DEPARTMENT OF THE AIR FORCE
Headquarters U.S. Air Force
Washington, DC 20330-1030

QTP1S0X1-3
25 October 2024

AIR FORCE SPECIALTY CODE 1S0X1
OCCUPATIONAL SAFETY

Confined Space

QUALIFICATION TRAINING PACKAGE
(QTP)

ACCESSIBILITY: Publications and forms are available on the e-publishing website at http://www.e-publishing.af.mil/ for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

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Chapter 1

INTRODUCTION

1.1. Overview. This Qualification Training Package (QTP) aligns with the training requirements outlined in 29 CFR 1910.146, *Permit-Required Confined Spaces*, and DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards*, Chapter 23, *Confined Spaces*. The primary objective of this training is to provide comprehensive and standardized instruction to personnel, ensuring their qualification to recognize, control, and proficiently manage confined space hazards across diverse work environments.

1.1.2. Send comments and suggested improvements on DAF Form 847, Recommendation for Change of Publication, through your MAJCOM/FLDCOM to the Air Force Safety Center (AFSEC) (afscseg@us.af.mil).

1.2. Objectives. Through engaging methods such as lectures, demonstrations, and hands-on training, participants will acquire the skills necessary to effectively manage the DAF Confined Space Program. This encompasses understanding program management, discussing compliance requirements, identifying confined space hazards, and addressing required training for the Confined Space Program Team (CSPT). The training aims to certify proficiency in overseeing confined spaces, incorporating critical entry and rescue procedures through practical examples, case studies, and real-world scenarios.

1.3. Desired Learning Outcomes. The desired learning outcomes include trainees' ability to comprehend Occupational Safety's role in the DAF Confined Space Program, articulate confined space classification, and grasp CSPT roles. Additionally, trainees will learn to conduct Master Entry Plan (MEP) reviews, understand Occupational Safety's involvement in contractor operations, and comprehend compliance requirements when working on AF installations.

1.4. Lesson Duration. The recommended training duration for this program is a minimum of 34 hours, as outlined in **Table 1.1**. Additional time may be necessary based on the specific workplace and equipment complexity.

Table 1.1. Recommended Time for Training Activities.

Training Activity	Recommended Training Time (hrs.)
Trainee's independent review of related publications and references.	8
Trainer led review of related publications and references.	4
Trainer's lecture and demonstration	4
Trainer led hand-on training	4
Trainee led hand-on demonstration	4
Work center visits and Confined Space program evaluation.	8
Complete and review the Knowledge Check	2
TOTAL	**34**

1.5. Optional Training, Aids, and Equipment. Enhance the training experience by incorporating diverse methods to reinforce Confined Space understanding. This includes inviting experienced personnel to share insights tailored to your installation, conducting on-site demonstrations with relevant equipment, organizing mock drills to assess practical implementation, reviewing case studies for a deeper understanding of compliance importance, and providing access to online resources such as videos, articles, and instructions.

Chapter 2

QTP ROLES AND RESPONSIBILITIES

2.1. Trainer Responsibilities.

2.1.1. Ensure Comprehensive Training: The trainer is accountable for delivering comprehensive instruction on Confined Space concepts and procedures to all trainees, utilizing this QTP and pertinent regulations.

2.1.2. Integrate Real-World Scenarios: Customize the training program to incorporate real-world scenarios, offering practical insights and examples to reinforce understanding.

2.1.3. Organize Hands-On Training: Coordinate and facilitate hands-on training sessions during site visits within the work center or at the nearest installation. This should encompass assessing a Confined Space program, conducting equipment usage and inspection exercises, evaluating documentation, and identifying and mitigating hazards.

2.1.4. Collaborate with MAJCOM SEG: Establish communication with the respective MAJCOM Occupational Safety office (SEG) to access relevant Confined Space standards and guidance.

2.1.5. Additional Training Requirements: In addition to the above responsibilities, complete the following training steps utilizing this QTP.

2.1.5.1. Conduct a thorough overview of the entire QTP.

2.1.5.2. Conduct a comprehensive review of **Chapters 1** through **Chapter 11**.

2.1.5.3. Explain and demonstrate the material described in **Chapter 12**.

2.1.5.4. Administer the Knowledge Check. Refer to **Attachment 8** Knowledge Check for the test and answer key. Thoroughly review any questions missed by the trainee to ensure comprehensive understanding.

2.2. Trainee Responsibilities.

2.2.1. Actively Engage in their Confined Space training program.

2.2.2. Familiarize themselves with this QTP, relevant Confined Space regulations, and forms, including those listed on **Attachment 1**.

2.2.3. Execute Hands-On Demonstrations: Perform hands-on demonstrations as directed by the trainer.

2.2.4. Effectively communicate with the trainer or supervisor if any aspect of the training is unclear or if there are questions regarding procedures.

2.2.5. Successfully complete the Knowledge Check administered by the instructor with a score of **90% or higher**. See Attachment 8 Knowledge Check for the test and answer key. Collaborate with the instructor to review and address any incorrectly answered questions.

Chapter 3

CONFINED SPACE KEY DEFINITIONS

3.1. Confined Space. IAW DAFMAN 91-203, 23.2.1., a Confined Space is a space that:

3.1.1. Is large enough and so configured that a worker can bodily enter and perform assigned work.

3.1.2. Has limited or restricted means for entry or exit.

3.1.3. Is not designed for continuous occupancy.

3.1.4. It is crucial to note that all three (3) of the above conditions must be present to classify a space as confined.

3.1.5. Examples of confined spaces include, but are not limited to, aircraft fuel cells, silos, tanks, pits, manholes, vaults, storage bins, etc.

3.2. Confined Space Classification. IAW DAFMAN 91-203, 23.2.2., there are two (2) classifications of confined spaces:

3.2.1. Permit-Required Confined Space. A space with one or more of the following characteristics:

3.2.1.1. Contains or has the potential to contain a hazardous atmosphere.

3.2.1.2. Contains a material with the potential for engulfing an entrant.

3.2.1.3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section.

3.2.1.4. Contains any other recognized serious safety or health hazard. See **Table 3.1. Common Hazards Involving Confined Spaces (Not all-inclusive),** for common atmospheric and serious physical hazards found in permit-required confined spaces.

3.2.2. Non-Permit Confined Space. A space that does not contain, or with respect to atmospheric hazards, does not have the potential to contain any hazard capable of causing death or serious physical damage (DAFMAN 91-203, 23.2.2.2.).

3.1.3. See **Figure 3.1. Confined Space Flowchart** for a visual guide on identifying and classifying spaces.

3.3. Hazardous Atmosphere. IAW 29 CFR 1910.146(b), a hazardous atmosphere is one that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following causes:

3.3.1. Flammable gas, vapor, or mist in excess of 10 percent of its Lower Flammable Limit (LFL).

3.3.2. Airborne combustible dust at a concentration that meets or exceeds its LFL. This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

3.3.3. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.

3.3.4. Atmospheric concentration of any substance for which a dose or a Permissible Exposure Limit (PEL) is published in subpart G, Occupational Health, and Environmental Control, or in subpart Z, Toxic and Hazardous Substances, of 29 CFR 1910.146 and which could result in employee exposure in excess of its dose or PEL.

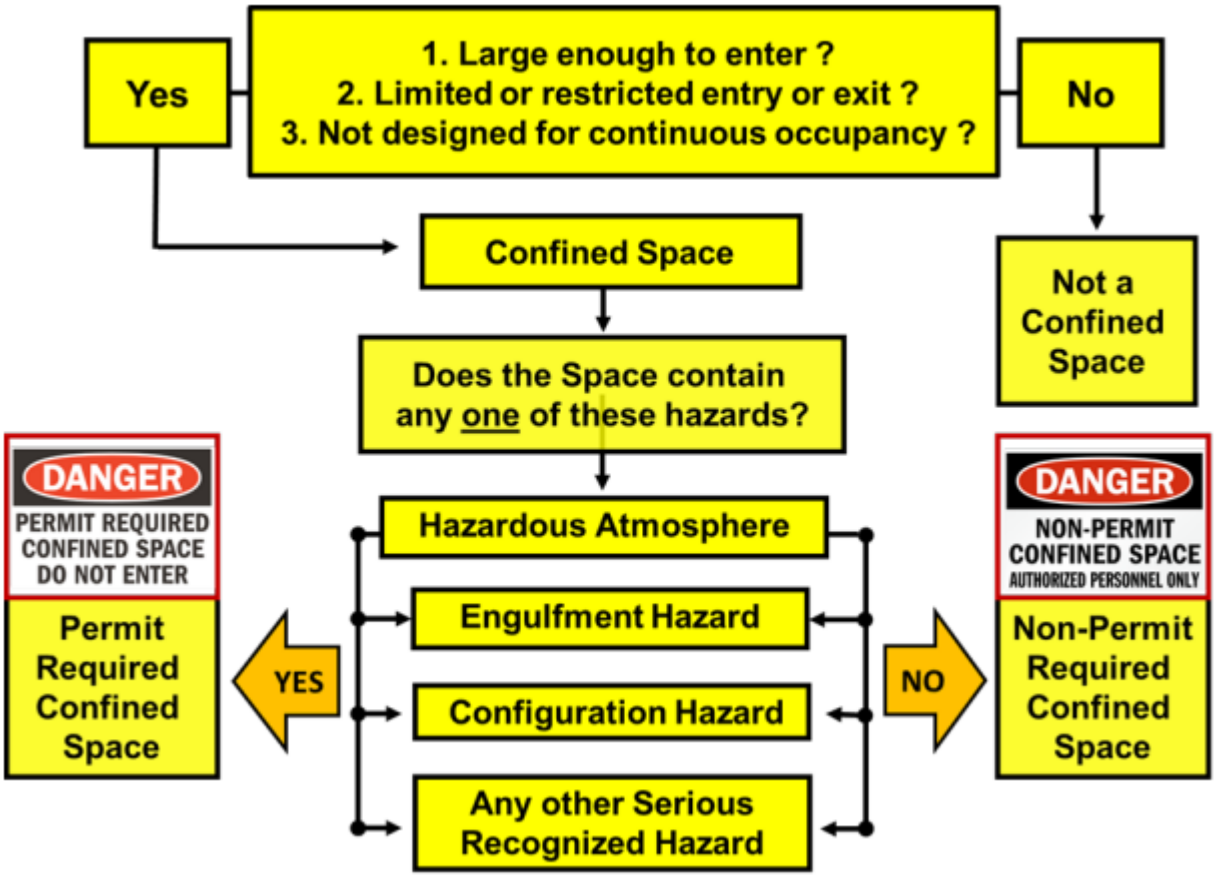
3.3.5. Any other atmospheric condition that is Immediately Dangerous to Life or Health (IDLH).

3.4. Serious Physical Damage. Serious physical damage is defined as an impairment or illness in which a body part is made functionally useless or is substantially reduced in efficiency. Such impairment or illness may be permanent or temporary and includes, but is not limited to, loss of consciousness, disorientation, or other immediate and substantial reduction in mental efficiency. Injuries involving such impairment would usually require treatment by a physician or other licensed healthcare professional. Such physical damage would impair an entrant's ability to conduct self-rescue (DAFMAN 91-203, 23.2.3.).

Table 3.1. Common Hazards Involving Confined Spaces (Not all-inclusive).

Category	Confined Space Hazard
Atmospheric	Oxygen Deficiency (<19.5%)
	Displacement of air by another gas
	Various biological processes or chemical reactions, such as rotting of organic matter, rusting of metals, burning, etc.
	Oxygen Enrichment (>23.5%)
	An excess of oxygen, in the presence of combustible materials, results in an increased risk of fire and explosion
	Some materials, which do not burn in air, may burn vigorously or even spontaneously in an enriched oxygen atmosphere
	Flammable or Explosive Atmospheres
	A flammable atmosphere presents a risk of fire or explosion
	Such an atmosphere can arise from the presence in the confined space of flammable liquids or gases or of a suspension of combustible dust in air
	If a flammable atmosphere inside a confined space ignites, an explosion may occur, resulting in the expulsion of hot gases and the disintegration of the structure
	Toxicity – An atmospheric concentration of any chemical substance (e.g., hydrogen sulfide (H2S), carbon monoxide (CO), welding fumes) which is capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects or which could result in an exposure or does in excess of its occupational and environmental exposure limit
Serious Physical	Limited or restricted means for entry or exit
	Cramped working conditions
	Temperature extremes
	Rotating or moving equipment
	Reactive or corrosive residues
	Entrapment hazards
	Electrical hazards
	Wildlife
	Poor light levels

Figure 3.1. Confined Space Flowchart.



Chapter 4

PROGRAM ROLES AND RESPONSIBILITIES

4.1. MAJCOMs, FLDCOMs, DRUs, and FOAs. IAW DAFMAN 91-203, 23.4.1., these organizations shall:

4.1.1. Formally review Confined Space Programs as part of Safety Program Evaluations.

4.1.2. Standardize MEP documentation to fit command needs, as required.

4.1.3. Approve installation safety office developed train-the-trainer materials.

4.2. Tenant Units. Tenant units with assigned safety staff will appoint a representative to the installation CSPT. The tenant safety representative will provide documentation to the installation Occupational Safety Manager (OSM) to show competency in the confined space program (DAFMAN 91-203, 23.4.3.).

4.3. Installation Occupational Safety Office. IAW DAFMAN 91-203, 23.4.2., the installation occupational safety office will:

4.3.1. Manage the installation Confined Space Program and lead the CSPT.

4.3.2. Identify a safety representative to the CSPT, ensuring they are competent in confined space program requirements and trained.

4.3.2.1. Training and appointment will be in writing, demonstrating the safety certifies the representative's competency in the program.

4.3.3. Maintain consolidated confined space inventories provided by each organization for all confined spaces, including geographically separated units. See **Table 4.1 Confined Space Inventory Information** for an example of what information an inventory should contain.

4.4. Installation Fire Chief. The installation fire chief shall identify, in writing, to the OSM the appointed Fire & Emergency Services (F&ES) Flight representative(s) to the CSPT and certify the representative(s) are competent in confined space program requirements (DAFMAN 91-203, 23.4.4.).

4.5. Installation Bioenvironmental Engineer (BE): The installation BE shall identify, in writing, to the OSM the appointed BE representative(s) to the CSPT and certify the representative(s) are competent in confined space program requirements (DAFMAN 91-203, 23.4.5.).

4.6. Commanders and/or Functional Managers. IAW DAFMAN 91-203, 23.4.6., Commanders and/or Functional Managers shall:

4.6.1. Identify, in writing, to the OSM their designated representative(s) to the CSPT and certify the representative(s) are competent in confined space program requirements and are properly trained.

4.6.2. Ensure the workplace is evaluated for permit and non-permit required confined spaces.

4.6.2.1. If the workplace contains permit spaces, the employer shall inform exposed employees, by posting danger signs or by any other equally effective means, of the existence and location of and the danger posed by the permit spaces. Note: A sign reading "DANGER - PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" or using other similar language would satisfy the requirement for a sign (29 CFR 1910.146(c)(2)).

4.6.3. Require the designated representative compile an inventory of the identified confined spaces in the organization and provide a copy to the installation CSPT. See **Table 4.1 Confined Space Inventory Information** for an example of what information an inventory should contain**.** Newly identified confined spaces or changes to any spaces on the inventory will be immediately reported to the CSPT to ensure proper testing, evaluation, and classification.

Table 4.1. Confined Space Inventory Information.

***[SHOP]* Confined Space Inventory**								
#	**Organization**	**Description**	**Type**	**Classification**	**Data Supporting Classification**	**Entry Points**	**Location (GPS)**	**Date Classified**
1	377 Fuels Shop	Fuel Storage Tank	Closed Tank	Permit-Required	IDLH	Side of Tank	35.0489° N, 106.5506° W	1 July 1999
2								
3								
Total Number of Spaces = 3								

4.6.4. Require that all exposed personnel are informed of the identified permit-required spaces.

4.6.5. Ensure a written confined space program, developed, and approved by the CSPT, is implemented IAW 29 CFR 1910.136 and DAFMAN 91-203, Chapter 23. In addition, MEP(s), when required, shall be routed through the CSPT for approval.

