STANDARD PRACTICE INSTRUCTION

DATE: July 31, 2023 – Updated

SUBJECT: Permit Required Confined Space Entry Program (General Industry)

REGULATORY STANDARD: OSHA - 29 CFR 1910.146

BASIS: Over 1 1/2 million workers enter confined spaces on an annual basis. Serious injury or death in a confined space can be the result of asphyxiation, engulfment, electric shock, falls, and heat stress. The Occupational Safety and Health Administration (OSHA) estimates that 85 percent of these accidents can be prevented if proper safety precautions at job sites are initiated. This poses a serious problem for exposed workers and their employer. The OSHA Confined Space Standard establishes uniform requirements to ensure that the hazards of confined spaces in U.S. workplaces are evaluated, safety procedures implemented, and that the proper hazard information is transmitted to all affected workers.

GENERAL: Salisbury University will ensure that all potential confined spaces within our facility(s) are evaluated. This standard practice instruction is intended to address comprehensively the issues of evaluating and identifying potential confined spaces, evaluating the associated potential hazards, communicating information concerning these hazards, and establishing appropriate procedures and protective measures for employees.

RESPONSIBILITY: The Environmental Safety Manager ("the Safety Manager") is solely responsible for all facets of this program and has full authority to make necessary decisions to ensure success of the program. The Safety Manager is the sole person authorized to amend these instructions and is authorized to halt any operation of the University where there is danger of serious personal injury. This policy includes respiratory hazards.

Contents of the Confined Space Program

1. **Written Program.**
2. **General Requirements**.
3. **Permit-Required Confined Space Program.**
4. **Permit System**.
5. **Entry Permit.**
6. **Training.**
7. **Duties of Authorized Entrants.**
8. **Duties of Authorized Attendants**.
9. **Duties of Entry Supervisors.**
10. **Rescue and Emergency Services.**
11. **Procedures for Atmospheric Testing.**
12. **Format for Salisbury University Confined Space Permit.**

Salisbury University Confined Space Entry Program

1. Written program. Salisbury University will review and evaluate this standard practice instruction on an annual basis, or when changes occur to 29 CFR 1910.146, that prompt revision of this document, or when facility operational changes occur that require a revision of this document. Additionally, the University will review the permit-required confined space program, using the canceled permits retained within 1 year after each entry and revise the program as necessary, to ensure that employees participating in entry operations are protected from permit space hazards.

2. General requirements. Salisbury University will establish confined space operational procedures through the use of this document.

2.1 After facility evaluation, spaces that meet the following criteria will be designated as a confined space:

2.1.1 It is large enough and so configured that an employee can bodily enter and perform assigned work.

2.1.2 Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.)

2.1.3 Is not designed for continuous employee occupancy.

2.1.4 Contains or has a potential to contain a hazardous atmosphere.

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

2.1.6 Contains any other recognized serious safety or health hazard.

2.2 Facility Evaluation. This employer shall evaluate our facility(s) to determine if any spaces meet the criteria for designation as a confined space. The decision flow chart in Appendix A to 29 CFR 1910.146 will be used to facilitate compliance with this requirement.

2.3 Confined Space Identification.

2.3.1 Permit-required confined spaces. Those spaces meeting the criteria delineated in this section and having a known potential to contain hazardous atmospheres will be designated as permit-required confined spaces. All spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. This employer shall inform exposed employees, by posting danger signs, conducting awareness

training, or by any other equally effective means, of the existence and location of and the danger posed by the permit confined spaces. A sign reading "DANGER PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER" or similar language will be used to satisfy the requirement for a sign.

2.3.2 Non-permit confined spaces. Those spaces meeting the criteria delineated in this section that do not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm will be designated as non-permit confined spaces.

2.4 Confined Space listing. This employer, once having evaluated our facility(s) will maintain a detailed listing that permanently identifies locations meeting the criteria for a confined space.

2.5 If Salisbury University decides that only specific employees will enter permitted spaces, this employer shall take effective measures to prevent non-trained employees from entering the permit-required confined spaces.

