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Level 2 Administrative Procedure

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7	Revision: Deleted “Entry Supervisor” after 6.1.8. Added “Entry” to “Supervisor” for section 6.2.4. Deleted a duplicated bullet point in 6.3.1. Revised the numbering issue in section 6.12. Revision of FBP-IH-PRO-00049-F01 Rev. 4, <i>Confined Space Entry Permit</i> , to notify rescue services for every entry made into permit-required confined space by adding new column to the Supervisor Log for entry supervisors to initial for each entry when notifying rescue services for availability.	8, 10, 36-38

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TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 2 of 40

CONTENTS

1.0	PURPOSE	4
2.0	SCOPE AND APPLICABILITY	4
3.0	GENERAL INFORMATION	4
4.0	USE REFERENCES	4
5.0	RESPONSIBILITIES.....	5
5.1	Confined Space Program Manager (CSPM).....	5
5.2	Occupational Safety and Health (OS&H) Professional	5
5.3	Competent Person	5
5.4	Confined Space Entry Supervisor	5
5.5	Supervisor/Facility Manager.....	6
5.6	Authorized Attendant.....	6
5.7	Authorized Entrant	6
5.8	Fire Services.....	6
5.9	Training Professional	6
5.10	Qualified Worker	7
5.11	Emergency Rescue Personnel	7
6.0	ACTIONS	8
6.1	Preferred Methods of Reducing Risks to Personnel.....	8
6.2	Training.....	9
6.3	Fire Department Training.....	10
6.4	Program Evaluation.....	11
6.5	Baseline Evaluation and Classification.....	11
6.6	Confined Space Entry Classifications	12
6.7	Confined Space Inventory	12
6.8	Confined Space Danger Signs.....	12
6.9	Permit Process Initiation for Upcoming Work.....	13
6.10	Safe Work Practices and Controls.....	13
6.11	Atmospheric Testing and Surveillance	15
6.12	Confined Space Entry Permit Finalization.....	17
6.13	Lighting.....	18

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 3 of 40

6.14	Electrical Equipment.....	18
6.15	Non-Powered Hand Tools.....	18
6.16	Compressed Gas/Flame-Producing Equipment	19
6.17	Ventilation Equipment	20
6.18	Safety Retrieval Equipment	20
6.19	Emergency Rescue Considerations	21
6.20	Pre-Entry Briefing and Equipment Check	22
6.21	Performing Permitted Confined Space Entries	23
6.22	Post-Performance Work Activities	26
6.23	Emergency Response Actions.....	26
6.24	Industrial Hygiene Aspects	27
7.0	RECORDS	27
7.1	Records Generated	27
7.2	Requirements	27
8.0	DEFINITIONS/ACRONYMS	27
8.1	Definitions.....	27
8.2	Acronyms	31
9.0	SOURCE REQUIREMENTS	31
Appendix A	REGULATORY REQUIREMENTS FLOW DOWN.....	33
Appendix B	FLOW DIAGRAM FOR CONFINED SPACE ENTRY	34
Appendix C	CONFINED SPACE DANGER SIGNS.....	35
Attachment A	CONFINED SPACE ENTRY PERMIT	36
Attachment B	CONFINED SPACE IDENTIFICATION AND EVALUATION	39

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 4 of 40

1.0 PURPOSE

- 1.1 This procedure has been developed to implement applicable requirements for confined space work and entry.
- 1.2 This procedure provides guidance on performing emergency rescues and rendering emergency aid to confined space workers.
- 1.3 This document implements applicable regulatory requirements. They are listed in Appendix A, *Regulatory Requirements Flow Down*.

2.0 SCOPE AND APPLICABILITY

- 2.1 This Level 2 procedure applies to confined space entries conducted by Fluor-BWXT Portsmouth LLC (FBP) and contracted labor resources performing work at the DOE Portsmouth Gaseous Diffusion Plant (PORTS).
- 2.2 This procedure provides instructions for the proper preparation, issuance, duration, and implementation of permits associated with confined space entry and work, and defines the performance criteria and requirements for personnel entering confined spaces.
- 2.3 This procedure also provides guidance on performing emergency rescues and rendering emergency aid to confined space workers.
- 2.4 This procedure applies to individuals who enter confined spaces, supervise work within confined spaces, conduct atmospheric testing of confined spaces, and/or perform emergency rescue within confined spaces.

3.0 GENERAL INFORMATION

- 3.1 Under normal circumstances, the physical and operational characteristics of fan houses, spaces above suspended ceilings, attics, crawl spaces, cooling towers, vertical pipe chases, and basements do not warrant the restrictions generally imposed for confined space entry and work.
- 3.2 FBP-IH-PRO-00049-F01, *Confined Space Entry Permit*, is commonly referred to throughout this procedure as “*Confined Space Entry Permit*,” (CSEP).

4.0 USE REFERENCES

- A. *American Conference of Governmental Industrial Hygienists (ACGIH) TLV's*
- B. FBP-BS-PRO-00062, *Records Management Process*
- C. FBP-IH-PRO-00024, *Industrial Hygiene Sampling*
- D. FBP-OS-PRD-00002, *Competent Person Program*
- E. FBP-OS-PRO-00068, *Instructions for Lockout/Tagout*

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 5 of 40

- F. National Fire Protection Association (NFPA) 70E, *Standards for Electrical Safety in the Workplace*

5.0 RESPONSIBILITIES

5.1 Confined Space Program Manager (CSPM)

- 5.1.1 Coordinates program oversight, space evaluations, and procedure updates.
- 5.1.2 Maintains authority in confined space matters.
- 5.1.3 Resolves any disagreements with the final identification, classification, and reclassification of confined spaces.
- 5.1.4 Maintains inventory of permanent confined space locations.
- 5.1.5 Identifies competent persons in accordance with FBP-OS-PRD-00002.

5.2 Occupational Safety and Health (OS&H) Professional

- 5.2.1 Conducts air monitoring, as required.
- 5.2.2 Evaluates and classifies confined spaces.
- 5.2.3 Issues Confined Space Entry Permit numbers to requestors.

5.3 Competent Person

- 5.3.1 Evaluates spaces to determine if the space meets the definition of a confined space.
- 5.3.2 Classifies the space as permit-required, non-permit or an enclosed space based on the definitions in Subsection 8.1, *Definitions*.
- 5.3.3 Assesses hazards of the permit-required confined space.
- 5.3.4 Recommends appropriate engineering and administrative controls to minimize hazards of the permit-required confined space.
- 5.3.5 Authorizes or prohibits entry into the permit-required confined space, based on the atmospheric and physical hazards of the space and type of work to be performed.
- 5.3.6 Recommends appropriate personal protective equipment (PPE) and retrieval devices for entry into the permit-required confined space.

5.4 Confined Space Entry Supervisor

- 5.4.1 Maintains overall responsibility for the Permit-Required Confined Space (PRCS) entry operation.

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 6 of 40

5.4.2 Serves as an Authorized Attendant or Authorized Entrant as long as that individual is trained and equipped, as required, for each role he or she fulfills.

5.4.3 Passes duties from one properly trained individual to another during the course of the entry operation, as necessary.

5.4.4 Ensures that subordinates understand the hazards associated with the CSEP spaces within his/her work areas.

5.5 Supervisor/Facility Manager

5.5.1 Initiates CSEP.

5.5.2 Ensures that the CSEP areas within his/her work areas are properly identified, posted, and maintained.

5.5.3 Ensures designated personnel are properly trained.

5.6 Authorized Attendant

5.6.1 Ensures the safety of the Authorized Entrant during confined space entries.

5.6.2 Reviews the hazards present in a confined space with the Confined Space Entry Supervisor prior to allowing entry by the Authorized Entrant.