4.6.6. Ensure all personnel assigned duties and responsibilities that support confined space program tasks are properly trained. In addition, all equipment and training will be approved by the CSPT prior to purchase or implementation.

4.7. Commander's Designated Representative(s). IAW DAFMAN 91-203, 23.4.7., Commander's designated representative(s) shall:

4.7.1. Coordinate between each shop in the organization who enters confined spaces and the commander. Ensure required equipment needed for safe entry into a permit-required space is purchased and properly maintained. Obtain CSPT approval when selecting and purchasing equipment for confined space entries.

4.7.2. Develop the inventory of organizationally controlled confined spaces and submit it to the commander for review prior to submission to the installation occupational safety office. See **Table 4.1 Confined Space Inventory Information** for an example of what information an inventory should contain**.** Review the confined spaces inventory initially, annually, and as changes occur.

4.7.3. Designate the appropriate number of entry supervisors needed for all permit-required confined space entries.

4.7.4. Ensure personnel entering non-permit confined spaces receive the same initial confined space training as personnel entering permit-required spaces.

4.7.5. Develop, with each shop supervisor, a written confined space program, if required, that includes a structured and effective training program. Training will be approved by the CSPT prior to implementation.

4.7.6. Notify the occupational safety member of the CSPT when the organization plans to contract work in confined spaces. It is the organization's responsibility to provide required information about permit-required spaces to contractors.

4.7.7. Be a CSPT member.

4.7.8. Be appropriately trained.

4.8. Entry Supervisor. IAW DAFMAN 91-203, 23.4.8. and 29 CFR 1910.146(j), entry supervisors will:

4.8.1. Issue entry permits consistent with the organizational written confined space program or the MEP when applicable.

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

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

4.8.4. Cancel the entry permit after becoming aware of a prohibited or unexpected condition.

4.8.5. Ensure workers are aware that work on energized electrical equipment is prohibited unless approved by the installation Base Civil Engineer IAW AFMAN 32-1065, *Grounding and Electrical Systems*.

4.8.6. With assistance from Occupational Safety, BE, or the F&ES Flight, as appropriate, determine and evaluate newly identified hazardous condition sources found at the time of entry, e.g., residue from the space, leaking valve or pipe in the space, etc.

4.8.7. Ensure all members of the rescue team are trained and current in Cardiopulmonary Resuscitation (CPR) for permit-required confined space entry operations.

4.8.8. Ensure DAF workers enter a permit-required confined space only after an AF Form 1024, *Confined Spaces Entry Permit*, or other entry permit approved by the CSPT that meets the minimum documentation requirements, has been completed.

4.8.9. Maintain the entry permit and a copy of the written confined space program and MEP, when applicable, at the permit space entry to provide personnel fulfilling confined space entry duties with a reference to required procedures applicable to the confined space entered.

4.8.10. Verify that rescue services are available and that the means for summoning them are operable.

4.8.11. Be appropriately trained IAW DAFMAN 91-203, section 23.10.

4.9. Confined Space Attendants. Confined space attendants will perform duties in accordance with 29 CFR 1926.1209, *Duties of Attendants*, and be trained IAW DAFMAN 91-203, paragraph 23.10. Specifically, the employer shall ensure that each attendant, as defined in 29 CFR 1910.146(i), fulfills the following duties:

4.9.1. Attendants shall possess knowledge of the hazards that may be encountered during entry. This includes information pertaining to the mode, signs or symptoms, and consequences of exposure.

4.9.2. Attendants shall be cognizant of potential behavioral effects resulting from exposure to hazards for authorized entrants.

4.9.3. Attendants shall continuously maintain an accurate count of authorized entrants within the permit space.

4.9.4. Attendants shall remain outside the permit space during entry operations until relieved by another duly trained and equipped attendant.

4.9.5. Attendants shall communicate with authorized entrants as necessary to monitor their status and alert them to evacuate the space under conditions specified in paragraph 4.9.6. of this section.

4.9.6. Attendants shall monitor activities both inside and outside the permit space to assess the safety of entrants. They shall order authorized entrants to evacuate immediately under the following conditions:

4.9.6.1. If a prohibited condition is detected.

4.9.6.2. If behavioral effects of hazard exposure are identified in an authorized entrant.

4.9.6.3. If a situation outside the space poses a threat to authorized entrants.

4.9.6.4. If the attendant cannot effectively and safely perform all duties required under this section.

4.9.7. Attendants shall summon rescue and other emergency services promptly when authorized entrants may require assistance to escape permit space hazards.

4.9.8. Attendants shall take the following actions upon the approach or entry of unauthorized persons into a permit space during ongoing entry operations:

4.9.8.1. Warn unauthorized persons to stay away from the permit space. Advise unauthorized persons to exit immediately if they have entered the permit space and inform authorized entrants and the entry supervisor of the presence of unauthorized persons in the permit space.

4.9.9. Attendants shall perform non-entry rescues in accordance with the employer's rescue procedure.

4.9.10. Attendants shall refrain from performing any duties that may interfere with their primary responsibility of monitoring and safeguarding authorized entrants.

4.10. Confined Space Entrants. Confined space entrants will perform duties in accordance with 29 CFR 1926.1208, *Duties of Authorized Entrants*, and be trained IAW DAFMAN 91-203, paragraph 23.10. Specifically, the employer shall ensure that each entrant, as defined in 29 CFR 1910.146(h), fulfills the following duties:

4.10.1. Entrants shall be familiar with the hazards that may be encountered during entry, encompassing information on the mode, signs or symptoms, and consequences of exposure.

4.10.2. Entrants shall correctly utilize equipment as mandated by 29 CFR 1910.146(d)(4).

4.10.3. Entrants shall maintain communication with the attendant as necessary to facilitate monitoring of entrant status. This communication enables the attendant to alert entrants of the imperative need to evacuate the space, as stipulated in 29 CFR 1910.146(i)(6).

4.10.4. Entrants shall promptly alert the attendant if the entrant recognizes any warning sign or symptom of exposure to a dangerous situation or if the entrant detects a prohibited condition.

4.10.5. Entrants shall expeditiously exit the permit space under the following conditions:

4.10.5.1. Upon receiving an evacuation order from the attendant or entry supervisor.

4.10.5.2. When the entrant recognizes any warning sign or symptom of exposure to a dangerous situation.

4.10.5.3. When the entrant detects a prohibited condition.

4.10.5.4. Upon activation of an evacuation alarm.

4.11. Rescue Teams. Rescue teams will perform duties in accordance with 29 CFR 1926.1211, *Rescue and Emergency Services*. Specifically, the employer designating rescue and emergency services, as specified in 29 CFR 1910.146(k), shall:

4.11.1. Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the identified hazard(s). Timeliness considerations shall align with specific hazards.

4.11.2. Evaluate a prospective rescue team’s proficiency with rescue-related tasks and equipment for appropriate functioning during rescues from specific permit spaces or types of permit spaces.

4.11.3. Select a rescue team with capabilities, equipment proficiency, and prompt response times appropriate for the identified permit space hazard(s).

4.11.4. Inform each rescue team of site-specific hazards they may encounter during rescue operations.

4.11.5. Provide the selected rescue team access to all permit spaces requiring potential rescue to develop appropriate plans and practice operations.

4.11.6. An employer whose employees are designated to provide permit space rescue and emergency services shall:

4.11.6.1. Provide affected employees with Personal Protective Equipment (PPE) for safe permit space rescues, ensuring proficiency in its use at no cost to the employees.

4.11.6.2. Train affected employees in assigned rescue duties, ensuring successful completion of required training for authorized entrants.

4.11.6.3. Train affected employees in basic first aid and CPR, ensuring at least one member of the rescue team or service holds current certification in first aid and CPR.

4.11.6.4. Ensure affected employees practice making permit space rescues at least once every 12 months through simulated operations with dummies, manikins, or actual persons from actual or representative permit spaces.

4.11.7. To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a permit space, meeting the following requirements:

4.11.7.1. Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back, near shoulder level, above the entrant's head, or at another point ensuring successful removal.

4.11.7.2. The retrieval line's other end shall be attached to a mechanical device or fixed point outside the permit space, allowing prompt rescue initiation upon awareness of the need for rescue.

4.11.8. If an injured entrant is exposed to a substance requiring a material Safety Data Sheet (SDS) or similar written information, the SDS or information shall be made available to the treating medical facility.

Chapter 5

CONFINED SPACE PROGRAM TEAM

5.1. CSPT Overview. This chapter explores the critical role of the Confined Space Program Team (CSPT) in shaping and overseeing organizational confined space programs. Covering testing, hazard communication, equipment evaluation, permit oversight, and compliance with Occupational Safety and Health Administration (OSHA) and DAF requirements.

5.2. CSPT Requirements. IAW DAFMAN 91-203, 23.4.12., the CSPT shall:

5.2.1. Assist commanders and/or functional managers in the development and administration of their organizational confined space program.

5.2.2. When notified, test and evaluate identified confined spaces to classify them.

5.2.3. Validate that the organization maintaining the confined space has ensured all exposed personnel are informed of the permit-required space hazards.

5.2.4. Assist the organization in the development of the written confined space program to ensure the program meets both OSHA and DAFMAN 91-203, Chapter 23 requirements.

5.2.5. Evaluate all equipment for use by entrants to ensure effectiveness against identified hazards.

5.2.6. When requested by the unit, assist in the development of the MEP. Evaluate and approve MEP(s) that meet requirements in DAFMAN 91-203, paragraph 23.7.2.

5.2.7. Review and approve all entry permit(s) not contained in a MEP.

5.2.8. Meet annually to conduct a review of the installation Confined Space Program. Include all approved written confined space programs, MEPs, training plans, rescue team evaluations/training, changes to OSHA standards, DAF or MAJCOM/FLDCOM confined spaces guidance, issues discovered during surveillance, cancelled permits, and any fire, safety, or health inspection findings over the past year.

5.2.9. Establish procedures with the appropriate agencies, e.g., contracting office, United States Army Corps of Engineers, to review all construction projects to identify, evaluate, and classify new confined spaces or changes to current confined spaces.

5.2.10. Allow the installation occupational safety office to directly coordinate with the contractor to fulfill requirements in 29 CFR 1926.1203(h), *Permit Space Entry Communication and Coordination*, for government-owned, contractor-operated confined spaces, where no DAF personnel enter.

5.2.11. Review and assess unit and rescue team training program at least annually. The review/assessment will include lesson plans, hands-on training methodology, exercises, and documentation of training completion. The completed annual assessment will be provided to the assessed unit. Incorporate findings from annual reviews into other reports, such as annual safety reports.

5.2.12. Convene after a confined space mishap to ensure all hazards are identified to protect other members and to collect any quantifiable data for the mishap investigation.

Chapter 6

TRAINING

6.1. General Information. Each organization must establish a comprehensive training program incorporating practical components to instill safe work practices and techniques. Personnel who have not undergone formal training can access Computer-Based Training (CBT) options like Confined Space Series General Worker: Entrant, Attendant and Supervisor Course, OSHA Course 2264, Permit-Required Confined Space Entry, or other MAJCOM-approved CBTs.

6.2. Personnel Training Requirements.

6.2.1. The employer must provide comprehensive training for employees regulated by DAFMAN 91-203 Chapter 23 and 29 CFR 1910.146, ensuring they possess the necessary understanding, knowledge, and skills for safe duty performance.

6.2.2. IAW 29 CFR 1910.146(g)(2)(i-iv), training is required for each affected employee:

6.2.2.1. Before initial assignment of duties.

6.2.2.2. Prior to any change in assigned duties.

6.2.2.3. Whenever there is a change in permit space operations presenting a new hazard or when deviations or inadequacies in knowledge are suspected.

6.2.3. The training program shall establish employee proficiency in required duties and incorporate new or revised procedures for compliance (29 CFR 1910.146(g)(3)).

6.2.4. Commanders and functional managers are required to take the CBT on Advanced Distributed Learning Service (ADLS) for awareness understanding unless serving as the commander's designated representative (DAFMAN 91-203, 23.10.1.1.).

6.2.5. Occupational Safety, BE, and F&ES Flight representatives will undergo additional on-the-job training through career field-specific programs (DAFMAN 91-203, 23.10.1.2.).

6.2.6. Commander's designated representative(s) and/or supervisor training will include initial, train-the-trainer, and unit-specific components. They are responsible for providing training on initial and unit-specific procedures to those actively involved in the confined space program (DAFMAN 91-203, 23.10.2.).

6.2.7. Personnel testing atmospheric conditions in a confined space must be trained using manufacturer's instructions or other effective training methods. Supervisors should contact the BE representative for assistance, with the BE representative helping identify alternative training resources if necessary (DAFMAN 91-203, 23.10.2.1.).

6.2.7.1. Training will guarantee individuals with atmospheric testing duties are proficient in using, calibrating (meeting user level and manufacturer requirements), and caring for atmospheric testing and monitoring equipment. This includes testing and calibration of direct reading portable gas monitors. Additionally, if entry is required for tests, the tester must meet entrant training requirements (DAFMAN 91-203, 23.10.2.2.).

6.2.7.2. Annual training on the use, calibration, and care of atmospheric testing and monitoring equipment to maintain proficiency (DAFMAN 91-203, 23.10.2.2.1.).

6.2.7.3. Supervisors will maintain a list of personnel trained in atmospheric testing and monitoring for their shop, including names, trainers, and training dates; providing a copy to the commander's designated representative (DAFMAN 91-203, 23.10.2.2.2.).

6.3. Rescue Training. Supervisors are tasked with developing rescue training covering various rescue methods, such as self-rescue, non-entry rescue, and entry rescue. F&ES Flight representatives can be contacted for assistance in developing this training. They will validate that all organizationally developed rescue training, equipment, and procedures meet requirements (DAFMAN 91-203, 23.10.3.).

6.4. Train-the-Trainer. The CSPT will create a train-the-trainer program to provide entry supervisors with the initial program knowledge necessary to manage the program effectively. IAW DAFMAN 91-203, 23.10.4., requirements include:

6.4.1. This training does not replace organization-specific training but supplements initial training. Students in this program must experience entry into simulated or actual confined spaces representing common hazards and procedures found on the installation. Training objectives must provide a clear understanding of how a confined space program should be developed and implemented.

6.4.2. A formal risk assessment will be conducted as part of lesson planning to ensure student safety. **Note:** Simulated means using a trainer that best simulates the configuration of the represented confined space.

6.4.3. The MAJCOM/SEG or FLDCOM/SEG will approve the train-the-trainer course materials and provide MAJCOM/FLDCOM specific requirements.

6.5. Documentation. Documentation of training must include the name of the student, name of the trainer, and dates of training (DAFMAN 91-203, 23.10.5.). IAW 29 CFR 1910.146(g)(4), training certification shall be available for inspection by employees and their authorized representatives.

Chapter 7

WRITTEN CONFINED SPACE PROGRAM

7.1. Written Confined Space Program. This program shall incorporate all necessary elements as outlined in 29 CFR 1910.146 and 29 CFR 1926 Subpart AA, *Confined Spaces in Construction* as required. See **Attachment 2** for an example of a Written Confined Space Program

7.2. DAFMAN Requirements. IAW DAFMAN 91-203, 23.5., program requirements include:

7.2.1. Testing and classification of confined spaces shall be conducted by the installation CSPT.

7.2.2. Only explosion-proof or intrinsically safe equipment may be used in the presence of flammable or explosive atmospheres. Furthermore, additional guidance is available in National Fire Protection Association (NFPA) 70, National Electrical Code (NEC) Article 504, *Intrinsically Safe Systems*, and NEC Article 501, *Class I Hazardous Locations*.

