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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure defines the performance criteria and requirements for personnel entering confined spaces. This procedure provides uniform and effective control of entrance and work conducted within and nearby all confined spaces to minimize safety and health risks.

1.2 Scope

This procedure applies to confined space entries conducted by Four Rivers Nuclear, Paducah Deactivation and Remediation Project (PDRP) and subcontractors. This procedure implements requirements found in the Occupational Safety and Health (OSHA) Title 29 Code of Federal Regulations (CFR) § 1910.146, *Permit-required Confined Spaces*, OSHA Title 29 CFR § 1926 Subpart AA, *Confined Spaces in Construction*, and American National Standards Institute (ANSI) Z117.1, *Safety Requirements for Confined Space Entry*.

This procedure applies to personnel who own confined spaces, authorize entries into confined spaces, perform entries into confined spaces, supervise work within confined spaces, conduct evaluations for confined spaces, plan work for confined spaces, provide emergency response within confined spaces, conduct atmospheric testing within confined spaces and conduct other associated activities related to confined spaces.

Confined spaces are defined in Appendix A, *Acronyms/Definitions*, and generally include, but are not limited to, storage tanks, process vessels, boilers, ventilation ducts, sewers, utility openings, bins, elevator pits, manholes, storm drains, precast concrete and other pre-formed manhole units, lift stations, air receivers, and vaults. Open top spaces more than 4-feet deep such as diked areas, excavations, pits, trenches, etc., may also require special precautionary measures that are employed for confined space entry. (Depth is specified only as a guideline because it is possible for spaces less than 4-feet to have hazardous atmospheres). Under normal circumstances, the physical and operational characteristics of fan houses, spaces above suspended ceilings, attics, crawl spaces, vertical pipe chases, and basements do not warrant the restrictions generally imposed for confined space entry/work, unless a confined space type hazard is introduced into the space. Enclosed spaces, which are defined in Appendix A, *Acronyms/Definitions*, will require a hazard review of planned work activities in these spaces.

This procedure applies to construction activities for constructing new confined spaces or upgrading existing confined spaces.

EXCEPTION:

This procedure does not apply during off-shift emergency situations as declared by the Plant Shift Superintendent/Incident Commander who is the off-shift authority in confined space matters.

This procedure does not apply to construction work regulated by OSHA Title 29 CFR 1926 § P, *Excavations*, OSHA Title 29 CFR 1926 § S, *Underground Construction, Caissons, Cofferdams and Compressed Air* or OSHA Title 29 CFR § 1926 Subpart Y, Commercial *Diving Operations*.

2.0 REFERENCES

2.1 Use References

- CP2-SM-1000, *Activity Level Work Planning and Control Program*
- CP2-TR-0100, *Training Program*
- CP3-HS-2014, *Fall Prevention and Protection*
- CP3-RD-0010, *Records Management Process*
- CP3-QA-3002, *Operating Experience/Lessons Learned*

2.2 Source References

- 10 Code of Federal Regulations (CFR) § 851, *Worker Safety and Health Program*
- 29 CFR § 1910.146, *Permit-required Confined Spaces*
- 29 CFR § 1926 Subpart AA, *Confined Spaces in Construction*
- American National Standards Institute, Z117.1, *Safety Requirements for Confined Space Entry*
- CP3-EP-1020, *Emergency Communications*

3.0 COMMITMENTS

This procedure has been developed to implement applicable requirements from the following:

- 10 CFR § 851, *Worker Safety and Health Program*
- 29 CFR § 1910, *Occupational Safety and Health Standards*
- 29 CFR § 1926, *Safety and Health Regulations for Construction*
- American National Standards Institute Standards
- U. S. Department of Energy (DOE) Policy, 450.4, *Integrated Safety Management System Policy*

4.0 RESPONSIBILITIES

4.1 Safety & Health Manager

- Assigns an individual to serve as the Confined Space Coordinator.
- Provides staffing resources needed to assist the Confined Space Coordinator.
- Approves, on a case-by-case basis, the entry into Immediately Dangerous to Life or Health (IDLH) conditions, when controls have been put in place.

4.2 Confined Space Coordinator

- Provides overall confined space oversight and serves as the authority in confined space matters.
- Ensures requirements of this procedure are fulfilled by performing inspections and assessments.

4.3 Functional Managers

Ensures applicable confined space training is listed in Training Position Description (TPD) codes for individuals who plan work for confined space activities, own confined spaces, issue confined space permits, supervise confined space entry activities, perform work associated with confined spaces, perform atmospheric testing within confined spaces and who perform emergency response to individuals working in confined spaces.

4.4 Facility Manager

- Owns confined spaces within their facility.
- Serves as the Issuing Authority for issuing confined space permits.
- Ensures confined space locations are posted and legible, when required.
- Ensures operational acceptable entry conditions are implemented before issuing confined space permit to allow entry into a confined space.
- Communicates existing hazards and controls for subcontracted or construction work to be performed in owned confined spaces.

- Communicates past confined space lessons learned with work groups and contractors when applicable.
- Communicates to all work groups and contractors working near or in the confined space to avoid creating hazards that could impact the safety and health of other workers inside confined spaces.
- Ensures required associated permits are written and listed on the confined space permit for work in a confined space.
- Ensures confined space permits are issued.
- Requests Safety & Health (S&H) to evaluate and re-evaluate confined spaces, as needed.
- Issues confined space permits.
- Reviews this procedure annually or upon revision prior to issuing confined space permits.

4.5 Entry Supervisor

- Has overall responsibility for safe operations of workers performing confined space entries.
- Ensures pre-entry checks are performed and acceptable prior to allowing entry into a confined space.
- Accepts issued permit conditions by signing permit.
- Allows only work covered under the work scope of the confined space permit to be performed.
- Briefs workers on hazards and controls identified in work control documents and the confined space permit prior to allowing confined space entry.
- Pauses or terminate entry into a confined space when a prohibited condition arises in or near the confined space opening.
- Documents the termination of entry for each work day's conclusion.
- Ensures hazards are not introduced into the confined space from nearby operations, activities or other employers.
- Ensures fall prevention or fall protection is implemented to protect workers when fall hazards exist.
- Provides protective barriers, when necessary, to protect workers from external hazards in confined spaces.
- Coordinates entry operations with other work activities near the confined space entry location to avoid the potential for unintended consequences for creating new confined space hazards.

4.6 Attendant

- Ensures the health and safety of Entrants.
- Participates in briefings on hazards and controls identified in work control documents and the confined space permit prior to allowing confined space entry.
- Reviews the approved confined space permit.
- Participates in pre-entry checks, as applicable.
- Logs Entrants in and out of confined spaces.
- Frequently communicates with Entrants.
- Evacuates Entrants if conditions arise that could create a hazard, such as, the introduction of hazardous chemicals, hotwork activities or combustion contaminants within the confined space.