5.7 Authorized Entrant

5.7.1 Complies with the direction given by the Authorized Attendant during confined space entries.

5.7.2 Reviews the hazards present in the confined space with the Confined Space Entry Supervisor prior to entering the confined space.

5.7.3 Performs work in accordance with applicable permits or procedures.

5.8 Fire Services

Provides Emergency Rescue Services, as needed.

5.9 Training Professional

5.9.1 Assists Subject Matter Expert (SME) in development of confined space training modules.

5.9.2 Provides training for designated personnel.

5.9.3 Maintains confined space training records.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 7 of 40

5.10 Qualified Worker

Reports emergencies, as necessary, and assists in emergency response.

5.11 Emergency Rescue Personnel

Utilizes basic first aid and cardiopulmonary resuscitation (CPR) knowledge and skills and renders necessary emergency services to rescued confined space workers as necessary.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 8 of 40

6.0 ACTIONS

6.1 Preferred Methods of Reducing Risks to Personnel

- 6.1.1** Review the proposed work to identify the confined space in which the work will be conducted.
- 6.1.2** Contact OS&H, as necessary, to begin the CSEP issuance process.

Confined Space Entry Supervisor

- 6.1.3** Convey information concerning any chemical hazards associated with the confined space entry to employees potentially exposed to that chemical hazard using the following as needed:
 - Job Hazard Analyses (JHAs)
 - Work Packages
 - Pre-job briefs
 - Lessons Learned
 - Safety Data Sheet (SDS)
- 6.1.4** Complete confined space training prior to confined space work.
- 6.1.5** Coordinate the entry operations.
- 6.1.6** Request support from the involved Supervisor(s) and OS&H, as needed, when entry operations are conducted simultaneously by employees performing more than one activity (this ensures that activities of different trades do not endanger each other).
- 6.1.7** Ensure worker's confined space training is current.
- 6.1.8** Ensure that removable barricades are used and confined space warning signs are posted to prevent inadvertent entry when access is provided for work in the CSEP spaces that are not previously posted.
- 6.1.9** Ensure that engineering controls (supplemented by administrative controls and personal protective equipment [PPE], as required) have been implemented (whenever feasible) by incorporating accepted engineering control measures such as general or local ventilation or by redesigning job tasks so that personnel entry into confined spaces is unnecessary.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 9 of 40

6.2 Training

CSPM

6.2.1 Ensure that individuals conducting confined space training for FBP are knowledgeable in the following aspects of confined space entry:

- Hazard Recognition
- Use of PPE
- Safety and Integrated Safety Management
- Lessons Learned (related to Confined Space Program issues)
- Communication Methods
- Safety retrieval equipment
- Requirements specified by applicable regulations, standards, and procedures

6.2.2 Verify that general confined space and emergency responder training includes the following:

- An explanation of the general hazards associated with confined spaces and a discussion of why people could die in confined spaces
- A discussion of the particular confined space hazards associated with a specific site, location, or work activity
- The reason for, correct use of, and limitations of PPE and other safety equipment required for entry into confined spaces
- An explanation of the permit system and other procedural requirements for conducting a confined space entry
- A description of confined space job tasks and responsibilities, based on functional role (entrant, attendant, entry supervisor, etc.)
- A discussion of how to recognize symptoms of oxygen deficiency and overexposure to air contaminants in oneself and in others
- A discussion of methods for alerting attendants
- A discussion of how to respond to emergencies

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 10 of 40

6.2.3 Verify that general confined space training includes the following:

- The methods for summoning rescue or emergency services
- The proper use of communication equipment used to establish and maintain contact with confined space entrants and emergency/rescue personnel
- Recognition of signs/symptoms of potential overexposure

Entry Supervisor

6.2.4 Ensure personnel assigned functional responsibilities for confined space activities, such as attendants, entrants, and supervisors, are provided training in the following circumstances:

- Before performance of confined space duties
- When there is a change in assigned duties requiring confined space entry and work
- When there is a change in permit space operations that presents a hazard about which an employee has not previously been trained
- When there is reason to believe either that there are deviations from the permit space entry procedures or that there are inadequacies in the employee's knowledge or use of the confined space procedure

6.3 Fire Department Training

Fire Services Manager

6.3.1 Verify that emergency response personnel assigned to perform confined space rescue have completed Confined Space Emergency Rescue Training that includes the following:

- The use of PPE such as self-contained breathing apparatus (SCBAs), protective clothing, etc., for performing rescues
- The use of confined space emergency rescue equipment such as tripods, mechanical retrieval devices, high-angle rescue equipment, radios, etc.
- First aid and CPR techniques
- Familiarity with the different types of confined spaces at the site
- Participation in annual simulated rescue operations from representative confined spaces at the site

6.3.2 Develop and modify confined space entry rescue training materials.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 11 of 40

- 6.3.3 Ensure that confined space rescue and related equipment used by the Fire Department and Emergency Squad personnel is properly maintained, inspected, and stored in a manner that ensures readiness for emergency use.
- 6.3.4 Ensure that atmospheric testing equipment in possession is approved for use in hazardous atmospheres and is properly maintained and calibrated.

Training

- 6.3.5 Maintain approved lesson plans and attendance sheets for confined space rescue training.
- 6.3.6 Ensure that a register of trained persons for confined space entry rescue is maintained in an auditable and retrievable format.

Fire Services Personnel

- 6.3.7 Participate in annual confined space rescue simulations designed to demonstrate the use of actual rescue equipment.
- 6.3.8 Follow approved practices when conducting an emergency response.

6.4 Program Evaluation

CSPM

NOTE

No evaluation is necessary if there have been no confined space entries performed during a 12 month period.

- Log and perform a documented review of all returned permits annually.

6.5 Baseline Evaluation and Classification

Competent Person

- 6.5.1 Schedule and conduct an initial baseline inventory/evaluation of confined spaces when requested by the confined space owner.
- 6.5.2 Evaluate the space and classify it as either an enclosed or confined space, based on the definitions in Subsection 8.1, *Definitions*.

Confined Space Program Manager

- 6.5.3 Coordinate with the project lead and perform a survey of the premise and/or operation to identify and classify confined spaces.
- 6.5.4 Develop and maintain an inventory of confined spaces.

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 12 of 40

6.5.5 Complete FBP-IH-PRO-00049-F03, Confined Space Identification and Classification.

6.5.6 Provide technical guidance and regulatory interpretations to ensure consistent implementation of the Confined Space Program.

6.6 Confined Space Entry Classifications

Confined Space Program Manager

- Use Appendix B, *Flow Diagram for Confined Space Entry*, to identify and classify spaces and determine the requirements for safe accomplishment of an entry operation.

6.7 Confined Space Inventory

Confined Space Program Manager

NOTE

Previously identified confined spaces will not require FBP-IH-PRO-00049-F03, *Confined Space Identification and Evaluation*, to be completed prior to entry.

6.7.1 Maintain an inventory of previously identified confined spaces where these spaces have been previously identified as permit required, non-permit required, or enclosed space.

6.7.2 Assign unique identifier numbers to confined spaces, and provide input into the inventory.

6.8 Confined Space Danger Signs

Facility Manager

NOTE

Obvious confined spaces, such as manholes, ventilation ducts, and large process piping do not require posting unless access is uncontrolled.

6.8.1 Ensure that uncontrolled access points to all permit-required confined spaces that may be inadvertently entered are posted with signs appropriate for the confined space, according to Appendix C, *Confined Space Danger Signs*.