7.2.3. Continuous atmospheric monitoring for hazards in permit spaces shall be conducted unless the organization can demonstrate the unavailability of continuous monitoring for the identified atmospheric hazard. In cases where continuous monitoring is proven to be unavailable, the supervisor, in collaboration with the CSPT, will develop procedures for periodic evaluation. The final determination will be documented in the written permit confined space program.

7.2.4. If isolation of a permit space is impractical due to its size or being part of a continuous system (e.g., a sewer), pre-entry testing must be performed to the extent feasible, and entry conditions must be continuously monitored in areas where authorized entrants are working. **Note:** For aircraft fuel cell/tank confined space monitoring, adhere to the requirements in Technical Order (TO) 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*.

7.2.5. Monitoring equipment used to assess confined spaces shall be calibrated by the Testing, Measurement, Diagnostic, and Evaluation (TMDE) laboratory at intervals established by the manufacturer's instructions or applicable TOs.

7.2.5.1. Some monitoring equipment, such as colorimetric tubes, does not require calibration. Equipment that comes with manufacturer-approved calibration devices and does not require TMDE calibration is also acceptable.

7.2.5.2. Monitoring equipment requiring calibration but not calibrated by TMDE shall be sent to the manufacturer for calibration.

7.2.6. Users shall field check and span gas test equipment in accordance with the manufacturer's instructions immediately before testing the confined space. Workers must not use equipment that cannot be calibrated or fails the field check or span gas test until it is repaired, and the calibration and/or field check are successfully completed.

7.3. Hot Work Procedures. When workers engage in hot riveting, welding, cutting, or burning, or heating operations within a confined space, they shall obtain an AF Form 592, *Hot Work Permit*, from the installation F&ES Flight.

7.3.1. If hazards may be introduced into the confined space by the hot work, the base BE shall be contacted to evaluate potential hazards and recommend ventilation procedures.

7.3.2. Workers shall inspect, test, operate, and maintain welding and cutting equipment, such as hoses, connections, torches, etc., in accordance with the provisions of DAFMAN 91-203, Chapter 20, applicable TOs, and manufacturer's instructions.

7.4. Telecommunications. Entry into controlled telecommunications spaces is governed by 29 CFR 1910.268, *Telecommunications*, and DAFMAN 91-203, Chapter 28.

7.5. Aircraft Fuel Systems. Aircraft fuel systems personnel shall follow DAFMAN 91-203, Chapter 23, and applicable technical data for responsibilities, qualifications, training, and rescue procedure requirements for working in permit-required confined spaces. **Note:** Any conflict between DAFMAN 91-203, Chapter 23, and applicable technical data will be addressed to AFSEC/SEG for resolution.

Chapter 8

PERMIT-REQUIRED CONFINED SPACE

8.1. Introduction. This chapter delineates the requirements for permit-required confined space entry and management.

8.2 Permit-Required Confined Space Elements. IAW 29 CFR 1910.146(d)(1) through (d)(14), employers shall implement the following measures under the permit space program:

8.2.1. Prevent unauthorized entry.

8.2.2. Identify and evaluate hazards before entry.

8.2.3. Develop and implement safe entry operations, including specifying acceptable conditions, providing monitoring opportunities, isolating the space, purging, ventilating, and ensuring continuous verification of acceptable conditions.

8.2.4. IAW 29 CFR 1910.146(d)(4)(i) through (d)(4)(ix), provide necessary equipment at no cost, maintain it properly, and ensure proper use.

8.2.5. Evaluate permit space conditions before, during, and after entry operations. Review 29 CFR 1910.146(d)(5)(i) through (d)(5)(vi) for specific steps. See **Attachment 7** for Permit-Required Confined Space Testing requirements.

8.2.6. Provide at least one attendant for the duration of entry operations.

8.2.7. Develop means and procedures for a single attendant monitoring multiple space.

8.2.8. Designate roles, identify duties, and provide required training for employees in entry operations.

8.2.9. Develop and implement procedures for summoning rescue services, rescuing entrants, and providing emergency services.

8.2.10. Establish a system for preparing, issuing, using, and canceling entry permits.

8.2.11. Coordinate entry operations when employees of multiple employers are working simultaneously.

8.2.12. Develop procedures for concluding entry operations, including closing off a permit space and canceling the permit.

8.2.13. Review entry operations and revise the program to correct deficiencies before subsequent entries.

8.2.14. Review the permit space program annually, using canceled permits within 1 year after each entry, and revise as necessary.

8.3. Entry Permit Elements. IAW 29 29 CFR 1910.146(e), the employer shall adhere to the following measures before authorizing entry:

8.3.1. Before entry is authorized, the employer shall document the completion of measures required by 29 CFR 1910.146(d)(3) by preparing an entry permit. The AF Form 1024 or an equivalent DoD or commercial form for confined space entry may be used to comply with this requirement. See **Attachment 7** for Permit-Required Confined Space Testing requirements.

8.3.2. Before entry commences, the identified entry supervisor shall sign the entry permit.

8.3.3. The completed entry permit shall be readily available to authorized entrants or their representatives at the time of entry through posting at the entry portal or equally effective means.

8.3.4. The duration of the permit shall not exceed the time required to complete the assigned task or job, as identified on the permit.

8.3.5. The entry supervisor shall terminate entry and cancel the permit when entry operations are completed or when a non-permitted condition arises.

8.3.6. Each canceled entry permit shall be retained by the employer for a minimum of one (1) year to facilitate program review. Any encountered problems during an entry operation shall be noted on the pertinent permit for subsequent program revisions.

8.3.7. Additional details on the contents of an Entry Permit are described in 29 CFR 1910.146(f)(i) through (f)(15).

Chapter 9

NON-PERMIT CONFINED SPACE ENTRY

9.1 Non-permit Confined Space Entry. Non-permit confined spaces are designated as such because they meet the confined space definition and, following thorough evaluation and testing, are proven to be devoid of hazards with no reasonable probability of becoming hazardous (DAFMAN 91-203, 23.8.).

9.1.1. Confined spaces classified as non-permit required will undergo assessment by the shop supervisor to determine if the work to be conducted could introduce hazards or alter its classification (e.g., welding, sanding, use of chemicals) (DAFMAN 91-203, 23.8.2.).

9.1.1.1. Similar confined spaces with comparable work activities may be consolidated.

9.1.1.2. Results will be submitted to the CSPT for review and concurrence.

9.1.1.3. Any work differing from that identified in the formal risk assessment will be reported to the installation occupational safety representative for evaluation by the CSPT.

9.1.2. Before entry into a non-permit confined space, visually inspect the space and its surroundings to identify any previously unnoticed potential hazards or changes in conditions (DAFMAN 91-203, 23.8.3.).

9.1.2.1 Non-permit required spaces will undergo atmosphere testing before entry when conditions or operations change after the space was initially classified.

9.1.2.2 If atmospheric monitoring reveals hazardous conditions or if results are uncertain, contact the CSPT for assistance before entry.

9.2. Non-permit Confined Space Reclassification.

9.2.1. Permit spaces can be reclassified as non-permit spaces when the hazards within the space can be effectively isolated or eliminated (DAFMAN 91-203, 23.8.).

9.2.2. Entries into a permit-required space for the purpose of reclassifying the space will adhere to permit-required entry requirements during these activities until the hazards are completely isolated or eliminated (DAFMAN 91-203, 23.8.1.).

9.2.3. The employer must document the elimination of all hazards in a permit space, providing a certification with the date, space location, and the signature of the person making the determination. This certification must be accessible to each employee entering the space or their authorized representative (29 CFR 1910.146(c)(7)(iii)).

9.2.4. If hazards arise in a permit space that has been reclassified to a non-permit space, employees in the space must exit. The employer must then reassess the space to determine if it needs reclassification as a permit space, following other relevant provisions of this section (29 CFR 1910.146(c)(7)(iv)).

Chapter 10

ENTRY INTO IDLH CONDITIONS

10.1 Entry into Immediately Dangerous to Life or Health (IDLH) Conditions.

10.1.1. Entry supervisors will strictly prohibit entry and work in known IDLH conditions during routine operations (DAFMAN 91-203, 23.6.).

10.1.2. Authorization for entry into known IDLH conditions is limited to extreme emergencies, such as rescue efforts or emergency repairs (DAFMAN 91-203, 23.6.).

10.1.3. The entry supervisor is responsible for continuously mitigating the identified hazard(s) within the confined space. IAW DAFMAN 91-203, 23.6., entry into IDLH conditions is sanctioned only when the following conditions are met:

10.1.3.1. Continuous monitoring is systematically conducted.

10.1.3.2. A knowledgeable BE and an occupational safety representative shall be present at all times, serving as consultants to the entry supervisor.

10.1.3.3. An experienced on-site supervisor shall be in attendance.

10.1.3.4. Personnel must be equipped with respirators in accordance with 29 CFR 1910.134, *Respiratory Protection*. **Note:** Additional respiratory protection guidance is available in DAFI 48-137, *Respiratory Protection Program*.

Chapter 11

CONTRACTOR REQUIREMENTS

11.1. Overview. This chapter outlines the specific requirements for contractors engaged in confined space work for the DAF, ensuring compliance with DAFMAN 91-203, 23.12., DoDI 6055.01, *DoD Safety and Occupational Health (SOH) Program*, and DAFI 91-202, *The Us Air Force Mishap Prevention Program*.

11.1.1. It is important to review Statements of Work (SOW) thoroughly to identify potential permit-required confined space work, ensuring effective communication of hazards and compliance with OSHA and DAF standards. Each project has a Health and Safety Plan (HASP) outlining specific safety procedures and program requirements for permit-required confined spaces. The Contracting Officer Representative (COR) and installation Safety Office use the HASP to communicate expectations. If the HASP does not meet OSHA standards, the COR and Safety Office can engage with the contracting officer to address discrepancies and uphold safety compliance.

11.2. Contractor Compliance. Contractors performing confined space work for the DAF must adhere to DoDI 6055.01 and DAFI 91-202. Communication of confined spaces must align with 29 CFR 1926.1203(h), *Permit Space Entry Communication and Coordination*. The contractual responsibilities for both the contractor and the DAF will be explicitly detailed in contracts.

11.2.1. Importantly, BE is prohibited from testing or monitoring confined spaces for contracted operations.

11.2.2. Rescue services for contractors will only be provided by the installation F&ES Flight with specific written approval from the installation fire chief.

11.3. Verification of Currency. In cases where the F&ES Flight maintains primary and secondary rescue teams, the F&ES Flight representative is responsible for verifying the currency of the rescue team members.

11.4. BE Assistance.

11.4.1. The BE representative will assist the entry supervisor in interpreting air monitoring results upon request.

11.4.2. The BE representative serves as the OPR for the installation respiratory program, following DAFI 48-137. They are the sole authority for selecting appropriate respiratory equipment and enrolling all personnel, including rescue teams, required to wear any type of respirator for confined space entries into the installation respiratory protection program.

11.4.3. BE will provide appropriate atmospheric testing and monitoring in isolated cases where trained unit personnel and/or equipment are unavailable.

11.4.4. BE will conduct appropriate atmospheric testing and monitoring for IDLH conditions during permit-required confined space operations.

11.4.5. BE will evaluate potential worker exposure related to confined spaces in accordance with DAFI 48-145, *Occupational and Environmental Health*.

Chapter 12

HANDS-ON GUIDED TRAINING

12.1. Trainer Explanation and Demonstration. This section outlines the essential steps for conducting comprehensive training. It begins with a review of past incidents with the trainee. Subsequently, the trainer will explain and demonstrate the classification of confined spaces, evaluation of MEPs, assessment of written programs and permits, and review of training materials.

12.1.1. The trainer must conduct and complete the following requirements with the trainee. Once completed, the trainee must complete the requirements described in Section 12.2.

12.1.1.1. Provide a copy of the Confined Space Mishaps 980168 and 621175 to the trainee. The trainee must review and discuss findings, recommendations, and mitigation factors with the trainer.

12.1.1.2. Explain and demonstrate how to evaluate a Written Confined Space Program. Utilizing a local Written Confined Space Program or **Attachment 2**, the trainer will demonstrate how to evaluate a written Confined Space Program for compliance with applicable regulations.

12.1.1.3. Explain and demonstrate how to evaluate Confined Space Training Program. Utilizing local training or **Attachment 3**, the trainer will demonstrate how to evaluate a Confined Space Training Program for compliance with applicable regulations.

12.1.1.4. Explain and demonstrate confined space classification. Utilizing a locally developed checklist or **Attachment 4**, the trainer will demonstrate how to evaluate and classify both a permit-required and non-permit required confined spaces.

12.1.1.5. Explain and demonstrate how to evaluate a MEP. Utilizing a local MEP or **Attachment 5**, the trainer will demonstrate how to evaluate a MEP for compliance with applicable regulations.

12.1.1.6. Explain and demonstrate how to evaluate an AF Form 1024. Utilizing **Attachment 6**, the trainer will demonstrate how to evaluate a completed AF Form 1024.

12.2. Trainee Performance Evaluation. This section outlines trainee performance and evaluation criteria, where trainees must utilize the provided Attachments to evaluate confined spaces, MEPs, written Confined Space Programs, AF Form 1024s, and Confined Space training.

12.2.1. Utilizing **Attachments 1 through 5**, the trainee must:

12.2.1.1. Evaluate a Written Confined Space Program and determine compliance with applicable regulations.

12.2.1.2. Evaluate a Confined Space Training Program for compliance with applicable regulations.

12.2.1.3. Evaluate a confined space and determine its classification.

12.2.1.4. Evaluate a MEP and determine compliance with applicable regulations.

12.2.1.5. Evaluate a completed AF Form 1024 for compliance with applicable regulations.

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References
AFMAN 32-1065, *Grounding and Electrical Systems*
DAFI 48-137, *Respiratory Protection Program*, 26 May 2023
DAFI 48-145, *Occupational and Environmental Health*, 22 September 2022
DAFI 91-202, *The Us Air Force Mishap Prevention Program*, 12 March 2020
DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards, Chapter 23 Confined Spaces*, 25 March 2022
DoDI 6055.01, *DoD Safety and Occupational Health (SOH) Program*, 21 April 2021
NFPA 70, NEC Article 501, *Class I Hazardous Locations*
NFPA 70, NEC Article 504, *Intrinsically Safe Systems*
TO 00-25-245, *Operations Instructions – Testing and Inspection Procedures for Personnel Safety and Rescue Equipment*
TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*
29 CFR 1910.134, *Respiratory Protection*
29 CFR 1910.146, *Permit-Required Confined Spaces*
29 CFR 1910.268, *Telecommunications*
29 CFR 1926.1203, *General Requirements*
29 CFR 1926.1208, *Duties of Authorized Entrants*
29 CFR 1926.1209, *Duties of Attendants*
29 CFR 1926.1211, *Rescue and Emergency Services*
29 CFR 1926 Subpart AA, *Confined Spaces in Construction*

Forms
AF Form 592, *Hot Work Permit*
AF Form 1024. *Confined Spaces Entry Permit*

Abbreviations and Acronyms
ADLS—Advanced Distributed Learning Service
BE—Bioenvironmental Engineering
CPR—Cardiopulmonary Resuscitation
CBT—Computer-based Training
CSPT—Confined Space Program Team
F&ES—Fire & Emergency Services
HASP—Health and Safety Plan
IDLH—Immediately Dangerous to Life and Health
LFL—Lower Flammable Limit
MEP—Master Entry Plan
OSHA—Occupational Safety and Health Administration
OSM—Occupational Safety Manager
OPR—Office of Primary Responsibility
PEL—Permissible Exposure Limit
PPE—Personal Protective Equipment
QTP—Qualification Training Package
SEG—Occupational Safety
SOW—Statements of Work
TMDE—Testing, Measurement, Diagnostic, and Evaluation

Attachment 2

WRITTEN CONFINED SPACE PROGRAM

2.1. Introduction. The Written Confined Space Program outlined herein complies with the requirements set forth in 29 CFR 1910.146, and adheres to the guidelines specified in DAFMAN 91-203, ensuring the safety and well-being of personnel working in confined spaces within our organization.