4.7 Entrant

- Ensures the protection of personal health and safety during entry.
- Participates in briefings on hazards and controls identified in work control documents and the confined space permit prior to entering confined spaces.
- Abides by conditions defined in training, this procedure, instruction from Attendant, confined space permit and the other hazard evaluation and control documents.

4.8 Safety & Health Programs

- Provides independent consultation services to Confined Space Coordinator upon request.
- Provides confined space support to assist projects with evaluating confined spaces and preparing confined space permits.
- Serves as the qualified and competent person for evaluating confined spaces and preparing confined space permits.

4.9 Fire Services

- Upon request, provides assessment for confined space fire protection concerns.
- Provides assessment for confined space emergency rescue.
- Develops rescue plans, when applicable.
- Participates in annual emergency confined space rescue training.
- Performs confined space rescue according to training received.

4.10 Training

- Provides applicable training to employees involved in associated confined space work activities.
- Develops, in conjunction with the Confined Space Coordinator, confined space training modules.

4.11 Projects and Construction

- Interfaces between subcontractors and S&H when subcontractor work activities involve confined spaces.
- Ensures construction work activities, during new construction or upgraded confined spaces, follow the requirements of this procedure before allowing entry.
- Owns confined spaces, as applicable, during new construction of confined spaces.
- Serves as the Issuing Authority, as applicable, for issuing confined space permits during new construction of confined spaces.
- Ensures acceptable entry conditions are implemented before issuing confined space permit, as applicable, during the new construction of confined spaces.
- Ensures, as applicable, required associated permits are written for work during new construction of confined spaces.
- Ensures confined space permits are issued, as applicable, during construction of new confined spaces.
- Requests S&H to evaluate and re-evaluate confined spaces, as needed, during new construction of confined spaces.
- Reviews this procedure annually or upon revision prior to issuing confined space permits, as applicable.

- Communicates, when serving as the confined space owner, to all work groups and contractors working near or in the confined space to avoid creating hazards that could impact the safety and health of other workers inside confined spaces.
- Debriefs subcontractors on confined space entry operations at conclusion of projects, when applicable.
- Completes CP3-HS-2055-F01, *Confined Space Entry Debriefing* form, as applicable.

4.12 Procurement

Ensures requirements within this procedure are included in subcontract flowdown documents.

4.13 Work Control

Initiates the work control process in accordance with CP2-SM-1000, *Activity Level Work Planning and Control Program* for evaluating hazards and identifying controls for confined space work activities to be performed.

5.0 GENERAL INFORMATION

5.1 Previously identified site confined spaces are grandfathered and evaluated prior to entry of these spaces. An inventory listing of these spaces are maintained by S&H.

5.2 This procedure employs a decision tree methodology based on definitions provided in OSHA 29 CFR § 1910.146, Permit-required Confined Spaces and OSHA 29 CFR §1926 Subpart AA, *Confined Spaces in Construction* to classify confined spaces as either “permit-required” or “non-permit”, as described in Appendix B, *Flow Diagram for Classifying Confined Spaces*.

5.3 Routine entry is not allowed under Immediately Dangerous to Life and Health (IDLH) conditions. Only under extreme circumstances when every effort has failed to eliminate the IDLH conditions will special entries be allowed. These entries must have approval by the S&H Manager or designee.

5.4 When fall hazards exist around or in a confined space, follow requirements in CP3-HS-2014, *Fall Prevention and Protection* and applicable hazard assessments for preventing or protecting workers from the hazard of falling.

5.5 Individuals who are assigned to the following position(s) with performance responsibilities are trained as required by the Training Position Description (TPD) for the position in accordance with CP2-TR-0100, *Training Program*:

- Supervisor Facility Manager
- S&H Manager
- Functional Manager
- Procurement Manager
- Project and Construction Manager
- Work Control Manager
- Subcontract Administrator Manager
- Training Manager
- Entrant

- Attendant
- Entry Supervisor

5.6 The TPDs noted above include required reading of this document.

6.0 INSTRUCTIONS

6.1 Confined Space Training

Training

6.1.1 Provide applicable confined space training to individuals whose work activities require them to acquire the understanding, knowledge, and skills necessary for the safe performance of their assigned duties associated with confined space work activities.

NOTE:
General confined space training is required for all individuals who are involved in confined space activities. Individuals who own confined spaces, issue confined space permits, and supervise confined space entry activities are required to attend additional confined space training for supervisors of confined space activities. Emergency rescue personnel are required to attend annual confined space rescue training.

Supervisor

6.1.2 Ensure confined space training is provided to each employee under the following conditions:

- **Before** there is a change in assigned duties which will require knowledge of confined space operations or issuance of a confined space permit;
- **If** a change in permit space operations presents a hazard that an employee has not previously been trained on;
- **If** there is reason to believe there are deviations from this procedure or there are inadequacies in the employee's knowledge or use of this procedure; **and**
- At the retrain interval designated by the applicable confined space training modules.

6.2 Identification/Classification of Confined Spaces

Facility Manger

6.2.1 Contact S&H to perform evaluation of potential confined spaces as needed.

S&H

6.2.2 Request the support of other disciplines, as needed, to classify confined spaces.

6.2.3 Complete CP3-HS-2055-F02, *Confined Space Evaluation* form to IDENTIFY **and** classify a confined space as a permit-required confined space or a non-permit confined space.

Confined Space Coordinator or Designee

6.2.4 Maintain an inventory of identified confined spaces. The inventory contains the following as a minimum:

- Location
- Classification, including hazards

Facility Manager

6.2.5 Ensure, in accordance with or equivalent to Appendix C, *Confined Space Signs*, Signs are posted at permit-required confined space, when required.

6.2.6 **If** determined conditions within a confined space have changed since initial classification, **then** contact S&H for reevaluation of the space.

NOTE:

Originally classified non-permit confined spaces, which meet the definition of a confined space but have never met the definition of a permit-required confined space, must be reevaluated if hazards are to be introduced into the space or the configuration of the space has changed. Examples of condition changes include, hot work activities, chemicals introduced, combustion equipment within 20 feet of confined space opening and fixed stairwell removal.

6.3 Temporary Reclassification of Permit-Required Confined Spaces

Facility Manager

6.3.1 Request S&H support for re-evaluating confined space classification.

S&H

6.3.2 Evaluate confined space, in conjunction with Facility Manager or designee, to determine whether space can be reclassified.

NOTE:

Permit-required confined spaces may be downgraded **IF** the permit space poses no actual or potential atmospheric hazards and if all confined space hazards within the space are eliminated without entry into the space.

6.3.3 **If** permit-required confined space can be downgraded to a non-permit confined space, **then** prepare/sign documentation titled "Downgrade Certificate" defining conditions for downgrading the space. A sample that can be used as a guide is found in Appendix D, *Downgrade Certificate Sample*

Facility Manager

6.3.4 **When** conditions of the downgrade certificate are met, **then** perform the following:

- Review/sign/retain the original downgrade certificate.
- Cover any applicable permit-required confined space signage with a copy of the downgrade certificate.
- Notify Entry Supervisor that space is ready to enter.

