

Summary Report for Individual Task  
551-8ST-3020  
Conduct Confined Space Entry  
Status: Approved

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**Distribution Restriction:** Approved for public release; distribution is unlimited.

**Destruction Notice:** None

**Foreign Disclosure: FD1** - The materials contained in this course have been reviewed by the course developers in coordination with the Fort Lee, VA. 23801 foreign disclosure authority. This course is releasable to students from all requesting foreign countries without restrictions.

**Condition:** Assigned to a vessel, given a completed risk assessment, CFR 29 Part 1915, NFPA 306, and local Standard Operating Procedure (SOP), a vessel at sea, at anchor or moored alongside the pier, personal protective equipment (PPE), Awareness of Operational Environment (OE)/ Contemporary Operational Environment (COE) variables and factors. Standard MOPP 4 conditions do not exist for this task. See the MOPP 4 statement for specific conditions.

**Standard:** Conduct confined space entry on a vessel in accordance with CFR 29 Part 1915, NFPA 306, and local Standard Operating Procedure (SOP), without injury to personnel or damage to equipment. The vessel is fully mission capable at task completion.

**Special Condition:** These procedures also apply to hot work adjacent to confined and other spaces that may present an explosion or other fire hazard. These procedures supplement federal occupational safety and health standards contained in 29 CFR 1910.146 and 29 CFR 1915 relative to confined space entry and gas free engineering.

**Safety Risk:** High

**MOPP 4:** N/A

<b>Task Statements</b>
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**Cue:** None

**DANGER**

A confined space has limited or restricted means for entry or exit, and it is not designed for continuous occupancy. Deaths in confined spaces often occurs because the atmosphere is oxygen-deficient, toxic or combustible, and contains or have the potential to contain a serious atmospheric hazard.

## WARNING

### MODIFICATION HAZARD

Unauthorized modifications, alterations or installations of or to this equipment are prohibited and are in violation of AR 750-10. Any such unauthorized modifications, alterations or installations could result in death, injury or damage to the equipment.

### HIGH PRESSURE HYDRAULIC SYSTEM HAZARDS

Hydraulic systems can cause serious injuries if high pressure lines or equipment fail. Never work on hydraulic systems or equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment, and who can give first aid. A second person should stand by controls to turn off hydraulic pumps in an emergency. When the technicians are aided by the operators, the operators must be warned about dangerous areas.

### MOVING MACHINERY HAZARDS

Be very careful when operating or working near moving machinery. Running engines, rotating shafts, and other moving machinery parts could cause personal injury or death.

### ELECTRICAL HAZARDS

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Do not be misled by the term "low voltage." Potentials as low as 50 volts may cause death under adverse conditions". Be careful not to contact 115-Vac input connections when installing or operating this equipment. Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through the body.

## CAUTION

None

**Remarks:** None

**Notes:** None

## Performance Steps

### 1. Demonstrate Knowledge of Terms and Definitions for Confined Space Procedures

#### a. Applicability

(1) National Fire Protection Association (NFPA) 306 applies to all vessels while in the United States, its territories and possessions.

(2) Code of Federal Regulations (CFR) 29 Part 1915.11 applies to work in confined and enclosed spaces and other dangerous atmospheres on the vessel.

#### b. Terms

(1) Identify the following definitions from the NFPA 30.

(a) Adjacent Spaces - Those spaces in all directions from subject space, including all points of contact, corners, diagonals, decks, tank tops, and bulkheads.

(b) Chemical - Any compound, mixture, or solution in the form of a solid, liquid, or gas that may be hazardous by virtue of its properties other than or in addition to flammability, or by virtue of the properties of compounds that might be evolved from hotwork or cold work.

(c) Flammable - The words "flammable and "inflammable" are interchangeable or synonymous terms for the purpose of this standard.

(d) Flammable Compressed Gas - Any flammable gas that has been compressed, liquified, or compressed and liquified for the purpose of transportation and has a Reid vapor pressure exceeding 40 psia.

(e) Hollow Structures - Rudders, rudder stocks, skegs, castings, masts and booms, rails, and other attachments to a vessel that enclose a void space.

(f) Marine Chemist - The holder of a valid Certificate issued by the National Fire Protection Association in accordance with the "Rules for Certification of Marine Chemists," establishing him as a person qualified to determine whether construction, alteration, repair, or shipbreaking of vessels, which may involve hazards covered by this standard, can be undertaken with safety.