6.8.2 Ensure that confined space signs are maintained and in a legible condition.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 13 of 40

6.9 Permit Process Initiation for Upcoming Work

Supervisor/Facility Manager

6.9.1 Initiate the CSEP.

NOTE

Any member of OS&H may assist in getting a CSEP permit number.

6.9.2 Contact OS&H for a CSEP permit number.

6.9.3 Record the confined space permit number on CSEP.

Confined Space Program Manager

6.9.4 Maintain a log of the unique identifier numbers for CSEPs.

6.9.5 Start a new numbering sequence annually (each calendar year).

6.9.6 Track the numbers to ensure that completed CSEP are returned.

Confined Space Entry Supervisor

6.9.7 Contact the appropriate OS&H Professional to coordinate atmospheric monitoring of confined space.

6.10 Safe Work Practices and Controls

Confined Space Entry Supervisor

6.10.1 Request a pre-entry risk evaluation from the appropriate discipline(s) (OS&H, Radiation Protection, Fire Protection, etc.), as needed, based on the anticipated hazards and the work to be performed.

6.10.2 Perform the following, as appropriate, to verify that necessary items have been developed and implemented for safe permit space entry operations:

- A.** Ensure that required permits (CSEPs, radiation, welding/hot work, LOTO, etc.) associated with the CSEP space entry have been signed, as appropriate, and issued.
- B.** Ensure that warning systems and barricades meet the following requirements:
 - Installed at the entrance(s) to confined spaces that have the potential for objects or persons to fall into the space. Such protection will be installed such that it does not affect the ventilation of or egress from the confined space.

TITLE: <p style="text-align: center;">Confined Space Program</p>	FBP-IH-PRO-00049
	REV. NO. 7
	Page 14 of 40

- Barricades established, as necessary, to protect entrants from potential external hazards caused by pedestrians, vehicles, etc.
- C. Ensure that safe entry and exit for entrants such as ladders and/or other equipment will be installed and or provided, as appropriate.
 - D. Ensure that monitoring is in place to verify that conditions in the CSEP space have been established and are acceptable throughout the duration of the authorized entry.
 - E. Ensure the following for isolation:
 - 1) Ensure appropriate isolation has been applied to lines/systems servicing confined spaces where toxic, hazardous, or radioactive materials pose a high risk to personnel due to the potential for engulfment, high temperature, high pressure, etc.
 - 2) Ensure specific methods of isolation are determined, based on consultation of the Entry Supervisor with OS&H, craft, and supervision, as appropriate. Methods may include:
 - Blinding/blanking
 - Double block and bleed, and disconnection. **WHEN** using double block and bleed measures, **THEN** assurance must be made that the bleed valve is not inadvertently plugged
 - 3) Consider the compatibility of the isolation material with the contents of the system being isolated.

Authorized Entrant

- 6.10.3 Complete initial confined space training prior to confined space work.
- 6.10.4 Verify that the systems within the CSEP system have been locked/tagged out according to FBP-OS-PRO-00068, *Instructions for Lockout/Tagout*.

Fire Protection Professional

- 6.10.5 Approve mechanical ventilation to be used to reduce/purge flammable substances prior to use in flammable environments (e.g., Class I, Division 2 locations).

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 15 of 40

Confined Space Entry Supervisor

6.10.6 Verify that the systems within the CSEP have been adequately addressed by performing the following:

- A.** Ensure confined spaces have been emptied, flushed, or otherwise purged of flammable, hazardous, toxic, radioactive, or incapacitating substances to the extent feasible prior to entry.
- B.** Ensure the CSEP space is being mechanically ventilated to reduce and maintain toxic or hazardous contaminants to safe levels, as necessary, by forcing air into the space and not pulling air from it.
- C.** **IF** safe levels cannot be achieved, **THEN** implement additional ventilation or other engineering controls to reduce contaminants to the lowest level feasible.

WARNING

Do NOT use pure oxygen to ventilate a confined space.

- D.** **IF** there is a potential for atmospheric change to unacceptable levels, **THEN** maintain ventilation during confined space occupancy.

NOTE

Continuous monitoring may be performed by the entrant/attendant using a portable monitoring device.

- E.** Perform continuous monitoring of continuous systems (such as sewer systems) or other large spaces when isolation is infeasible.

6.11 Atmospheric Testing and Surveillance

6.11.1 Ensure personnel who perform atmospheric testing for confined space are trained and understand the following:

- Basic knowledge of the work being performed
- Anticipated hazardous contaminants
- Any process that could significantly alter the original conditions under which the confined space entry was classified

OS&H Professional

6.11.2 Determine whether continuous monitoring is required for confined space entries.

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 16 of 40

6.11.3 Perform atmospheric testing in any of the following circumstances:

- When atmospheric hazards constitute the reason for an entry to be classified as a permit required entry
- At a time interval between initial atmospheric testing and retesting (not to exceed 8 hours) regardless of the classification of the entry
- Prior to entry

6.11.4 **IF** a confined space is vacated and unsecured for any period of time and it is suspected by any employee or indicated that a change in condition of the space has occurred, **THEN** retest the CSEP space to ensure that conditions have not changed since the original entry.

6.11.5 **WHEN** portable mechanical ventilation is used, **THEN** conduct initial atmospheric testing first with the ventilation off and then subsequently with the ventilation on.

NOTE

Testing stratified atmospheres: When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope should be tested a distance of approximately 4 feet (1.22m) in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress should be slowed to accommodate the sampling speed and detector response.

6.11.6 Perform atmospheric testing of the CSEP space in the following sequence:

- A. Oxygen
- B. Flammability
- C. Toxic substances

6.11.7 Note the results of all tests on CSEP.

6.11.8 Document type and frequency of testing/retesting on CSEP to ensure that conditions within the space remain acceptable during entry.

6.11.9 Provide recommendations for confined space entry work following an evaluation of planned entry/work activities.

Authorized Entrant (or that employee's authorized Representative)

6.11.10 Observe the atmospheric testing, if desired.

TITLE: <p style="text-align: center;">Confined Space Program</p>	FBP-IH-PRO-00049
	REV. NO. 7
	Page 17 of 40

6.12 Confined Space Entry Permit Finalization

Confined Space Entry Supervisor

6.12.1 Ensure the following is documented on the CSEP:

- Hazards associated with the confined space entry
- Methods of isolation/tagout (if necessary) and/or LOTO of the confined space
- Methods used to remove or control particular hazards (e.g., purging, flushing, ventilating, and/or otherwise rendering a hazard inert [inerting])
- Verification that rescue services are notified and available
- Means of communication with rescue and other personnel who would be summoned in case of an emergency
- Rescue equipment to be provided on-site for permit required entries
- Means of communication to be used by entrants and attendants to maintain contact and summon emergency/rescue personnel
- PPE (e.g., respirators, clothing, retrieval lines)
- Any other information necessary to ensure the safety and health of personnel who perform the confined space entry

6.12.2 Sign the completed CSEP.

6.12.3 Review CSEP with Entrants and Attendants following Subsection 6.22.

6.12.4 Post the completed CSEP in an easily visible location.

NOTE

Each CSEP is valid for the duration of the assigned task or 7 consecutive work days, whichever is of shorter duration.

6.12.5 **IF** a CSEP extension becomes necessary, **THEN** coordinate an extension with OS&H.

Confined Space Entry Supervisor

6.12.6 Terminate (i.e., cancel) the CSEP when one or more of the following conditions are met:

- Entry operations covered by the CSEP have been completed

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 18 of 40

- Conditions or work activities are different than those specified on the CSEP
- A new hazard is introduced within the confined space

6.12.7 Document all problems encountered during entry operations on CSEP so that appropriate revisions to the permit space program can be made.