Entry Supervisor

6.3.5 Review downgrade certificate.

6.3.6 Brief workers to the conditions of the downgrade certificate.

6.3.7 **If** notified of changed condition within the downgraded permit-required confined space, **then** remove all Entrants from the space **and** notify Facility Manager.

Facility Manager

6.3.8 **If** notified of changed conditions within a downgraded permit-required confined space, **then** notify S&H of the changed condition **and** remove all copies of the downgrade certificate from the permit-required confined space signage.

S&H

6.3.9 **If** notified of changed conditions within a downgraded permit-required confined space, **then** reclassify the confined space, in conjunction with the Facility Manager, to a permit-required confined space.

Entry Supervisor

6.3.10 **If** work requiring entry into the downgraded space is complete, **then** notify Facility Manager.

Facility Manager

6.3.11 **If** notified work requiring entry into the downgraded space is complete, **then** remove all copies of downgrade certificate from the permit-required confined space signage.

6.3.12 Maintain downgrade certificate records in accordance with CP3-RD-0010, *Records Management Process*.

6.4 Confined Space Administration

Facility Manager

6.4.1 Generate work request for work needed to be performed in confined spaces.

Work Control

6.4.2 Initiate the work control process in accordance with CP2-SM-1000, *Activity Level Work Planning and Control Program* for evaluating hazards and identifying controls for confined space work activities to be performed, as described in Appendix E, *Safe Work Practices and Controls*.

Procurement

6.4.3 Flowdown requirements within this procedure in contract documents for subcontracted work involving confined space entry.

Facility Manager

6.4.4 Review work control documents in accordance with CP2-SM-1000, *Activity Level Work Planning and Control Program* for evaluating hazards and identifying controls for confined space work activities to be performed.

6.5 Confined Space Permit Preparation and Revisions

Facility Manager

6.5.1 Notify S&H of any planned job tasks involving confined space entry at least five working days before the start of any work activities, if it all possible, to avoid delays due to time needed to perform confined space evaluation and permit preparation.

6.5.2 Contact S&H to assist with determining acceptable confined space entry conditions for preparing the confined space permit.

NOTE:

Non-entry rescue, as described in Appendix G, *Safety Retrieval Equipment*, is required unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the Entrant. Written justification for not requiring non-entry rescue must be documented and approved by the S&H Manager or designee.

When non-entry rescue is not being required, **then** a rescue entry team is required to be at the permit-required confined space location ready to make rescue entry.

S&H

6.5.3 Prepare, in conjunction with Facility Manger or designee, CP3-HS-2055-F03, *Confined Space Entry Permit* form as described in Appendix F, *Instructions for Completing Confined Space Entry Permit*.

NOTE:

Draft copies of CP3-HS-2055-F03, *Confined Space Entry Permits* are not to be distributed for review due to the potential for miscommunication.

If a potential for atmospheric hazards exist, **then** continuous atmospheric monitoring is required, unless periodic monitoring can be performed at a sufficient frequency to ensure acceptable entry conditions are maintained, as determined by S&H.

If a potential for atmospheric hazards exist, **then** the space must be ventilated, unless the ventilation equipment blocks means of access or egress. Supplied-air respirators would be required if ventilation is not feasible.

If a potential for flammable/explosive atmosphere exists, **then** equipment must be bonded and grounded to eliminate static energy

Facility Manager

6.5.4 Ensure acceptable entry conditions prior to issuing the confined space permit.

6.5.5 Obtain applicable concurrent signatures.

6.5.6 Issue/sign the confined space permit to the Entry Supervisor.

6.5.7 **If** a revision to an active confined space permit is required, **then:**

- Inform Entry Supervisor to terminate entry operations.
- Ensure all Entrants have exited the space.
- Remove the permit from the confined space entry job location.
- Inform Entry Supervisor to ensure all personnel that were logged on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* have logged off.
- Contact H&S to assist in revising the permit.
- Contact Entry Supervisor of revised changes to the permit.

NOTE:

Confined space permits can only be revised under the jurisdiction of S&H.

Entry Supervisor

6.5.8 Brief workers to the revised changed permit conditions.

6.6 Pre-entry Checks for Permit-Required Confined Space

Facility Manager/Entry Supervisor/Attendant/Entrant/S&H

6.6.1 Ensure required training has been attended and is current for confined space work activities.

Entry Supervisor

6.6.2 Review confined space permit with Facility Manager for content and signatures.

6.6.3 Ensure the confined space is properly posted.

NOTE:

While posting is the preferred method of identifying a permit-required confined space, posting is not required for a permit space whose only means of access necessitates the use of tools or keys. Such permit spaces may include: oil circuit breakers (OCBs), transformers, utility manholes, synchronous condensers, process piping, elevator pits, etc.

6.6.4 **If** confined space is **NOT** posted, and is required by this procedure, **then** contact Facility Manager.

Facility Manager

6.6.5 Post confined space signage, if applicable, as described in Appendix C, *Confined Space Signs*

Entry Supervisor

6.6.6 Designate trained entrants and attendants for confined space work activities.

6.6.7 Brief the following requirements, at a minimum, of the confined space entry permit with Entrants and Attendants:

- Hazards that may be faced during entry;
- Hazards that may be faced around the space;
- Signs and symptoms of exposure;
- Consequences of exposure.

6.6.8 **If** entrant or attendant expresses concern regarding entry to be made, **then** postpone entry until concerns regarding entry are resolved.

6.6.9 Ensure engineering controls such as, lighting and ventilation, are properly utilized.

NOTE:

When air supply ventilation is required, the air supply must be from a clean source and the equipment does **NOT** increase the hazards in the confined space.

6.6.10 Ensure confined space designated personal protective equipment (PPE) and other safety-related equipment is obtained and visually inspected before each use.

6.6.11 Ensure atmospheric tests are completed/documented and within acceptable limits as documented on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log*.

Entrant

6.6.12 Visually inspect PPE and other safety-related equipment specified on confined space permit.

Entry Supervisor

6.6.13 Ensure communication method(s) are understood and tested between Attendant and Entrant.

Attendant

6.6.14 Test communication method(s) with Entrant.

Entry Supervisor

6.6.15 **If** retrieval system is required by the confined space permit, **then** ensure retrieval line is attached to a fixed point or mechanical lifting device as described in Appendix G, *Safety Retrieval Equipment*.

S&H

6.6.16 **If** atmospheric testing is required by the confined space permit, **then** perform the following:

- **If** continuous monitoring is required, **then** record results every **2 hours**.
- **If** continuous monitoring is **not** required, **then** perform atmospheric testing at the frequency listed on the confined space permit.

NOTE:

Any individual may perform atmospheric testing when deemed qualified by S&H and according to CP2-TR-0100, *Training Program*.