(g) Marine Chemist's Certificate - A written statement issued by a Marine Chemist in the form and manner prescribed by this standard. It states the conditions that the Marine Chemist found at the time of his inspection.

(h) Flammable Liquid - Any liquid having a flash point (closed cup) below 100° F and having a vapor pressure not exceeding 40 psi absolute at 100° F. Grades include A, B, and C.

(i) Combustible Liquid - Any liquid having a flash point (open cup) at or above 100° F.

(j) Toxic Materials - Any material whose properties contain the inherent capacity to produce injury to a biological system. This is dependent on concentration, rate, method, and site of absorption.

## WARNING

All spaces are Hot Work permit-required spaces for welding operations.

(k) Hotwork- Any construction, alteration, repair, or shipbreaking operation involving riveting, welding, burning, or similar fire-producing operations. Grinding, drilling, abrasive blasting or similar spark-producing operations shall be considered hotwork unless deemed otherwise by a Marine Chemist.

(l) Cold Work - Any construction, alteration, repair, or shipbreaking that does not involve heat, fire, or spark-producing operations.

(m) Work Below Deck - Work in or on enclosed spaces surrounded by shell, bulkheads, and overheads.

(n) Work in the Open - Work performed from open decks or in spaces from which the overhead has been completely removed.

(o) Secured - Closed in a manner to avoid accidental opening or operation.

(p) Shipbreaking- The breaking down of a vessel's structure for the purpose of scrapping the vessel; includes the removal of gear, equipment, or any component part of a vessel.

(q) Tank Vessel - Any vessel especially constructed or converted to carry liquid bulk cargo in tanks.

(r) Tank Ship - Any tank vessel propelled by power or sail.

(s) Tank Barge- Any tank vessel not equipped with a means of self-propulsion.

(t) Vessel - Includes every description of watercraft used, or capable of being used, as a means of transportation on water.

(2) Identify the follow definitions from the CFR 29 Part 1915 Subpart B.

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

(b) Dangerous Atmosphere - An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (i.e., escape unaided from a confined or enclosed space), injury, or acute illness.

(c) Hotwork - Same as NFPA with exception: When such operations are isolated physically from any atmosphere containing more than 10 percent of the lower explosive limit of a flammable or combustible substance.

(d) Immediately Dangerous to Life or Health - (IDLH) Means an atmosphere that poses an immediate threat to life or that is likely to result in acute or immediate severe health effects.

(e) Lower Explosive Limit (LEL) - The minimum concentration of vapor in air below which propagation of a flame does not occur in the presence of an ignition source.

(f) Oxygen-Deficient Atmosphere - An atmosphere having an oxygen concentration of less than 19.5 percent by volume.

(g) Oxygen-Enriched Atmosphere - An atmosphere that contains 22.0 percent or more oxygen by volume.

(h) Personal Exposure Limit (PEL) - The maximum limit in PPM that a worker may be exposed to a substance during a normal 8-hour workday.

(i) Upper Explosive Limit (UEL) - The maximum concentration of flammable vapor in air above which propagation of flame does not occur on contact with a source of ignition.

2. Demonstrate Knowledge of a Certified Marine Chemist.

a. General

(1) A certified Marine Chemist or competent person shall be permitted to issue a certificate in writing stating that the prescribed work to a vessel can be undertaken with safety. They will physically inspect and carry out specific tests within each compartment or space and ensure compliance with the minimum applicable requirements prior to issuing a Certificate.

(2) All instruments will be checked for calibration before each day's use. If not used, instruments should be calibrated every 30 days. All determinations will include an internal inspection and tests of the spaces to be certified and all adjacent spaces. The determinations will include:

- (a) The three previous cargoes carried
- (b) The nature and extent of the work
- (c) Starting time and duration of the work
- (d) Tests of cargo and vent lines at manifolds and accessible openings

(e) Verification that cargo valves in prescribed areas are tagged and locked in position in a manner to avoid accidental operation. Lock Out/Tag out procedures.