2.2. Program Scope and Objectives. This section defines the scope of the Confined Space Program and outlines its objectives, emphasizing the commitment to creating and maintaining a safe working environment for all personnel involved in confined space activities. As required by Air Force and OSHA Standard, this program establishes procedures to regulate entry into confined spaces, and to ensure the safety of the personnel who enter or work in a confined space.

2.3. Policy. All spaces owned or operated by the work center that meet the definition of a confined space shall be identified and appropriately marked, and access to such spaces shall be controlled. Personnel are prohibited from entering any space meeting the definition of permit-required confined space unless all applicable regulations are met.

2.4. Definitions. This section provides clear definitions of key terminologies related to confined spaces, ensuring a common understanding among personnel involved in the program (29 CFR 1910.146).

2.4.1. Confined Space means a space that:
(1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
(2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
(3) Is not designed for continuous employee occupancy.

2.4.2. Non-permit confined space means 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.

2.4.3. Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:
(1) Contains or has a potential to contain a hazardous atmosphere.
(2) Contains a material that has the potential for engulfing an entrant.
(3) Has an internal configuration such that 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; or
(4) Contains any other recognized serious safety or health hazard.

2.4.4. Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit 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 percent or above 23.5 percent.
(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 and Hazardous Substances, of this part and which could result in employee exposure in excess of its dose or permissible exposure limit.

(5) Any other atmospheric condition that is immediately dangerous to life or health.

2.4.5. Engulfment means the surrounding and effective capture of a person by 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.

2.4.6. Immediately dangerous to life or health (IDLH) means 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 space.

2.4.7. Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

2.4.8. Person Definitions.

Entry Supervisor means the person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

Attendant means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

Authorized Entrant means an employee who is authorized by the employer to enter a permit space.

2.5. Roles and Responsibilities. This section outlines the roles and responsibilities of personnel involved in the workplace confined space program, including but not limited to CSPT, supervisors, entrants, attendants, and rescue teams.

2.5.1. Commanders and/or Functional Managers shall:

Identify, in writing, to the OSM their designated representative(s) to the CSPT and certify the representative(s) is/are competent in confined space program requirements and are trained.

Ensure the workplace is evaluated for permit and non-permit required confined spaces.

Ensure a written confined space program, developed, and approved by the CSPT.

Ensure all additional requirements listed in DAFMAN 91-203 section 23.4.6. are met.

2.5.2. Commander’s designated representative(s) shall:

Designate the appropriate number of entry supervisors needed to cover all permit-required confined space entries.

Ensure personnel entering non-permit confined spaces receive the same initial confined space training as personnel entering permit-required spaces.

Develop, with the assistance of each shop supervisor, a written confined space program.

Ensure all additional requirements listed in DAFMAN 91-203 section 23.4.7. are met.

2.5.3. Entry supervisor will:

Issue entry permits consistent with the organizational written confined space program or the Master Entry Plan, when applicable.

Cancel the entry permit after becoming aware of a prohibited or unexpected condition.

Determine and evaluate newly identified hazardous condition source(s) found at the time of entry.

Ensure all members of the rescue team are trained and current in CPR.

Request assistance from the CSPT, as needed, to ensure all program requirements are met.

Ensure all additional requirements listed in DAFMAN 91-203 section 23.4.8. are met.

2.5.4. Attendants will:

Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

Be aware of possible behavioral effects of hazard exposure in authorized entrants.

Continuously maintains an accurate count of authorized entrants in the permit space.

Remains outside the permit space during entry operations until relieved by another attendant.

Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.

Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space.

Ensure all additional requirements listed in 29 CFR 1910.146(i) are met.

2.5.4. Entrants will:

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

Properly use equipment as required.

Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space.

Ensure all additional requirements listed in 29 CFR 1910.146(h) are met.

2.5.5. Rescue and Emergency Services. An employer who designates rescue and emergency services shall:

Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified.

Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the permit space or types of permit spaces identified.

Provide affected personnel with the PPE needed to conduct permit space rescues safely and train affected personnel, so they are proficient in the use of that PPE, at no cost to those employees.

Train affected personnel to perform assigned rescue duties.

Train affected employees in basic first aid and CPR.

Ensure that affected personnel practice making permit space rescues at least once every 12 months.

Ensure all additional requirements listed in 29 CFR 1910.146(k) are met.

2.5.6. Confined Space Program Team (CSPT).

Assist commanders and/or functional managers in the development and administration of their organizational confined space program.

When notified, test and evaluate identified confined spaces to classify them.

Assist the organization in the development of the written confined space program to ensure the program meets OSHA requirements and DAFMAN 91-203, Chapter 23.

When requested by the unit, assist in the development of the Master Entry Plan.

Review and approve all entry permits not contained in a Master Entry Plan

Review and assess unit and rescue team training program at least annually.

Ensure all additional requirements listed in DAFMAN 91-203 section 23.4.12. are met.

2.5.7. Contractors.

Contractors performing confined space work for the DAF will comply with DoDI 6055.01, DAFI 91-202, and DAFMAN 91-203 section 23.12.

2.6. Confined Space Identification and Classification.

2.6.1. Both OSHA and Air Force require confined spaces to be evaluated and identified as non-permit or permit-required. If there are no hazards, the space will be classified as non-permit required confined space. If there are hazards, the space must be classified as a permit-required confined space.

2.6.2. The Commanders and/or Functional Manager(s) shall ensure the workplace is evaluated for permit and non-permit required confined spaces. For this, the Commander's designated representative(s) will request assistance from the CSPT to test and evaluate identified confined spaces to classify them.

2.6.3. IAW DAFMAN 91-203, testing and classification of confined spaces shall be done by the installation CSPT.

2.7. Permit-Required Spaces.

2.7.1. The work center has identified permit-required confined spaces. **Table 2.6. Confined Space Inventory Information** describes the organizationally controlled confined spaces, to include permit-required and non-permit required spaces.

2.7.2. For recurring entries into permit-required spaces, the work center has developed a Master Entry Plan. The Master Entry Plan is developed by the organization and approved by the CSPT to allow the commander's designated representative(s) to identify entry supervisor(s) that will issue entry permits without the need for the CSPT to come out.

2.7.3. For non-routine entry into permit-required spaces, the work center will complete and submit the AF Form 1024. Entry into a permit-required space is not allowed without an approved AF Form 1024 by the CSPT.

2.7.4. IAW DAFMAN 91-203, permit spaces can be reclassified as non-permit spaces where the hazards in the space can be effectively isolated or eliminated from the space.

Table 2.6. Confined Space Inventory Information.

***[SHOP]* Confined Space Inventory**								
#	**Organization**	**Description**	**Type**	**Classification**	**Data Supporting Classification**	**Entry Points**	**Location (GPS)**	**Date Classified**
1	377 Fuels Shop	Fuel Storage Tank	Closed Tank	Permit-Required	IDLH	Side of Tank	35.0489° N, 106.5506° W	1 July 1999
2								
3								
Total Number of Spaces = 3								

2.8. Non-Permit Required Spaces.

2.8.1. Non-permit spaces will be assessed by the work center supervisor to determine if work to be conducted could or will introduce hazard(s) that will change its classification, e.g., welding, sanding, use of chemicals.

2.8.2. Prior to entry, visually inspect in and around the space to determine if any previously unidentified potential hazards are present or if conditions have changed.

2.8.3. Spaces will have atmospheres tested prior to entry when conditions or operations change after the space was originally classified. When atmospheric monitoring reveals hazardous condition or results are
uncertain, contact the CSPT for assistance prior to entry.

2.9. Atmospheric Monitoring and Hazard Control.

2.9.1. Before personnel enter the space, the internal atmosphere shall be tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order.

2.9.2. IAW DAFMAN 91-203, Only explosion-proof or intrinsically safe equipment may be used where flammable or explosive atmospheres are present.

2.9.3. Once the atmosphere is tested, the space will be evaluated for physical hazards. IAW 29 CFR 1910.146, this includes engulfment, entrapment, asphyxiated, or any other recognized serious safety or health hazard.

2.9.4. Precautions must be taken to prevent creating hazardous, toxic, or explosive atmospheres while employees are within a confined space. The use of toxic or flammable chemicals or materials can change the atmospheric condition of a confined space after initial testing.

2.9.5. Any personnel who enter the space, or authorized representative, shall be provided an opportunity to observe the pre-entry testing requirement.

2.9.6. IAW DAFMAN 91-203, Atmospheric monitoring shall be continuously conducted for atmospheric hazards in permit spaces unless the organization can demonstrate that continuous monitoring for the identified atmospheric hazard is not commercially available.

2.10. Training and Competency.

2.10.1. The work center has developed a structured and effective training program that includes hands-on portions that establishes safe work practices and techniques. Documentation of training will have name of student, name of trainer and dates of training.

2.10.2. Review DAFMAN 91-203, section 23.10. for details and requirements.

2.10.3. Training Program WILL include:

2.10.3.1. HQ AFSEC Confined Space QTP.

2.10.3.2. CBT - Confined Space Series General Worker: Entrant, Attendant and Supervisor Course.

2.10.3.3. Hand-on portion established by the Commander’s designated representative(s).

2.10.3.4. Atmospheric Testing - Personnel required to test the atmospheric conditions in a confined space shall be trained using manufacturer’s instructions or other information to develop effective training.

2.10.3.5. Rescue Training - Supervisors shall develop rescue training that covers rescue methods that the organization will use, e.g., self-rescue, non-entry rescue, entry rescue.

2.10.3.6. Train-the-Trainer – Entry Supervisor will complete the train-the-trainer program developed by the CSPT.

2.10.4. Training Program MAY include:

2.10.4.1. MAJCOM-approved CBTs.

2.10.4.2. OSHA Course 2264, Permit-Required Confined Space Entry (Cost approximately $795)

2.10.4.3. Confined Space Entry Training – 8 Hour General Industry (Cost approximately $159)

2.11. Emergency Response and Rescue Procedures.

UNDER NO CIRCUMSTANCES SHALL UNAUTHORIZED PERSONNEL ENTER A CONFINED SPACE TO ATTEMPT A RESCUE.

2.11.1. Rescue teams will perform duties in accordance with 29 CFR 1926.1211, *Rescue and Emergency Services*.

2.11.2. Deaths often occur during rescue. Employees attempt to rescue an entrant without the proper training and then get caught themselves in the confined space.

2.11.3. Emergency rescue teams must be available while authorized entrants are in the confined space. Rescue teams can include local emergency services or a certified workplace rescues team.

2.11.4. Rescue Techniques. There are several types of rescue techniques:

2.11.4.1. Self-rescue is the preferred plan, because of the speed at which confined space hazards can incapacitate and kill. Whenever authorized entrants recognize their own symptoms of exposure to a dangerous atmosphere, or when a prohibited condition is detected, entrants are still able to escape from the space unaided and as quickly as possible.

2.11.4.2. Non-entry rescue is the next-best approach when self-rescue is not possible because non-entry rescue can be started right away and prevents additional personnel from being exposed to unidentified and/or uncontrolled confined space hazards. Usually, equipment and other rescue aids are employed to assist in removing endangered entrants.

2.11.4.3. Entry rescue involves rescuers entering the space to retrieve the entrant and/or provide the victim with emergency assistance such as CPR, first aid, and air via SCBA or a supplied air respirator (SAR), if needed. An entry rescue plan needs to be developed ahead of time in the event of an emergency for which the non-entry rescue plan is not appropriate.

2.11.5. Rescue Plan. On-site rescue teams must develop a rescue plan and procedures. At a minimum, the plan will include:

2.11.5.1. Survival time of the victim.

2.11.5.1. Confined Space Characteristics: Type, Function, Configuration, Construction, Size, Entry Points (size, number, location).

2.11.5.1. Assignment of roles.

2.11.5.1. Sufficient Personnel (numbers, experience, training).

2.11.5.1. Appropriate equipment, Apparatus, Material.

2.11.5.1. Communication & Communication Equipment.

2.11.5.1. Ventilation of space.

2.11.5.1. Monitoring of space.

2.11.5.1. Air supply for rescuers, if required.

2.11.5.1. Control of all sources of energy and engulfment hazards - Including LOTO, Blocking, etc.

2.11.6. Personal Protective Equipment (PPE).

2.11.6.1. PPE may include Hard Hats, Safety Glasses, Full Body Clothing (i.e. Coveralls, Tyvek), Gloves, Steal Toe Shoes.

2.11.6.2. One of the most important components of PPE in a confined space is a respirator. All respirators must be fit tested prior to use. Review DAFI 48-137 *Respiratory Protection Program* or contact the local Bioenvironmental Engineering show for further information regarding respirator protection.

2.11.7. Rescue Equipment. Confined Space Rescue can require several types of equipment to perform a rescue effectively and safely. Each confined space must be evaluated to determine what type of equipment is required to perform a rescue should it become necessary.

2.11.7.1. Ropes. Primary tool in technical rescue. Vary in construction, material, and size. Most common in Confined Space is 1.5-inch, strength 9,000 lbs., static kernmantle (low stretch), dynamic kernmantle (high stretch).

2.11.7.2. Harnes. Used for fall protection. Most common in Confined Space is flat nylon webbing, full body, point of attachment in the center of the back at shoulder level.

2.11.7.3. Tripod. Used for access to vertical entry. Most common in Confined Space is 9-foot height or greater.

2.11.7.4. Winches. Used to assist with tripods. Most common in Confined Space is retractable designated for non-entry rescue, certified as a primary lowering device.
Ventilation Systems. Used to ventilate, eliminate, or control the space's atmospheric hazards. Blind or disconnect and cap all input lines so that no hazardous materials can enter the space.

2.11.7.5. SCBA Units. Self-Contained Breathing Apparatus (SCBA) may be required to enter some confined spaces or to perform a rescue. There are special guidelines that must be followed prior to wearing an SCBA. Review DAFI 48-137 *Respiratory Protection Program* or contact the local Bioenvironmental Engineering show for further information regarding respirator protection.

2.11.8. Training. At a minimum, training will include a review of 29 CFR 1926.1211 *Rescue and emergency services.* Additionally, training should include workplace specific items such as:

2.11.8.1. Recognition of permit space hazards.

2.11.8.2. Control of permit space hazards.

2.11.8.3. Use of atmospheric monitoring equipment.

2.11.8.4. Use and maintenance of personal protective equipment (PPE).

2.11.8.5. Use and maintenance of rescue equipment.

2.11.8.6. Annual practice of permit space rescues.

2.11.8.7. Proficiency in first aid and cardiopulmonary resuscitation (CPR); and

2.11.8.8. Documentation of training.

2.11.9. The CSPT is required to review and assess unit and rescue team training program at least annually. The review/assessment will include lesson plans, hands-on training methodology, exercises, and documentation of training completion.

2.12. Additional Workplace Specific Requirements.

2.12.1. When workers perform hot riveting, welding, cutting, or burning, or heating operations within a confined space, they will obtain an AF Form 592, *Hot Work Permit*, from the installation F&ES Flight.

2.12.1.1. If hazards may be introduced into the confined space by the hot work, BE shall be contacted to evaluate the potential hazards and recommend ventilation procedures.

2.12.1.2. Workers will inspect, test, operate and maintain welding and cutting equipment such as hoses, connections, torches, etc., in accordance with applicable regulations and manufacturer' instructions.

23.5.3. Entry into telecommunications only controlled spaces is governed by 29 CFR 1910.268, *Telecommunications*, and DAFMAN 91-203, Chapter 28. Contact the CSPT for assistance if entry into a telecommunications space is required.

23.5.4. Aircraft fuel systems personnel will follow this publication and applicable technical data for responsibilities, qualifications, training, and rescue procedure requirements for working in permit-required confined spaces. Note: Any conflict between this instruction and applicable technical data will be addressed to AFSEC/SEG for resolution.