6.6.17 Record the following on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log*:

- Date/Time
- Results of data tested
- Instrument type and serial number
- Calibration due date
- Signature and badge number of tester
- Remarks (if actions taken for deviations needed)

Entry Supervisor

6.6.18 Review atmospheric test results.

6.6.19 **If** results of atmospheric test are outside of acceptable limits, **then** perform the following:

- Postpone entry.
- Take action to establish acceptable entry conditions.

6.6.20 **If** entry conditions are acceptable or **when** entry conditions are made acceptable, **then** post original issued confined space permit at the entry point or by any effective means to make permit available for Entrants and Attendants.

6.6.21 Confirm conditions have **not** changed since last atmospheric testing was performed, if applicable.

6.6.22 Verify atmospheric retesting is performed when personnel have vacated the space at the retest

interval prescribed on the permit, as applicable.

Attendant

6.6.23 Ensure communication methods/equipment for maintaining frequent contact with Entrants is established and that the equipment is working properly.

Entry Supervisor

6.6.24 Ensure communication methods/equipment for summoning emergency/rescue personnel is established and that the equipment is working properly.

6.7 Entry into Permit-Required Confined Space

Entry Supervisor

NOTE:

The Entry Supervisor also may serve as an Attendant or Entrant as long as that individual is trained and equipped as required for each role fulfilled. The duties of an Entry Supervisor may be passed from one properly trained individual to another during the course of the entry operation by documenting on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log*.

6.7.1 Log in the date, name, badge number and begin time on Entry Supervisor section of CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form.

6.7.2 Ensure unauthorized Entrants are removed from permit spaces.

6.7.3 **Before** authorizing performance of a non-permitted task that could create a prohibited condition, NOTIFY the Facility Manager.

6.7.4 **If** a prohibited condition arises in or near the permit required confined space, **then** terminate entry operations, remove permit **and** notify Facility Manager.

NOTE:

Confined space permits shall be immediately paused or canceled when conditions or work activities are different than those specified on the permit(s) and/or a new hazard is introduced within the confined space.

6.7.5 Monitor surrounding weather conditions to identify potential upstream conditions affecting entries made downstream, i.e., engulfment from flash flood runoff.

6.7.6 **If** responsibility for a permit space entry operation is transferred, **then** perform the following:

- Ensure entry operations remain consistent with terms of entry permit.
- Ensure acceptable entry conditions are maintained.
- **When** entry operations covered by the confined space permit are completed, **then** terminate entry **AND** log out the date and time on the Entry Supervisor section of CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form.

NOTE:

Entry Supervisor shall log in and out on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form each day they oversee entry operations. Log in and out times can be both logged in at the beginning of the shift for Entry Supervisor only.

6.7.7 Provide feedback and lessons learned in accordance with CP2-SM-1000, *Activity Level Work Planning and Control Program* and CP3-QA-3002, *Operating Experience/Lessons Learned*.

Attendant

NOTE:

While being the Attendant, **NEVER** enter a confined space for any reason without the proper PPE, required training, entry authorization and before being relieved of the Attendant duties.

6.7.8 Log in the date, name, badge number and time on Attendant section of CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form.

6.7.9 **When** Entrant enters confined space, **then** log in the Entrant on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form.

6.7.10 Monitor activities inside and outside the confined space during entry work.

6.7.11 Maintain frequent contact with Entrant by methods specified on the confined space permit.

6.7.12 Identify conditions which could create a hazard to Entrant (examples: non-permitted introduction of hot work or cleaning agents, weather changes, or filling of adjacent tank).

6.7.13 **If** any of the following occur, **then** evacuate Entrant in confined space as quickly as possible:

- Atmospheric testing or safety-related device alarms.
- Prohibited condition is observed.
- Behavioral effects from hazard exposure is detected.
- Additional hazards are suspected.
- Attendant must leave the work station.
- An evacuation alarm is activated or an order to evacuate is received.

6.7.14 Remain at the entry point during the confined space entry unless relieved by another Attendant.

NOTE:

Attendant may be assigned to monitor more than one permit-required confined space, and may provide other minimal tasks, such as, passing tools to an Entrant provided the duties described in this section can be effectively performed for each permit-required confined space that is monitored.

6.7.15 Perform only those duties which support primary duty to monitor and protect the Entrant.

A. **If** monitoring more than one space, **then** maintain communication contact with the Entrants,

B. **If** passing tools to Entrant, **then** pre-stage tools at the confined space opening.

C. **When** passing tools to Entrant, do **NOT** break the plane of the confined space opening with any part of the body.

6.7.16 **If** it is determined an emergency exists and an emergency escape from the space is necessary, **then** perform the following:

- Summon rescue or other emergency services according to methods identified on the confined space permit;
- Perform non-entry rescue, if applicable;
- **If** entry rescue is required, **then** stay at the entrance until the Rescue Services arrives to perform entry rescue.

6.7.17 **If** unauthorized person approaches a permit-required confined space while entry is under way,

then direct unauthorized person to stay away.

6.7.18 **If** unauthorized person enters a confined space while entry is underway, **then** take the following actions, as necessary:

- Request unauthorized person to exit immediately.
- Inform Entrant and Entry Supervisor.

6.7.19 **If** relieved of Attendant duties, **then** document turnover on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form.

6.7.20 **When** Entrant leaves confined space, **then** log Entrant out CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form.

6.7.21 **Before** the logging out on CP3-HS-2055, *Personnel/Atmospheric Testing Log* form, ENSURE all Entrants have exited the space and been logged out on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form.

6.7.22 Log out on CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log* form each time before leaving the space.

6.7.23 Provide feedback and lessons learned in accordance with CP2-SM-1000, *Activity Level Work Planning and Control Program* and CP3-QA-3002, *Operating Experience/Lessons Learned*.

Entrant

6.7.24 **Only** perform work covered by confined space permit.

NOTE:
NEVER enter a permit-required confined space without proper PPE, training, permit, hazard analysis and control briefing and authorization by the Entry Supervisor.

6.7.25 **Only** use confined space and safety-related equipment specified on confined space permit.

6.7.26 Maintain contact with Attendant by methods listed on confined space permit.

6.7.27 **If** any of the following occurs, **then** Alert Attendant and exit the confined space as quickly as possible:

- Atmospheric testing or safety-related device alarms.
- Prohibited condition is observed.
- Behavioral effects from hazard exposure is detected.
- Additional hazards are suspected.
- Attendant or Entry Supervisor orders evacuation.
- An evacuation alarm is activated or an order to evacuate is received.

6.7.28 Provide feedback and lessons learned in accordance with CP2-SM-1000, *Activity Level Work Planning and Control Program* and CP3-QA-3002, *Operating Experience/Lessons Learned*.

6.8 Permit Release

Entry Supervisor

6.8.1 After completion of work, return the confined space permit to Facility Manager for closure.

Facility Manager

6.8.2 Close permit by signing.

6.8.3 Forward closed confined space permit and attachments to the Confined Space Coordinator.

Confined Space Coordinator

6.8.4 Review **AND** sign/initial closed confined space permit and associated attachments annually or individually, as needed, for compliance and possible improvements to this procedure.