2.6 For employees that are required to perform work in permit-required confined spaces, this employer shall implement the permit-required confined space entry program as delineated within this instruction. This written program will be available for inspection by employees, their authorized representatives, and authorized government inspectors.

2.7 Non-permit required confined spaces. Non-permit required confined spaces will be designated where the atmosphere and safety conditions can be controlled. Confined spaces may be entered without the need for a written permit or attendant provided that: 1. The space is determined not to be a permit- required confined space. 2. The space can be maintained in a safe condition for entry by mechanical ventilation alone. All spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The University will ensure that any employee required or permitted to pre-check or enter a confined space shall have successfully completed the training as required by this instruction. A written copy of operating and rescue procedures as required by this instruction shall be at the work site for the duration of the job. A site specific Confined Space Pre-Entry Check List must be completed by the LEAD WORKER before entry into a confined space. This list will verify completion of the items required to verify safe entry. This check list shall be kept at the job site for the duration of the job. If circumstances dictate an interruption in the work, the permit-required confined space must be re-evaluated and a new check list must be completed. Assuming the conditions set forth in the paragraphs listed below can be met, the following elements of the permit required confined space program need not be complied with if: (see 2.7.1 - 2.7.3)

(1) Permit required confined space program

(2) Permit system
(3) Entry permit
(4) Duties of authorized entrants
(5) Duties of attendants
(6) Duties of entry supervisors
(7) Rescue and emergency services

2.7.1 It can be demonstrated that the only hazard posed by the permitted space is an actual or potentially hazardous atmosphere.

2.7.2 It can be demonstrated that continuous forced air ventilation alone is sufficient to maintain the space safe for entry.

2.7.3 Monitoring and inspection data supports the demonstrations required by paragraphs 2.7.1 and 2.7.2.

2.8 If an initial entry of the permit space is necessary to obtain monitoring and inspection data. Worst case will be assumed and the full provisions of permit-required confined space entry procedures will be implemented.

2.9 Entry can be performed by University personnel, once determinations and supporting data required by paragraphs 2.7.1, 2.7.2, and 2.7.3 are documented, and are made available to each employee who enters the permit space.

2.10 Reclassification of a permit space after all hazards within the space have been eliminated. The following requirements apply to entry into permit spaces that meet the conditions set forth in paragraphs 2.7.1, 2.7.2, and 2.7.3. No University personnel will enter the confined space unless:

2.10.1 Conditions making it unsafe to remove an entrance cover are eliminated before the cover is removed.

2.10.2 The opening at entrance covers are guarded by a railing, temporary cover, or other temporary barrier that will prevent accidental fall-through and will protect each employee working in the space from foreign objects entering the space.

2.10.3 The internal atmosphere has been tested, with a calibrated direct-reading instrument, for the following conditions in the order given:

(1) Oxygen content. (19.5% - 23.5%) OSHA Mandated
(2) Flammable gases and vapors. OSHA Mandated
(3) Potential toxic air contaminants. OSHA Mandated
(4) Airborne combustible dusts Site Specific

2.11 There may be no hazardous atmosphere within the space whenever any employee is inside the space.

2.12 Continuous forced air ventilation shall be used, as follows:

2.12.1 No employee may enter the space until testing confirms that the forced air ventilation has eliminated any hazardous atmosphere.

2.12.2 The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space.

2.12.3 The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space.

2.12.4 The atmosphere within the space shall be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.

2.12.5 If a hazardous atmosphere is detected during entry:

(1) All employees will evacuate.

(2) The space shall be evaluated to determine how the hazardous atmosphere developed.

(3) Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

2.13 Permit Required Confined Space Certification. This employer shall verify that the space is safe for entry and that the measures required by a written certification permit meeting the criteria in 29 CFR 1910.146 are accomplished. This written certification will contain as a minimum; the date, the location of the space, and the signature of the person providing the certification. The certification shall be made before entry and shall be made available to each employee entering the space.

2.13.1 Environmental Safety personnel are qualified to certify safe entry for University personnel entering confined spaces.

2.14 Non-Permit Required Confined Space Certification. When there are changes in the use or configuration of a non-permit confined space that might increase the

hazards to entrants, this employer shall reevaluate that space and, if necessary, reclassify it as a permit-required confined space.

