

Confined Space Entry Requirements

Version 1

 Print

Policy	REG07.20.02
Title	Confined Space Entry Requirements
Category	Finance, Operations and Auxiliary Services
Sub-category	Planning, Design and Construction Management
Authority	Chancellor
History	Confined Space Program, Office of Environmental Health and Safety, 2009, 36 pp. Placed in University Policy Manual after EXPEDITED REVIEW, transitioned without substantive change from prior version, March 25, 2013.
Contact	Christa Radford, ECU Safety Phillip Lewis, Assistant Director William Koch, Associate Vice Chancellor
Related Policies	29 CFR 1910.146: Permit-Required Confined Space for General Industry (https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.146)
Additional References	

1. Purpose

1.1 The purpose of this regulation is to establish procedures to protect employees from the hazards associated with entry into permit-required confined spaces (PRCS) in accordance with 29 CFR 1910.146, Permit-Required Confined Spaces for General Industry.

1.2 Confined spaces are areas with restricted means of entry or exit.

1.2.1 These areas can be hazardous due to limited egress and/or a hazardous atmosphere.

1.3 Any work being completed in confined areas should be assessed and determined safe before entry.

2. Definitions

2.1 Confined Space: a space that is large enough and so configured that an employee can bodily enter and perform assigned work; has limited or restricted means for entry or exit; and is not designed for continuous occupancy.

2.1.1 Examples of confined spaces include, but are not limited to, boilers, trenches, crawl spaces, utility

tunnels, tanks, pits, manholes, ventilation plenums and electrical vaults.

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

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

2.2.2 Contains a material that has the potential for engulfing an entrant.

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

2.2.4 Contains any other recognized serious safety or health hazard.

2.3 Authorized Personnel: A list of entry participants provided by the requesting department, including designation of entry supervisor, entrants and attendants.

3. Responsibilities

3.1 Facilities Services

3.1.1 Schedule and coordinate entry activities with EH&S and contractor personnel.

3.1.2 Provide and install signage or labels for confined spaces and properly secure confined spaces to prevent unauthorized entry.

3.1.3 Provide affected employees with the necessary personal protective equipment, job- specific equipment, and ensure their attendance at required trainings.

3.2 Employees

3.2.1 Comply with entry procedures identified in this regulation and the University's written Confined Space Entry Program.

3.2.1 Verify that acceptable entry criteria identified on permit are satisfied prior to entry.

3.2.2 Verify attendance at required training sessions.

3.2.3 Report conditions that are not indicated on the permit and cease entry activities immediately until discrepancies are resolved.

3.3 Environmental Health and Safety (EH&S)

3.3.1 Authorize and coordinate all confined space activities.

3.3.2 Issue confined space entry permits.

3.3.3 Establish acceptable entry conditions.

3.3.4 Identify and maintain list of confined spaces.

3.3.5 Evaluate confined spaces and designate as permit or non-permit space.

3.3.6 Develop procedures for safe entry operation.

3.3.7 Calibrate and maintain monitoring equipment.

3.3.8 Provide training opportunities for affected personnel.

3.3.9 Periodically inspect and audit entry activities.

3.3.10 Maintain agreement with Greenville Fire and Rescue for rescue and emergency services.

3.3.11 Conduct annual review of all entries and update written program accordingly.

3.4 Entry Supervisor

3.4.1 Be familiar with the hazards in the confined space including information on the signs, symptoms and consequences of exposure.

3.4.2 Verify that the permit is filled out completely and all safety steps listed on it have been taken before endorsing the permit prior to entry.

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

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

3.4.5 Determine that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

3.5 Attendants

3.5.1 Be familiar with the hazards in the confined space including information on the signs, symptoms and consequences of exposure.

3.5.2 Continuously maintain an accurate count and identity of authorized entrants.

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

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

3.5.5 Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space.

