Spaces by contractor employees. Contractor personnel will comply with OSHA criteria prior to entry into any Permit Required Confined Space. The person entering into contracted operation will contact 15 AW/SEG for contractor entry into a permit-required confined space.

(Figure continued on next page)

Figure A4.1 Continued

Chapter 7	
PREPARATION FOR ENTRY	
<p>7.1. General. The Entry Supervisor specifies, either by reference or direct statement, shop operating instructions that cover tasks conducted during the entry, and the procedures used in preparation for entry. Specify other controls required (i.e., lockout/tagout, ventilation, weather conditions, communication methods, hot work permits, etc.). .</p>	
Table 7.1. Preparation for Entry Checklist	
Preparations	
Notification of service interruption	Inert
Notification of FCC of entry time and location	Barriers
Blank/Blind Lines	Double Block & Bleed
Purge/Clean	Other
Isolation Methods	
Electrical Lockout/Tagout	Atmospheric
Mechanical Lockout/Tagout	Other:
Ventilation Methods	
Mechanical	Natural Ventilation
Communication Methods	
Visual	Tug Rope
Voice	Radio: Attendant will maintain contact with xxx
Additional Permits (Attach to AF 1024)	
AF Form 592, Welding Permit	Other:
Personnel Awareness	
Pre-Entry Briefing (Use attached briefing)	Post Signs (as required)
Pedestrian and Vehicle Barriers	Others:
Chapter 8	
ATMOSPHERIC TESTING AND MONITORING	
<p>8.1. Recording Results of Monitoring. Section 3 of this MEP and section 8 of the AF Form 1024 indicate the type of hazards and acceptable conditions for system entries. The Attendant will continuously monitor the atmospheric conditions of the confined space and record the results on the AF Form 1024. Record the results of testing at the beginning of the entry and at the conclusion of the entry. The AF Form 1024 must show the name of the person monitoring the atmosphere. If testing results show an unacceptable condition in the space the attendant will order the entrants to immediately exit the confined space, cancel the permit, and notify 15 AW/SEG at 449-0749. Enter calibration date for monitoring equipment on the AF Form 1024.</p>	

(Figure continued on next page)

Figure A4.1. Continued

8.2. Order of Testing. Test first for oxygen, then combustible gasses, and toxic vapor/gasses last when evaluating entry conditions. Confirm readings with section 8 of the AF Form 1024. Continue monitoring during the entry.

Chapter 9

AUTHORIZATION OF PERMIT

9.1. Authorization of Permit by Entry Supervisor(s): The entry supervisor will prepare, date, and sign the AF Form 1024 (see AFOSH Standard 91-25, Figure A2.2) assuring compliance to all MEP elements during each phase of the entry. At the completion of the exit, closeout the permit and file with this MEP as a historical document for one year.

Chapter 10

ANNUAL APPROVAL

10.1. Annual Approval of MEP: This document is a Master Entry Plan and requires an annual review/approval by 15 ADS/SGGB, 15 CES/CEF, and 15 AW/SEG. It is the shop supervisor's responsibility to contact the 15 ABW Safety office (9-0749) to conduct a review of the program. An inspector from 15 ADS/SGPB, 15 CES/CEF, and 15 AW/SEG may conduct no-notice inspections of shop confined space entry program at any time.

Chapter 11

HEALTH HAZARDS

11.1. Health Hazards of Substances Encountered during Entry: Atmospheric concentration of a substance for which a dose or a permissible exposure limit published in AFOSH standard 48-8, Subpart G or Subpart Z of CFR 1910, or NIOSH criteria.

(Figure continued on next page)

Figure A4.1. Continued

Table 11.1 Hazardous Substances

Gas/Symbol	Properties	Description	Health Hazards	Exposure Limits	IDLH
Oxygen (O)	Oxygen is an odorless, tasteless gas. It can be displaced or diluted by a large number of gases including carbon dioxide and nitrogen, as well as other inerting or toxic gases.	Oxygen content in a normal atmosphere is approx. 20.9% by volume. The remaining balance is primarily nitrogen.	At 15-19% oxygen, workers may have impaired coordination and a decreased ability to work strenuously. At 10-14% oxygen, workers may experience significant respiratory problems. Oxygen concentrations above 23% cause accelerated combustion and extreme fire hazards	Oxygen deficiency is any percentage by volume less than 19.5 %. Oxygen enrichment is defined as 23% or more.	
Carbon Monoxide (CO)	Carbon monoxide is an odorless, colorless chemical asphyxiant with toxic and flammable properties.	Carbon monoxide has a density similar to air and disperses evenly throughout the confined space. Once CO enters the lungs; it is instantly dispersed into the blood.	Carbon monoxide acts toxically by preventing the hemoglobin of red blood cells from getting the required oxygen to the brain. Exposures above 300 ppm will produce headaches and fatigue. Exposure over 4000 ppm is fatal in less than one hour.	TWA - 25 ppm over an eight-hour shift.	At 1200 ppm (IDLH), confusion and nausea sets in.
Chlorine (Cl ₂)	In its gas phase, chlorine is toxic and exhibits a yellow-green color and pungent odor. Liquid chlorine has a transparent amber color.	Chlorine is 2.5 times heavier than air and remains close to the ground upon release.	Chlorine is a severe lung and skin irritant. Exposure to small concentrations causes burning eyes, coughing, tearing, flushed skin.	STEL - 1 ppm TWA - 0.5 ppm	Lethal concentrations - 30 ppm in 30 minutes.
Hydrocarbons (C _x H _y)	Hydrocarbons cover a wide range of explosive gases. Most are heavier than air.	Hydrocarbons range from simple gases, such as methane and propane, to complex petroleum and alcohol vapors.	Concentrations above the lower explosive limit (LEL) present explosion and severe risk. High concentrations displace normal air and act as asphyxiants.	10 % of the LEL	Dependent on the gas.
Hydrogen Sulfide (H ₂ S)	Hydrogen sulfide is a colorless gas known for its rotten egg smell. It is flammable in concentrations above 4% by volume	Hydrogen is a by-product of many sulfur-based processes. It is also produced through the decomposition of organic matter, and is the most commonly found toxic gas. It is 1.2 times heavier than air and sinks to the bottom of a confined space.	At low ppm concentrations, it desensitizes the olfactory system in 2-5 minutes. The smell appears to go away even in increasing concentrations. Irritates the eyes and upper respiratory tract at 20-150 ppm. Attacks the nervous system at intermediate concentrations and is instantly fatal if inhaled in concentrations exceeding 1000 ppm.	STEL - 15 ppm over 15 minutes. TWA - 10 ppm over an eight-hour shift.	100 ppm

Attachment 5

COORDINATION SHEET

A5.1. Master Entry Plan requires an annual review/approval by SGGB, CEF, and SEG. MEP is effective for a maximum of one year from the date signed by the organizational representatives.

TODAY'S DATE:		EFFECTIVE THROUGH:
COORDINATION (see AFOSH Standard 91-25 for instruction. Coordinator, Initial/sign in appropriate area below)		
SEG:	SGGB:	CEF:

TODAY'S DATE:		EFFECTIVE THROUGH:
COORDINATION (see AFOSH Standard 91-25 for instruction. Coordinator, Initial/sign in appropriate area below)		
SEG:	SGGB:	CEF:

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SEG:	SGGB:	CEF:	