6.12.8 Return all canceled CSEPs to the CSPM for annual review.

Confined Space Program Manager

6.12.9 Authorize CSEP extensions, on a case-by-case basis, by annotating on CSEP or attaching amplifying instructions to CSEP detailing the extension.

6.12.10 Retain completed CSEP for at least one year.

6.13 Lighting

Confined Space Entry Supervisor

6.13.1 Verify that lighting provided for use in confined spaces containing, or potentially containing, flammable vapors or explosive dusts is approved as explosion proof lighting. This requirement also applies to low-voltage lighting such as droplights and flashlights.

6.13.2 Verify that lighting powered by 110-volt, cord-connected systems is supplied with a ground-fault circuit interrupter.

6.14 Electrical Equipment

Confined Space Entry Supervisor

Verify that power tools used in confined spaces meet the following criteria:

- Are pneumatic or electric, when feasible
- Electric hand tools are explosive-proof if used in potentially flammable/explosive atmospheres
- Protected by a ground-fault circuit interrupter, where appropriate

6.15 Non-Powered Hand Tools

Authorized Entrant

Ensure that non-powered hand tools used in confined spaces containing or potentially containing flammable vapors or explosive dusts are spark-proof or spark-resistant.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 19 of 40

6.16 Compressed Gas/Flame-Producing Equipment

OS&H Professional

6.16.1 Ensure that welding and cutting operations conducted in CSEP spaces are adequately ventilated to prevent accumulation of toxic materials or the formation of a possible oxygen-deficient atmosphere.

Authorized Attendant

6.16.2 Ensure that compressed gas cylinders are not taken into confined spaces, except for the following:

- SCBA
- Resuscitation equipment
- Other emergency response/life support-related items (e.g., bottled air)

6.16.3 Ensure that welding equipment is not used in confined spaces containing, or potentially containing, flammable vapors, explosive dusts, or explosive materials.

6.16.4 Ensure that authorized entrants do not carry non-authorized spark or flame-producing devices, including lighters or matches, into confined spaces.

Authorized Entrant

6.16.5 Remove all electrodes from the holders when arc welding is to be suspended for any substantial period of time (i.e., 1 hour or greater).

6.16.6 Locate the holders so that accidental contact cannot occur.

6.16.7 Disconnect the arc welding machine from the power source.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 20 of 40

6.17 Ventilation Equipment

OS&H Professional

- 6.17.1 Verify that the air supply for ventilation equipment is from a clean source and does not increase the hazards in a confined space.

WARNING

Exposure to dangerous concentrations of carbon monoxide without PPE or other safety controls may result in serious injury or death.

- 6.17.2 Verify that air intakes for ventilation equipment are positioned away from sources of carbon monoxide, such as idling vehicles or operating electrical generators/air compressors powered by diesel fuel or gasoline.
- 6.17.3 **IF** sufficient ventilation cannot be obtained without blocking the means of access to the CSEP space, **THEN** ensure that authorized entrants are using air line respirators.

6.18 Safety Retrieval Equipment

Confined Space Entry Supervisor

- 6.18.1 **IF** the use of the retrieval system increases the overall risks of entry (due to structures, equipment, or entanglement with other lines in the confined space), **THEN** consult a competent person and/or the Confined Space Program Manager to waive the requirement that all authorized entrants wear a safety harness and/or retrieval system into the CSEP space.

Authorized Attendant

NOTE

The safety harness will permit lifting or dragging of an unconscious or incapacitated entrant by retrieval line connections either at both shoulders, at both wrists, or by a single-line connection between the shoulders at the back.

- 6.18.2 Verify that all authorized entrants performing CSEP space entries wear a retrieval system consisting of a safety harness and retrieval line, if applicable.
- 6.18.3 Ensure that a mechanical hoisting device is provided to retrieve personnel from a vertical entry into any CSEP space greater than 5 feet deep, when applicable, and that the hoisting device meets the following requirements:
- Manually powered by the mechanical advantage of pulleys, ratchets, etc., not electrically or pneumatically powered
 - The mechanical advantage provided by the hoisting device is at least 4 to 1

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 21 of 40

- Designed such that the descent speed of suspended loads is limited to prevent injury of entrants falling during entry or rescue

6.18.4 Ensure that the other end of the retrieval line is attached to a mechanical device or fixed point outside the confined space that is capable of supporting the suspended load.

6.18.5 Ensure that overhead structures provided and used for attaching the hoist, a tripod system, or similar mechanism are of sufficient height to lift entrants clear of the confined space and swing them onto an adjacent walking/working surface.

6.19 Emergency Rescue Considerations

Authorized Attendant

6.19.1 Consult with Fire Protection to ensure that the following provisions are evaluated and documented on the permit for permit-required confined space entries, when applicable:

- Type and availability of rescue equipment needed including harnesses, lifelines, lifting devices, lighting, communication devices, and other special equipment
- An effective means to summon emergency personnel in a timely manner, and an effective method for entrants to inform the attendant of an emergency

6.19.2 Prevent entries into a CSEP space if it is considered to be Immediately Dangerous to Life or Health (IDLH), unless authorized by the Incident Commander.

6.19.3 Consult with the Entry Supervisor, as necessary, to assist in determining the emergency response requirements for a CSEP required entry.

Fire Protection Professional

6.19.4 Utilize Fire Plan criterion in conjunction with this procedure for responding to confined space emergency events.

6.19.5 Read posted warning signs prior to attempting rescue.

6.19.6 Enter the CSEP space if no expeditious alternative rescue method external to the confined space is available.

6.19.7 Utilize either a mechanical hoist, tripod system, harness, tag-line, or similar mechanism and equipment to rescue entrants from confined spaces and relocate them to an adjacent walking/working surface.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 22 of 40

Emergency Rescue Professional

- 6.19.8** Render necessary emergency services to rescued confined space workers utilizing basic first aid and CPR knowledge and skills, as necessary.

6.20 Pre-Entry Briefing and Equipment Check

Confined Space Entry Supervisor

- 6.20.1** Perform the following prior to authorizing entry:
- A.** Designate Authorized Entrants and Authorized Attendants for each permitted confined space entry after ensuring that they are trained in their confined space entry duties.
 - B.** Conduct a pre-entry job briefing in accordance with FBP-NSE-PRO-00002 (including a review of the CSEP) to communicate the hazards and safe-work controls specified in the hazard review and to address any questions.
 - C.** Ensure that the engineering control equipment (e.g., lighting and ventilation) is properly utilized.
 - D.** Ensure that PPE is available and properly donned.
 - E.** Ensure that safety retrieval equipment and fall arresting devices for permit-required entries are operational and available for use at the confined space, as applicable.
 - F.** Ensure that the CSEPs are posted at the confined space site at the time of entry and that they reflect the most recent atmospheric testing results.
 - G.** **IF** posting is not practicable (e.g., manhole entry), **THEN** ensure that the CSEP(s) are available at the confined space site for review.

Authorized Attendant

- 6.20.2** Complete initial confined space training prior to confined space work.
- 6.20.3** Conduct the following actions prior to allowing Authorized Entrants to access the permitted space:
- A.** Visually confirm the validity of posted CSEPs.
 - B.** Notify the Confined Space Entry Supervisor of expired or invalid posted CSEPs or other permits so that they can be removed.
 - C.** Review atmospheric testing results and verify that the most recent results are documented on the CSEP and that the results are acceptable for entry.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 23 of 40

- D. Ensure communication methods/equipment for maintaining continuous contact with Authorized Entrants and for summoning emergency/rescue personnel have been established and that the equipment is working.
- E. Maintain a record of authorized entrants performing CSEP space entries, using the Personnel Log section of CSEP.