3.5.6 Order entrants to evacuate the permit space immediately if attendant:

3.5.6.1 Detects a prohibited condition.

3.5.6.2 Detects signs or symptoms of hazard exposure in an entrant.

3.5.6.3 Detects a situation outside the space that could endanger the entrants.

3.5.6.4 Cannot effectively and safely perform all required duties.

3.5.7 Summon rescue services as soon as it is identified that assistance is needed by the entrants.

3.5.8 Warn unauthorized persons that they must stay away from the space; advise the unauthorized persons that they must exit immediately if they have entered the space.

3.5.9 Perform non-entry rescue when indicated.

3.5.10 Assume no additional duties that might interfere with the primary duty to monitor and protect authorized entrants.

3.6 Entrants

3.6.1 Be familiar with the hazards in the confined space including information regarding the signs, symptoms and consequences of exposure.

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

3.6.3 Exit from the space immediately whenever:

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

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

3.6.3.3 The entrant detects a prohibited condition.

3.6.3.4 An evacuation alarm is activated.

4. Procedures/Guidelines

4.1 Scheduling

4.1.1 Confined space entries must be scheduled with EH&S at least one week in advance by calling the ECU Safety Manager.

4.1.2 EH&S will assist the requesting department in development of an acceptable entry plan and will issue an entry permit.

4.1.3 Only properly trained personnel may participate in entry activities.

4.2 Entry Permit

4.2.1 A permit must be completed prior to entry into any permit-required confined space to verify that the space is safe for entry and that pre-entry measures have been taken.

4.2.2 The permit documents compliance with Occupational Safety and Health Standard 29 CFR 1910.146 - Permit-Required Confined Spaces.

4.2.3 Before entry begins, the entry supervisor identified on the permit must sign the entry permit to authorize entry.

4.2.4 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.

4.3 Confined Space Information

4.3.1 The requesting department must provide the following information:

4.3.1.1 Identity and location of confined space.

4.3.1.2 Purpose of the entry and when the requesting department wishes to perform the entry.

4.4 Hazard Evaluation

4.4.1 The confined space must be evaluated prior to entry to determine obvious and potential hazards.

4.4.2 Work should be conducted outside the space if at all possible.

4.4.3 The entry supervisor must determine the hazards present in the space and identify methods to protect entrants.

4.4.4 The activities to be conducted in the space must also be considered as they may create hazards that did not previously exist (welding, chemical use, etc.).

4.4.5 EH&S will assist the requesting department in the hazard evaluation.

4.5 Contractor Safety

4.5.1 Confined space activities must be coordinated with contractor personnel to:

4.5.1.1 Assure that both host and contractor are aware of each other's program and procedures.

4.5.1.2 Provide awareness of the hazards that may be encountered in and around the confined space and measures to be taken to protect personnel from harm.

4.6 Equipment Required for Entry

4.6.1 All equipment that is required to safely perform the entry operation must be identified and properly maintained.

4.6.2 Equipment includes but is not limited to personal protective equipment, special tools, monitoring equipment, communication equipment, and rescue equipment.

