Confined Space Guidelines

What is a Confined Space?

Confined spaces may be encountered during prep (e.g., construction, painting, etc.), filming (e.g., set locations, stunts, SPFX, etc.) and wrap (e.g., demolition, etc.) activities of a production. Confined spaces can be above or below ground, have limited entry/exit access, and are not necessarily entirely enclosed. While it is recommended the productions either eliminate, substitute, or design a set in a way to eliminate a confined space condition, there may be situations where it is not feasible.

A comprehensive hazard assessment reviewing the space or set design is required before any further action is permitted. It should never be assumed that a confined space is safe until it is properly assessed by a qualified professional and approved by your Production Safety Representative.

Confined space means a space that meets **all** of the requirements below:

- It is large enough and so configured that a crewmember can bodily enter and perform assigned work
- It has limited or restricted means for entry or exit. I.e. having to crawl, go over the top, climb up or down, duck, or squeeze into the access space. This also includes spaces with heavy doors that are very difficult to close/open or could only be opened through automated means.
- The space is not designed for continuous occupancy.

Below are examples of typical confined spaces productions may encounter or create:

- Manholes
- Vents or ducts
- Sewers
- Rail car tanks
- Silos
- Chambers
- Tunnels
- Underground utility vaults
- Subfloors
- Attics
- Pits
- Equipment housings

Confined Space Conditions

Productions are prohibited from entering permit required confined spaces under any circumstances. Please contact your assigned Authority Having Jurisdiction (AHJ) or Production Safety Representative for further guidance, assistance with confined space identification/classification, and hazard assessments. All confined spaces require classification and hazard assessment to be completed prior to anyone making entry.

Typical permit required conditions include:

- Contains or has the potential to contain a hazardous atmosphere. e.g., oxygen deficient/rich environment, airborne contaminants above local or state permissible exposure limits, or identified concentrations of flammable vapors. The only way to measure oxygen levels, contaminants, and flammable vapors is through the use of a calibrated gas meter. This requires a properly qualified monitoring specialist.
- Contains a material could be a potential engulfment hazard
- Has an internal configuration such that someone could be trapped or asphyxiated
- Contains any other recognized serious safety or health hazard (extreme heat or cold stress)
- Requires a qualified rescue team and specialized plan. Rescue team is required to be present at all times during all entries.

Non-permit conditions include:

- The space poses no actual or potential hazardous atmosphere.
- All hazards within the space are eliminated without entry into the space, such as locking and tagging out equipment so it cannot be operated while crewmembers are working inside.
- Forced air is not required to control or remove atmospheric hazards.

Typical actions for Eliminating Confined Space Conditions:

- Design and construct the space to include multiple routes of entry and exit crew members can easily walk in and out of (e.g., hatches, wild walls, doors, etc.)
- Build a stand-alone set that can come apart to allow for prep, strike, or filming work outside of the space.

In addition, it is important for productions to be mindful of activities being performed inside a non-permit confined space. The following are examples of activities performed within the space that could trigger reclassification from non-permit to permit required:

- Using chemicals within the space
- Welding or performing hot work activities that generate fumes
- Using gas powered tools that generate carbon monoxide
- Requiring the use of a tripod as fall protection or harnesses to go in and out of the space
- Performing mechanical work on water or gas lines
- Performing sanding, grinding, or other spark generating activities where combustible dust may be present
- Planned filming activities, such as the use of atmospheric smoke/fog effects

General Guidelines and Examples

Due to the complexity of confined space regulations, the following are examples of scenarios with explanations of what is considered a confined space and why they fall under certain classification.

Example 1: Permit Required

Production wants to film a stunt player inside a manhole that is roughly 15 ft. deep to retrieve a body in downtown Los Angeles. This will be performed in the month of August and temperatures are expected to reach 110 degrees. Based on city requirements, city workers can lock pressurized gas/water lines, and any electrical components for the production. In addition, they have performed atmospheric monitoring and determined methane levels are above the 10% lower flammability level (LFL) thresholds and permissible exposure limits even with forced air ventilation going through the space. Accessing thespace requires the use of tripod fall protection system and the use of respirators with oxygen tanks.

Why is it considered a confined space?

The space meets all three definitions since it is big enough for the stunt player to make bodily entry, it has restricted entry/exit since it can only be accessed through a fixed a ladder, and it is not meant for continuous occupancy.

Hazards Present:

- Potential pressurized fluids or gases
- Heat stress
- Fall hazards from accessing space
- Potential atmospheric hazards from methane

Reason for Classification:

Even if the space can be cooled down with forced air ventilation and utility lines can be locked out. Due to the height of the space, the requirement for using respirators and fall protection, and methane levels being above allowable limits, and the hazards still present regardless of control. It is still considered a permit required confined space. Based on assessment, the production will not be able to have the stunt player enter the permit required confined space. Production should consider building it as a controlled set.

Example 2: Non-Permit

Production built a ground level ventilation duct/system with 2 slightly open ends. It is sitting on top of a drop-down rigging system that will simulate the vents coming apart. The scene entails a stunt player being filmed inside the square ducts crawling around and "falling" from the vent to the ground. The stunt player can only go inside the space by crawling in and out. Hazard assessment indicate there are no potential atmospheric hazards from the fake spider webs, no need to lock and tag out equipment, no physical hazards like heat or cold stress, and no need to wear personal protective equipment.

Why is it considered a confined space?

The space meets all three definitions since in since it is big enough for the stunt player to make a bodily entry, it has restricted entry/exit due to the stunt player having to crawl, and it is a workspace that is not designed for continuous occupancy.

Reason for Classification:

Since the space meets all 3 definition of a confined space and since all of the hazards have been eliminated, it falls under non-permit classification. Based on assessment, the production will be able to have the stunt player enter the space as long as there are no major changes, and all activity inside does not create a new hazard inside the space.

Example 3: Does Not Meet Confined Space Definition

Production wants to film an actor inside an M1 Abrams tank pretending to operate the controls. The only way to access the tank is from the top and the space is large enough to allow for one actor and a member of a camera crew to fit inside. There is no expectation to perform any intrusive prep work inside the tank and no atmospheric fog effects or dry ice will be used.

Why is it not considered a confined space?

Even though the inside of the tank meets 2 of 3 definitions of what is considered a confined space, it does not fully meet all the requirements to adhere to the definition. The inside of an M1 Abrams battle tank was specifically designed for continuous occupancy for a 4 person Army crew for up to 20 hours a day, thus not meeting the 3rd definition of a confined space and no need to classify it.

Example 4: Confined Space changing to Not a Confined Space

Production built a raised standalone cylindrical cave that is 8 ft. wide and 14 ft. high inside the stages with steel decking surrounding it. The scene entails a stunt player being lowered into the bottom of the standalone cave through the use of a self-retracting line. During filming, ladder access or retraction is the only way the stunt player can enter or leave the space. Hazard assessment indicated there during filming there will be no potential atmospheric hazards, such as the use of atmospheric fog effects or dry ice, no need to lock and tag out equipment, no physical hazards like heat or cold stress, and no need to wear personal protective equipment other than stunt fall protection.

How to avoid making a confined space?

While the outlined space above meets all 3 definitions, there are several methods or modifications the productions could make in order to change to change the nature of the space. If the production makes the following modifications, the cave will no longer be considered a confined space:

- Adding a ground level wild wall that is easily movable by the stunt player and can easily exit
- Adding a door to the cave that is big enough to walk out of
- Adding a ground level opening on the cave a stunt player can walk out