6.21 Performing Permitted Confined Space Entries

Authorized Attendant

NOTE

Never enter the confined space or perform activities that may interfere with the primary duties of monitoring the entry, tracking the activities of Authorized Entrants, and summoning rescue services in an emergency. However, Authorized Attendants are not precluded from performing tasks, such as passing tools to an Authorized Entrant.

- 6.21.1** Know the hazards that may be faced during entry and exit, including information on the mode, signs or symptoms, and consequences of exposure.
- 6.21.2** Be aware of possible behavioral effects of hazard exposure.
- 6.21.3** Understand conditions requiring exit, including the following:
 - Detecting a prohibited condition or behavioral effects of hazard exposure
 - A situation outside the space that could endanger Authorized Entrants
 - If the Authorized Attendant cannot effectively and safely perform all required duties
- 6.21.4** Ensure work being performed is in accordance with established requirements and that a continuous and accurate count of Authorized Entrants is maintained using a means to identify the Authorized Entrant that accurately identifies who is in the space.
- 6.21.5** Remain outside of the permit space during entry operations until relieved by another attendant.
- 6.21.6** Maintain a written log of confined space entrants for permitted entries.
- 6.21.7** Maintain effective and continuous contact with Authorized Entrants for the duration of the entry to monitor the Authorized Entrant's status, and to alert entrants of the need to evacuate the space.
- 6.21.8** Continuously observe entry in only one confined space at a time.

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 24 of 40

- 6.21.9** Ensure the continued integrity of installed barriers, as necessary, to protect Authorized Entrants from hazards external to the space (vehicles, water runoff, unauthorized personnel, etc.).
- 6.21.10** Notify the Confined Space Entry Supervisor of any unusual conditions that may adversely impact safety and health.
- 6.21.11** Monitor activities inside and outside of the space to determine if it is safe for entrants to remain in the space, and order Authorized Entrants to evacuate a confined space immediately when any of the following occurs:
- An alarm from an air-testing or any other safety-related device is activated
 - The Authorized Attendant observes or is informed of a condition that is prohibited by the entry permit
 - Behavioral abnormalities of Authorized Entrants that may be the result of hazard exposure are detected
 - The Authorized Attendant must leave the confined space entry to prevent disruption of communications
 - Additional hazards are recognized or suspected
- 6.21.12** Notify emergency rescue personnel as soon as it is determined that Authorized Entrants may need assistance to escape from permit space hazards. Rescue personnel may be summoned by plant radio, telephone, fire alarm pull box, messenger, etc.
- 6.21.13** Perform non-entry rescues, utilizing a mechanical retrieval device, tag-line, etc., without causing injury to entrant, if possible.
- 6.21.14** Warn unauthorized persons that they must stay away from the permit space, and prohibit them from attempting a rescue.
- 6.21.15** **IF** unauthorized persons enter the permit space, **THEN** advise them that they must exit immediately, and inform the Authorized Entrant and the Entry Supervisor. The Attendant or the Supervisor determine why the unauthorized individual has entered and issues a problem report.

Authorized Entrant

- 6.21.16** Review SDSs for any hazardous chemicals/materials to be used in a confined space, as needed.
- 6.21.17** Maintain effective and continuous communication with the Authorized Attendant(s) while in the confined space.

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 25 of 40

6.21.18 Perform work according to permits and procedures. Equipment used during confined space entries (ventilation equipment, PPE, lighting equipment, ladders, etc.) should always be used properly.

6.21.19 Notify the Authorized Attendant(s) if conditions change, additional confined space hazards are suspected, any warning sign or symptom of exposure to a dangerous situation is recognized, or a prohibited condition is detected.

6.21.20 Evacuate the space immediately when any of the following occur:

- The Authorized Attendant or Entry Supervisor orders evacuation
- A warning sign or symptom of exposure to a dangerous situation is recognized
- An evacuation alarm from an air-testing, or any other safety-related device, is activated
- Authorized Entrant detects a prohibited condition or believes that remaining in the space may jeopardize his/her well-being

Confined Space Entry Supervisor

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

6.21.22 Verify that all entry conditions on the CSEP have been addressed.

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

6.21.24 **IF** an off-site rescue service will be utilized, **THEN** verify rescue service availability prior to entering the permit-required confined space.

6.21.25 Remove unauthorized individuals who enter or attempt to enter the permit space during entry operations.

6.21.26 Maintain copies of all exceptions applicable to specific confined space entries and ensure their accessibility for review.

6.21.27 Coordinate multi-employer entry operations with OS&H.

6.21.28 Ensure safety retrieval and other confined space-related equipment is inspected, as applicable.

6.21.29 **WHEN** responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, **THEN** determine that entry operations remain consistent with terms of the CSEP and acceptable entry conditions are maintained.

TITLE: <p style="text-align: center;">Confined Space Program</p>	FBP-IH-PRO-00049
	REV. NO. 7
	Page 26 of 40

6.22 Post-Performance Work Activities

Authorized Attendant

- 6.22.1** Confirm that all Authorized Entrants have exited the confined space safely.
- 6.22.2** Report any “lessons learned” and/or problems encountered to the Confined Space Entry Supervisor.

Confined Space Entry Supervisor/Facility Manager

- 6.22.3** Return completed permit and log to OS&H. Mail, email, fax, or hand-deliver the permit to the CSPM.

6.23 Emergency Response Actions

Qualified Worker

- 6.23.1** Following discovery of an emergency, immediately summon emergency rescue support via one of the following methods:
 - Dial 911 on site telephones; **OR** dial 740-897-3025 (Plant Shift Superintendent), 740-897-5909 (Fire Department), or 740-897-2444 (emergency) on cell phones
 - Plant Radio
 - Fire Alarm Pull Box
 - Send a Messenger
 - In person at the X-300 Plant Control Facility, the X-1007 Fire Station, or the X-104 Protective Force Headquarters Complex
- 6.23.2** Remain in a nearby area to assist emergency response personnel (if it is safe to do so).
- 6.23.3** **IF** evacuation of the affected area is required, **THEN** notify the emergency Incident Commander at the earliest opportunity.
- 6.23.4** Perform local personnel accountability (as necessary) to identify those affected or potentially affected by the emergency.
- 6.23.5** Perform other emergency support activities, as needed or requested, according to approved emergency procedures.

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 27 of 40

6.24 Industrial Hygiene Aspects

Competent Person

- 6.24.1 Ensure that an initial (baseline) evaluation is performed based on the risks associated with each identified confined space and when requested by the confined space owner such as Facility Manager, Project Lead, Subcontractor, or Entry Supervisor.
- 6.24.2 Evaluate pre-job safety and health hazards and the risks associated with each confined space entry upon request of the Confined Space Entry Supervisor.
- 6.24.3 Provide technical guidance and regulatory interpretations to ensure consistent implementation of the Confined Space Program.
- 6.24.4 Refer any confined space conflicts between OS&H and other organizations to the CSPM for resolution.

Training Specialist

- 6.24.5 Provide confined space training to designated personnel.

7.0 RECORDS

7.1 Records Generated

- A. FBP-IH-PRO-00049-F01, *Confined Space Entry Permit*
- B. FBP-IH-PRO-00049-F03, *Confined Space Identification and Evaluation*

7.2 Requirements

Records generated or received as a result of performing this procedure shall be managed in accordance with FBP-BS-PRO-00062, *Records Management Process*.