4.6.3 Each entrant is required to wear a full-body harness.

4.7 Emergency Services

4.7.1 Self-rescue should be performed by entrants at the first sign of trouble.

4.7.2 Non-entry rescue may be performed by attendants in certain instances.

4.7.3 Off-site rescue and emergency services will be provided by Greenville Fire and Rescue (GFR).

4.7.4 The entry team should contact GFR by contacting the ECU Police via radio or calling 911 on the phone.

4.8 Preparation of Entry

4.8.1 The entry supervisor must verify that each of the following precautions have been taken prior to entry:

4.8.1.1 All departments likely to be affected by service interruption must be notified.

4.8.1.2 Post signs and barriers to protect entrants from vehicle traffic and pedestrians from falling into the space.

4.8.1.3 Blind or disconnect and cap all input lines, so that no hazardous materials can enter the space.

4.8.1.4 Make sure no hazardous energy can be released by utilizing lockout/tagout procedures.

4.8.1.5 Empty space of any materials that may be hazardous.

4.8.1.5.1 If necessary, clean, purge or inert hazardous residue in the space.

4.8.1.6 When ventilation is needed, begin long enough in advance so that the air will be safe before anyone enters.

4.8.1.6.1 Verify safety by conducting atmospheric monitoring prior to entry.

4.9 Atmospheric Monitoring Record

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

4.9.1.1 Oxygen content must be between 19.5% and 23.5%.

4.9.1.2 The concentration of flammable gases and vapors must be less than 10% of the lower explosive limit (LEL).

4.9.1.3 Toxic materials should be less than permissible exposure limits.

4.9.1.4 Atmospheric conditions must meet acceptable criteria prior to entry.

4.9.1.5 Documentation is required for:

4.9.1.5.1 Contaminants that were monitored.

4.9.1.5.2 Results of monitoring.

4.9.1.5.3 Time they were monitored.

4.9.1.5.4 Who conducted the monitoring?

4.10 Authorization By Entry Supervisor

4.10.1 Immediately before entry begins, the entry supervisor identified on the permit must sign the entry permit to authorize entry.

4.10.1.1 This certifies that all required precautions have been taken and necessary equipment provided for safe entry and work in this permit space.

4.11 Cancellation of Permit

4.11.1 The entry supervisor must cancel the permit by completing the designated section of the permit at the conclusion of the entry operation after the confined space has been properly secured.

4.12 Program Review

4.12.1 The entry supervisor must forward a copy of the canceled permit to EH&S to facilitate the review of the permit-required confined space program.

4.12.1.1 Copies of canceled permits will be maintained for at least one year.

4.13 Deficiencies

4.13.1 Any problems encountered during an entry operation must be addressed immediately and noted on the permit so that appropriate revisions to the permit space program can be made.

5. Training

5.1 Training must be provided to all affected personnel:

5.1.1 Before the employee is first assigned confined space duties.

5.1.2 Before there is a change in assigned duties.

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

5.1.4 Whenever there is reason to believe that there are deviations from the permit space entry procedures.

5.1.5 Whenever there are inadequacies in the employee's knowledge or use of these procedures.

1. Purpose

1.1 The purpose of this regulation is to establish procedures to protect employees from the hazards associated with entry into permit-required confined spaces (PRCS) in accordance with 29 CFR 1910.146, Permit-Required Confined Spaces for General Industry.

1.2 Confined spaces are areas with restricted means of entry or exit.

1.2.1 These areas can be hazardous due to limited egress and/or a hazardous atmosphere.

1.3 Any work being completed in confined areas should be assessed and determined safe before entry.

2. Definitions

2.1 Confined Space: a space that is large enough and so configured that an employee can bodily enter and perform assigned work; has limited or restricted means for entry or exit; and is not designed for continuous occupancy.

2.1.1 Examples of confined spaces include, but are not limited to, boilers, trenches, crawl spaces, utility tunnels, tanks, pits, manholes, ventilation plenums and electrical vaults.

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

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

2.2.2 Contains a material that has the potential for engulfing an entrant.

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

2.2.4 Contains any other recognized serious safety or health hazard.

2.3 Authorized Personnel: A list of entry participants provided by the requesting department, including designation of entry supervisor, entrants and attendants.

3. Responsibilities

3.1 Facilities Services

3.1.1 Schedule and coordinate entry activities with EH&S and contractor personnel.

3.1.2 Provide and install signage or labels for confined spaces and properly secure confined spaces to prevent unauthorized entry.

3.1.3 Provide affected employees with the necessary personal protective equipment, job- specific equipment, and ensure their attendance at required trainings.

3.2 Employees

3.2.1 Comply with entry procedures identified in this regulation and the University's written Confined Space Entry Program.

3.2.1 Verify that acceptable entry criteria identified on permit are satisfied prior to entry.

3.2.2 Verify attendance at required training sessions.

3.2.3 Report conditions that are not indicated on the permit and cease entry activities immediately until discrepancies are resolved.

