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## Rope Access – fatal fall

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### 1. Purpose

- 1.1. This Safety Alert is issued by The Bahamas Maritime Authority to share lessons to be learned from the death of a rope access technician inside a cargo tank. It is based on the preliminary findings of an ongoing investigation into a very serious marine casualty.
- 1.2. Many of the lessons to be learned from this casualty are for rope access technicians, companies and training establishments but vessel operators should be aware of the need to imbed contractors' hazard identification into shipboard task risk assessments and permits to work in order to effectively control risks of all tasks being conducted onboard.

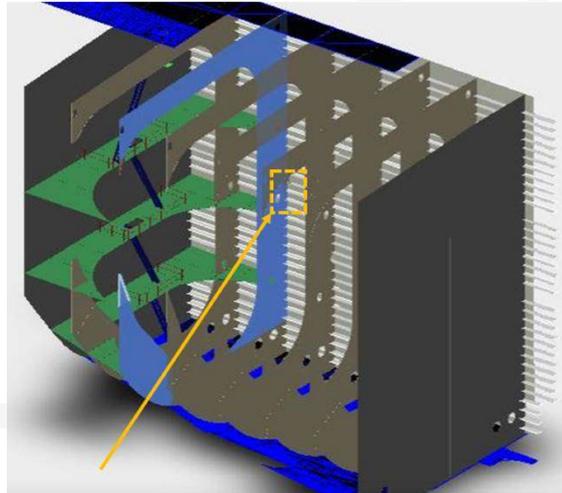
### 2. Introduction

- 2.1. To enable inspection and thickness measurement of cargo tanks, a team of four IRATA<sup>1</sup> qualified rope access technicians boarded a Bahamas registered floating production, storage and offloading unit.
- 2.2. Having checked their equipment and completed a work plan, the vessel's enclosed space entry protocols were completed and inspection and measurement was conducted, without incident, over five days. After a day's break, to allow for vessel operations, inspection of the tank resumed with one technician removed from the access team to replace the watchman who had left the vessel.
- 2.3. During the afternoon, and on the other side of a transverse frame from his team and watchman, the rope access supervisor requested a bottle of water to be passed to him. Whilst reaching through a lightening hole to receive it, the supervisor fell, landing on the tanktop, 18 meters below. He did not survive the fall.
- 2.4. The victim was found by the rescue team, still wearing his full body harness with the ascender device undamaged. His ascender device was still attached to the rope he was working from, which was undamaged. No secondary (safety) line was attached to his harness. The top end of the working rope terminated with a karabiner, which was also undamaged. No anchor strop was found on the tanktop or at the location of the victim before the fall.

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<sup>1</sup> Industrial Rope Access Trade Association

- 2.5. Available evidence suggests that, prior to the fall, the victim was suspended from a single working line that terminated with a karabiner hooked over the edge of a lightening hole or welding scallop – when the suspended weight was momentarily removed, the karabiner slipped and the system failed.



Approximate location of victim before fall

### 3. Safety Factors

- 3.1. Rope access is a methodology to work at height or in difficult to access areas where the use of other means, such as scaffolding, is impractical or carries a greater risk. IRATA International identifies the essential elements of a safe system of work to include:
- proper planning and management;
  - the use of trained, competent persons;
  - good supervision;
  - the careful selection of appropriate equipment;
  - proper care, maintenance and inspection of equipment;
  - proper control of working methods
- 3.2. The investigation is ongoing but ineffective barriers have been identified in job planning, activity monitoring, use of anchoring equipment (and secondary lines) and the inability to establish effective controls when hazards are not wholly understood.

### 4. Lessons to be learned

- 4.1. The correct use of equipment, and selection of appropriate anchor points, is fundamental to safe rope access.
- 4.2. The principle of double protection from a fall is at the heart of a rope access safe system of work. It is essential to include additional means of protection (such as a safety line) to prevent a single point failure.

- 4.3. The role of the watchman requires active participation and line of sight verification of task progression.
- 4.4. To enable safe progress and effective monitoring, tasks need to be fully risk assessed with detailed plans developed to mitigate the specific hazards identified in the work environment.
- 4.5. Shipboard emergency response plans need sufficient level of detail to enable a timely response to emergencies involving third party work. Where specific rescue equipment is required to effect evacuation, this should be identified in the plan and be readily available.
- 4.6. Risk assessments, permit controls and contingency plans produced by ship's crews and contractors can be ineffective in isolation and need to be developed through exchange of information. Safe systems of work need to be established incorporating the needs of all stakeholders.
- 4.7. Further information about safe industrial rope access activities can be found at [www.irata.org](http://www.irata.org)
- 5. **Validity**
  - 5.1. This Safety Alert is valid until further notice and may be updated as the investigation progresses.