2.13. Documentation and Recordkeeping. This section specifies the documentation and recordkeeping items for confined space activities, including permit records, atmospheric monitoring data, training records, and contractor documentation.

2.13.1. Confined Space Entry Permits: These permits are required before any entry into a confined space. They outline the hazards present, the precautions to be taken, and the personnel authorized to enter.

2.13.2. Confined Space Inventory: A detailed inventory of all confined spaces within the facility, including their location, size, hazards, and access points.

2.13.3. Confined Space Hazard Assessment: Documentation of the assessment conducted to identify and evaluate potential hazards associated with each confined space.

2.13.4. Entry Logs: Records of all entries into confined spaces, including the date and time of entry, names of personnel involved, tasks performed, and duration of the entry.

2.13.5. Training Records: Documentation of confined space training provided to employees, including topics covered, dates of training, and signatures of attendees.

2.13.6. Maintenance and Inspection Logs: Records of inspections and maintenance performed on confined space entry equipment, such as gas detectors, ventilation systems, harnesses, and hoists.

2.13.7. Contractor Documentation: Records of any contractors hired to perform work in confined spaces, including proof of their training, permits, insurance, and safety procedures.

2.14. Program Review and Evaluation. This section establishes procedures for periodic review and evaluation of the Confined Space Program to ensure its effectiveness and compliance with regulatory standards. By implementing a comprehensive review and evaluation process, organizations can continuously improve their Confined Space Programs, enhance safety for workers, and mitigate the risks associated with confined space entry.

2.14.1. Regular Program Audits: Conduct periodic audits of the Confined Space Program to assess compliance with regulations, identify deficiencies, and verify that established procedures are being followed.

2.14.2. Documentation Review: Review documentation related to confined space entry, including permits, training records, atmospheric monitoring results, and rescue plans, to ensure accuracy and completeness.

2.14.3. Training Effectiveness Evaluation: Assess the effectiveness of confined space entry training by evaluating employee performance during simulated or actual entries, reviewing post-training assessments, and monitoring knowledge retention over time.

2.14.4. Equipment Inspection and Maintenance: Review records of equipment inspections and maintenance to ensure that all equipment used for confined space entry is in good working condition and compliant with safety standards.

2.14.5. Emergency Response Drills: Conduct regular emergency response drills to test the effectiveness of rescue plans, communication protocols, and coordination among personnel. Evaluate the outcomes of these drills and adjust as necessary.

Attachment 3

CONFINED SPACE TRAINING PROGRAM

3.1. Purpose. The purpose of this training program is to inform personnel of the responsibilities, definitions, hazards, safety equipment, and emergency evacuation procedures involved with confined space entries IAW DAFI 48-137, DAFMAN 91-203 and applicable standards.

3.2. Program Scope and Objectives.

This section provides a concise overview of the purpose and scope of the Confined Space Training Program, emphasizing its importance in ensuring the safety of Air Force personnel working in confined spaces and outlining objectives for compliance with OSHA and Air Force regulations, as well as risk reduction.

3.2.1. Mitigate risks associated with confined space work by providing comprehensive training.

3.2.2. Foster a culture of safety among personnel engaged in confined space operations.

3.2.3. Ensure compliance with OSHA regulations and Air Force directives.

3.2.4. Reduce the likelihood of incidents and injuries related to confined space work.

3.3. Responsibilities.

The Occupational Safety Manager (OSM) is tasked with overseeing the development, implementation, and maintenance of the program, while Unit Commanders or their designated representatives are responsible for enforcing training requirements and safety protocols for personnel engaged in confined space work.

3.3.1. Unit Commanders or their designated representatives shall ensure that all personnel required to work in confined spaces receive appropriate training and adhere to established safety protocols.

3.3.2. The Occupational Safety Manager (OSM) is responsible for the development, implementation, and maintenance of the Confined Space Training Program.

3.4. Training Overview.

Personnel involved in confined space work must complete initial training to establish foundational knowledge and skills, with periodic refresher training sessions to reinforce knowledge and update skills. Specific topics covered in the training, aligned with OSHA regulations and Air Force guidance, ensure comprehensive preparation.

3.4.1. Initial Training: Personnel involved in confined space work must complete initial Confined Space Training before performing such tasks.

3.4.2. Refresher Training: Refresher training shall be conducted annually to reinforce knowledge and skills related to confined space entry procedures and safety protocols.

3.5. Training Modules.

3.5.1. Introduction to Confined Spaces

3.5.1.1. Definition and identification of confined spaces.

3.5.1.2. Differentiating between permit-required and non-permit-required confined spaces.

3.5.1.3. Overview of regulations and standards governing confined space work, including OSHA and Air Force directives.

3.5.2. Hazards of Confined Spaces

3.5.2.1. Detailed exploration of atmospheric hazards: oxygen deficiency, toxic gases, flammable atmospheres.

3.5.2.2. Identification and mitigation of physical hazards: temperature extremes, noise, falling objects, engulfment risks.

3.5.2.3. Case studies and real-life examples to illustrate potential dangers and consequences.

3.5.3. Respiratory Protection

3.5.3.1. In-depth understanding of respiratory hazards present in confined spaces.

3.5.3.1. Examination of various types of respiratory protection devices, including air-purifying respirators, supplied-air respirators, and self-contained breathing apparatus.

3.5.3.1. Hands-on training in proper selection, fit-testing, and maintenance of respiratory equipment.

3.5.4. General Safety Measures

3.5.4.1. Comprehensive overview of hazard identification and risk assessment techniques specific to confined spaces.

3.5.4.2. Training on the proper use of personal protective equipment (PPE), including protective clothing, harnesses, and fall protection gear.

3.5.4.3. Simulation exercises to practice emergency response procedures, such as evacuation and rescue protocols.

3.5.5. Implementation of Training Program

3.5.5.1. Understanding the roles and responsibilities of key personnel, including the Occupational Safety Manager (OSM) and Unit Commanders.

3.5.5.2. Detailed explanation of training delivery methods, including classroom instruction, practical exercises, and demonstrations.

3.5.5.3. Exploration of best practices for facilitating effective learning and engagement among trainees.

3.5.6. Compliance and Evaluation.

3.5.6.1. Importance of maintaining compliance with OSHA standards and Air Force regulations.

3.5.6.2. Strategies for conducting regular evaluations, audits, and inspections to assess program effectiveness.

3.5.6.3. Protocols for implementing corrective actions in response to identified deficiencies or non-compliance issues.

3.5.7. References.

3.5.7.1. Relevant references and resources, including regulatory standards, technical manuals, and organizational directives, shall be used for further guidance and clarification on confined space operations.

3.5.8. Documentation and Recordkeeping.

Training records must accurately document participant details, training dates, topics covered, and certifications obtained, with guidelines for record retention and accessibility to facilitate compliance.

3.5.8.1. Recordkeeping: The OSM or designated personnel shall maintain records of Confined Space Training, including participant names, training dates, topics covered, and any certifications obtained.

3.5.8.2. Record Retention: Training records shall be retained for a minimum of five years and made readily accessible for inspection by regulatory agencies or higher headquarters as required.

3.5.8.3. Utilization of electronic systems or paper-based logs for maintaining comprehensive training records.

3.6. Training Delivery.

Various methods of delivering Confined Space Training, including classroom instruction, practical exercises, and demonstrations, cater to different learning styles, while the development of training materials incorporates case studies and scenarios to enhance effectiveness. Instructors conducting the training must meet specified qualifications to ensure competence and credibility.

3.6.1. Methods: Confined Space Training may be delivered through a combination of classroom instruction, practical exercises, and hands-on demonstrations to ensure effective learning.

3.6.2. Training Materials: Training materials shall be developed in accordance with OSHA regulations and Air Force guidance, utilizing standardized templates and incorporating relevant case studies and scenarios.

3.6.3. Instructor Qualifications: Instructors conducting the training must possess appropriate qualifications and certifications in confined space operations and safety.

3.7. Evaluation and Compliance.

Methods for evaluating the effectiveness of the program, including audits, inspections, and feedback mechanisms, are detailed to assess program performance, with procedures outlined for implementing corrective actions in response to identified deficiencies or non-compliance with procedures. Ongoing monitoring ensures continued compliance with OSHA standards and Air Force regulations.

3.7.1. The effectiveness of the Confined Space Training Program shall be evaluated through periodic audits, inspections, and feedback mechanisms.

3.7.2. Corrective actions shall be promptly implemented to address identified deficiencies or instances of non-compliance with established procedures.

3.7.3. Compliance with OSHA standards and Air Force regulations shall be continuously monitored through regular assessments and reviews.

13.8. Conclusion. By actively participating in this training program, personnel contribute to ensuring their safety and the safety of their colleagues while working in confined spaces. It is essential to approach the training with attentiveness, curiosity, and a commitment to learning. For any questions or further clarification, personnel are encouraged to reach out to their instructor or designated supervisor. Together, we can cultivate a safer and more resilient workplace environment.

Attachment 4

EXAMPLE – EVALUATION AND CLASSIFICATION SHEET

CONFINED SPACE EVALUATION AND CLASSIFICATION			
Supervisor Name (print):			Date:
Organization:	Phone#:	Bldg.#:	Room#:
Confined Space Description:		Location Description:	
IDENTIFICATION			
	Is large enough and so configured that a worker can bodily enter and perform assigned work.		
	Has limited or restricted means for entry or exit.		
	Is not designed for continuous worker occupancy.		
	Does this space meet the definition of a confined space? **NOTE:** If all three above conditions exist, then the space is a confined space.		
EVALUATION			
Hazardous or Potentially Hazardous Atmosphere (Check all that apply)	☐ Engulfment Hazard (describe below)	☐ Entrapment Hazard (describe below)	☐ Other Serious Safety Hazard (describe below)
☐ Flammable			
☐ Oxygen			
☐ Toxic			
☐ Other Condition (describe)			
CLASSIFICATION			
Is this a permit-required confined space? **NOTE:** If a hazard listed above exists and cannot be eliminated, the space will be classified a permit-required confined space.			
☐ PERMIT-REQUIRED	☐ (Occasional Entry) Submit AF Form 1024 to SEG, BE, and CEF for approval prior to each confined space entry. ☐ (Routine Entry) AF Form 1024 issued by entry supervisor IAW Master Entry Plan.		
NON-PERMIT REQUIRED	Reference DAFMAN 91-203, para. 23.5.6. for entry considerations.		
IMPORTANT: Contact the confined space program team below if work in or around the space introduces or has the potential to introduce additional hazards within the space. **RE-EVALUATION MAY BE REQUIRED!**			
Evaluation Performed by: (Print name/contact info)	Signature	Organization	Date
Bioenvironmental Comments:			
Fire Prevention Comments:			
Occupational Safety Comments:			

Attachment 5

MASTER ENTRY PLAN

5.1 Overview. The Master Entry Plan (MEP) serves as the written component of the confined space program, granting approval for recurring entries into permit-required spaces under routine conditions. Developed by the organization and approved by the CSPT, it empowers the commander's designated representative(s) to designate entry supervisors, eliminating the need for CSPT involvement (DAFMAN 91-203, 23.7.).

5.1.1. Recurring basis is defined, for the purpose of this manual, as occurring at least once a month or more frequently (DAFMAN 91-203, 23.7.1.).

5.2. Key Elements of the MEP. IAW DAFMAN 91-203, 23.7.2., the MEP shall:

5.2.1. Require the commander's designated representative(s) or shop supervisor to brief entry supervisors on their duties before entry.

5.2.2. Describe acceptable entry conditions, including atmospheric conditions, under which permits may be issued.

5.2.3. Designate as many entry supervisors as needed.

5.2.4. Identify specific types and locations of permit spaces to be entered and types of tasks or operations to be performed.

5.2.5. Describe the purpose of the entry and list procedures to be used for entry (e.g., shop Operating Instruction).

5.2.6. Account for around-the-clock operations, when appropriate.

5.2.7. List PPE, atmospheric monitoring and rescue equipment, and conditions for their use.

5.2.8. Require continuous atmospheric monitoring. When continuous monitoring is not possible, documentation must be maintained, explaining why it is not possible or needed, procedures for periodic evaluation, and the evaluation frequency ensuring entrants have adequate time to escape.

5.2.9. List other controls required (e.g., hazardous energy control, ventilation) to eliminate or isolate identified hazards for safe entry.

5.2.10. List authorized chemicals and quantities for use. Include expected exposure levels based on air sampling results. Perform reassessments of confined spaces based on exposure levels.

5.2.11. List conditions under which the space may be reclassified.

5.2.12. Establish communication procedures and identify communication equipment for entries between the attendant and entrants.

5.2.13. Document emergency rescue procedures for each permit-required confined space covered under the MEP. Procedures include:

5.2.13.1. Self-rescue training and equipment.

5.2.13.2. Use of retrieval lines for non-entry rescue; alternative means identified and approved by the CSPT if retrieval lines constitute an increased risk. Results documented and maintained with the written confined space program.

5.2.13.3. Determine and evaluate the source of rescue services (unit organized, contracted, installation F&ES Flight) for permit-required confined space entries.

5.2.13.4. Identify how rescue services will be notified for prompt response. Specify the method for summoning the rescue team, e.g., telephone, radio, ensuring it is operable, on hand, and easily accessible.

5.2.13.5. Entry shall not be made until the rescue team is notified and their availability verified.

5.2.13.6. When the identified rescue service is unavailable, halt the operation unless a secondary trained team is available. **Note:** Within aircraft maintenance, the fuel systems shop/work center may maintain a rescue team capability IAW TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*.

5.2.14. Ensure inspection, testing, maintenance, and documentation of safety and rescue equipment are IAW DAFMAN 91-203, *Chapter 14 – Personal Protective Equipment*, TO 00-25-245, *Operations Instructions – Testing and Inspection Procedures for Personnel Safety and Rescue Equipment*, and manufacturer's instructions. If a conflict exists between these guidance documents, use the most restrictive guidance. Contact the CSPT for additional assistance (DAFMAN 91-203, 23.7.2.14.).

5.2.15. Describe the procedure to retain the canceled permit for one year to facilitate the review of the permit-required confined space program, as required by 29 CFR 1910.146(e)(5).

5.2.16. Establish a procedure to amend the MEP as needed.

5.3. MEP Table of Contents. Below is an example of an MEP Table of Contents. This should be modified according to workplace requirements.

TABLE OF CONTENTS

EXAMPLE - MASTER ENTRY PLAN

DEPARTMENT OF THE AIR FORCE
Installation name

MASTER ENTRY PLAN

ISSUE DATE: ***dd month year***
EXPIRATION DATE: ***dd month year (One (1) year after ISSUE DATE)***

Section 1 – Purpose

The purpose of this Master Entry Plan is to establish a comprehensive framework for safe and controlled entry into confined spaces and fuel systems maintenance areas. This plan aims to ensure the safety of personnel by outlining procedures, responsibilities, and requirements for all aspects of confined space entry and fuel systems maintenance.

EXAMPE: This Master Entry Plan (MEP) is designed IAW DAFMAN 91-203, Chapter 23, Confined Spaces. In addition, it includes and Emergency Response Rescue Plan (ERRP). The MEP and ERRP set directives for confined space entry procedures for the ## GROUP/SQD/FLT and emergency response and rescue for the ## GROUP/SQD/FLT, as it pertains to entry of Confined Spaces within the organization. Attachment # of this MEP lists the Entry Authority, Designated Alternates, Entry Supervisors, Entrants and Attendants. This MEP must be updated annually to meet the requirements outlined in DAFMAN 91-203. This MEP will be maintained in the ## GROUP/SQD/FLT file plan.

Entries into the applicable confined space must occur at least once a month or more frequently, otherwise this MEP will be revoked IAW DAFMAN 91-203, 23.7.1.