3.3 Environmental Health and Safety (EH&S)

3.3.1 Authorize and coordinate all confined space activities.

3.3.2 Issue confined space entry permits.

3.3.3 Establish acceptable entry conditions.

3.3.4 Identify and maintain list of confined spaces.

3.3.5 Evaluate confined spaces and designate as permit or non-permit space.

3.3.6 Develop procedures for safe entry operation.

3.3.7 Calibrate and maintain monitoring equipment.

3.3.8 Provide training opportunities for affected personnel.

3.3.9 Periodically inspect and audit entry activities.

3.3.10 Maintain agreement with Greenville Fire and Rescue for rescue and emergency services.

3.3.11 Conduct annual review of all entries and update written program accordingly.

3.4 Entry Supervisor

3.4.1 Be familiar with the hazards in the confined space including information on the signs, symptoms and

consequences of exposure.

3.4.2 Verify that the permit is filled out completely and all safety steps listed on it have been taken before endorsing the permit prior to entry.

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

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

3.4.5 Determine that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

3.5 Attendants

3.5.1 Be familiar with the hazards in the confined space including information on the signs, symptoms and consequences of exposure.

3.5.2 Continuously maintain an accurate count and identity of authorized entrants.

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

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

3.5.5 Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space.

3.5.6 Order entrants to evacuate the permit space immediately if attendant:

3.5.6.1 Detects a prohibited condition.

3.5.6.2 Detects signs or symptoms of hazard exposure in an entrant.

3.5.6.3 Detects a situation outside the space that could endanger the entrants.

3.5.6.4 Cannot effectively and safely perform all required duties.

3.5.7 Summon rescue services as soon as it is identified that assistance is needed by the entrants.

3.5.8 Warn unauthorized persons that they must stay away from the space; advise the unauthorized persons that they must exit immediately if they have entered the space.

3.5.9 Perform non-entry rescue when indicated.

3.5.10 Assume no additional duties that might interfere with the primary duty to monitor and protect authorized entrants.

3.6 Entrants

3.6.1 Be familiar with the hazards in the confined space including information regarding the signs, symptoms and consequences of exposure.

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

3.6.3 Exit from the space immediately whenever:

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

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

3.6.3.3 The entrant detects a prohibited condition.

3.6.3.4 An evacuation alarm is activated.

4. Procedures/Guidelines

4.1 Scheduling

4.1.1 Confined space entries must be scheduled with EH&S at least one week in advance by calling the ECU Safety Manager.

4.1.2 EH&S will assist the requesting department in development of an acceptable entry plan and will issue an entry permit.

4.1.3 Only properly trained personnel may participate in entry activities.

4.2 Entry Permit

4.2.1 A permit must be completed prior to entry into any permit-required confined space to verify that the space is safe for entry and that pre-entry measures have been taken.

4.2.2 The permit documents compliance with Occupational Safety and Health Standard 29 CFR 1910.146 - Permit-Required Confined Spaces.

4.2.3 Before entry begins, the entry supervisor identified on the permit must sign the entry permit to authorize entry.

4.2.4 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.

4.3 Confined Space Information

4.3.1 The requesting department must provide the following information:

4.3.1.1 Identity and location of confined space.

4.3.1.2 Purpose of the entry and when the requesting department wishes to perform the entry.

4.4 Hazard Evaluation

4.4.1 The confined space must be evaluated prior to entry to determine obvious and potential hazards.

4.4.2 Work should be conducted outside the space if at all possible.

4.4.3 The entry supervisor must determine the hazards present in the space and identify methods to protect entrants.

4.4.4 The activities to be conducted in the space must also be considered as they may create hazards that did not previously exist (welding, chemical use, etc.).

4.4.5 EH&S will assist the requesting department in the hazard evaluation.

4.5 Contractor Safety

4.5.1 Confined space activities must be coordinated with contractor personnel to:

4.5.1.1 Assure that both host and contractor are aware of each other's program and procedures.

4.5.1.2 Provide awareness of the hazards that may be encountered in and around the confined space and measures to be taken to protect personnel from harm.

4.6 Equipment Required for Entry

4.6.1 All equipment that is required to safely perform the entry operation must be identified and properly

maintained.