2.15 Permit to Non-Permit Reclassification. A space classified by this employer as a permit-required confined space will be reclassified as a non-permit confined space under the following conditions:

2.15.1 If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.

2.15.2 If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed under the assumption that a hazard exists. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated, the permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated.

Note: Control of atmospheric hazards through forced air ventilation alone does not constitute elimination of the hazards. Periodic monitoring will be conducted to ensure forced air ventilation maintains a safe worker environment for reclassification to a non-permit confined space.

2.15.3 This employer shall document the basis for determining that all hazards in a permit space have been eliminated, through a certification that contains as a minimum; the date, the location of the space, and the signature of the person making the determination. The certification shall be made available to each employee entering the space.

2.15.4 If hazards arise within a permit space that has been declassified to a non-permit space, each employee in the space shall immediately exit the space and notify their supervisor. This employer shall then reevaluate the space and determine whether it must be reclassified as a permit space, in accordance with other applicable provisions of this instruction.

2.16 University Responsibilities Regarding Contractor Operations in Permitted Confined Spaces. When this employer arranges to have employees of another employer (contractor) perform work that involves permit space entry, this employer shall:

2.16.1 Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with the University permit space program meeting the requirements of this instruction.

2.16.2 Apprise the contractor of the elements, including the hazards identified and the host employer's experience with the space, that make the space in question a permit space;

2.16.3 Apprise the contractor of any precautions or procedures that the University has implemented for the protection of employees in or near permit spaces where contractor personnel will be working.

2.16.4 Coordinate entry operations with the contractor, when both University personnel and contractor personnel will be working in or near permit spaces.

2.16.5 Debrief the contractor at the conclusion of the entry operation regarding the University permit space program, and any hazards confronted or created in the concerned permit spaces during entry operations.

2.17 Contractor Responsibilities Regarding Contractor Operations in Permitted Confined Spaces. In addition to complying with the permit space requirements that apply to all employees of this University, each contractor who is retained to perform permit space entry operations shall:

2.17.1 Obtain any available information regarding permit space hazards and entry operations from this University.

2.17.2 Coordinate entry operations with this University, when both University personnel and contractor personnel will be working in or near permit spaces.

2.17.3 Inform the University of the permit space program that the contractor will follow and of any hazards confronted or created in permit spaces within this facility or others belonging to this University, either through a debriefing or during the entry operation.

3. <u>Permit-required confined space program</u>. Under the permit-required confined space program required by 29 CFR 1910.146, this employer shall:

3.1 Implement the measures necessary to prevent unauthorized entry.

3.2 Identify and evaluate the hazards of permit spaces before employees enter them.

` 3.3 Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following:

3.3.1 Specifying acceptable entry conditions.

3.3.2 Isolating the permit space.

3.3.3 Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards.

3.3.4 Provide pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards.

3.3.5 Verify that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.

3.3.6 Develop and utilize checklists based on this standard practice instruction and 29 CFR 1910.146.

3.4 Provide the following equipment at no cost to employees, maintain that equipment properly, and ensure that employees are trained in the proper use of the equipment:

3.4.1 Testing and monitoring equipment needed to determine if hazardous conditions exist or to verify that they do not exist.

3.4.2 Ventilating equipment needed to obtain acceptable air quality entry conditions.

3.4.3 Communications equipment necessary for communication between personnel involved in the entry operation.

3.4.4 Personal protective equipment insofar as feasible engineering and work practice controls do not adequately protect employees.

3.4.5 Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency.

3.4.6 Barriers and shields as required to protect workers from pedestrian, and vehicular traffic.

3.4.7 Ladders, needed for safe ingress and egress by authorized entrants.

3.4.8 Rescue, Retrieval, and Emergency equipment needed to extract or treat injured personnel, except to the extent that the equipment and or service is provided by rescue services that are immediately available.

3.4.9 Any other equipment necessary for safe entry into and rescue from permitted spaces at our facility.

3.4.10 Principal equipment needed to conduct confined space operations. The below listed intrinsically safe equipment as a minimum will be maintained where required for confined space operations.