Section 2 – Entry Authority, Designated Alternates, Entry Supervisors, Entrants, and Attendants

This section delineates the key roles and responsibilities within confined space entries. Addressing Entry Authority, Designated Alternates, Entry Supervisors, Entrants, and Attendants, it provides a comprehensive overview of the individuals involved in the confined space entry process. The section emphasizes the importance of designated alternates, crucial in mitigating turnover challenges. Additionally, it underscores the stringent conditions that must be met for authorization and the proactive briefing approach undertaken by the Commander's designated representative to uphold safety protocols and personnel readiness during confined space activities.

2.1 Entry Authority
The designated Entry Authority is responsible for authorizing confined space entries, ensuring compliance with safety protocols, and overseeing the overall entry process.

2.2 Designated Alternates
Designated Alternates are individuals trained and authorized to assume the responsibilities of the Entry Authority in their absence.

2.3 Entry Supervisors
Entry Supervisors are responsible for directly supervising and managing confined space entries, ensuring that all safety procedures are followed.

2.4 Entrants
Entrants are individuals entering confined spaces and are responsible for complying with safety procedures and using provided protective equipment.

2.5 Attendants
Attendants are responsible for monitoring the entrants, maintaining communication, and initiating emergency response procedures if necessary.

To address the high turnover rate at ## GROUP/SQD/FLT, designated alternates will be identified in Attachment # of this MEP. It is crucial to note that any entry inconsistent with the conditions outlined in this MEP will not be authorized by the Entry Authority or Designated Alternates. Furthermore, the Commander's designated representative will conduct a thorough briefing with Entry Supervisor(s) to ensure a clear understanding of their duties before the commencement of any entry activities. This proactive approach aims to enhance personnel readiness and maintain stringent adherence to safety protocols during confined space entries.

Section 3 – Permit/Non-Permit Required Confined Spaces

This section clearly defines the criteria for distinguishing between permit-required and non-permit required confined spaces, provides essential information, including inventory management, posting requirements, and the processes for reclassification and reevaluation.

EXAMPE: The ## GROUP/SQD/FLT collaborates with CSPT to assess confined spaces. Confined spaces fall into two categories: NON-PERMIT REQUIRED and PERMIT-REQUIRED. To facilitate this process, Attachment # is an inventory containing information about confined spaces managed by the ## GROUP/SQD/FLT. The inventory encompasses essential details such as confined space identification, location, description, location specifics, hazards, evaluation date, designation, and any additional pertinent comments.

Posting: All Permit-Required Confined Spaces must be appropriately labeled according to the guidelines outlined in the applicable regulations. The responsibility for affixing signs to Permit-Required Confined Spaces lies with [## GROUP/SQD/FLT. In cases where labeling is impractical, consultation with CSPT is recommended to explore alternative methods preventing entry into the space.

[Include any specific details on the posting process.]

Section 4 – Reclassifying Confined Spaces

This section outlines the reclassification procedures for confined spaces as per 29 CFR 1910.146(c)(7). Employers have a defined process for reclassifying spaces initially labeled as permit-required confined spaces, and this section elucidates the specific requirements involved. Key aspects covered include the elimination of atmospheric hazards, entry protocols for hazard elimination, the clarification on forced air ventilation, certification requirements, and the handling of emergent hazards in declassified non-permit spaces. This information is crucial for ensuring compliance and safety in confined space management.

EXAMPE: IAW 29 CFR 1910.146(c)(7), an employer can reclassify a space initially designated as a permit-required confined space through a specific set of procedures. Below are the specific requirements:

Elimination of Atmospheric Hazards (29 CFR 1910.146(c)(7)(i)): If the permit space poses no actual or potential atmospheric hazards and all hazards are eliminated without entry, it can be reclassified as non-permit.

Entry for Hazard Elimination (29 CFR 1910.146(c)(7)(ii)): If entering the permit space is necessary to eliminate hazards, entry must follow paragraphs 29 CFR 1910.146(d) through 29 CFR 1910.146 (k). Successful testing and inspection can lead to reclassification as a non-permit space.

Forced Air Ventilation Clarification (29 CFR 1910.146(c)(7)(ii)): Forced air ventilation alone does not constitute hazard elimination, as stated in paragraph (c)(5).

Certification Requirement (29 CFR 1910.146(c)(7)(iii)): The employer must document hazard elimination in a certification, including the date, space location, and the signature of the person making the determination. This certification is accessible to employees entering the space or their authorized representatives.

Handling Emergent Hazards (29 CFR 1910.146(c)(7)(iv)): In case hazards arise in a declassified non-permit space, employees must exit. The employer must reevaluate the space to determine if reclassification as a permit space is necessary, following other applicable provisions of the section.

[Include any additional requirements based on specific applicable regulations.]

Section 5 – Routine, Recurring Tasks, and Expected Conditions

This section provides an overview of routine tasks for both assigned personnel and non-assigned personnel, categorized in Table 5.1 and Table 5.2, respectively. The tables outline specific tasks, governing directives, expected atmospheric conditions (including LEL, oxygen levels, and air contaminants), and the required Personal Protective Equipment (PPE) for each task. This information is crucial for ensuring safety and compliance during confined space activities, regardless of personnel affiliation.

EXAMPE: Table 5.1. below outlines specific tasks related to ## GROUP/SQD/FLT carried out by assigned personnel, along with corresponding governing directives. In addition, expected atmospheric conditions during these tasks include a range of factors such as LEL, oxygen levels, and air contaminants. Personnel are required to wear a comprehensive set of protective equipment described within each task.

Table 5.1. Confined Space tasks, directives, and required PPE.

Tasks	Governing Directive	Expected Atmospheric Conditions	Required PPE
EXAMPLE			
Fuel tank foam removal.	• T.O. 1-1-3 • T.O. 1F-16CG-2-28 Series • T.O. 1A-10C-2-28 Series • DAFMAN 91-203 • DAFI 48-137	• 10% LEL or less unless defoaming and then 20% LEL or less • O2 - 19.5% to 23.5% • 0-600PPM	• 3M Full Face Supplied Air Respirator • Rubber/Nitrile Gloves • Chemical Resistant Goggles • Tri-Layer Gortex Coveralls • Hearing Protection

Leak Testing	• T.O. 1-1-3 • T.O. 1F-16CG-2-28 Series • T.O. 1A-10C-2-28 Series • DAFMAN 91-203 • DAFI 48-137	• 10% LEL or less unless defoaming and then 20% LEL or less • O2 - 19.5% to 23.5% • VOC of 0 to 600PPM	• 3M Full Face Supplied Air Respirator • Rubber/Nitrile Gloves • Chemical Resistant Goggles • Tri-Layer Gortex Coveralls • Hearing Protection

Table 5.2. below outlines specific tasks conducted by Non-## GROUP/SQD/FLT personnel, along with corresponding governing directives. In addition, expected atmospheric conditions during these tasks include a range of factors such as LEL, oxygen levels, and air contaminants. Personnel are required to wear a comprehensive set of protective equipment described within each task.

Table 5.2. Non-## GROUP/SQD/FLT personnel Confined Space tasks, directives, and required PPE.

Tasks	Governing Directive	Expected Atmospheric Conditions	Required PPE
EXAMPLE			
Non-Destructive Inspection (NDI) Fuel Tank Test	• T.O. 1-1-3 • T.O. 1F-16CG-2-28 Series • T.O. 1A-10C-2-28 Series • DAFMAN 91-203 • DAFI 48-137	• 10% LEL or less unless defoaming and then 20% LEL or less • O2 - 19.5% to 23.5% • 0-600PPM	• 3M Full Face Supplied Air Respirator • Rubber/Nitrile Gloves • Chemical Resistant Goggles • Tri-Layer Gortex Coveralls • Hearing Protection
Aircraft Structural Maintenance (ASM) Tank Maintenance	• T.O. 1-1-3 • T.O. 1F-16CG-2-28 Series • T.O. 1A-10C-2-28 Series • DAFMAN 91-203 • DAFI 48-137	• 10% LEL or less unless defoaming and then 20% LEL or less • O2 - 19.5% to 23.5% • VOC of 0 to 600PPM	• 3M Full Face Supplied Air Respirator • Rubber/Nitrile Gloves • Chemical Resistant Goggles • Tri-Layer Gortex Coveralls • Hearing Protection

Acceptable Entry Conditions: Permit-Required confined spaces will be purged before entry and ventilated thereafter as applicable until the maintenance action has been completed. The atmosphere will be monitored and recorded at the beginning of each shift on the AF Form 1024. Confined space atmospheric conditions shall be maintained/ventilated during the confined space maintenance actions.

Hot Work: If Hot Work (e.g., cutting, welding, soldering, brazing or any other operation that can provide a possible source of ignition) is required inside the confined space, the Designated Alternate will ensure the atmosphere is prepared IAW TO 1-1-3 Table 5-1 and an AF Form 592, “Welding, Cutting and Brazing Permit" is obtained from Fire & Emergency Services (F&ES) and the confined space entry permit must be signed by SEG, BE, and FES before entry is authorized.

Section 6 – Atmospheric Monitoring

This section specifies procedures for atmospheric monitoring, including frequency, methods, and acceptable levels of gases, chemicals, or contaminants.

EXAMPE: MultiRAE PID: The RAE Systems MultiRAE Photo Ionization Detector Model # PGM6228 (or equivalent) will be used to monitor the atmospheric conditions of permit-required confined spaces initially and continuously AND to validate that no atmospheric hazards exist in non-permit required confined spaces.

If continuous monitoring cannot be accomplished the entry will immediately stop, and the entrant will exit the space.

Atmospheric conditions shall be analyzed and maintained IAW T.O. 1-1-3. Readings shall be taken and documented at the beginning of each shift, prior to entry if there is a break in operations i.e. lunch, temp-closed, etc.

If the atmosphere is not within acceptable limits detailed in Section 5, continue purging until minimum acceptable levels are reached.

The PGM6228 PID self-calibrates with the AutoRAE 2 cradle system and will also perform a fresh air calibration.

Section 7 – Entry Permit Issuing Procedures

This section outlines the process for obtaining and issuing entry permits, including the required information, signatures, and validity periods.

EXAMPE: The Entry Supervisor will initiate and complete the Confined Space Entry Permit, AF Form 1024 IAW DAFMAN 91-203, para 23.11.

The Entry Supervisor will ensure the following procedures are followed:

- Complete the Aircraft Fuel Systems Hangar/Tank Entry Checklist and ensure the area is safe for entry.
- During any confined space entry, the operation will be stopped if any member of the confined space team feels the operation is unsafe for any parties involved. The Designated Alternate will correct the problem or seek help from applicable agencies to remedy the situation prior to resuming operations.
- Ensure that the AF Form 1024 is completed, signed, filed, and a copy is provided to the CSPT at scheduled meetings.

The Entry Supervisor will ensure that the AF Form 1024 remains at the permit space entry to provide personnel fulfilling confined space entry duties with a reference to required procedures applicable to the confined space entered.

Section 8 – Personal Protective Equipment (PPE) and Support Equipment

This section details the PPE and support equipment necessary for confined space entry, ensuring that all personnel are adequately equipped.

EXAMPE: Table 8.1. identifies PPE and Support Equipment that is commonly used in confined space entries. All personnel that enter and work within aircraft fuel systems confined spaces will use the items below as required.

Table 8.1. Equipment Used During Confined Space Entries.

Equipment Type	Usage
Required Controls prior to Entry	
Rhine Air Blower or Equivalent	Used for purging, ventilating, curing sealants/coatings or supply conditioned air to personnel.
Rhine Air Breathing Air Pump	Supplies breathable air to individuals conducting confined space procedures.
3M 7000 Full Face Supplied Air Respirator	Used to protect individuals from fuel vapors during confined space entry.
Additional Equipment	
RAE Systems Photo Ionization Detector (PID)	Test confined space for atmospheric conditions.
Approved Chemical Resistant Gloves, and/or (4 mil) Nitrile Gloves	Used during depuddling operations.
Fuel Bowsers	Air-operated and explosion-proof device used to remove residual fuel from tanks
Tri-Layer Coveralls	Used to protect individuals from chemical hazards during wet fuel operations and during fuel tank entry operations.

Facility installed ventilation systems and/or portable, GAI Fuel Servicing/Ventilation Cart, and HDU-13 heater shall be used as required to maintain continuous mechanical ventilation during all phases of fuel tank entry/rescue.

Section 9 – Chemicals Used in Confined Spaces

This section identifies and provide safety information for any chemicals used in confined spaces, including handling, storage, and emergency response measures.

EXAMPE: Table 9.1. lists the common, but not all inclusive, chemicals that are used by shop personnel or are present in the confined space. Only the amount necessary to accomplish task will be used. Introducing more chemicals than needed into the tank substantially increases health hazards associated with confined space entry. See Material Authorizations List for real time and updated authorizations breakdown located in the support section.

The Bioenvironmental Engineering Flight will be contacted to evaluate new chemicals or tasks that will be utilized in the confined spaces. Once authorized, the new chemical or task will be added to Table 9.1.

Table 9.1. List of Chemicals and Exposure to Personnel

Type of Space	Operator	Product	Qty.	Units (oz., lbs., etc.)	Expected Exposure Based on Air Sampling (mg/m3)	*OEEL (mg/m3)	Air Sampling Required?	Above **AL / OEEL
Aircraft Fuel Tank(s)	Entrant	JP-8, Jet Fuel	5	Gallons	139.2	200	N	**Y – AL**
	Attendant				29.75		N	N
	Entrant	MEK	5	oz.	600.5	589.78	Y	Y – OEEL
	Attendant				125.4		N	N

* Occupational Environmental Exposure Limit
** Action Limit

Section 10 – Around-the-Clock Operations

This section addresses specific considerations and procedures for confined space entries during around-the-clock operations.

EXAMPE: Procedures for around the clock operations shall adhere to all guidance contained in this MEP. An information exchange shall occur between the outgoing and oncoming Designated Alternate.

The oncoming Designated Alternate will be informed of pertinent facts relating to the entry in-progress, including equipment status, chemicals used or in use, problems encountered, specific maintenance status, or any other pertinent information regarding the entry.

After atmospheric testing is confirmed and annotated, the oncoming Designated Alternate will annotate the entry permit with the Designated Alternate's name, verification of air sampling data and update changes in entrants or attendants.

This procedure will be followed for every shift-change until the entry permit is closed out.

Section 11 – Communication Requirements

This section specifies communication protocols, including equipment to be used, frequencies, and procedures for maintaining continuous communication during confined space entries.

EXAMPE: The Attendant will always maintain verbal communication with the entrant. No further equipment is required for communication during entry.

Section 12 – Emergency Response and Rescue Plan

This section provides a comprehensive emergency response and rescue plan, detailing procedures, personnel roles, and equipment for responding to incidents within confined spaces.
EXAMPE:

1. Required Equipment – The following equipment is required for emergency extraction. It shall be on-site during routine fuel tank entries.

- MultiRAE PGM6228 (or equivalent)
- 3M 7800 Supplied Air Respirator
- 3M W-3020-100 Breathing Air Hose
- Rhine Air Breathing Pump or equivalent
- Forced Ventilation (i.e. Hangar Installed Air or portable Pneumatic Blowers)

WARNING

The attendant and the equipment monitor/runner, if qualified, are the first team rescue for personnel incapable of self- extraction. Failure to perform an initial rescue attempt upon identification of an incapacitated entrant could result in injury or death to personnel.

2. The tank entrant will:
   2.1. Make every attempt possible to evacuate themselves from the tank.
   2.2. If conscious, inform the attendant of any assistance required.