#### b. Testing of Confined Spaces

(1) CFR 29 Part 1915.12 Oxygen Content. Atmospheric testing must be performed in the following sequence: oxygen content, flammability, and toxicity. The following spaces must be visually inspected and tested by a competent person to determine the oxygen content of the atmosphere prior to initial entry into the following spaces:

- (a) Spaces that have been sealed.
- (b) Spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases.
- (c) Spaces and adjacent spaces that contain or have contained liquids, gases, or solids that are toxic, corrosive, or irritant.
- (d) Spaces and adjacent spaces that have been fumigated.
- (e) Spaces containing materials or residues of materials that create an oxygen-deficient atmosphere.
- (f) If an oxygen deficient or oxygen-enriched condition is found, the space will be ventilated at volumes and flow rates sufficient to ensure that the oxygen content is maintained at or above 19.5 percent and below 22.0 percent by volume.
- (g) A person may not enter a space where the oxygen content is below 19.5 percent or above 22.0 percent by volume.

(2) Flammable Atmospheres- Spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases shall be inspected visually and tested by a competent person prior to initial entry to determine the concentration of flammable vapors and gases within the space.

(a) If the concentration of flammable vapors or gases in the space is equal to or greater than 10 percent of the lower explosive limit, the space shall be labeled "Not Safe for Workers" and "Not Safe for Hotwork".

(b) Ventilation will be provided at volume and flow rate to ensure that the concentration of flammable vapors is maintained below 10 percent of the lower explosive limit.

(c) Warning labels may be removed when the concentration of flammable gases is maintained below 10 percent of the lower explosive limit.

## **WARNING**

In the past, over 60 percent of all fatalities in confined spaces were untrained rescuers. The primary cause of injury or death in confined spaces is asphyxiation. The second leading cause is fire. Implementation of the U.S. Army Combat Readiness Center's Confined Spaces Program standard and application of these procedures will greatly reduce the potential for loss of life during entry into confined spaces.

(d) A person may not enter a space where the concentration of flammable vapors or gases is equal to or greater than 10 percent of the lower explosive limit. A person may enter for emergency rescue or for a short duration for installation of ventilation equipment necessary to start work in the space, provided no ignition sources are present, the atmosphere in the space is monitored continuously, and atmospheres at or above the upper explosive limit are maintained. Respiratory protection and other personal protective equipment and clothing are provided in accordance with Subpart I of CFR 29 Part 1915.

(3) Toxic Atmospheres - Spaces or adjacent spaces that contain or have contained liquids, gases, or solids that are toxic, corrosive, or irritant shall be inspected visually and tested by a competent person prior to entry to determine the air concentration of toxins, corrosives, or irritants within the space.

Note: There are procedures by which workers can work in IDLH atmospheres. However, Army competent persons are not trained to do this type of entry. A person may enter for emergency rescue, or for a short duration for installation of ventilation equipment provided. The atmosphere in the space is monitored continuously.

(a) If a space contains an air concentration of a material which exceeds Part 1915, Subpart Z permissible exposure limit (PEL), or is IDLH, the space shall be labeled "Not Safe for Workers".

(b) Ventilation shall be provided at appropriate volumes and flow rates, which will ensure that air concentrations are maintained within the PEL, or below the IDLH if the contaminant has no established PEL.

(c) If a space cannot be ventilated within the PELs or is IDLH, the competent person must re-test until the space can be certified "Enter with Restrictions", or "Safe for Workers." An employee may not enter a space whose atmosphere exceeds a PEL or is IDLH.

(d) Respiratory protection and other necessary personal protective equipment and clothing are provided in accordance with Subpart I of CFR 29 Part 1915

### 3. Demonstrate Knowledge of Atmospheric Testing in a Confined Space

#### a. General

(1) There are several ways that the air inside a confined space can be hazardous.

(a) The oxygen level can be unsafe. Oxygen deficient-below 19.5 percent by volume and enriched-above 22.0 percent by volume.

(b) The atmosphere can contain high concentrations of flammable materials.

(c) The atmosphere can contain toxic materials.

(2) Use the confined space entry permit to guide you through atmospheric testing. The permit lists consist of:

(a) Tests which are required for the confined space.

(b) Acceptable testing equipment and procedures to use.

(c) Atmospheric conditions that are acceptable for safe entry.

#### b. Calibration of Equipment

(1) There are numerous types of atmospheric meters on the market. This equipment is sensitive and needs to be checked and re-checked to ensure that it is operating properly.

(2) There are two steps in the calibration process.

(a) Use a known span gas to calibrate the meter. Knowing the concentrations of the span gas will let you know whether the sensor is reading correctly.

(b) Perform a function test in the field.