(1) Multi-gas monitors
(2) Ventilation Equipment
(3) Rescue tripod/davit arm and winch system
(4) Body harness's
(5) Extraction cable and lanyards
(6) Air Compressors (as required)
(7) Supplied Air respirators (as required)
(8) Air purifying respirators (as required)
(9) SCBA equipment (as required)
(10) Emergency escape breathing app. (as required)
(11) Radio communication system (as required)
(12) Signage (as required)
(13) Lock-out/Tag-out Equipment (as required)
(14) Intrinsically safe lighting equipment
(15) Personal protective clothing
(16) Hearing protection equipment
(17) Head protection equipment
(18) Eye Protection equipment
(19) First Aid kits
(20) Time keeping equipment
(21) Hand tools
(22) Escape ladders for depths of four feet or shoulder height

3.5 Evaluation of Permitted Space Conditions. This University will evaluate permit space conditions as follows when entry operations are conducted:

3.5.1 Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin, except that, if isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing shall be performed to the extent feasible before entry is authorized and, if entry is authorized, entry conditions shall be continuously monitored in the areas where authorized entrants are working.

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

3.5.3 When testing for atmospheric hazards, use the following protocol; first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.

Note: Atmospheric testing conducted in accordance with the "procedures for atmospheric testing" section of this instruction or Appendix B to 29 CFR 1910.146 will be used to satisfy this requirement. This appendix can also be used to develop procedures for permit space operations in sewers and other job sites, when supplemented by Appendix C (Examples) to 29 CFR 1910.146.

Note: Attendants may be assigned to monitor more than one permit space provided their duties can be effectively performed for each permit space that is monitored. Likewise, attendants may be stationed at any location outside the permit space to be monitored as long as their duties can be effectively performed for each permit space that is monitored.

3.5.4 If multiple spaces are monitored by a single attendant, the permit will be annotated to provide the means and procedures by which the attendant is to respond to an emergency affecting one or more of the permit spaces being monitored.

3.5.5 When a confined space entry is to take place, this University as part of the preplanning process, will designate in advance the persons who are to have active roles in the entry operation. Additionally the duties of each such employee will be identified, and provided with the required training required by the training section of this instruction. The confined space entry team will include but is not limited to the following:

(1) Authorized entrants
(2) Attendants
(3) Entry supervisors
(4) Atmospheric monitoring personnel
(5) Certifying personnel
(6) Rescue/Emergency services personnel

3.5.6 This University will develop procedures prior to the commencement of confined space operations for the following:

(1) Summoning rescue and emergency services
(2) Rescuing entrants from permit spaces
(3) Providing necessary emergency services for rescue
(4) Preventing unauthorized personnel from attempting a rescue

3.5.7 Development and implementation for the preparation, issuance, use, and cancellation of entry permits will be as follows:

3.5.7.1 When employees of contractor personnel or non-University employees are working simultaneously as authorized entrants in a

permit space, the certifying official of the permit (or predesignated representative) will ensure that all parties concerned are aware of the accepted entry procedures for the specific operation. This will ensure entry operations are properly coordinated.

3.5.7.2 The certifying official of the permit (or predesignated representative) will ensure that all parties concerned are aware of the accepted procedures necessary for concluding the entry after entry operations have been completed (such as closing off a permit space and canceling the permit).

3.5.7.3 This employer will immediately review and as necessary halt and revise entry operations when there is reason to believe that the measures taken under the permit space program may not protect employees. The focus will be directed at the correction of deficiencies found to exist before subsequent entries are authorized. Examples of circumstances requiring the review of the permit-required confined space program are as a minimum:

(1) Any unauthorized entry of a permit space.
(2) The detection of a permit space hazard not covered by the permit.
(3) The detection of a condition prohibited by the permit.
(4) The occurrence of an injury or near-miss during entry.
(5) A change in the use or configuration of a permit space.
(6) Employee complaints about the effectiveness of the program.

3.5.7.4 Review of the permit-required confined space program, using the canceled permits retained will be accomplished within 1 year after each entry and the program revised as necessary, to ensure that employees participating in entry operations are protected from permit space hazards.