3. The attendant will:
   3.1. Alert the runner to initiate the emergency response rescue plan.
   3.2. Ensure the tank is being properly ventilated.
   3.3. Determine through direct communication with the entrant, if possible, the nature of the emergency.
   3.4. Assess the condition of the tank. If the atmosphere in the tank is considered IDLH, only FES trained teams will perform rescues. Entry into an IDLH environment is prohibited IAW T.O. 1-1-3. A tank is an IDLH environment when:
      3.4.1. The LEL is greater than 20% (1200 PPM VOC).
      3.4.2. Oxygen content of less than 19.5 % or greater than 23.5%.
      3.4.3. Toxicity level of any chemical agent used in the tank at or above IDLH levels specified by BE.
   3.5. Make every rescue attempt possible from outside of the tank. Once the runner returns, and the condition in the tank has been assured to be safe for entry the attendant will:
      3.5.1. Don respiratory protection.
      3.5.2. Enter the tank with a spare respirator for the downed entrant.
      3.5.3. Replace respirator on entrant with spare respirator if entrant is unable to do so.
      3.5.4. Assist the entrant in exiting the tank if possible.
      3.5.5. Continue rescue attempts until:
         3.5.5.1. Conditions in the tank become unsafe.
         3.5.5.2. The entrant has been rescued.
         3.5.5.3. Relieved by emergency response personnel.
      3.5.6. Move the entrant to a fresh air environment.
   3.6. If the entrant is not breathing, perform CPR as soon as practical, and continue until relieved by emergency response personnel.

WARNING

Due to the toxic nature of the atmosphere inside a fuel tank, CPR should not be performed until the entrant is removed from the tank. Failure to comply could result in injury or death to personnel.

3.7. If entrant is breathing, monitor entrant until emergency response personnel arrive.

4. The equipment monitor/runner will:
   4.1. Sound the alarm by the quickest means available i.e. radio, phone, crash net.
   4.2. Initiate contact with the emergency response agencies by assigning the responsibilities to available personnel.
   4.3. If no one else is available, the runner will make notifications.
   4.4. Once notification has been assured, assume the position of the attendant.

5. The person contacting the emergency response agencies will:
   5.1. Call the Maintenance Operations Center (MOC) at extension 784-4105. If telephones are not available:
      5.1.1. Contact MOC by radio, phone, or crash net.
      5.1.2. Inform them of the confined space emergency, personnel involved and location.
   5.2. As a last resort, activate building fire alarm if contact is not possible with MOC/FES

6. The first arriving F&ES agency will:
   6.1. Take charge of the rescue.
   6.2. Guide Fuel Systems personnel during organizational rescue.

7. FES will: Provide any specialized equipment necessary to aid in the rescue of the entrant.

8. Base hospital or designated ambulance company will: Transport the entrant to the hospital if necessary.

9. MOC will:
   9.1. Coordinate and monitor the situation.
   9.2. Contact the following agencies.
      9.2.1. Fire & Emergency Services at DSN 784-4710
      9.2.2. Wing Safety at DSN 784-1842
      9.2.3. Bioenvironmental Engineering at DSN 784-2623
      9.2.4. Unit Safety Representative at DSN 784-6631
      9.2.5. Squadron Commander at DSN 784-8500

10. In the case of an inadvertent and/or accidental AFFF activation during in-tank maintenance:
   10.1. The Attendant will contact the Entrant and notify them of Fire Suppression Foam discharge and evacuate them from the tank.
   10.2. Alert the Equipment Monitor/Runner to initiate the Emergency Response and Rescue Plan
   10.3. The Equipment Monitor/Runner shall have all personnel evacuate the hangar and contact emergency services. Notify them of the Foam discharge with personnel in-tank and attendant evacuation in progress. In case of accidental discharge, shut off foam in accordance with local procedures.

At no point will the Equipment Monitor/Runner re-enter the hangar after foam discharge has started. The foam causes an asphyxiation and slip hazard. Failure to comply could result in injury or death to personnel.

10.4. The Attendant will don full-face supplied air respirator and assist Entrant during tank evacuation.

Do not remove respirator as asphyxiation hazard is present. Failure to comply could result in injury or death to personnel.
Do not walk in foam as it causes a slippery surface. Failure to comply could result in injury or death to personnel.

10.5. Once the Entrant has exited the tank, both Entrant and Attendant will exit (crawl, if floor space between themselves and the exit is saturated) shoulder to shoulder to the nearest exit. Extreme care should be taken to NEVER get out of visual/physical contact with Entrant or Attendant.
10.6. Personnel will rally at a predetermined location for accountability.
10.7. Emergency personnel will be notified once all personnel have cleared the Fire Suppression Foam and been accounted for.

11. Inspection, testing, maintenance and documentation of safety and rescue equipment is accompanied with rescue respirators in accordance with Chapter 14, TO 00-25-245, Operations Instructions – Testing and Inspection Procedures for Personnel Safety and Rescue Equipment, OSHA 29 CFR 1910.134, Respiratory Protection Program, and manufacturer's instructions.

Section 13 – Training and Documentation

This section outlines the training requirements for personnel involved in confined space entries and document retention procedures for training records.

EXAMPE:

13.1. All training requirements shall be documented in IMDS or on the individual's AF Form 55, Employee Safety and Health Record.

13.2. BE will provide annual certification/training on the testing of atmospheric hazards with the PID meter.

13.3. Personnel will complete and stay current on all training required for duties performed. This training will consist of the online Computer-Based Training (CBT) course "Confined Space" maintained online at the Griffin website (https://367trss.cce.af.mil/) managed by the 367th Training Support Squadron, and the MEP.

13.4. Non-Fuel Systems personnel who enter permit-required confined spaces IAW with this MEP will have conduct all training in paragraph 13.3. This training will be documented in IMDS under CC 029018 titled “C/SPACE FUEL SYS REPAIR”.

13.5. For members that only enter non-permit required confined spaces like engine intakes, exhausts and radar bays, ONLY awareness-level training is required, and is in the JSTO.

Section 14 –Deployment and Readiness Procedures

This section specifies procedures for deploying personnel and equipment for confined space entries and ensuring readiness before initiating entry procedures.

EXAMPE: Tasks performed at deployed locations should only be attempted after all safety requirements are met. Prior to deployment, an assessment should be performed to ensure that all required equipment and supplies are either available at the deployed location or manifested to deploy with the deploying AFSS technicians.

Deployment to another Air Force Installation: All tank entries will comply with the requirements of the host station MEP to the maximum extent possible.

Deployment to Non-Air Force Military Installation: Adhere to the requirements of this MEP to the maximum extent possible. A copy of this MEP will be taken on all deployments IAW T.O. 1-1-3.

3Deployment to Bare Base or Remote Location: Units will make provisions for at least two qualified 2A6X4 personnel for each entry. The runner/equipment monitor will be selected from available on-site personnel and will be briefed on their duties including emergency response procedures by the lead 2A6X4 on-site. Confined space entry will not be made until emergency response procedures appropriate to the location have been identified. The team will deploy with one combustible gas/oxygen indicator and a fuel servicing cart to ensure a safe entry. A copy of this MEP will be taken on all deployments IAW T.O. 1-1-3.

Section 15 – Amendment Procedures

This section establishes a process for reviewing and amending the MEP as needed, ensuring that it remains up-to-date and effective.

EXAMPE: Confined space entry permits not consistent with this MEP will not be issued without prior approval from SEG, BE, FES, and MXG/CC. After receiving approval, routine and recurring tasks may be added to this MEP on attached sheets with reference to the appropriate section.

Section 16 – Approval

This section documents the approval process for the MEP, including signatures and dates of approval by relevant authorities.

EXAMPE: The following signatures indicate approval of this MEP IAW T.O. 1-1-3 and shall remain in effect until the date of expiration. This MEP will expire 1 year from the effective date, or when other conditions have not been met as determined by the CSPT.

Attachment 6

COMPLETING THE AF FORM 1024

6.1 Overview. This chapter provides guidance on completing the AF Form 1024. The trainer will review the information below and fill out the AF Form 1024 provided below with the trainee.

6.2. Introduction. The AF Form 1024 is a standardized document utilized by the USAF to authorize and record entries into confined spaces. This form serves as a permit, outlining essential information such as the location and description of the confined space, potential hazards, safety controls, and details about authorized personnel. Additionally, 29 CFR 1910.146(f) Entry Permit, outlines the specific information required in an entry permit for confined spaces, and severs as documentation of compliance with applicable regulations.

6.3. Detailed Instructions. IAW DAFMAN 91-203, 23.11., the following guidance shall be used to complete the AF Form 1024, or equivalent DoD or commercial form:

6.3.1. Section 1 – MEP. Mark the appropriate block indicating whether the entry permit was issued under a CSPT-approved MEP. If not, coordinate with SEG, BE, and F&ES Flight using Section 9 before entering a confined space.

6.3.2. Section 2 – General Information. Enter the location (GPS coordinates, if known) of the confined space and specify if it is on or off the installation. Include a description of the space, its purpose for entry, and reference any applicable TO or Operating Instruction (OI). Enter the date and duration of the permit, including time used and expiration.

6.3.3. Section 3 – Hazards. Specify all probable hazards associated with the entry, such as oxygen enrichment, engulfment, or mechanical hazards.

6.3.4. Section 4 – Hazard Controls. Specify required items, including manufacturer and part number, and add any equipment not listed on the form.

6.3.5. Section 5 – Preparation for Entry. Identify required preparations before entering the space. Refer to the MEP, governing TO, or OI as appropriate.

6.3.6. Section 6 – Atmospheric Testing and Monitoring Record. Enter the make, model, and serial number of all testing equipment, along with calibration and bump test dates. Indicate if continuous monitoring is required; if yes, document the frequency. Consider potential stratified atmospheres for additional testing/monitoring. Indicate if there is additional testing/monitoring or entrant paperwork; if yes, ensure it is attached.

6.3.7. Section 7 – Authorized Personnel. List names of entry supervisors, atmospheric monitors, attendants, and entrants. Enter each entrant's name and the time of entry and exit in the Entry Time Log. If entry supervisors will enter the space, list them as entrants. Attach an additional sheet if needed; note that attendants and entrants are not required to sign or initial next to their names.

6.3.8. Section 8 – Fire & Emergency Services (F&ES) Flight or Equivalent. Identify and notify emergency response personnel. Include POC name, contact information, and confirm the date/time of emergency response personnel availability.

6.3.9. Section 9 – Coordination. Coordinate with SEG, BE, and F&ES Flight before entry if not covered by a CSPT-approved MEP.

6.3.10. Section 10 – Entry Time Log. Enter the name of each entrant and the time of entry and exit.

6.3.11. Section 11 – Close-out/Cancellation. The entry supervisor will sign each entry permit to validate the form. For construction purposes, personnel responsible for the confined space will brief the owner when all occupants have exited, and the permit is closed.

CONFINED SPACE ENTRY PERMIT

1. Master Entry Plan (MEP) | Is Entry Covered by a CSPT Approved MEP? ☐ Yes ☒ No Date MEP Approved? _____

2. General Information

On or Off Installation, Location (GPS coordinates if known) & Description of Space to be Entered

Purpose of Entry

Identify any TO or OI that Covers Entry	Authorized Duration of Permit		
	Date _____	Time Issued _____	Time Expires _____

3. Hazards (Indicate all probable hazards)

☒ Oxygen Deficient (<19.5%) ☐ Airborne Combustible Dust (≥ LEL or Obscures Vision at Distance of 5ft [1.52M] or Less)

☐ Oxygen Enrichment (>23.5%) ☐ Flammable Gases or Vapors (≥ 10% LEL) ☒ Electrical Shock

☐ Material Harmful to Skin ☐ Mechanical Hazards ☐ Engulfment

Other (any other hazards required by applicable TO, OI, etc.)

4. Hazard Controls

Personal Protective Equipment

Respiratory Protection

Communication

Rescue Equipment

Other (any other hazards controls required by applicable TO, OI, etc.)

5. Preparation for Entry (Any item in this section that is inconsistent with MEP is not a routine entry)

☒ Notification of Service Interruption	Ventilation Methods	Personnel Awareness
☐ Blank/Blind Lines ☐ Purge/Clean	☐ Mechanical ☒ Natural	☒ Pre-Entry Briefing on Specific Hazards, Work to be Performed, Control Methods & Emergency Egress
☐ Inert	Communication Methods	☐ Signs Posted
☐ Barriers	☒ Visual	☒ Pedestrian & Vehicle Barriers
☐ Double Blank and Blind	☒ Voice	Other (any other required by applicable TO, OI, etc.)
☐ Isolation Methods	☐ Tug Rope	
☒ Electrical Hazardous Energy Control	☐ Radio/LMR	
☐ Mechanical Hazardous Energy Control	Additional Permits	
☐ Atmospheric	☐ AF Form 592, *Hot Work Permit*	

6. Atmospheric Testing & Monitoring Record (Continuous monitoring shall be performed during all **construction** confined space operations)

Monitoring Device	Make		Model & S/N		Date Calibrated		Date Bump Tested	

Type Hazard	**Acceptable Entry Conditions** Occupational & Environmental Exposure Limits (OEEL)	Time / Result	Time / Result	Time / Result	Time / Result	Time / Result	Time / Result	Time / Result	Time / Result	Time / Result	Time / Result	Time / Result	Time / Result
Oxygen (O2)	19.5% - 23.5%												
Carbon Monoxide (CO)	≤ 25 PPM												
Flammables (LEL)	< 10%												
Toxic Gases and Vapors - e.g., Sulfur Dioxide (SO_2), Chlorine (Cl), Hydrogen Sulfide (H_2S), Volatile Organic Compound (VOC), etc.													
Tester Initials													

Continuous monitoring required? ☒ Yes ☐ No Frequency:

Additional testing/monitoring or entrant information attached? ☐ Yes ☒ No

7. Authorized Personnel (All listed authorized supervisors must be consistent with MEP to be a routine entry)

Entry Supervisor(s)			**Atmospheric Monitor(s)**		
Grade	Name (Last, First MI)	Signature	Grade	Name (Last, First MI)	Signature

Attendant(s)		**Entrant(s)**	
Grade	Name (Last, First MI)	Grade	Name (Last, First MI)

8. Fire Emergency Services or Equivalent

Point of Contact (Last, First MI)	Contact Info (Phone #, Radio Call Sign, etc.)	Date/Time Rescue Service Confirmed

9. Coordination **(Not required for entries consistent with an approved MEP)**

Occupational Safety (SEG)	Bioenvironmental (BE)	Fire Emergency Services (FES)

10. Entry Time Log

Name (Last, First MI)	Time In	Time Out	Time In	Time Out	Time In	Time Out	Time In	Time Out	Time In	Time Out	Time In	Time Out

11. Close-out / Cancellation

Date/Time Work Completed

Date/Time Permit Closed/Cancelled

Additional Comments:

Entry Supervisor Print & Sign

This permit must be available on job site during entry.
Maintain the job site copy on file in work center for one year.

DAF FORM 1024, 20160322
Prescribing Publication: DAFMAN91-203

Attachment 7

PERMIT-REQUIRED CONFINED SPACE TESTING

7.1. Overview. IAW 29 CFR 1910.146(d)(5), during entry operations, permit space conditions must be evaluated as follows:

7.1.1. Pre-Entry Testing Authorization:

7.1.1.1. Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin.

7.1.1.2. If isolation of the space is infeasible due to its size or continuous system nature, perform pre-entry testing to the extent feasible before authorization.

7.1.1.3. Continuously monitor entry conditions in areas where authorized entrants are working if entry is authorized.

7.1.2. Continuous Monitoring During Entry Operations:

7.1.2.1. Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during entry operations.

7.1.3. Sequence for Atmospheric Hazard Testing:

7.1.3.1. When testing for atmospheric hazards, follow this sequence: first test for oxygen, then for combustible gases and vapors, and finally for toxic gases and vapors.

7.1.4. Entrant Observation Opportunity:

7.1.4.1. Provide each authorized entrant or their authorized representative an opportunity to observe both pre-entry and subsequent testing or monitoring of permit spaces.

7.1.5. Reevaluation Upon Request:

7.1.5.1. Reevaluate the permit space in the presence of any authorized entrant or their authorized representative who requests it due to concerns about the adequacy of the initial evaluation.

