

Petroleum and Petrochemical Bulletin

Access to External Floating Roofs

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Introduction

TIC Council member companies are, on occasion, requested by either principals or terminal operators to access external floating roofs on shore tanks, either to draw samples or to perform multi point gauging.

Rules and regulations relating to external floating roof access vary considerably from location to location, as do the safety controls put in place. The usual factor governing access is the roof position within the tank. However, limits vary from a maximum of a few feet (one course of plates) below the tank lip, to the tank being at 50% capacity. These differences not only cause confusion for the inspectors in the field but, more importantly, can expose inspectors to unacceptable risk.

Inspectors have been currently accessing external floating roofs using a personal gas detector with an Emergency Life-Saving Apparatus (ELSA) or by using a Self-Contained Breathing Apparatus (SCBA). However, in many situations additional controls are required to ensure that potential risks are addressed.

Access to external floating roofs is not consistently addressed within the normally recognized international petroleum standards used by the inspection industry.

Recommendation

TIC Council member companies recommend that the access to external floating roofs must be stopped for routine cargo operations on the grounds of safety. Whilst access to the external floating roof may not be permitted, the designated point at the platform on the top of the tank stairway should always be used as the official measurement for custody transfer. Sampling is also typically performed from this point, unless approved alternatives, such as side-taps, are permitted by the principals.

If a specific non-routine activity requires access to the external floating roof, the risks regarding access to external floating roofs must be controlled via a permit to work system or an equivalent protocol, even if regulations suggest that a confined space situation does not exist.

The permit to work system must be managed by the terminal and must as a minimum include:

- Risk Assessment for the activity, conducted by competent individuals in association with the inspection personnel concerned.
- Atmosphere in the space directly above the roof has been tested by a competent person immediately prior to, and during, the activity.
- Method of communication from the personnel on the tank to the terminal during the operation.

Revisions/Reaffirmations

Rev. 0 October 2016
Rev. 1 April 2018
Rev. 2 May 2023

- An immediate and validated method of escape / recovery in the event of an incident.
- A minimum of two persons to perform the activity.

It should be noted that, in addition to the hazards associated with confined space entry, the risk assessment must consider the structure, stability, and condition of the external floating roof as these are typically not designed to be load bearing. For further guidance, please refer to the checklist available in Annex A of the TIC Council Petroleum Field Inspection Safety Code.

In the event that the terminal facility does not have, or refuses to implement, a permit to work system with the correct controls, the TIC Council member company will enforce their stop work authority (SWA). The SWA will be revoked if, and as soon as, conditions and controls identified in a risk assessment are fully met. (See Bulletin 16-01 regarding stop work authority)

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