6.8.5 Provide feedback and lessons learned in accordance with CP2-SM-1000, *Activity Level Work Planning and Control Program* and CP3-QA-3002, *Operating Experience/Lessons Learned*.

6.9 Subcontractor and Construction Confined Space Activities

Projects and Construction

6.9.1 Interface between subcontractors and S&H when subcontracted work activities involve confined spaces.

6.9.2 Review work scope, plans and specifications to identify probable, existing or temporary confined spaces.

6.9.3 Contact Facility Manager when subcontracted work is to be performed in existing confined spaces.

Facility Manager

6.9.4 Follow requirements of this procedure for evaluating, classifying, identifying and controlling hazards involving subcontracted work in existing confined spaces.

Projects and Construction

6.9.5 Serve as the confined space owner and Issuing Authority for subcontracted work involving the constructing of new confined spaces.

6.9.6 Follow requirements of this procedure for evaluating, classifying, identifying and controlling hazards involving subcontracted work involving the constructing of new confined spaces.

6.9.7 For constructing new confined spaces, notify S&H of any planned job tasks involving confined space entry at least five working days before the start of any work activities, if it all possible, to avoid delays due to time needed to perform confined space evaluation and permit preparation.

6.9.8 Communicate, for work involving the constructing of new confined spaces, to all work groups and contractors working near or in confined spaces to avoid creating hazards that could impact the safety and health of other workers inside confined spaces.

6.9.9 Debrief subcontractors on confined space entry operations at conclusion of projects, when applicable.

NOTE:

Debriefing subcontractor on confined space entry operations is only required for permit-required confined spaces. Debriefing activities are not required for limited work scopes such as inspection, measurements, etc.

6.9.10 Complete CP3-HS-2055-F01, *Confined Space Entry Debriefing* form.

6.9.11 Forward to Confined Space Coordinator after completion.

Confined Space Coordinator

6.9.12 Review CP3-HS-2055-F01 for possible improvements to this procedure.

6.9.13 Provide feedback and lessons learned in accordance with CP2-SM-1000, *Activity Level Work Planning and Control Program* and CP3-QA-3002, *Operating Experience/Lessons Learned*.

7.0 RECORDS

7.1 Records Generated

The following records may be generated by this procedure:

- CP3-HS-2055-F01, *Confined Space Entry Debriefing*
- CP3-HS-2055-F02, *Confined Space Evaluation*
- CP3-HS-2055-F03, *Confined Space Entry Permit*
- CP3-HS-2055-F04, *Personnel/Atmospheric Testing Log*
- Downgrade Certificate Documentation

7.2 Records Disposition

The records are to be maintained in accordance with CP3-RD-0010, *Records Management Process*.

Appendix A – Acronyms/Definitions

ACRONYMS

ACGIH - American Conference of Governmental Industrial Hygienists

ANSI - American National Standards Institute

CFR - Code of Federal Regulations

DOE - Department of Energy

HSS&Q - Health, Safety, Security & Quality

IDLH - Immediately Dangerous to Life or Health

LEL - Lower Explosive Limit

OSHA - Occupational Safety and Health Administration

PDRP - Paducah Deactivation and Remediation Project

PEL - Permissible Exposure Limit

PPE - Personal Protective Equipment

SCBA - Self-Contained Breathing Apparatus

S&H - Safety and Health

TLV - Threshold Limit Value

TPD - Training Position Description

DEFINITIONS

Acceptable Entry Conditions - The conditions that must exist in a confined space to allow entry and to ensure that employees involved with a confined space entry can safely enter into and work within the space.

Attendant - A trained individual stationed outside one or more permit-required confined space(s) who monitors Entrants and who performs all Attendants' duties assigned in this procedure.

Blinding/Blanking - Inserting a solid barrier across the open end of a pipe leading into or out of the confined space, and securing the barrier in such a way to prevent leakage of material into the confined space.

Competent Person - For the purpose of this procedure, one who is capable of identifying existing and predictable confined space hazards in the surroundings or working conditions which are hazardous or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.

Confined Space - An area that has ALL of the following characteristics:

- Is large enough and so configured that an individual can bodily enter and perform assigned work, meaning to ingress the entire body into the space; **AND**
- Has limited or restricted means for entry or exit, meaning the use of hands, contort the body or have external assistance to enter/exit the space; **AND**
- Is not designed for continuous employee occupancy, meaning the primary function and/or design are something other than continuous human occupancy.

Confined Space Coordinator - The individual responsible for managing and providing programmatic oversight for confined space operations at PDRP.

Confined Space Owner - The Supervisor or manager who has direct operating authority over the confined space that coordinates and controls work activities within the confined space.

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.

Downgrade Certificate - Documentation explaining the conditions allowing a particular permit-required confined space to be downgraded to a non-permit-required confined space. Downgrading of the space is temporary and is dependent on a specific scope of work being performed in the space.

Appendix A – Acronyms/Definitions (Continued)

Enclosed Space – A space that does not completely meet all three criteria to be defined as a confined space, which is enclosed by walls or 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.

Emergency - Any occurrence internal or external to the space that could endanger Entrant.

Rescue Services (Fire Services) -. The Rescue Services personnel are trained to perform various emergency response functions, including firefighting, rescue, response as hazardous materials technicians, and emergency medical services.

Engulfment - The surrounding or trapping of a person by divided particulate matter or liquid.

Entrant - A person who is trained and authorized by the Entry supervisor to enter and perform work within a permit-required confined space.

Entry – Ingress into a permit-required confined space and/or work within a confined space, including breaking the plane of the confined space opening with any part of the body.

Entry Supervisor - Person trained and 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.

Facility Manager - The person who has direct operating authority over the facility or equipment where work is specified by the Confined Space Entry Permit is being performed.

Supervisor - First-line of supervision that has responsibilities in this procedure for employees.

Hazardous Atmosphere - An atmosphere presenting a potential for death, disablement, injury, or acute illness from one or more of the following causes:

- A flammable gas, vapor or mist at 10% of its Lower Explosive Limit (LEL);
- An oxygen-deficient atmosphere containing less than 19.5% oxygen by volume or an oxygen-enriched atmosphere containing more than 23.5% oxygen by volume;
- An atmospheric concentration of any substance listed in OSHA 29 CFR 1910 Subpart Z standard above the listed numerical value of the Permissible Exposure Limit (PEL) or above the listed Threshold Limit Value (TLV) published by the American Conference of Governmental Industrial Hygienists (ACGIH). An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury or acute illness due to its health effects is not covered by this definition.
- A condition Immediately Dangerous to Life or Health (IDLH), as defined in OSHA 29 CFR 1910 Subpart Z standard. For air contaminants for which OSHA has not determined a dose or PEL, other sources of information, such as Safety Data Sheets can provide guidance in establishing atmospheric conditions.
- Airborne combustible dust at a concentration that meets or exceeds its Lower Flammable Limit. This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.