Note: Single annual reviews covering all entries performed during a 12-month period will be accomplished. If no entry is performed during a 12-month period, no review is necessary.

4. <u>Permit system</u>. To comply with the permit-system required by 29 CFR 1910.146, this employer shall:

4.1 Before entry is authorized, document the completion of the following measures:

4.1.1 Specifying acceptable entry conditions.

4.1.2 Isolating the permit space.

4.1.3 Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards.

4.1.4 Provide pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards.

4.1.5 Verify that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.

4.1.6 Develop and utilize checklists based on this standard practice instruction and 29 CFR 1910.146.

4.2 Before entry begins, the entry supervisor identified on the permit shall sign the entry permit to authorize entry.

4.3 The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.

4.4 The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit.

4.5 The entry supervisor shall terminate entry and cancel the entry permit when:

4.5.1 The entry operations covered by the entry permit have been completed.

4.5.2 A condition that is not allowed under the entry permit arises in or near the permit space.

4.6 This employer shall retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program. Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the permit space program can be made.

5. Entry permit. This University shall develop or use a standardized entry permit form (see section 11 this document) that documents compliance with this section and authorizes entry to a permit space. As a minimum the permit in use shall identify the following:

5.1 The permit space to be entered.

5.2 The purpose of the entry.

5.3 The date and the authorized duration of the entry permit.

5.4 The authorized entrants within the permit space, by name or by such other means (for example, through the use of rosters or tracking systems) as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space. If a tracking system is used for certain entries, this requirement may be met by inserting a reference on the entry permit as to the means used, such as a roster or tracking system, to keep track of the authorized entrants within the permit space.

5.5 The personnel, by name, currently serving as attendants.

5.6 The individual, by name, currently serving as entry supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry.

5.7 The hazards of the permit space to be entered.

5.8 The measures used to isolate the permit space and to eliminate or control permit space hazards before entry. Such as; the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit spaces.

5.9 The acceptable entry conditions.

5.10 The results of initial and periodic atmospheric tests performed, accompanied by the names or initials of the testers and by an indication of when the tests were performed.

5.11 The rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services.

5.12 The communication procedures used by authorized entrants and attendants to maintain contact during the entry.

5.13 Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided for compliance with the permit requirement.

5.14 Any other information whose inclusion is necessary, given the circumstances of the particular confined space, in order to ensure employee safety.

5.15 Any additional permits, such as for hot work, that have been issued to authorize work in the permit space.

5.16 This employer shall provide training so that all employees whose work is regulated by this section acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this section.

6. Training. This University shall develop a standardized training format to meet the requirement for a safe confined space entry.

6.1 Training shall be provided to each affected employee:

6.1.1 Before the employee is first assigned duties that require a confined space entry.

6.1.2 Before there is a change in assigned duties.

6.1.3 Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained.

6.1.4 Whenever this employer has reason to believe that there are deviations from the permit space entry procedures required by this instruction or inadequacies in the employee's knowledge or use of these procedures.

6.2 The training shall establish employee proficiency in the duties required by this instruction and shall introduce new or revised procedures, as necessary, for compliance with this instruction or when future revisions occur.

6.3 This employer shall certify that the training required by this section has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

7. Duties of authorized entrants. This employer shall ensure that all authorized entrants:

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

7.2 Properly use equipment as required by paragraph 29 CFR 1910.146 (d)(4) of this section.

7.3 Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space as required by this section.

7.4 Alert the attendant whenever:

7.4.1 The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.

7.4.2 The entrant detects a prohibited condition.

7.5 Exit from the permit space as quickly as possible whenever:

7.5.1 An order to evacuate is given by the attendant or the entry supervisor.

7.5.2 The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.

7.5.3 The entrant detects a prohibited condition.

7.5.4 An evacuation alarm is activated.

8. Duties of authorized attendants. This employer shall ensure that each attendant:

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

8.2 Is aware of possible behavioral effects of hazard exposure in authorized entrants.

8.3 Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants under this section accurately identifies who is in the permit space.

