SOP-GEN-009 Working at Heights

1.0 Introduction

TDI-Brooks Working at Heights policy requires a permit and a fall arrest harness when a worker must perform work at a location where the worker's feet are six feet or more above the deck AND that does not provide guardrails, safety chains or other barriers to prevent a fall.

The requirement for a permit and fall protection does not apply when ascending and descending fixed ladders on the vessel from one deck to another. TDI-Brooks has determined that to require a fall harness in these situations presents a greater hazard.

A permit and fall protection are not required when working in an area that has guardrails, safety chains or other barriers to prevent a fall to the deck below.

Crane operator stations may be more than six feet above the deck, but they provide fall protection in the form of guardrails and safety chains. No fall arrest system or permit is required to operate the cranes.

2.0 Designated Working at Heights Locations

Certain locations onboard TDI-Brooks vessels do not have sufficient guardrails and barriers to protect the worker from a fall. Working in these areas require Working at Heights permits and fall protection equipment. These designated locations have been listed below for every TDI-Brooks vessel.

R/V Gyre

1. Top of the rescue boat davit
2. Mast at the bow for navigation light
3. GPS pole near the rescue boat
4. Both hydraulic cylinders & light on starboard side davits
5. Starboard side A-frame
6. Stern A-frame

R/V Proteus

1. Forward Mast
2. Monkey Island/ Radar Deck on top of wheelhouse (area with no guardrails)
3. On the cradle that holds the crane
4. Port A-frame
5. Stern A-frame
6. Doghouse/ Winch Control Room roof
7. Port & Starboard stack roof

R/V Brooks McCall

1. Forward Mast
2. Stern A-Frame
3. Starboard A-Frame

R/V Miss Emma McCall

1. Forward Mast
2. Stern A-Frame
3. Starboard A-Frame

Nautilus

1. Forward Mast
2. Main Mast
3. Stern A-Frame
4. Starboard A-Frame

3.0 Fall Protection Equipment

Fall protection equipment will meet the requirements of ANSI Z359 Fall Protection Code. Any employee using fall protection equipment must inspect it before each use for any potential damage.

The most common fall protection used is fall arrestors. Other equipment may include safety nets, lifelines and energy absorbing lanyards.

Harnesses and all other working at heights equipment will be included and tracked in the lifting register.

Any fall arrestor that has been subjected to impact loading will be removed from service until inspected by a competent person and confirmed to be undamaged and suitable for use.

Damaged lanyards and other non-repairable equipment must be removed from service and destroyed.

4.0 Responsibilities

The **HSE Manager** is responsible for ensuring that an effective working at heights program is in place. The Master is responsible for implementing the working at heights program on TDI-Brooks operated vessels.

Employees performing working at heights must be familiar with this SOP, participate in a Job Safety Analysis as part of the permit and have completed the computer-based training course for Working at Heights.

5.0 Hazards and Risk Assessment

A Working at Heights permit includes a Job Safety Analysis (JSA) and **must be completed prior to beginning a job that requires work at heights.** The JSA will be the primary mechanism for identifying hazards and evaluating the risks associated with the task.

The employee's supervisor is responsible for filling out the permit and conducting a JSA with employees and contractors who will participate in the task. Because each situation is different**, a rescue plan should be included as part of the JSA.** A section to enter a custom rescue plan is already integrated into the permit JSA.

If working over water is part of the task, then a life jacket will be required as part of the PPE.

6.0 Ladders

All ladders should be inspected periodically and before use. Ladders should be in good condition with no loose or broken rungs, steps or other parts. If a ladder is found to be defective, it should be discarded and replaced.

Ladders will meet both OSHA/ ANSI specifications. Specifically, that ladder rungs, cleats and steps shall be parallel, level and uniformly spaced when the ladder is in position for use.

Ladders shall only be used for the purposes for which they are designed and shall not be loaded with any load beyond the manufacturer's rated capacity. They shall not be used horizontally as bridging/ scaffolding or used on top of boxes or crates.

Extension ladders placed against a wall or other support shall be placed such that the distance from the legs of the ladder to the support should be ¼ of the distance from the top of the ladder to the foot of the ladder.

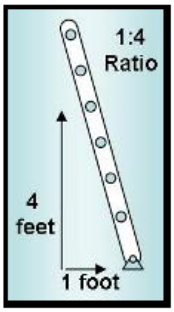
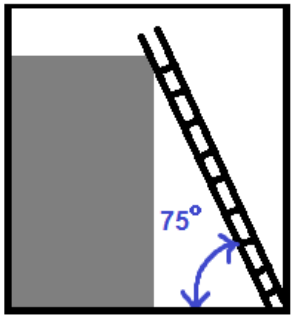


Figure 6a

A properly placed ladder on a level surface will be at about a 75 degree angle from that surface.

Figure 6b



The upper supports of ladders used to access elevated work areas must extend a minimum of 3 feet above the elevated surface or have the top secured to a rigid support. This is to provide a secure step or handhold for the worker to step from the ladder to the working surface and prevent the ladder from moving out of position under the worker.

When using ladders, workers should follow safe working practices, such as not standing on the top two rungs of the ladder, facing the ladder when ascending and descending and not carrying objects that could cause injury in the event of a fall.

Finally, the use of portable ladders should be avoided when the vessel is at sea and prohibited during high seas or unfavorable weather conditions.

7.0 Training

Basic instruction for fall protection and safe ladder use is included in the Fall Protection/ Working at Heights computer-based training course.

8.0 Rescue

The preferred lanyard for working at heights is a self-retracting life line that will limit falls to no more than two feet. Consequently, unless there is an injury or medical condition that renders the employee immobile, they should be able to self-rescue.

Options for an employee who is unable to perform self-rescue will vary based on the equipment available on the vessel. This is why a task specific rescue plan is included as part of the JSA.

9.0 Permit

Before work begins, a Working at Heights permit must be filled out by the crewman doing the work and signed by the Master or Mate.

A copy of the work permit must be posted at the site where the work is being done. Therefore, after the Chief Mate signs the permit, make a copy to post at the work site.

All permits require two signatures in order to valid. An Authorized Person may not write and sign their own permit without notifying and obtaining the signature of a second party.

The Chief Mate is responsible for entering the Working at Heights permit into a work order into the Quality and Compliance program and writing the work order number on the signed permit.