Hotwork - Work within a confined space that produces arcs, sparks, flames, heat or other sources of ignition.

Immediately Dangerous to Life or Health - 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 confined space.

Inerting - Displacement of the atmosphere by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is nonflammable.

Isolation - A process of physically interrupting or disconnecting pipes, lines, and energy sources from a confined space.

Issuing Authority - The Supervisor or manager who is directly responsible for issuing the Confined Space Entry Permit. The Issuing Authority must have a working knowledge of the facility, areas of responsibility and understand the known and potential hazards and consequences involved with confined space operations. The Issuing Authority is usually the Confined Space Owner or Facility Manager but can be the Entry Supervisor. The Plant Shift Superintendent may serve as Issuing Authority on off-shifts, weekends or during emergency situations if they are knowledgeable and have appropriate experience and training.

Line Breaking - The intentional opening of a pipe, line, or duct sufficient to prevent passage of materials that contain (or have contained) flammable, corrosive, or toxic material, an inert gas, or any fluid at a pressure or temperature capable of causing injury.

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

Permit-Required Confined Space - A confined space that has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere;
- Contains a material that has the potential for 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; or
- Contains any other recognized serious safety or health hazard.

Physical Hazard - An existing or potential hazard that can cause death or serious physical damage. Examples include, but are not limited to: explosives, mechanical, electrical, hydraulic and pneumatic energy, radiation, temperature extremes, engulfment, noise, and inwardly converging surfaces. Physical hazard also includes chemicals that can cause death or serious physical damage through skin or eye contact, rather than through inhalation.

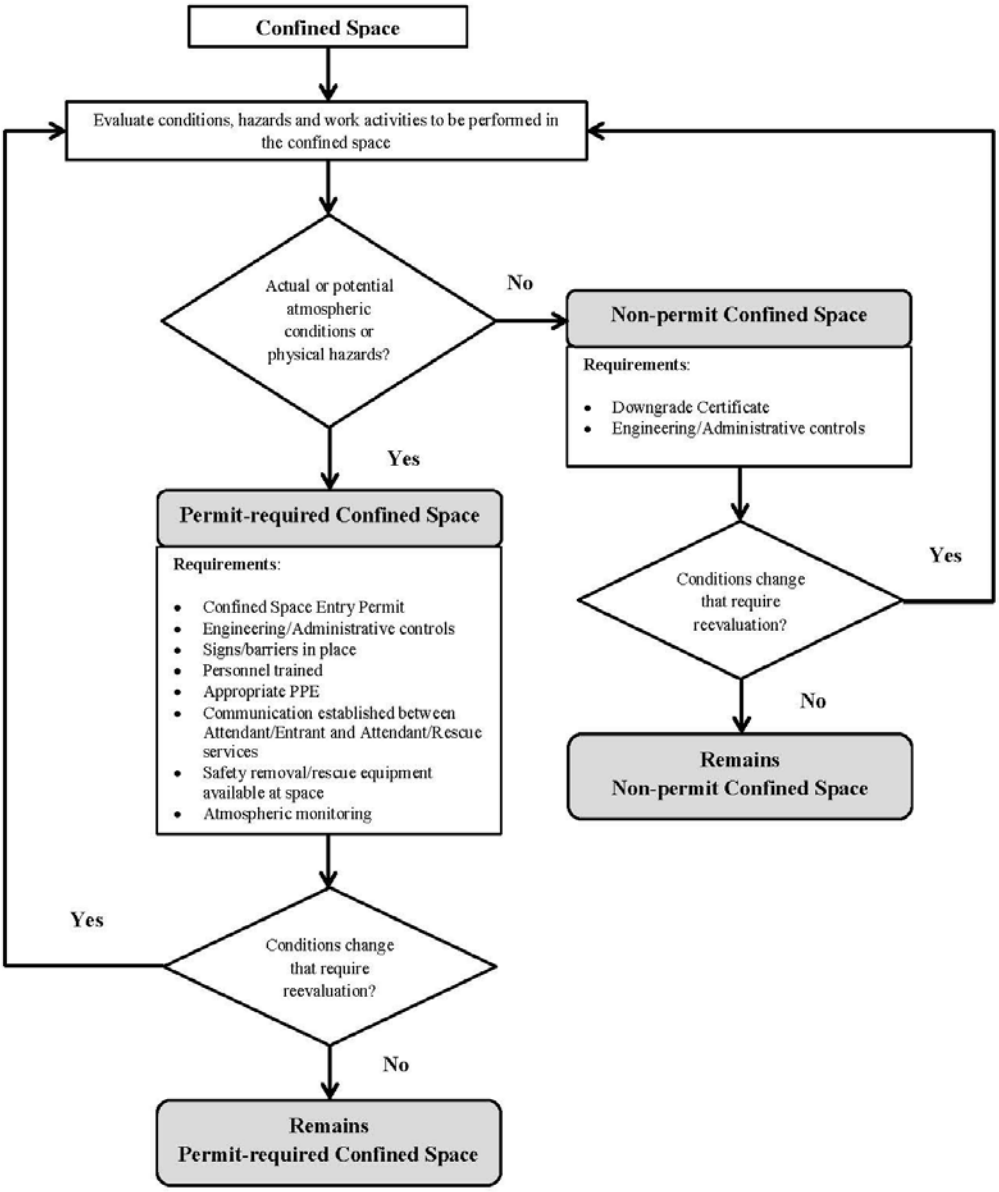
Prohibited Condition - Any condition in a confined space that is not allowed by the Confined Space Entry Permit during the period when entry is authorized.

Qualified - For the purpose of this procedure, one who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems relating to confined space entry operations.

Retrieval Line – A line or rope secured at one end to a worker's safety belt, chest, or body harness, or wristlets with the other end secured to an anchor point or lifting device located outside the entry portal of the confined space.

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

Appendix B – Flow Diagram for Classifying Confined Spaces



Appendix C – Confined Space Signs

The primary purpose of posting signs for identification of confined spaces is to prevent inadvertent (i.e., accidental) entry by personnel at PDRP site locations. Posting of danger signs for confined spaces that require a permit for entry shall include, but not necessarily be limited to, the following information:

Any alternative measures deemed as equally effective to posting for specified confined spaces shall be approved by S&H.

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, removable barricades shall be used to prevent inadvertent entry.

Signs shall be maintained in legible condition.

Appendix D – Downgrade Certificate Sample

CONFINED SPACE REQUIREMENTS

Downgrade Certificate Number: 14-631-06
Location: C-633 33J Vault
Task: Valving

DOWNGRADING OF PERMIT REQUIRED CONFINED SPACE

This job is being performed in a confined space. This space has been evaluated and determined not to contain any actual or potential atmospheric or physical hazards and therefore does not require a Confined Space Entry Permit.

