



Safety Alert

From the International Association of Drilling Contractors

ALERT 09 – 08

CONFINED SPACE ACTIVITY RESULTS IN LOSS OF CONSCIOUSNESS INCIDENT

WHAT HAPPENED:

Vessel maintenance was being conducted on an accommodation barge. Preparation was being made to enter a tank at the base of a column to undertake quarterly planned maintenance of the leakage detection system. The injured party (IP) removed a manhole cover to gain vertical access into tank at the base of the column. Within one minute of removing the manhole cover the gas detector alarm sounded and the IP lost consciousness on the floor of column next to the open tank hatch. Although the IP fully recovered with no residual ill health effects, the incident was rated High Potential Incident, Medical Treatment Case, Lost Time.

WHAT CAUSED IT:

- Subsequent gas sampling during the investigation was undertaken and recorded unexpectedly high levels of hydrogen.
- The presence of hydrogen resulted from electrolytic reaction between the sacrificial anodes and the steel within the ballast tank.
- There was no review or analysis of the abnormal alarm for CO gas reading in the column the day before the incident.
- Warning signs from the readings taken from the column were not acted upon.
- The potential for hydrogen accumulation had not been identified or mitigated against.
- Physical arrangements within the column did not allow for ventilation without first opening the tank lid. Therefore, the generic confined space entry procedure could not be wholly applied, re: forced ventilation.

CORRECTIVE ACTIONS: To address this incident, this company did the following:

1. Company management is to review current documented procedures and vessel practices associated with confined space entry, particularly given the potential presence of hydrogen.
2. The vessel management are to review and mitigate against the risks associated with build up of hydrogen within ballast tanks and other freely-communicated pathways. This shall include risks from fire and explosion, as well as potential inhalation risks.
3. Company and vessel management are to explore options of mitigating against confined space entry into ballast tanks
 - Engineered solution regarding alternative leak detection systems.
 - Engineered solution regarding air monitoring techniques.
4. Company management is to review task risk assessment and incident reporting procedures, to ensure that all unusual, potentially hazardous situations are reported and acted upon as appropriate.
5. Client to review its processes for engaging with and sharing key aspects of its HSSE Management System with its contract partners. Particular emphasis to be placed upon their published Life Savers and supporting standards and Knowledge Management / Safety Alerts.
6. Both the company and Client should take the learning from this incident to review and improve their safety systems such that the risks from confined space entry are more effectively and proactively managed.

The Corrective Actions stated in this alert are one company's attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.

This material is presented for information purposes only. Managers & Supervisors should evaluate this information to determine if it can be applied to their own situations and practices

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