Hole Watch Attendant
Confined Spaces

Two types of confined spaces

• Non-permit required confined spaces
• Permit-required confined spaces
Confined Spaces

Non-permit required confined space

• Large enough to physically enter
• Has limited or restricted entry or exit
• Was not designed for continuous human occupancy
Confined Spaces

Permit-required confined space
• Confined space that contains or potentially contains
  – Hazardous atmospheric conditions
  – Material that may engulf an entrant
  – Inwardly converging walls
  – Sloping, narrowing floors
  – Any other recognized serious safety or health hazard
Confined Spaces

• Confined spaces are one of the most dangerous work environments oil and gas workers will encounter.
• Thousands of US workers have died in confined spaces.
• Low oxygen kills more people than any other hazard in confined spaces.
• Falls from heights are the second highest cause of death in confined space.
• 60% of all workers who die in confined spaces are rescuers.
Entry Permit

Permit required confined spaces require a posted entry permit by the primary entrance that must contain:

- The permit space to be entered
- Purpose of entry
- Date and duration of permit
- Identification of authorized entrants and entry supervisor
- Permit space hazards
- Measures used to isolate, eliminate, or control permit space hazards
Entry Permit

Permit required confined spaces require a posted entry permit by the primary entrance that must contain

• Acceptable entry conditions
• Signed or initialed and dated results of initial and periodic atmospheric tests
• Rescue services information
• Equipment requirements
• Any other necessary information
Confined Space Team

- Entrants
- Attendants
- Entry supervisors
- Rescuers

Work together as a team to keep everyone involved safe.
Attendant Role and Responsibilities

• Stationed outside permit space
• Monitors the authorized entrants
• Performs all attendant’s duties assigned in the employer’s permit space program
• At least one attendant must be provided outside the permit space for the duration of entry operations
Attendant Duties

Attendants are required to

• Be trained as an entrant
• Continuously maintain an accurate count
• Never allow unauthorized workers to enter the confined space
• Understand and recognize potential hazards and signs of exposure to entrants
• Monitor activities inside and outside the space to determine if entry is safe
Attendant Duties

Attendants are required to

• Maintain continuous contact with entrants
• Know when to order entrants to evacuate from the permit space
• Call for rescuers if entrants need assistance to escape
• Never leave the space unattended or perform other duties
• Avoid entry in emergencies
Confined Space Hazards

Atmospheric hazards

• Oxygen deficiency or enrichment
• Carbon dioxide
• Toxic gases, vapors, and fumes
• Flammable gases, vapors, and fumes
Oxygen Deficiency

• Atmospheric oxygen concentration less than 19.5%
• Signs and symptoms
  – Increased respiration rate and depth
  – Diminished night vision
  – Euphoria
  – Dizziness
  – Fatigue
  – Disorientation
  – Poor judgment or coordination
Oxygen Enrichment

• Atmospheric concentration above 23.5% on land
• Increases danger of fire or explosion
• Usually caused by a leaking gas line
Carbon Dioxide

• Carbon dioxide (CO₂) is toxic in high concentrations

• Signs and symptoms
  – Drowsiness
  – Dizziness
  – Headache
  – Trouble seeing and hearing
  – Unconsciousness
Toxic Gases, Vapors, and Fumes

• Can cause fires and explosions
• Require ventilation and respiratory protection
Toxic Gases, Vapors, and Fumes

Signs and symptoms
- Skin redness or skin rash
- Swelling
- Itching or burning sensation
- Cramps, nausea, or vomiting
- Headache or dizziness
- Eye irritation or vision difficulty
- Excessive sweating or chills
- Seizures
- Loss of consciousness
Other Confined Space Hazards

Physical hazards

• Engulfment
• Entrapment
• Asphyxiation
• Falls from heights
Other Confined Space Hazards

Other hazards

• Materials that create slip, trip, or fall hazards
• Falling materials
• Hazardous residual chemicals
• Standing water (drowning)
• Electrical
• Temperature
• High noise levels
• Vibration
Attendant Responsibilities

Know the hazards

• Know information on
  – The mode
  – Abnormal signs or symptoms
  – Consequences of exposure
Attendant Responsibilities

• Be aware of possible behavioral effects of hazard exposure in authorized entrants
• Review hazards listed on the permit entry
• Refresh yourself on the signs and symptoms associated with those hazards before beginning work
Attendant Responsibilities

Keep count

• Continuously maintain an accurate count of authorized entrants in the permit space
• Ensure that the means used to identify authorized entrants accurately identifies who is in the permit space
• Use a roster or tracking system to identify and count authorized entrants
Attendant Responsibilities

Remain outside

• Attendants must remain outside the permit space during entry operations until relieved by another attendant
• Do not attempt a rescue unless you have been properly trained and equipped
• Untrained rescuers may become victims while attempting to save coworkers
Attendant Responsibilities

Communicate with entrants

• Attendants must communicate with authorized entrants to monitor entrant status and to alert entrants of the need to evacuate the space

• Maintain continuous communication by
  – Voice
  – Radio
  – Telephone
  – Visual contact

• Before beginning work, verify that both your and the entrant’s communication devices work and are fully charged

• Listen carefully for signs and symptoms of hazard exposure
Attendant Responsibilities

Monitor activities

• Attendants must monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space.

• Order entrants to evacuate if you detect
  – Prohibited hazardous conditions
  – Behavioral effects of hazard exposure
  – A situation outside the space that could endanger entrants

• If you cannot effectively and safely perform your duties for any reason, order entrants to evacuate
Attendant Responsibilities

Call rescue services

• Attendants must summon rescue and emergency services as soon as they notice the entrants need help to escape from permit space hazards
• Before beginning work, check that the entry permit lists your company’s designated rescue and other emergency services
• If you are unsure or if this information is not listed, get that information before starting work
• Make sure that you have a working phone or radio you can use to contact EMS
• Inform rescuers of all hazards
Attendant Responsibilities

Monitor for unauthorized entry

• Attendants must take the following actions when unauthorized persons approach or enter a permit space while entry is underway
  – Warn the unauthorized person to stay away from the permit space
  – Tell the unauthorized person to exit the permit space immediately
  – Inform the authorized entrants and the entry supervisor if unauthorized entrants have entered the permit space

• Keep unauthorized people away from the confined space

• Unauthorized entrants may hurt themselves or endanger the entrants you are assigned to protect
Attendant Responsibilities

Perform non-entry rescue
• Perform as specified by the employer’s rescue procedure
• Review your employer’s rescue procedure and attend rescue drills
• When appropriate, authorized entrants must wear a chest or full body harness with a retrieval line or life line attached
• If the vertical confined space is deeper than 5 feet, a mechanical hoisting device must be provided
• Go over how to use each of these pieces of equipment with your entry supervisor
Attendant Responsibilities

Do not interfere

• Attendants must not perform any other duties that might interfere with their primary duty to watch and protect the entrants
• Do not multitask while on duty
• Make sure there are no other distractions