LIMITATIONS:

1. Accumulations of water which will interfere with entry must be pumped out prior to entry.
2. All fuel powered equipment must be kept downwind from the space.
3. No materials which could produce a hazardous atmosphere are to be introduced into the vault.
   (Contact Industrial Hygiene for necessary approvals.)
4. The vault must be monitored (Oxygen, LEL, CO, H2S) by Safety and Health prior to **initial** entry.

Monitored by: _____ Date: _____

5. No welding/torching is allowed.
6. Isolate applicable lines (e.g., liquid, gas) prior to opening such lines in space.

This determination was made by: _____ on ____/____/____.
Safety and Health Signature Date

The above conditions have been fulfilled: _____ ____/____/____.
Supervisor in Charge Signature Date

If you have any questions or concerns about the hazards or their controls, contact Industrial Hygiene. When all the above conditions have been fulfilled entry is allowed without a confined space entry permit.

NOTE

The original copy of this downgrade certificate is keptwith Facility Manager.
A copy (marked copy) will be posted at the space.
If the above conditions change or work is completed, Utilities will remove this downgrade certificate immediately.
A copy (marked copy) will be given to all work groups performing work under this downgrade.

This Downgrade Certificate EXPIRES on 4/24/14, at 2400.

Appendix E – Safe Work Practices and Controls

Page 1 of 2

The following shall be used as appropriate to minimize the hazards of confined space entry:

Warning Systems and Barricades

- Warning systems or barricades will be used at the entrance(s) to all confined spaces that have the potential for objects or persons to fall into the space. Such protection shall not affect the ventilation of or egress from the confined space.

Entry and Exit

- Safe entry and exit for Entrants shall be provided by such means as ladders and/or other equipment.

Isolation and Lockout/Tagout

- Isolation and lockout/tagout shall be applied to lines/systems servicing (or located within) confined spaces where toxic, injurious or hazardous materials pose a high risk to personnel due to the potential for engulfment, high temperature, high pressure, etc. Isolation methods are blinding, blanking, double block and bleed, and disconnection. When using double block and bleed measures, assurance must be made that the bleed valve is not inadvertently plugged.
- Consideration shall be given to the compatibility of the isolation material with the contents of the system being isolated. All isolated systems shall be tagged out.
- Specific methods of isolation shall be determined by the Facility Manager based on consultation of the Entry Supervisor with the Confined Space Coordinator, S&H and others (Subcontractor Safety and Health Representative) as appropriate.

Lockout/Tagout

- The Lockout/Tagout procedure shall be used for electrical or mechanical systems servicing (or located within) confined spaces and verified prior to permitting entry.

Purging/Flushing/Ventilation

- Confined spaces shall be emptied, flushed, or otherwise purged of flammable, injurious, or incapacitating substances to the extent feasible prior to entry.
- Mechanical ventilation shall be used to reduce and maintain hazardous contaminants to safe levels as necessary.
- Ventilation shall be maintained during confined space occupancy if there is a potential for atmospheric change to unacceptable levels. If safe levels cannot be achieved, additional ventilation or other engineering controls will be implemented to reduce contaminants to the lowest level feasible, and adequate PPE will be provided.
- The use of mechanical ventilation shall not automatically justify the reclassification of a confined space entry.
- Pure oxygen shall **not** be used to ventilate a confined space.

Appendix E – Safe Work Practices and Controls (Continued)
Page 2 of 2

Atmospheric Testing and Surveillance

- Atmospheric testing of confined spaces is required prior to entry, unless otherwise directed by S&H or in the approved written document.
- Atmospheric testing sequence shall be representative of the entire area of the confined space, as applicable.
- S&H shall determine whether continuous monitoring is required for permit-required confined space entries.

Lighting

- All lighting used in confined spaces containing or potentially containing flammable vapors or explosive dusts must be approved as explosion-proof lighting. This requirement also applies to low-voltage lighting such as droplights and flashlights.
- All 110-volt, cord-connected lighting will be supplied with a ground-fault circuit interrupter.

Electrical Equipment

- Power tools used in confined spaces shall be pneumatic or electric. Electric hand tools shall be explosive proof if used in flammable/explosive atmospheres.
- All power tools used in confined spaces shall be protected by a ground-fault circuit interrupter.

Non-powered Hand Tools

- Non-powered hand tools used in confined spaces containing or potentially containing flammable vapors or explosive dusts must be spark-proof or spark-resistant.

Compressed Gas/Flame-Producing Equipment

- Compressed gas cylinders shall not be taken into confined spaces with the exception of Self-Contained Breathing Apparatus (SCBA) and resuscitation equipment, which are permitted.
- Welding equipment shall not be used in confined spaces containing or potentially containing flammable vapors, explosive dusts, or explosive materials.
- Confined spaces Entrants shall not carry non-authorized spark or flame-producing devices including lighters or matches into confined spaces. Welding and cutting operations conducted in confined spaces shall be adequately ventilated to prevent accumulation of toxic materials or possible oxygen deficiency.
- When arc welding is to be suspended for any substantial period of time (i.e., one hour or greater), all electrodes shall be removed from the holders and the holders carefully located so that accidental contact cannot occur and the machine is disconnected from the power source.
- Torch valves shall be closed and the fuel-gas and oxygen supply to the torch positively shut off at some point outside the confined space whenever the torch is not to be used for a substantial period of time. Where practicable, the torch and hose shall be removed from the confined space.
- Special attention shall be used to avoid introducing inert gases, such as, nitrogen and agron, into confined spaces or around confined spaces. Controls will need to be established and documented if inert gases are to be introduced in or around confined spaces. Inert gases can displace oxygen and can generate an asphyxiant hazard to individuals inside the confined space.

Appendix F – Instructions for Completing Confined Space Entry Permit
Page 1 of 3

The following is a descriptive list of the information found on the CP3-HS-2055-F03, *Confined Space Entry Permit*. This is an aid in completing the form.

1. **Duration** - Specifies when entry is allowed into the confined space. Duration of the Confined Space Entry Permit shall not exceed the time expected to complete the described task. The duration shall not exceed a maximum of 1 year unless otherwise directed by S&H.

2. **Permit Number** - A unique number assigned to the Confined Space Entry Permit. Permit numbers shall be unique to individual area/building where originated unless otherwise directed by S&H. Example permit numbers for building 333 would 95-333-1, 95-333-2, etc. Whereas 95 is the year, 333 is the building; 1 or 2 and so on for sequential number.

3. **Location** - Exact location of space (building, system, etc.)

4. **Hazards of the Confined Space** - Hazards associated with entering the confined space (examples: mechanical equipment, hazardous atmosphere, engulfment, flammability).

5. **Task Description** - Detailed description of tasks which are to be performed or materials which will be used in confined space.

6. **Associated Permits** - A list of permits that will be issued for the described task.

7. **Isolation** - Control measures used to isolate the potential hazards associated with the confined space.