8.4 Remains in a predesignated location outside the permit space during entry operations until relieved by another attendant.

Note: When this employer's permit entry program allows attendant entry for rescue, attendants may enter a permit space to attempt a rescue if they have been trained and equipped for rescue operations as required by the "rescue and emergency services" section of this instruction and if they have been relieved as required by this section.

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

8.6 Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions.

8.6.1 If the attendant detects a prohibited condition.

8.6.2 If the attendant detects the behavioral effects of hazard exposure in an entrant.

8.6.3 If the attendant detects a situation outside the space that could endanger the entrants.

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

8.7 Summon rescue and other emergency services as soon as the attendant determines that entrants may need assistance to escape from permit space hazards.

8.8 Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:

8.8.1 Warn the unauthorized persons that they must stay away from the permit space.

8.8.2 Advise the unauthorized persons that they must exit immediately if they have entered the permit space.

8.8.3 Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.

8.9 Performs non-entry rescues as specified by this employer's rescue procedure.

8.10 Performs no duties that might interfere with the attendant's primary duty to monitor and protect the entrants.

9. Duties of entry supervisors. This employer shall ensure that each entry supervisor:

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

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

9.3 Terminates the entry and cancels the permit as required in accordance with the "permit section" this instruction.

9.4 Verifies that rescue services are available and that the means for summoning them are operable.

9.5 Ensures removal of unauthorized individuals who enter or who attempt to enter the permit space during entry operations.

9.6 Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

10. Rescue and emergency services. Salisbury University employees will not perform entry rescue procedures. Rescue and emergency services will be provided by the Salisbury Fire Dept.

10.1 Non-University rescue personnel. When non-University rescue personnel are designated to perform permit space rescue, this employer shall:

10.1.1 Inform the rescue service of the hazards they may confront when called on to perform rescue.

10.1.2 Provide the rescue service with access to all permit spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations.

10.2 To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems used by this University shall meet the following requirements.

10.2.1 Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, or above the entrant's head. Wristlets may be used in lieu of the chest or full body harness if it is demonstrated that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.

10.2.2 The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from vertical type permit spaces more than 5 feet deep.

10.3 If an injured entrant is exposed to a substance for which a Material Safety Data Sheet (MSDS) or other similar written information is required to be kept at the worksite, that MSDS or written information shall be made available to the medical facility treating the exposed entrant.

11. Procedures for Atmospheric Testing. Atmospheric testing for confined space entry is required for two distinct purposes: Evaluation of the hazards of the permit space and verification that acceptable entry conditions for entry into that space exist.

11.1 Evaluation testing. This University will ensure that the atmosphere of a confined space is analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise. This is required to ensure that appropriate permit entry procedures specific to the operation can be developed and acceptable entry conditions stipulated for that specific space. Evaluation and interpretation of these data, and development of the entry procedure, will be done by, or reviewed by, a technically qualified professional (e.g., OSHA consultation service, or certified industrial hygienist, registered safety engineer, certified safety professional, certified marine engineer etc.) based on evaluation of all serious hazards. The internal atmosphere will be tested, with a calibrated direct-reading instrument, for the following conditions in the order given:

(1) Oxygen content. (19.5% - 23.5%)	OSHA Mandated
(2) Flammable gases and vapors.	OSHA Mandated
(3) Potential toxic air contaminants.	OSHA Mandated
(4) Airborne combustible dusts	Site Specific

11.2 Verification testing. The atmosphere of a permit space which may contain a hazardous atmosphere will be tested for residues of all contaminants identified by evaluation testing using permit specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions. Results of testing (i.e., actual concentration, etc.) will be recorded on the permit in the space provided adjacent to the stipulated acceptable entry condition. The atmosphere will be verified, with a calibrated direct-reading instrument, for the following conditions in the order given:

(1) Oxygen content. (19.5% - 23.5%)	OSHA Mandated
(2) Flammable gases and vapors.	OSHA Mandated
(3) Potential toxic air contaminants.	OSHA Mandated
(4) Airborne combustible dusts	Site Specific

11.3 Duration of testing. Measurement of values for each atmospheric parameter will be made for at least the minimum response time of the test instrument specified by the manufacturer.

