

EXTENDED ABSTRACT

300 - 500 word structured abstract, suitable for publication in the [Annals of Work Exposures and Health](#).

Uncontrolled airborne hazardous chemicals in sack room: A Case Study

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Objectives

The objectives of a planned inspection of an offshore drilling rig are to assess whether an operator is providing a satisfactory level of safety management for hazardous chemicals, and to identify regulatory non-compliance and execute appropriate enforcement if required.

Methods

The inspection was carried out by reviewing the safety case, procedures and records; interviewing management and workforce members; and inspecting plant and equipment. A written summary of the inspection outcomes was provided at the offshore facility and preliminary observations and findings discussed. A full report containing findings, conclusions and recommendations was provided to, and discussed with, the operator at a subsequent onshore meeting.

Results

During the facility inspection, uncontrolled airborne hazardous chemicals were observed as a result of chemical mixing at the sack room manual hopper. The installed dust extraction system was ineffective in capturing the chemical dust from the mixing table and the discharge from the dust extraction system vented back into the work area. There were visible signs of dust on the system, loading area and surrounding structures. An exposure assessment had not been undertaken. Further identified deficiencies included: an unmaintained chemical inventory; unsegregated incompatible chemicals; unimplemented respiratory protection programme; and a lack of hazardous management refresher training and auditing.

Following the identification of the occupational exposure, enforcement action was taken. The action addressed the immediate threat to occupational health by ensuring suitable respiratory protection was supplied, and ensured the implementation of a series of controls at the source to reduce the risk of workforce exposure to as low as reasonably practicable.

The operator complied with the enforcement action, implementing controls to reduce the exposure risk by: partial enclosure of the mixing table; installing a new dust extraction system; discharging exhausted air overboard; updating chemical mixing procedures to reduce dust generation; and conducting an exposure assessment to demonstrate efficacy of controls and airborne contaminants were below exposure standards.

Recommendations made by the regulator focussed on the implementation of hazardous chemical management systems including: safe practices for removing and cleaning dust extraction filters; maintaining a respirator filter change schedule; maintaining a hazardous chemical inventory; segregation of incompatible chemicals; providing chemical management refresher training; and performing auditing. The operator responded with agreed actions and close out dates which were tracked to completion.

Conclusion

This case study highlights that uncontrolled airborne hazardous chemicals and a failure to inspect and maintain safety management systems in workplaces can adversely impact worker health through occupational exposure.

A combination of regulatory enforcement based on the hierarchy of controls and report recommendations were required to control the risk in this case. Testing, maintenance and auditing of the implemented hazardous management system by the operator, and inspection by the regulator, are necessary mechanisms to limit exposure and maintain the health and safety of the workforce.

Key words - Airborne hazardous chemicals; inspection; exposure assessment; dust extraction system; as low as reasonably practicable; offshore; enforcement; sack room.