8. **Atmospheric Controls** - Control measures implemented to remove or prevent the creation of a hazardous atmosphere.

9. **Site Controls** - Control measures implemented to warn personnel of hazards and to protect Entrants from hazards outside the confined space during entry.

10. **Atmospheric Testing Frequency** - Required frequency of atmospheric testing**.**

11. **Atmospheric Testing** - Hazards that will be monitored to ensure safe entry conditions.

12. **Rescue Services** - Does a member or members of the Rescue Services need to be on standby at the permit-required confined space?

13. **Entrant & Attendant Communication** – How will the Attendant communicate with the Entrant?

14. **Attendant & Rescuer Communication** – How will the Attendant summon rescue personnel?

15. **Respiratory Protection** - Respiratory protection control measures required to perform the job safely.

16. **Personal Protective Equipment** - PPE required to perform the job safely.

17. **Special Rescue Equipment** - Rescue equipment that is designed to aid in the rescue of Entrants during an emergency.

18. **Special Instructions** - Additional information concerning the confined space entry that must be communicated to the Entry Supervisor, Attendant, Entrants and atmospheric testing personnel.

19. **Further Evaluation** - Disciplines required to provide further evaluation.

19a. S&H - S&H representative or designee shall sign this section.

19b. **Fire Services** - Contact Fire Services if other than normal fire protection requirements are needed or when special rescue techniques are warranted. If Fire Services determines a review is needed, check the "yes" box and obtain a Fire Service representative's signature.

20. **Permit Issued By** - Signature, time, and date of the Issuing Authority individual issuing the permit.

21. **Permit Closed By** - Signature, time, and date of the Issuing Authority individual closing the permit.

22. **Permit Reviewed By** - Signature, time, date of Confined Space Coordinator or designee reviewing closed Confined Space Entry Permit and associated supplements for compliance, evaluating test results, and possible improvements to the confined space process.

Appendix F – Instructions for Completing Confined Space Entry Permit (Continued)

Page 3 of 3

Confined Space Entry Permit

DURATION FROM: (date/time): (1) | DURATION TO: (date/time): | PERMIT NUMBER: (YY/BLDG/No) (2)

LOCATION: (3)

HAZARDS OF THE CONFINED SPACE: (4)

TASK DESCRIPTION: (5)

ASSOCIATED PERMITS: RWP: _____ LOTO: _____ (6) LOTO: _____ LOTO: _____ Welding and Burning: ☐ Yes ☐ No ☐ And as specified in Special Instructions

ISOLATION: (7)
- ☐ LOTO of energy sources
- ☐ Blinding/Blanking/Line Break
- ☐ Double Block and Bleed
- ☐ Not required
- ☐ As specified in Special Instructions

ATMOSPHERIC CONTROLS: (8)
- ☐ Purge
- ☐ Inert
- ☐ System above atmosphere
- ☐ System maintained at or below atmosphere
- ☐ System maintained below atmosphere
- ☐ Exhaust Ventilation
- ☐ Supply Ventilation
- ☐ Not required
- ☐ As specified in Special Instructions

SITE CONTROLS: (9)
- ☐ Barriers (post & flag)
- ☐ Signs
- ☐ Not required
- ☐ As specified in Special Instructions

ATMOSPHERIC TESTING FREQUENCY: (10)
- ☐ Initial
- ☐ Each shift
- ☐ Initial \ Re-entry
- ☐ Continuous
- ☐ Not required
- ☐ As specified in Special Instructions

ATMOSPHERIC TESTING: (11)
- ☐ Oxygen
- ☐ LEL
- ☐ As specified in Special Instructions
- ☐ Temperature (heat stress recommendation)
- ☐ Toxic _____
- ☐ Toxic _____
- ☐ Toxic _____

TRAINED CONFINED SPACE RESCUER(S) ON SITE: (12)
- ☐ Yes
- ☐ No
- ☐ As specified in Special Instructions

ENTRANT & ATTENDANT COMMUNICATION: (13)
- ☐ Radio OR ☐ Voice / Visual
- ☐ Telephone ☐ Other: _____

ATTENDANT & RESCUER COMMUNICATION: (14)
- ☐ Radio (Alpha 1)
- ☐ Telephone (Bell 333, Pax 555)
- ☐ Fire Box
- ☐ Red Handle Phone _____
- ☐ Other _____

RESPIRATORY PROTECTION: (15)
- ☐ Full Face Respirator
- ☐ Half Face Respirator
- ☐ Cartridge / Canister _____
- ☐ SCBA
- ☐ Airline Respirator
- ☐ Airline Respirator with ESCBA
- ☐ As specified on RWP
- ☐ Not Required
- ☐ As specified in Special Instructions

PERSONAL PROTECTIVE EQUIPMENT: (16)
- ☐ Gloves _____
- ☐ Clothing to protect against thermal burns
- ☐ As specified on RWP
- ☐ Not required
- ☐ As specified in Special Instructions

SPECIAL RESCUE EQUIPMENT: (17)
- ☐ Full Body Harness
- ☐ Retrieval Line
- ☐ Winch / Tripod
- ☐ Fall Arresting System
- ☐ Wristlets / Anklets
- ☐ Not required
- ☐ As specified in Special Instructions

SPECIAL INSTRUCTIONS: _____ (18)

EXAMPLE

FURTHER EVALUATION: (19)	YES	NO	SIGNATURE REQUIRED, IF YES BOX IS CHECKED	
IH (19a)	√		H&S/IH REPRESENTATIVE:	
FIRE SERVICES DEPARTMENT (19b)			FIRE SERVICES REPRESENTATIVE:	
PERMIT ISSUED BY: (20)	SIGNATURE:		TIME:	DATE:
PERMIT CLOSED BY: (21)	SIGNATURE:		TIME:	DATE:
PERMIT REVIEWED BY (22)	SIGNATURE:		TIME:	DATE:

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09-21-2015

Appendix G – Safety Retrieval Equipment

A retrieval method will be provided for and worn by all entrants performing permit required confined space entries. The retrieval method will permit lifting or dragging of an unconscious or incapacitated entrant by connections either at both shoulders, both wrists, or a single-line connection between the shoulders at the back. If use of the retrieval equipment increases the overall risks of entry (due to structures, equipment, or entanglement with other lines in the confined space) its use may be waived.

A mechanical hoisting device shall be provided to retrieve personnel from a vertical entry into any permit required confined space greater than 5-feet deep. The hoisting device shall not be electrically or pneumatically powered but must be manually powered by the mechanical advantage of pulleys, ratchets, etc. The mechanical advantage must be at least 4 to 1.

The mechanical hoisting device must be designed such that the descent speed of suspended loads is limited to prevent injury of Entrants falling during entry or rescue. The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the confined space.

Where overhead structures are not provided for attaching the hoist, a tripod system or similar mechanism shall be used. Such a portable structure shall be of sufficient height to lift entrants clear of the confined space and swing them onto an adjacent walking/working surface.