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

atmosphere will be tested, with a calibrated direct-reading instrument, for the following conditions in the order given:

(1) Oxygen content. (19.5% - 23.5%)	OSHA Mandated
(2) Flammable gases and vapors.	OSHA Mandated
(3) Potential toxic air contaminants.	OSHA Mandated
(4) Airborne combustible dusts	Site Specific

12. <u>Format for Confined Space Permit</u>. (Starts at top of next page.)

Salisbury University
Confined Space Entry Permit

Job Site:_____ Permit Number: _____

Permit Validity Period: (day/time)_____ to_____
Confined space identification code (if identified) (_____)
Notes:_____
_____

Authorized Personnel

Workers Authorized Entry	Attendants	Fire watch (hot work)

Known hazards (indicate specific hazards with initials)

_____Oxygen deficiency (less than 19.5%)
_____Oxygen enrichment (more than 23.5%)
_____Flammable gases or vapors (more than 10% of LEL)
_____Airborne combustible dust (meets or exceeds LFL)
_____Toxic gases or vapors (more than PEL)_____
_____Mechanical hazards
_____Electrical hazards
_____Engulfment hazards
_____Materials harmful to skin
_____Other:_____
_____Other:_____
_____Other:_____
_____Other:_____
_____Other:_____

Employee Training and Pre-Entry Briefing

1. Safe Entry and Rescue Training Conducted on? _____
2. Mandatory Pre-Entry Briefing Conducted on? _____
3. Does this job require any special training? Yes_____No_____
   If yes, type of training required. _____

Contractor Notification

Contractor Notified of: Permit Conditions: Yes____No _____
Potential Hazards: Yes____No _____

Communication Requirements: Intrinsically Safe? Yes____No_____
Visually Inspected? Yes____No_____

_____
_____
_____
_____
_____

Lighting Requirements: Intrinsically Safe? Yes____No_____
Visually Inspected? Yes____No_____

_____
_____
_____
_____
_____

Special Tools/Equipment: Intrinsically Safe? Yes____No_____
Visually Inspected? Yes____No_____

_____
_____
_____
_____
_____

Site Preparation

1. Work area isolated with signs and or barriers Yes____No_____
2. All energy sources locked/tagged out? Yes____No_____
3. All input lines capped/blinded? Yes____No_____
4. If vessel, drained, flushed, neutralized? Yes____No_____
5. If vessel, cleaned, purged? Yes____No_____
6. Ventilation initiated 30 min. before entry? Yes____No_____
7. Fire extinguishers on hand? Yes____No_____
8. _____ Yes No Yes
9. _____ No Yes No___
10. _____

Pre-Entry Atmospheric Testing

Action Requirement	Reading	Time	Intervals	Levels
1. Test for oxygen content	%O2			
2. Test for flamm. concent.	<10%LEL			
3. Test for H2S	<10PPM			
4. Test for Cl2	<.5PPM			
5. Test for CO	<35PPM			
6. Test for SO2	<2PPM			
7. Test for toxic concent.	PPM			
		of	(TLV=	)
8. Test for heat stress	of			
9. Test for				
10. Test for				

Tester: Name: Signature:

Title: Date: Time:

Emergency/Rescue Procedures

1. Location of written Emergency/Rescue Plan:
2. Type of Emergency/Rescue Team required:

On-site: Yes No Contact: Phone:

Off-site: Yes No Contact: Phone:

3. Additional Information:

Safety Equipment

Personal Protective Equipment Required

1.
2.
3.
4.
5.
6. Air purifying respirator? Type: Yes No

7. Self-contained Breathing Apparatus Required? Yes____No_____
8. Atmospheric Monitor Required? Type:_____ Yes____No_____

Area Safety Equipment Required

1. _____
2. _____
3. _____
4. _____
5. _____

Permit Authorization

I certify that I have inspected the work area for safety and reviewed all safety precautions recorded on this permit.

1. Name:_____Signature:_____
Title:_____Date:_____Time:_____

2. Name:_____Signature:_____
Title:_____Date:_____Time:_____