#### c. Demonstrate Atmospheric Testing Meter

(1) Testing Requirements

(2) In order to prevent a tragic accident, the atmosphere must be tested before anyone enters the confined space for any reason.

(3) Prepare the space by isolating, emptying, cleaning and ventilating. If anyone needs to enter the space to complete preparation, the atmosphere must be tested first.

(4) Conduct testing for oxygen level, flammability and toxicity from outside the space using remote probes and sampling lines. This can be accomplished by utilizing slightly opened covers or hatches.

(5) If ventilation is being used, turn the ventilation off for your first test. Then turn the ventilation system back on and retest the space.

(6) Test all vertical levels of the confined space. You must test the top, middle and bottom of the space due to the different weights of contaminants. Test as much of the space's horizontal area as possible.

(7) If any test shows the air to be unsafe, the hazard must be controlled before anyone enters the space.

(8) Retest the air's oxygen level, flammability and toxicity immediately after you enter the space. All vertical levels that you were unable to test from outside the space must be tested immediately. Pay close attention to corners and any areas where hazardous chemicals might leak or collect in the space.

(9) If you must go into an untested area, protect yourself by using all safety precautions and an air line respirator.

(10) The space must be monitored continuously or re-tested at regular intervals as long as the confined space is occupied. The atmosphere can change due to oxidation of a space and any type of hotwork being performed.

(11) If the air in a space becomes unsafe, responding immediately can save lives. If an alarm sounds, exit the space immediately. Do not re-enter the space until the hazard has been controlled and the space has been re-tested.

#### 4. Demonstrate Knowledge of Ventilation in a Confined Space

a. Ventilation is required whenever the atmosphere in a confined space is hazardous in any of the following ways:

(1) The atmosphere contains too little oxygen

(2) The atmosphere contains too much oxygen

(3) The atmosphere is flammable

(4) The atmosphere is toxic

b. There are two types of ventilation:

(1) Natural ventilation depends on the motion of the air without assistance. Air currents provide this flow.

(2) Mechanical ventilation does not depend upon the wind or air currents to move air into or out of a confined space but relies on a mechanical means.

## WARNING

Special attention must be taken on the quality of air from hazardous contaminants, keeping fresh air flowing through a manual intake system pushing contaminants out into the atmosphere.

c. Ventilate well in advance so that the air in a confined space will be safe before anyone enters the space.

d. Test the space prior to entry to ensure that the ventilation system is working properly and has been in operation long enough.

e. After entry, continue ventilation and continue testing for as long as the space is occupied. Pay particular attention to work that can make the air unsafe such as hotwork, painting, coating, using solvents, and sandblasting.

f. Ventilation systems include local exhaust ventilation and general exhaust ventilation.

(1) Local ventilation captures contaminants at their point of origin and removes them. It is commonly used during hotwork and cleaning with solvents. The exhaust intake will be positioned close to your work.

(2) General ventilation flushes the atmosphere by supplying and exhausting large volumes of air.

g. There are two types of general ventilation systems - exhaust ventilation and supply ventilation.

(1) Exhaust ventilation draws contaminated air out of an area and is commonly used when the atmosphere could be flammable or toxic.

(2) Supply ventilation forces clean breathable air into a space and is commonly used when the atmosphere is either oxygen deficient or oxygen enriched.

h. Ventilation exhaust may contain contaminants. Position the exhaust outlet so that the exhaust won't be drawn back into the space. Place exhaust outlet where it will disperse quickly. Due to the characteristics of certain contaminants, you may be placing other people in danger.

i. The Marine Chemist may require air change outs as part of his/her determination of safe entry conditions. It is necessary to have an understanding of the calculations required to meet this requirement.

j. The volume of spaces is calculated in the following manners:

(1) Volume of a cube = length times width times height

(2) Volume of a cylinder = radius times radius times height

(3) Volume of a sphere = (4 times Pi times radius times radius times radius) divided by 3

k. Pi is valued at 3.14.

l. Ventilation blowers are commonly rated in Cubic Feet per Minute(CFM). Air change out requirements are usually stated in hourly time increments. Blower outputs must be converted into CF per hour to accommodate air change out requirements.

## 5. Demonstrate Knowledge of Non-Entry Rescue

### a. General

(1) When working in a confined space, your life may depend on your ability to exit a space quickly. There are two techniques that are available without putting others at risk.

(a) Self-rescue occurs when you evacuate a space at the first sign of trouble.

