**Oil Rig – Confined Space Entry & Work Procedure**
**(For Training Purposes)**

**1. General Information**

* **Operation Title**: [Title of Confined Space Operation, e.g., "Inspection of Storage Tank"]
* **Location**: [Specific location of the confined space, e.g., "Tank 5", "Pump Room"]
* **Date**: [Date of operation]
* **Time**: [Start time of operation]
* **Supervisor**: [Name of Supervisor / Responsible Person]
* **Confined Space Supervisor**: [Name of Confined Space Entry Supervisor]
* **Work Crew Members**: [Names of team members entering the confined space]
* **Authorized Entrants**: [Names of workers authorized to enter]
* **Permit to Work (PTW) Reference**: [Permit number, if applicable]
* **Emergency Response Team**: [Names/contacts of emergency personnel]

**2. Confined Space Definition**

A confined space is any space that:

* Is large enough for a worker to enter and perform work.
* Has limited or restricted means for entry and exit.
* Is not designed for continuous human occupancy.
* May contain or be designed to contain a hazardous atmosphere or other safety hazards.

**Examples**: Tanks, vessels, silos, pipelines, ducts, sumps, pits, etc.

**3. Hazard Identification and Risk Assessment**

Before entering, the hazards associated with the confined space must be assessed, and proper control measures must be put in place.

| **Hazard Description** | **Potential Risk** | **Control Measures** |
| --- | --- | --- |
| **Atmospheric Hazards (e.g., Oxygen Deficiency, H2S, Methane)** | Asphyxiation, poisoning, explosion | - Continuous air monitoring (O2, H2S, CO) - Ventilation systems - Use of SCBA or respirators |
| **Engulfment or Constriction** | Crushing, entrapment, suffocation | - Ensure space is clear of obstructive materials - Implement lockout/tagout (LOTO) procedures |
| **Toxic Substances** (e.g., residues, chemicals) | Poisoning, skin absorption | - PPE (gloves, coveralls, eye protection) - Decontamination procedures |
| **Flammable Atmosphere** (e.g., gases, vapors) | Explosion, fire | - No smoking or open flames - Explosion-proof electrical equipment - Proper grounding of tools |
| **Physical Hazards** (e.g., sharp edges, moving parts) | Cuts, lacerations, abrasions | - Use of proper PPE (e.g., gloves, hard hats) - Barricade or shield hazardous moving parts |

**4. Confined Space Entry Procedures**

**Pre-entry Check**:

* **Atmospheric Testing**: Conduct tests for oxygen levels (O2), toxic gases (e.g., H2S, CO), and flammable gases (e.g., methane).
	+ **Acceptable O2 Levels**: 19.5% - 23.5%
	+ **Acceptable H2S Levels**: 10 ppm (parts per million) or below
	+ **LEL (Lower Explosive Limit)**: Below 10% of the LEL
* **Ventilation**: Ensure forced ventilation is provided before and during entry to maintain safe air quality inside the confined space.
* **PPE**: Confirm all workers entering the confined space are wearing appropriate personal protective equipment (PPE). This may include:
	+ Self-contained breathing apparatus (SCBA) or respirators
	+ Hard hats, gloves, eye protection, coveralls
	+ Fall protection (harness, lifeline) if working at height
* **Lockout/Tagout (LOTO)**: Ensure all machinery and equipment in the confined space are properly locked out and tagged out.
* **Communication**: Ensure clear communication channels (radio, phone) are established between entrants and the external monitoring team.

**Entry Procedure**:

1. **Pre-entry briefing**: Conduct a safety briefing to discuss hazards, roles, emergency procedures, and evacuation plans.
2. **Test atmosphere**: Perform continuous atmospheric monitoring before and during entry.
3. **Entry**: Ensure all safety measures (PPE, ventilation, communication) are in place before entry.
4. **Constant monitoring**: A dedicated attendant must be stationed outside the confined space to monitor for any unsafe conditions and provide assistance if needed.

**5. Roles and Responsibilities**

* **Confined Space Supervisor**:
	+ Oversees the entire operation.
	+ Ensures that all safety protocols are followed and risk assessments are completed.
	+ Verifies that the proper permits are in place.
* **Entrants**:
	+ Only authorized personnel are allowed to enter the confined space.
	+ Entrants are responsible for wearing the correct PPE and adhering to safe work practices.
	+ Entrants must continuously monitor for signs of hazardous conditions and immediately alert the attendant if conditions change.
* **Attendant**:
	+ Stays outside the confined space and maintains communication with entrants at all times.
	+ Monitors atmospheric conditions, performs rescues if necessary, and ensures emergency procedures are followed.
	+ Keeps a log of the confined space entry, monitoring, and actions taken during the operation.
* **Emergency Response Team**:
	+ Remains on standby in case of an emergency.
	+ Should be familiar with the rescue plan and equipped with necessary rescue equipment (e.g., rescue stretchers, hoists).
	+ Should be trained in confined space rescue procedures.

**6. Emergency and Rescue Procedures**

* **In the event of an emergency** (e.g., atmospheric contamination, worker injury):
	1. **Alert the attendant**: The attendant will notify the Confined Space Supervisor and initiate an evacuation or rescue.
	2. **Evacuate entrants**: If conditions become unsafe, evacuate all workers immediately.
	3. **Rescue Plan Activation**: The Emergency Response Team should execute the rescue plan if an evacuation is not feasible.
	4. **Rescue Equipment**:
		+ Full-body harnesses, lifelines, and hoisting equipment should be ready for immediate use.
		+ Ensure there is a means of rapid extraction from the confined space (e.g., tripod or winch system).
	5. **Post-incident evaluation**: Once the emergency is resolved, conduct a debrief to identify what went wrong and how procedures can be improved.

**7. Atmospheric Testing and Monitoring**

| **Parameter** | **Acceptable Range** | **Action Required if Out of Range** |
| --- | --- | --- |
| Oxygen (O₂) | 19.5% - 23.5% | Ventilate or evacuate if oxygen is below 19.5% or above 23.5% |
| Hydrogen Sulfide (H₂S) | 10 ppm or less | Evacuate if concentration exceeds 10 ppm |
| Carbon Monoxide (CO) | 25 ppm or less | Evacuate if concentration exceeds 25 ppm |
| Flammable Gases | Below 10% LEL | Evacuate if concentration exceeds 10% LEL |

**Note**: Continuous atmospheric monitoring is required throughout the operation.

**8. Confined Space Permit**

A **Confined Space Entry Permit** must be issued before work begins. The permit must confirm:

* All hazards have been identified and controlled.
* Workers have been properly trained and equipped.
* Atmospheric tests have been performed and recorded.
* Emergency response measures are in place.

**9. Documentation and Record Keeping**

* **Confined Space Entry Log**: Keep detailed records of all confined space entries, including:
	+ Date and time of entry.
	+ Names of authorized entrants.
	+ Atmospheric test results.
	+ Safety measures implemented.
	+ Work performed inside the confined space.
	+ Any incidents or near misses.

**10. Acknowledgment and Approval**

By signing this form, the personnel acknowledge that they have received and understood the safety procedures related to the confined space operation. They commit to following all safety measures and immediately reporting any unsafe conditions.

| **Name** | **Role** | **Signature** | **Date** |
| --- | --- | --- | --- |
| [Name] | Confined Space Supervisor | [Signature] | [Date] |
| [Name] | Entrant 1 | [Signature] | [Date] |
| [Name] | Entrant 2 | [Signature] | [Date] |
| [Name] | Attendant | [Signature] | [Date] |
| [Name] | Emergency Response | [Signature] | [Date] |