8.0 DEFINITIONS/ACRONYMS

8.1 Definitions

- A. **Authorized Attendant** - A trained person who is assigned to monitor, support, and react, as required, to support the Authorized Entrants' activities within a confined space.
- B. **Authorized Entrant** - A trained person who is authorized to enter and perform work in a confined space.
- C. **Blinding/Blanking** - The insertion of a solid barrier across the open end of a pipe leading into or out of the confined space to secure the barrier in such a way as to prevent leakage of material into the confined space.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 28 of 40

- D. Competent Person** - One who is capable of identifying existing and predictable confined space hazards in the surrounding or working conditions and has authorization to take prompt corrective measures to eliminate them and is designated in accordance with FBP-OS-PRD-00002.

- E. Confined Space** - An enclosed area that has ALL of the following characteristics:
 - 1) It is large enough and configured such that an individual can bodily enter and perform assigned work. “Bodily” entry means ingress of the entire body into the space.
 - 2) Its primary function and/or design is something other than for continuous human occupancy.
 - 3) It has limited or restricted entry and exit, meaning the entrant(s) must use the hands, contort the body, or have external assistance to enter/exit the space.

- F. Confined Space Entry Permit** - The permit (FBP-IH-PRO-00049-F01) used to establish safety boundaries and controls that help provide adequate protection for employees performing specified work that creates the potential for special or unusual hazards.

- G. Confined Space Entry Supervisor** - The trained Line Management or contracted labor resources personnel who have direct operating authority over the work specified by the applicable permit(s) or procedure(s) being performed.

- H. Confined Space Owner** - The FBP Facility Manager, Project Lead, or contracted labor resources who are assigned ownership of one or more confined spaces at a site, building, or facility.

- I. Confined Space Program Manager** - The FBP individual responsible for managing and providing oversight for the Confined Space Program.

- J. Double Block and Bleed** - A method used to isolate a confined space from a line, duct, or pipe by physically closing two in-line valves on a piping system and opening a ”vented-to-atmosphere” valve between them.

- K. Enclosed Space** - A space that does not completely meet all three criteria to be defined as a confined space, but is enclosed by walls and a ceiling. Examples include rooms, machinery, boiler spaces, cargo hold, etc., in which workers may find otherwise ordinary hazards aggravated or intensified. Enclosed spaces that have the potential for hazardous conditions or significant risk to personnel will require a hazard review of planned work activities in these spaces.

- L. Engulfment** - The surrounding and/or capturing of a person by divided particulate matter or liquid 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.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 29 of 40

- M. Entry** - Ingress into a confined space and/or work within a confined space, including breaking the plane of the confined space opening with any part of the body.
- N. Flammable/Explosive Materials** - Contaminants, such as gases, vapors, or dusts that can cause an atmosphere to explode or ignite if a source of ignition is present or introduced into the environment.
- O. Hazardous Atmosphere** - An atmosphere presenting a potential for death, disablement, injury, or acute illness from one or more of the following causes:
 - 1) A flammable gas, vapor, or mist in excess of 10 percent of its lower explosive limit (LEL).
 - 2) Airborne combustible – dust at a concentration that meets or exceeds its Lower Flammable Limit (LFL); this concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52m) or less.
 - 3) An oxygen-deficient atmosphere containing less than 19.5 percent oxygen by volume or an oxygen-enriched atmosphere containing more than 23.5 percent oxygen by volume.
 - 4) An atmospheric concentration of any substance listed in Subpart Z of Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910 above the listed numerical value of the permissible exposure limit (PEL) or above the listed numerical value of the threshold limit value (TLV) published by the ACGIH.
 - 5) A condition immediately dangerous to life or health, as defined in this section.
- P. Hot Work** - Work within a confined space that produces arcs, sparks, flames, heat, or other sources of ignition.
- Q. Immediately Dangerous to Life or Health** – Defined as any condition that poses an immediate or delayed threat to life or one that may result in irreversible health effects, or other conditions that could impair unaided escape from a confined space.
- R. Incident Commander** - The individual in overall charge of an emergency response at PORTS, who is the Plant Shift Superintendent (PSS) or his/her designee.
- S. Inerting** - Displacement of the atmosphere by a non-reactive gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.
- T. Isolation** – A process of physically interrupting or disconnecting pipes, lines, or energy sources from a confined space. The application of LOTO devices does not constitute isolation.

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 30 of 40

- U. **Lockout/Tagout** - The authorized placement and administrative control of tags and locks used to ensure the protection of personnel, according to FBP-OS-PRO-00068.

- V. **Lower Explosive Limit/Upper Explosive Limit (UEL)** - The LEL is the minimum concentration of a flammable gas or vapor in air (usually expressed in percentage by volume at sea level) that will ignite if an ignition source is present. Concentrations below this limit are too lean to burn. The highest concentration that can be ignited is its UEL. Above that concentration, the mixture is too rich to burn. (Also LFL and Upper Flammable Limit [UFL].)

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

- X. **Permissible Exposure Limit** - Airborne concentrations of substances to which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects, as determined by OSHA.

- Y. **Permit-Required Confined Space** - Confined space that has one or more of the following characteristics:
 - Contains or has the potential to contain a hazardous atmosphere
 - Contains a material that has the potential of engulfing an entrant
 - 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
 - Contains any other recognized serious safety or health hazard

- Z. **Purging** - The method by which gases, vapors, or other airborne impurities are displaced from a confined space. This process may involve such measures as mechanical ventilation, steam ventilation, or introduction of another gas such as nitrogen or carbon dioxide to control flammable vapors.

- AA. **Qualified Worker** - For the purposes of this procedure, a person who is trained to perform confined space work.

- BB. **Retrieval System** - The equipment (including a retrieval line; full-body harness; wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from confined spaces.

- CC. **Risk** - For the purposes of this procedure, a function of both the probability and severity of occurrence of potential or known hazards.

- DD. **Risk Evaluation** - A process to assess the type, probability, and severity of the combination of potential and known hazards for a confined space entry.

TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 31 of 40

EE. Threshold Limit Value - A value developed by the ACGIH for airborne concentrations of substances under conditions where it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect.

FF. Toxic Atmosphere - An atmosphere containing a concentration of a substance above published or otherwise known safe levels capable of producing an adverse effect on human health.

8.2 Acronyms

- A. **ACGIH** – American Conference of Governmental Industrial Hygienists
- B. **CP** – Competent Person
- C. **CPR** - Cardiopulmonary Resuscitation
- D. **CSEP** – Confined Space Entry Permit
- E. **CSPM** – Confined Space Program Manager
- F. **DRI** - Direct Reading Instrument
- G. **IDLH** - Immediately Dangerous to Life or Health
- H. **LEL** – Lower Explosive Limit
- I. **LFL** – Lower Flammability Limit
- J. **SDS** – Material Safety Data Sheet
- K. **NFPA** - National Fire Protection Association
- L. **PEL** - Permissible Exposure Limit
- M. **PRCS** - Permit-Required Confined Space
- N. **SCBA** - Self-contained Breathing Apparatus
- O. **SME** – Subject Matter Expert
- P. **TLV** - Threshold Limit Value
- Q. **UEL** – Upper Explosive Limit

9.0 SOURCE REQUIREMENTS

- A. 10 CFR 851, *Worker Safety and Health Program*
- B. ANSI Z117.1-2009, *Safety Requirements for Confined Space*