(b) Non-entry rescue is when your attendant uses a retrieval system to pull you out of the space without their entering the space.

(2) Both techniques require advance training and ongoing teamwork between entrant and attendant.

(3) Personnel should be trained before entering a permitted space. This training should include:

(a) Identifying hazards in the space.

(b) Taking measures to control hazards such as isolation, lockout/tagout, atmospheric testing and ventilation.

(c) Following safe entry and work procedures (SOP)

(d) Ensuring safety equipment is on hand and operational. A mechanical device must be available to retrieve personnel from vertical-entry permit spaces more than five feet deep.

(e) Ensuring a thoroughly trained and equipped emergency rescue team is available if needed.

(4) Before entering a confined space read the permit and follow its instructions, check the Material Safety Data Sheet (MSDS) for any hazardous chemicals that you may come in contact with, and plan for what could go wrong and prepare accordingly.

### b. Personnel Responsibilities

#### (1) Entry Supervisor

(a) Before entry, the supervisor verifies that the permit is filled out completely and all safety steps listed on it are taken, then signs the form.

(b) During entry, the supervisor checks conditions to make sure they stay safe throughout the work.

(c) If at any time conditions become unsafe, the permit is canceled and everyone is ordered out of the space.

(d) The supervisor ensures that any unauthorized personnel are removed from the work site.

(e) Upon completion of work, the supervisor cancels the permit and concludes the operation.

(2) Entrant

(a) You are authorized to enter a permit space.

(b) You must be alert for any sign that you are being exposed to toxins or other hazards. Examples include loss of fine muscle control, confusion, difficulty breathing and ringing in the ears.

(c) Be aware of conditions prohibited on the entry permit such as improper ventilation.

(d) Use all personal protective equipment exactly as specified on the permit. An air-purifying respirator is not a substitute for a supplied air respirator such as a Scot air pack.

(e) Immediately notify your attendant at the first sign of any hazard and begin self rescue.

(f) If the attendant orders you to evacuate the space, do so immediately.

(3) Attendant

(a) You are stationed outside one or more permit spaces to monitor the location and condition of authorized entrants.

(b) You are specially trained to recognize entry hazards and to detect any effects on entrants.

(c) You must maintain effective contact with all authorized entrants throughout entry.

(d) You act as the entrant's eyes and ears outside the space. Stay alert for any hazards.

(e) You order the entrants to evacuate the space at the first sign of a hazardous situation.

c. Communications

(1) Communication is the lifeline between the entrant and the attendant.

(a) Entrant and attendant must maintain contact throughout the entry of a confined space. Set a standard routine so that the attendant can detect subtle changes in the entrant's speech or behavior.

(b) If the entrant will not remain in view of the attendant, you may need to use two-way radios, television or other continuous monitoring equipment.

(2) Have a backup system in case of problems such as pulls on the tag line similar to fire fighting communications.

6. Demonstrate Knowledge of Hotwork Permit

a. General

## CAUTION

When open flame or heat producing work such as welding, cutting, or brazing is to be conducted, the worksite, regardless of the location, is to be inspected by the gas free engineer, safety NCO, fire department, or local approving authority as required by local standard operation procedure (SOP).

(1) In order to perform any hotwork within a confined space, a Hotwork Permit is required in addition to a Confined Space Entry Permit for that space.

(2) Hotwork Permits give the following information:

(a) Which confined space will be entered

(b) The date and time of entry into the space

(c) When the permit expires

(d) The kind of work that will be done in the space

(e) The names of people authorized to enter the space. It depicts who the supervisor, entrants, and attendants are.

(3) Duties of the supervisor prior to entry include the following tasks:

(a) Reviews the checklist on the Confined Space Entry Permit and the Hotwork Permit.

(b) Ensures that all the listed steps have been taken and conditions are safe for entry.

(c) Signs the Hotwork Permit.

(d) Only after these steps have been taken is anyone allowed to enter the confined space.

### b. Guidelines

(1) The same stringent guidelines are in effect for Hotwork to guard workers against hazards.

(2) Notify all personnel of hazards in the space.

(3) Test for atmospheric conditions prior to entry, immediately upon entry, and throughout entry. Pay particular attention to the fact that the atmosphere can and will change throughout the course of hotwork being performed.

(4) Ventilate and isolated the space as necessary. Follow lockout/tagout procedures as outlined in SOP on board vessel.