4.6.2 Equipment includes but is not limited to personal protective equipment, special tools, monitoring equipment, communication equipment, and rescue equipment.

4.6.3 Each entrant is required to wear a full-body harness.

4.7 Emergency Services

4.7.1 Self-rescue should be performed by entrants at the first sign of trouble.

4.7.2 Non-entry rescue may be performed by attendants in certain instances.

4.7.3 Off-site rescue and emergency services will be provided by Greenville Fire and Rescue (GFR).

4.7.4 The entry team should contact GFR by contacting the ECU Police via radio or calling 911 on the phone.

4.8 Preparation of Entry

4.8.1 The entry supervisor must verify that each of the following precautions have been taken prior to entry:

4.8.1.1 All departments likely to be affected by service interruption must be notified.

4.8.1.2 Post signs and barriers to protect entrants from vehicle traffic and pedestrians from falling into the space.

4.8.1.3 Blind or disconnect and cap all input lines, so that no hazardous materials can enter the space.

4.8.1.4 Make sure no hazardous energy can be released by utilizing lockout/tagout procedures.

4.8.1.5 Empty space of any materials that may be hazardous.

4.8.1.5.1 If necessary, clean, purge or inert hazardous residue in the space.

4.8.1.6 When ventilation is needed, begin long enough in advance so that the air will be safe before anyone enters.

4.8.1.6.1 Verify safety by conducting atmospheric monitoring prior to entry.

4.9 Atmospheric Monitoring Record

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

4.9.1.1 Oxygen content must be between 19.5% and 23.5%.

4.9.1.2 The concentration of flammable gases and vapors must be less than 10% of the lower explosive limit (LEL).

4.9.1.3 Toxic materials should be less than permissible exposure limits.

4.9.1.4 Atmospheric conditions must meet acceptable criteria prior to entry.

4.9.1.5 Documentation is required for:

4.9.1.5.1 Contaminants that were monitored.

4.9.1.5.2 Results of monitoring.

4.9.1.5.3 Time they were monitored.

4.9.1.5.4 Who conducted the monitoring?

4.10 Authorization By Entry Supervisor

4.10.1 Immediately before entry begins, the entry supervisor identified on the permit must sign the entry permit to authorize entry.

4.10.1.1 This certifies that all required precautions have been taken and necessary equipment provided for safe entry and work in this permit space.

4.11 Cancellation of Permit

4.11.1 The entry supervisor must cancel the permit by completing the designated section of the permit at the conclusion of the entry operation after the confined space has been properly secured.

4.12 Program Review

4.12.1 The entry supervisor must forward a copy of the canceled permit to EH&S to facilitate the review of the permit-required confined space program.

4.12.1.1 Copies of canceled permits will be maintained for at least one year.

4.13 Deficiencies

4.13.1 Any problems encountered during an entry operation must be addressed immediately and noted on the permit so that appropriate revisions to the permit space program can be made.

5. Training

5.1 Training must be provided to all affected personnel:

5.1.1 Before the employee is first assigned confined space duties.

5.1.2 Before there is a change in assigned duties.

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

5.1.4 Whenever there is reason to believe that there are deviations from the permit space entry procedures.

5.1.5 Whenever there are inadequacies in the employee's knowledge or use of these procedures.

East Carolina University

E 5th Street | Greenville, NC 27858 (<https://www.google.com/maps/place/East+Carolina+University>) | 252-328-6131 (tel:+12523286131)
©2025 | [Terms of Use \(https://www.ecu.edu/terms\)](https://www.ecu.edu/terms) | [Accessibility \(https://accessibility.ecu.edu/\)](https://accessibility.ecu.edu/) | [Report a Barrier \(https://accessibility.ecu.edu/report-an-accessibility-barrier/?referrer=https%3A%2F%2Fpolicydev.ecu.edu%2Farchive%2F07%2F20%2F02%2F1\)](https://accessibility.ecu.edu/report-an-accessibility-barrier/?referrer=https%3A%2F%2Fpolicydev.ecu.edu%2Farchive%2F07%2F20%2F02%2F1)