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 32 of 40

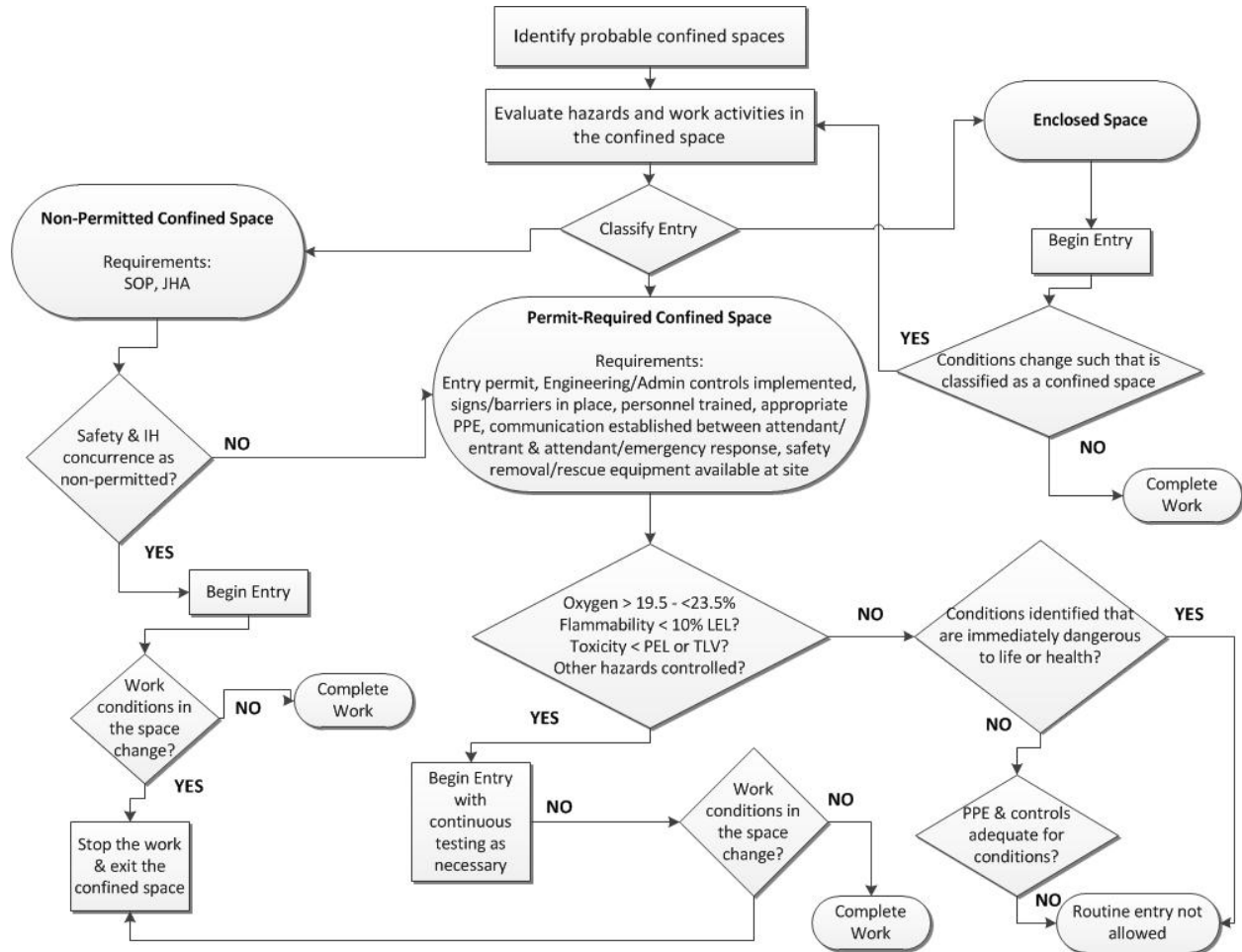
- C.** ANSI Z535.1-1998, *Safety Color Code*, revision of ANSI Z53.1-1979
- D.** ANSI Z535.2-1998, *Environmental and Facility Safety Signs*, revision and combination of ANSI Z35.1-1972 and ANSI Z35.4-1972
- E.** ANSI Z535.5-1998, *Accident Prevention Tags for Temporary Hazards*, revision of ANSI Z35.2-1974
- F.** FBP-NSE-PRD-00001, *Conduct of Operations Program*

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 33 of 40

Appendix A
REGULATORY REQUIREMENTS FLOW DOWN

1. 10 CFR 851, *Worker Safety and Health Program*
2. 29 CFR 1910.146, *Permit-required Confined Spaces*
3. 29 CFR 1926.1200, Subpart AA, *Confined Spaces in Construction*
4. 29 CFR 1926.651, *Specific Excavation Requirements, Appendix G, Hazardous Atmospheres*

Appendix B
FLOW DIAGRAM FOR CONFINED SPACE ENTRY



TITLE:	Confined Space Program	FBP-IH-PRO-00049
		REV. NO. 7
		Page 35 of 40

Appendix C CONFINED SPACE DANGER SIGNS

1. The primary purpose of posting signs for identification of confined spaces is to prevent inadvertent (i.e., accidental) entry by personnel at FBP sites. Posting of warning signs for confined spaces that require a permit for entry shall include at a minimum the words **DANGER CONFINED SPACE**.



2. Any alternative measures deemed as equally effective to posting for specified confined spaces shall be approved by a FBP Industrial Hygienist or OS&H Professional.
3. Obvious confined spaces such as manholes, ventilation ducts, and large process piping do not require posting unless access is uncontrolled. **WHEN** access is provided for work in these particular spaces, **THEN** removable barricades shall be used to prevent inadvertent entry.
4. Signs shall be maintained in legible and durable condition (metal, heavy plastic, etc.) and attached to or near the entry with screws or other suitable devices. The size of lettering of the sign will be large enough to be readily visible and conspicuous to comply with the latest revision of ANSI Z35.4. The word *Danger* is to be printed as white letters on a red background surrounded by a black background. The other words are to be printed as black lettering on a white background.

The sign should be made of a durable material (metal, heavy plastic, etc.) and attached to or near the entry with screws or other suitable devices. The size of lettering of the sign will be large enough to be readily visible and conspicuous to comply with the latest revision of ANSI Z35.4

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 36 of 40

Attachment A
CONFINED SPACE ENTRY PERMIT
Page 1 of 3

Page _____ of _____



CONFINED SPACE ENTRY PERMIT

Confined Space Entry Permit #			
Issued To:	Released By:	Date:	Time:
Location:	Permit Duration: From:	To:	
ATMOSPHERIC RETEST INTERVAL: (check one) <input type="checkbox"/> 30min, <input type="checkbox"/> 1hr, <input type="checkbox"/> 2hr, <input type="checkbox"/> 4hr, <input type="checkbox"/> 6hr, <input type="checkbox"/> 8hr <input type="checkbox"/> Continuous		Confined Space Participants Trained: (check one) <input type="checkbox"/> YES <input type="checkbox"/> NO	

ISOLATION:

- LOCKOUT/TAGOUT
- BLINDING
- DOUBLE BLOCK and BLEED
- LINE BREAK
- OTHER _____

ATMOSPHERE CONTROL:

- PURGE
- NATURAL VENTILATION
- MECHANICAL VENTILATION
- OTHER _____

PPE:

- EYE PROTECTION
- HEAD COVER
- SAFETY SHOES
- AIR PURIFYING RESPIRATOR
 Half-Face Full-Face
- AIR SUPPLY RESPIRATOR
- GLOVES
- BOOTIES
- TYVEK SUIT

PURPOSE/TYPE OF WORK:

- HOT WORK
- MECHANICAL
- ELECTRICAL
- INSTRUMENT
- INSPECTION
- GRINDING
- CLEANING
- OTHER _____

SITE CONTROL:

- FENCE, STANCHION, TAPE
- SIGNS
- OTHER _____

ENTRANT/ATTENDANT COMMUNICATION:

- RADIO
- TELEPHONE
- VOICE
- VISUAL
- OTHER _____

HAZARDS:

- MECHANICAL
- ELECTRICAL
- CHEMICAL
- TEMPERATURE
- FALL/TRIP
- RADIOLOGICAL
- LIGHTING
- OTHER _____

RESCUE CONTACT:

- RADIO
- TELEPHONE (911 or 740-897-2444)
- OTHER _____

SAFETY/RESCUE EQUIPMENT

- FULL BODY HARNESS
- RETRIEVAL LINE
- LIGHT (Explosion Proof)
- FALL PREVENTION
- TRIPOD/WINCH
- WRISTLETS/ANKLETS
- O₂/LEL INSTRUMENT
- UNI-HOIST

SPECIAL INSTRUCTIONS

Permit Issued By:		Date:
Supervisor (printed):	Signature:	Date:
Date Released Permit Received By IH:		
Permit Reviewed by Confined Space Program Manager:	Date:	Signature:

Return Released Permit to Industrial Hygiene

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 37 of 40

Attachment A
CONFINED SPACE ENTRY PERMIT
Page 2 of 3



CONFINED SPACE ENTRY PERMIT
ATMOSPHERIC TESTING / SUPERVISOR / PERSONNEL LOG

Page ____ of ____

CSEP #: _____

ATMOSPHERIC TESTING LOG																
Date & Time	O ₂ (19.5-23.5%)	LEL (<10%)	Hydrogen Sulfide (<1ppm)	Carbon Monoxide (<25ppm)	Sulfur Dioxide (<0.3ppm)	Chlorine (<.5ppm)	Hydrogen Fluoride (<.5ppm)	()	Instrument Type and S/N	Calibration Due Date	Name/Badge of Tester					
SUPERVISOR LOG																
Date	Entry Supervisor (Printed)	Entry Supervisor (Signature)	Notify Rescue Service Availability (Initials)	Time (Begin/End)	Date	Entry Supervisor (Printed)	Entry Supervisor (Signature)	Notify Rescue Services Availability (Initials)	Time (Begin/End)							
PERSONNEL LOG																
Date	Authorized Entrant	Badge	Time In	Time Out	Date	Attendant	Badge									

Remarks: _____

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 38 of 40

Attachment A
CONFINED SPACE ENTRY PERMIT
Page 3 of 3



Page _____ of _____

CONFINED SPACE ENTRY PERMIT INSTRUCTIONS

CSEP is initiated by the Supervisor who has successfully completed “Confined Space Supervisor” training.

Guidelines are listed section by section and all information must be recorded in ink.

1. **CS Permit#:** Supervisor contacts OS&H to obtain a confined space entry permit number.
2. **Issued To:** List group, Organization or individual that the CSEP will be issued to (may be more than one group).
Note: Permit cannot be modified after Entrant/Attendants have signed onto it.
3. **Rescue Services:** Entry Supervisor is responsible for verifying the availability of rescue services when entry is being made. Validation is required to proceed with entry.
4. **Released By:** Signature of Supervisor is required to verify that PRCS activities have been completed.
5. **Date/Time:** Date and time CSEP is released.
6. **Location:** Specific location of where the PRCS entry will take place, e.g. vault #, equipment #, cell housing, etc.
7. **Duration – From & To:** This section is completed by the Supervisor and identifies the length of time that the CSEP is valid.
8. **Atmosphere Retest Interval:** This section identifies the time interval that the atmosphere must be re-monitored. This section is to be completed by personnel authorized to perform atmospheric monitoring.
9. **CS Participants Trained:** This section is completed by the supervisor. **Untrained personnel may not enter a PRCS or serve as an attendant.**
10. **Isolation, Atmosphere Control, PPE, Purpose/Type of Work, Site Control, Entrant/Attendant Communication, Hazards, Rescue Contact, and Safety/Rescue Equipment:** Requirements are completed by the supervisor after consulting with Radiation Protection, OS&H Support Personnel, and Fire Services, as required.
11. **Special Instructions:** List any special instructions or notes that are recommended by groups listed in item 9 above.
12. **Permit Issued By:** Supervisor or their designee in charge of the operation where the confined space entry will occur; prints, signs, and dates the CSEP when it is issued.
13. **Atmosphere Testing Log:** (Date, Time, Monitoring Equipment, etc.) is completed by personnel authorized to perform atmospheric monitoring.
14. **Supervisor Log:** The supervisor completes section of the Supervisor Log each day for the period of time that they are responsible for overseeing the work of employees in a confined space.
15. **Personnel Log:** This section must include the name(s) of all entrants and attendants, and all entry/exit dates and times. Additional space may be obtained by utilizing extra pages of this log.
16. Date released CSEP is received by IH.
17. Date released CSEP is reviewed and signed by the CSPM.

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 39 of 40

Attachment B
CONFINED SPACE IDENTIFICATION AND EVALUATION
Page 1 of 2



CONFINED SPACE IDENTIFICATION AND EVALUATION

Facility _____ Location _____ Date _____

Description _____ ID _____

Type of Work _____ Number of Employees _____

Hazards Associated with Confined Space: _____

Toxic Atmosphere _____

Oxygen Def/Enr Atmosphere _____

Flammable/Explosive Vapors _____

Electrical Hazards _____

Physical/Mechanical Hazards _____

Radiation/Contamination Exposure _____

Biological Exposure _____

Isolation from Rescue _____

Internal Configuration Entrapment _____

Restricted Entry _____

Rescue Access Inadequate _____

Hazardous Energy/Sources Adjacent to Space _____

Past/Current Use of Space Adversely Affecting Atmosphere _____

Likelihood that Any Hazard Could Occur _____

Consequences of Any Hazard Occurrence _____

Potential for Conditions/Activities to Change _____

Evaluated by: IH _____

Facility _____ Other _____

TITLE: Confined Space Program	FBP-IH-PRO-00049
	REV. NO. 7
	Page 40 of 40

Attachment B
CONFINED SPACE IDENTIFICATION AND EVALUATION
Page 2 of 2



INSTRUCTIONS

Hazards Associated with confined Spaces

Items in this section are to be answered yes or no. If appropriate, a brief clarifying statement may be entered.

Past/Current Use of Space Adversely Affecting Atmosphere

Examples are decomposition of materials during work, decomposition or reaction of materials with cleaning agents, operation of engine powered equipment, etc.

Likelihood That Any Hazard could Occur

Estimate the probability of hazard occurrence – from Certain to Impossible; has it happened before or professional opinion.

Certain 2 3 4 5 6 7 8 9 Impossible

Consequence of Any Hazard Occurrence

Consider the most likely outcome – such as explosion, asphyxiation, electrocution, etc.

Potential for Conditions/Activities to Change

Estimate the potential for change – from Certain to Slight; consider the before, during, and post entry situations. Judge, for instance, the effects of introducing cleaning agents, of changes in adjacent areas, of welding, etc.

Certain 2 3 4 5 6 7 8 9 Slight

Location of confined spaces – use geographic designation, which may include direction, distance, building reference point, etc.

Description – functional wording such as – manhole, tank, cell housing, valve vault, tunnel, lift station – is preferred.

ID numbers will be assigned by Industrial Hygiene Department.

Type of Work information should include the employee’s Division and whether or not the work is routine.