7.1.6. Prompt Results Dissemination:

7.1.6.1. Immediately provide each authorized entrant or their authorized representative with the results of any testing conducted.

Attachment 8

KNOWLEDGE CHECK

1. IAW DAFMAN 91-203, which of the following conditions must be present to classify a space as permit-required?
   A. Contains or has the potential to contain a hazardous atmosphere.
   B. Contains a material with the potential for engulfing an entrant.
   C. All the above.

2. IAW DAFMAN 91-203, what is the key characteristic of a Non-Permit Confined Space?
   A. Possesses ample means for entry and exit.
   B. May contain hazardous atmospheres or other serious safety hazard.
   C. Does not have the potential to contain any hazard capable of causing death or serious physical damage.

3. IAW 26 CFR 1910.146, which of the following conditions is considered a hazardous atmosphere?
   A. Oxygen concentration below 19.5% or above 23.5%
   B. Oxygen concentration between 19.5% and 23.5%
   C. Gas concentration below 7.7%

4. IAW DAFMAN 91-203, what defines serious physical damage in confined spaces?
   A. Any minor injury requiring first aid treatment.
   B. Impairment or illness leading to a permanent disability.
   C. An increase in mental efficiency

5. Which of the following is NOT a category of common hazards involving confined spaces?
   A. Atmospheric hazards
   B. Serious physical hazards
   C. Poor light levels

6. IAW DAFMAN 91-203, which organization shall formally review Confined Space Programs as part of Safety Program Evaluations?
   A. Installation Occupational Safety Office
   B. MAJCOMs, FLDCOMs, DRUs, and FOAs
   C. Installation Fire Chief

7. Tenant Units with assigned safety staff will?
   A. Develop and approve confined space training materials.
   B. Manage the base Confined Space Program.
   C. Appoint a representative to the installation CSPT.

8. IAW DAFMAN 91-203, who is responsible for maintaining consolidated confined space inventories provided?
   A. Installation Occupational Safety Office
   B. Installation Fire Chief
   C. Confined Space Attendants

9. IAW DAFMAN 91-203, what is the role of the Installation Fire Chief in the Confined Space Program?
   A. Develop the confined space inventory.
   B. Coordinate equipment purchases for confined space entry.
   C. Identify, in writing, the F&ES Flight representative(s) to the CSPT.

10. True or False: The Commanders ensures the workplace is evaluated for permit and non-permit required confined spaces?
   A. True
   B. False

11. What are is the required information for a shop Confined Space Inventory?
   A. Location, to include GPS.
   B. Date built.
   C. Commander contact information.

12. Who is responsible for issuing entry permits consistent with the organizational written confined space program or the MEP?
   A. Rescue Teams
   B. Entry Supervisors
   C. Confined Space Entrants

13. IAW 29 CFR 1926.1209, what duty is NOT assigned to a Confined Space Attendant?
   A. Maintaining an accurate count of authorized entrants
   B. Warning unauthorized persons to stay away from the permit space.
   C. Issue entry permits consistent with the organizational written confined space program.

14. IAW 29 CFR 1926.1208, what is one of the responsibilities of Confined Space Entrants?
   A. Issuing entry permits
   B. Maintaining communication with the attendant as necessary.
   C. Cancelling the entry permit after detecting a prohibited condition

15. True or False: If an injured entrant is exposed to a substance requiring a material SDS or similar written information, the SDS or information shall NOT be made available to the treating medical facility?
   A. True
   B. False

16. IAW DAFMAN 91-203, what is the primary responsibility of the CSPT?
   A. Conduct semi-annual safety inspections.
   B. Assist commanders and/or functional managers in the development and administration of their organizational confined space program.
   C. Provide rescue services for confined space incidents.

17. When notified, what task is the CSPT responsible for regarding identified confined spaces?
   A. Issuing entry permits.
   B. Testing and evaluating to classify them.
   C. Developing rescue plans.

18. True or False: A responsibility of the CSPT is to review and assess unit and rescue team training program at least annually?
    C. True
    D. False

19. After a confined space mishap, what is the purpose of the CSPT convening?
    A. To assign blame for the mishap.
    B. To conduct a rescue operation.
    C. To ensure all hazards are identified to protect other members and to collect any quantifiable data for the mishap investigation.

20. IAW DAFMAN 91-203, when must training be provided to employees?
    A. Monthly
    B. Before initial assignment of duties, prior to any change in assigned duties, and whenever there is a change in permit space operations presenting a new hazard or suspected inadequacies in knowledge.
    C. Biannually

21. IAW DAFMAN 91-203, what training are Commanders required to take?
    A. Hands-on training sessions.
    B. Monthly refresher courses.
    C. CBT on ADLS for awareness understanding.

22. How often should personnel responsible for testing atmospheric conditions in a confined space receive training on the use, calibration, and care of atmospheric testing and monitoring equipment?
    A. Annually
    B. Quarterly
    C. Once every two years

23. Who is responsible for developing rescue training covering various rescue methods, such as self-rescue, non-entry rescue, and entry rescue?
    A. Confined Space Program Team (CSPT)
    B. Supervisors.
    C. F&ES Flight representatives.

24. IAW DAFMAN 91-203, what must documentation of training include?
    A. Length of training sessions
    B. Personal opinions of the trainees
    C. Name of the student, name of the trainer, and dates of training.

25. IAW DAFMAN 91-203, which equipment is permitted in the presence of flammable or explosive atmospheres?
    A. Non-sparking equipment
    B. Low-voltage equipment
    C. Explosion-proof or intrinsically safe equipment

26. True or False: Continuous atmospheric monitoring for hazards in permit spaces shall be conducted unless the organization can demonstrate the unavailability of continuous monitoring for the identified atmospheric hazard?
    A. True
    B. False

27. IAW DAFMAN 91-203, how should monitoring equipment used to assess confined spaces be calibrated?
    A. Calibration is not necessary for monitoring equipment.
    B. By the TMDE laboratory at intervals established by the manufacturer's instructions or applicable TOs.
    C. Calibration is performed by the CSPT annually.

28. What must workers obtain before engaging in hot riveting, welding, cutting, or burning operations within a confined space?
    A. A written confirmation from their supervisor.
    B. A certification in hot work safety.
    C. An AF Form 592, *Hot Work Permit*, from the installation F&ES Flight.

29. IAW DAFMAN 91-203, what regulation(s) should aircraft fuel systems personnel follow for responsibilities, qualifications, training, and rescue procedure requirements for working in permit-required confined spaces?
    A. DAFMAN 91-203, Chapter 20
    B. DAFMAN 91-203, Chapter 23
    C. Applicable technical data.

30. IAW 29 CFR 1910.146, what is a measure required under the permit space program?
    A. Providing continuous entertainment for entrants.
    B. Evaluate permit space conditions before, during, and after entry operations.
    C. Offering free equipment rentals for entrants

31. IAW 29 CFR 1910.146, what is NOT A measure required under the permit space program?
    A. Provide at least one attendant for the duration of entry operations.
    B. Develop and implement procedures for summoning rescue services, rescuing entrants, and providing emergency services.
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    C. Assess if work activities could introduce hazards or alter the classification. (pg. 22)

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    B. Mitigate hazards only after entry into IDLH conditions.
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    B. Self-rescue and ground rescue.
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46. True or False: The MEP serves as the written component of the confined space program, granting approval for recurring entries into permit-required spaces under routine conditions.
    A. True
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47. IAW DAFMAN 91-203, what is NOT an MEP key element?
    A. Designate as many entry supervisors as needed.
    B. When appropriate, account for around-the-clock operations.
    C. A review of all work conducted within the past 15 years.

48. What OSHA regulation outlines the specific information required in an entry permit for confined spaces and severs as documentation of compliance with applicable regulations.
    A. 29 CFR 1910.146.
    B. 29 CFR 1910.666.
    C. 29 CFR 1910.1910.

49. IAW DAF Form 1024, what base agencies must sign the “Coordination” portion of the form?
    A. SEG, BE, FES
    B. SEG, BE, Shop Supervisor
    C. BE, SEG, Commander

50. What is the recommended sequence for atmospheric hazard testing in permit-required confined spaces?
    A. First test for oxygen, then for combustible gases and vapors, and finally for toxic gases and vapors.
    B. Test for combustible gases and vapors first, then for oxygen, and finally for toxic gases.
    C. Test for toxic gases first, then for combustible gases and vapors, and finally for oxygen.

KNOWLEDGE CHECK – ANSWER KEY

1. IAW DAFMAN 91-203, which of the following conditions must be present to classify a space as permit-required?
   A. Contains or has the potential to contain a hazardous atmosphere.
   B. Contains a material with the potential for engulfing an entrant.
   C. All the above. (pg. 6)

2. IAW DAFMAN 91-203, what is the key characteristic of a Non-Permit Confined Space?
   A. Possesses ample means for entry and exit.
   B. May contain hazardous atmospheres or other serious safety hazard.
   C. Does not have the potential to contain any hazard capable of causing death or serious physical damage. (pg. 6)

3. IAW 26 CFR 1910.146, which of the following conditions is considered a hazardous atmosphere?
   A. Oxygen concentration below 19.5% or above 23.5% (pg. 7)
   B. Oxygen concentration between 19.5% and 23.5%
   C. Gas concentration below 7.7%

4. IAW DAFMAN 91-203, what defines serious physical damage in confined spaces?
   A. Any minor injury requiring first aid treatment.
   B. Impairment or illness leading to a permanent disability. (pg. 7)
   C. An increase in mental efficiency

5. Which of the following is **NOT** a category of common hazards involving confined spaces?
   A. Atmospheric hazards
   B. Serious physical hazards
   C. Poor light levels (pg. 7)

6. IAW DAFMAN 91-203, which organization shall formally review Confined Space Programs as part of Safety Program Evaluations?
   A. Installation Occupational Safety Office
   B. MAJCOMs, FLDCOMs, DRUs, and FOAs (pg. 9)
   C. Installation Fire Chief

7. Tenant Units with assigned safety staff will?
   A. Develop and approve confined space training materials.
   B. Manage the base Confined Space Program.
   C. Appoint a representative to the installation CSPT. (pg. 9)

8. IAW DAFMAN 91-203, who is responsible for maintaining consolidated confined space inventories provided?
   A. Installation Occupational Safety Office (pg. 9)
   B. Installation Fire Chief
   C. Confined Space Attendants

9. IAW DAFMAN 91-203, what is the role of the Installation Fire Chief in the Confined Space Program?
   A. Develop the confined space inventory.
   B. Coordinate equipment purchases for confined space entry.
   C. Identify, in writing, the F&ES Flight representative(s) to the CSPT. (pg. 9)

10. True or False: The Commanders ensures the workplace is evaluated for permit and non-permit required confined spaces?
    A. True (pg. 9)
    B. False

11. What are is the required information for a shop Confined Space Inventory?
    A. Location, to include GPS. (pg. 10)
    B. Date built.
    C. Commander contact information.

12. Who is responsible for issuing entry permits consistent with the organizational written confined space program or the MEP?
    A. Rescue Teams
    B. Entry Supervisors (pg. 11)
    C. Confined Space Entrants

13. IAW 29 CFR 1926.1209, what duty is **NOT** assigned to a Confined Space Attendant?
    A. Maintaining an accurate count of authorized entrants
    B. Warning unauthorized persons to stay away from the permit space.
    C. Issue entry permits consistent with the organizational written confined space program. (pg. 12)

14. IAW 29 CFR 1926.1208, what is one of the responsibilities of Confined Space Entrants?
    A. Issuing entry permits
    B. Maintaining communication with the attendant as necessary. (pg. 13)
    C. Cancelling the entry permit after detecting a prohibited condition

15. True or False: If an injured entrant is exposed to a substance requiring a material SDS or similar written information, the SDS or information shall **NOT** be made available to the treating medical facility?
    A. True
    B. False (pg. 14)

16. IAW DAFMAN 91-203, what is the primary responsibility of the CSPT?
    A. Conduct semi-annual safety inspections.
    B. Assist commanders and/or functional managers in the development and administration of their organizational confined space program. (pg. 15)
    C. Provide rescue services for confined space incidents.

17. When notified, what task is the CSPT responsible for regarding identified confined spaces?
    A. Issuing entry permits.
    B. Testing and evaluating to classify them. (pg. 15)
    C. Developing rescue plans.

18. True or False: A responsibility of the CSPT is to review and assess unit and rescue team training program at least annually?
    A. True (pg. 15)
    B. False

19. After a confined space mishap, what is the purpose of the CSPT convening?
    A. To assign blame for the mishap.
    B. To conduct a rescue operation.
    C. To ensure all hazards are identified to protect other members and to collect any quantifiable data for the mishap investigation. (pg. 15)

20. IAW DAFMAN 91-203, when must training be provided to employees?
    A. Monthly
    B. Before initial assignment of duties, prior to any change in assigned duties, and whenever there is a change in permit space operations presenting a new hazard or suspected inadequacies in knowledge. (pg. 16)
    C. Biannually

21. IAW DAFMAN 91-203, what training are Commanders required to take?
    A. Hands-on training sessions.
    B. Monthly refresher courses.
    C. CBT on ADLS for awareness understanding. (pg. 16)

22. How often should personnel responsible for testing atmospheric conditions in a confined space receive training on the use, calibration, and care of atmospheric testing and monitoring equipment?
    A. Annually (pg. 17)
    B. Quarterly
    C. Once every two years

23. Who is responsible for developing rescue training covering various rescue methods, such as self-rescue, non-entry rescue, and entry rescue?
    A. Confined Space Program Team (CSPT)
    B. Supervisors. (pg. 17)
    C. F&ES Flight representatives.

24. IAW DAFMAN 91-203, what must documentation of training include?
    A. Length of training sessions
    B. Personal opinions of the trainees
    C. Name of the student, name of the trainer, and dates of training. (pg. 17)

25. IAW DAFMAN 91-203, which equipment is permitted in the presence of flammable or explosive atmospheres?
    A. Non-sparking equipment
    B. Low-voltage equipment
    C. Explosion-proof or intrinsically safe equipment (pg. 18)

26. True or False: Continuous atmospheric monitoring for hazards in permit spaces shall be conducted unless the organization can demonstrate the unavailability of continuous monitoring for the identified atmospheric hazard?
    A. True (pg. 18)
    B. False

27. IAW DAFMAN 91-203, how should monitoring equipment used to assess confined spaces be calibrated?
    A. Calibration is not necessary for monitoring equipment.
    B. By the TMDE laboratory at intervals established by the manufacturer's instructions or applicable TOs. (pg. 18)
    C. Calibration is performed by the CSPT annually.

28. What must workers obtain before engaging in hot riveting, welding, cutting, or burning operations within a confined space?
    A. A written confirmation from their supervisor.
    B. A certification in hot work safety.
    C. An AF Form 592, *Hot Work Permit*, from the installation F&ES Flight. (pg. 18)

29. IAW DAFMAN 91-203, what regulation(s) should aircraft fuel systems personnel follow for responsibilities, qualifications, training, and rescue procedure requirements for working in permit-required confined spaces?
    A. DAFMAN 91-203, Chapter 20
    B. DAFMAN 91-203, Chapter 23
    C. Applicable technical data. (pg. 19)

30. IAW 29 CFR 1910.146, what is a measure required under the permit space program?
    A. Providing continuous entertainment for entrants.
    B. Evaluate permit space conditions before, during, and after entry operations. (pg. 20)
    C. Offering free equipment rentals for entrants

31. IAW 29 CFR 1910.146, what is NOT A measure required under the permit space program?
    A. Provide at least one attendant for the duration of entry operations.
    B. Develop and implement procedures for summoning rescue services, rescuing entrants, and providing emergency services.
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    B. Test for combustible gases and vapors first, then for oxygen, and finally for toxic gases.
    C. Test for toxic gases first, then for combustible gases and vapors, and finally for oxygen.