(5) Ensure that personal protective equipment is on station and utilized as required in accordance with the Confined Space Entry Permit and the Hotwork Permit.

(6) Ensure that rescue equipment is on station and in operational condition.

(7) Ensure that a means of communication is available for personnel involved in the Confined Space Entry/Hotwork.

(8) Ensure that there is a rescue team available if needed that is fully trained and that the attendant knows how to contact them.

(9) Continuously monitor the atmosphere for all hotwork operations.

c. Additional Safety Requirements for Hotwork

(1) Inspect Hotwork equipment before each use.

(2) Remove or protect combustibles within 35 feet of the hotwork.

(a) Remove all flammable materials if possible.

(b) If materials cannot be removed, they must be shielded.

(c) Use lagging cloth or tarps to protect machinery and/or personnel.

(d) Protect combustible decks and bulkheads. Use coverings as necessary.

(e) For arc welding, if floors are wetted down, protect workers from shocks.

(f) Post a fire watch. Pay particular attention to adjacent spaces. Ensure fire extinguishers are on station and operational.

(g) Never take compressed gas cylinders or welding machines into a confined space. Practice all safe welding procedures.

(Asterisks indicates a leader performance step.)

**Evaluation Guidance:** Score the Soldier a GO if all performance measures are correctly completed/pass (P). Score the Soldier a NO-GO if any of the performance measures are missed or incorrectly performed/fail (F).

**Evaluation Preparation:** Ensure Soldier understands when entering confined spaces on the vessel it is important to conduct proper testing prior to entry to prevent personnel from unnecessary exposure to hidden dangers.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Demonstrated Knowledge of Confined Space Terminology			
2. Demonstrated Knowledge of Responsibilities and Certification process of a Marine Chemist			
a. Explained the duties of a Marine Chemist or competent person.			
b. Ensured all instruments used are calibrated within the required time frame.			
c. Identified all five determinations which include an internal inspection and test of the spaces to be certified and all adjacent spaces.			
d. Identified atmospheric testing to be performed in sequence.			
3. Demonstrated Knowledge of Atmospheric Testing in a Confined Space			
a. Identified hazards found in a confined space.			
b. Identified the proper permit to utilize when conducting atmospheric testing.			
c. Determined when to conduct the atmospheric test of a confined space.			
4. Demonstrated Knowledge of Ventilation in a Confined Space			
a. Identified the four requirements of ventilating the atmosphere of a hazardous confined space.			
b. Identified the two types of ventilation.			
c. Identified the two types of a general ventilation system.			
5. Demonstrated Knowledge of Non-Entry Rescue			
a. Identified the two rescue techniques that are available without putting others at risk.			
b. Demonstrated knowledge of the personnel responsibilities of a Entry Supervisor, Entrant, and Attendant.			
6. Demonstrated Knowledge of Hotwork Permit			
a. Explained what a Hotwork Permit is and what information is covered on the permit.			
b. Identified additional safety requirements for Hotwork.			

**Supporting Reference(s):**

Step Number	Reference ID	Reference Name	Required	Primary
	CFR 29	CFR 29 - Labor, Parts 1911-1925	Yes	No
	NFPA 306	Standard for the control of Gas hazards on vessel, 2009 edition	Yes	No

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

**Prerequisite Individual Tasks :** None

**Supporting Individual Tasks :** None

**Supported Individual Tasks :**

<b>Task Number</b>	<b>Title</b>	<b>Proponent</b>	<b>Status</b>
551-8ST-4021	Enforce Confined Space Entry Procedures	551 - Transportation (Individual)	Approved
551-881-8132	Identify All Vessel Systems	551 - Transportation (Individual)	Approved

**Supported Collective Tasks :**

<b>Task Number</b>	<b>Title</b>	<b>Proponent</b>	<b>Status</b>
55-2-1508	Conduct Vessel Operations	55 - Transportation (Collective)	Approved

**ICTL Data :**

<b>ICTL Title</b>	<b>Personnel Type</b>	<b>MOS Data</b>
MOS 88K Watercraft Operator SL 4	Enlisted	MOS: 88K, Skill Level: SL4, Duty Pos: TFJ
88L30 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL3, Duty Pos: TFR, LIC: EN
88L40 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL4, Duty Pos: TGB, LIC: EN, SQI: O
MOS 88K Watercraft Operator SL3	Enlisted	MOS: 88K, Skill Level: SL3, Duty Pos: TAV