



# HSE NEWS

WORKING FOR YOU TO KEEP YOU SAFE

## Latest HSE Statistics YTD

	2015	2016
Workplace fatalities		
Non-work related fatalities		
Non-accidental deaths (NADs)		
Lost Time Injuries (LTIs)		
All injuries (excluding first aid cases)		
Motor Vehicle Incidents (MVIs)		
Roll over - MVIs		
Serious MVIs		
Lost Time Injury Frequency (LTIF)		

## Life Saving Rules Violations

YTD
Journey management
Speeding/GSM
Seatbelts
Overriding safety device
Working at heights
Permit
Confined space
Lock out tag out
Drugs and alcohol
Gas testing
Smoking
Suspended Load

## Vehicle Class A/B Defect

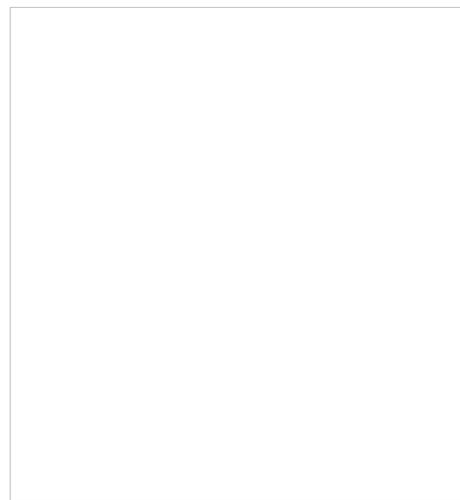
YTD
Class A
Class B

## HSE TIP

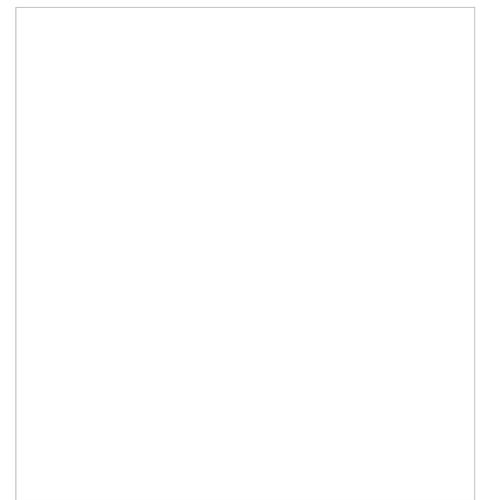


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## Important News



NORM stands for Naturally Occurring Radioactive Materials. NORM is all around us as background radiation, all of the time. It is part of the earth's crust and found in very low concentrations in rocks, soil and water. Background radiation emitted from NORM is small and mainly harmless, however, processes such as oil and gas production can cause NORM or TENORM (Technologically Enhanced Naturally Occurring Radioactive Materials) to build up to levels, that may be harmful to worker's health or the environment.



Oil and gas producing companies are unwillingly co-producing Naturally Occurring Radioactive Materials (NORM) with it day to day activities giving rise to NORM contaminated waste. These naturally occurring radioactive materials decay, emitting gamma photons, alpha and beta radiation particles which are potentially harmful to health if inhaled or ingested. NORM not only present a potential health risk to staff maintaining and servicing production equipment or handling waste streams, but may also result in an environmental issues.

## What You Need to Know

### NORM Risk exposure:

The major health risk is from the inhalation or ingestion of scales or debris contaminated with NORM. There is almost a negligible risk from exposure when equipment is in normal operation and NORM scales are inside the tubular and the tubular remain down hole. Cutting oilfield pipes/tubular, removing solids from oil tanks and pits and

### Monitoring:

Always use calibrated NORM detectors. Any measurement in which the dose rate exceeds 0.5  $\mu\text{Sv/hr}$  is considered NORM contaminated. Update your NORM database following to any monitoring.

### Disposal of Equipments:

All NORM contaminated equipment shall be transported to Bahja NORM yard for proper management and decontamination.



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### HSE Advice Note

During the production process of oil and gas, NORM flows with the oil, gas and water mixture and accumulates as scale, sludge and scrapings on the interior surfaces of the processing equipments and vessels. To determine whether or not a facility has NORM contamination, NORM survey, sampling and analysis needs to be conducted and any NORM measurements taken must be recorded and the NORM Survey database shall be updated. Planning is the first step to safely managing NORM, and before starting work supervisors must look at previous NORM surveys results, refer to NORM maps or look for labels on contaminated equipments. For maintenance activities requiring a permit to work, the permit applicant must fill the form and tick the NORM contamination box. As a rule in PDO any equipment which has been conveying or storing production fluids shall be treated as NORM contaminated until proven otherwise by monitoring. SP 1170 describes PDO's minimum requirements for managing NORM. Additional guidelines for specific maintenance and service activities such as tank cleaning, sampling, and well workovers, etc are also available and linked to the specification. There are two ways in which personnel can be exposed to NORM, namely, irradiation from external exposure where the source remains outside the body and contamination from internal exposure where radioactive material is taken into the body via inhalation, ingestion or skin absorption.

Health effects due to exposure to NORM above exposure limits following inadequate safety precautions are typically delayed and may take many years before the development of certain forms of cancer. It is important to understand that the potential health effects are strongly dose-related, and while medical surveillance is a standard strategy that is often used, however it is difficult to find medical tests that detect meaningful abnormal changes in a timely fashion, therefore it must be emphasised that source control, exposure monitoring, workers education and training and safe work practices such as refraining from eating, drinking and smoking in workplaces and wearing the correct NORM PPE which may vary for some tasks but typically involves a P3 Half-face disposable respirator, disposable coveralls and rubber or cotton gloves are the most important strategies for preventing significant worker exposures. It is also essential that all those working on activities where NORM may occur are familiar with NORM specification and undergo appropriate training. NORM training is available for all personnel handling or supervising NORM jobs and activities. NORM operations shall always be covered by a safe system of work which should identify the hazards and highlight the precautions to be taken and only essential personnel should be allowed in the work areas. NORM contaminated equipments must be handled, maintained, transported, stored, and disposed in controlled manner.

Protocols are required to ensure that equipment is not released or handled without controls to protect the worker and prevent contamination of the environment. Equipments shall not be sent for maintenance/repair to workshops without informing the workshop that the component is contaminated with NORM. Therefore, it is critical to understand how and where NORM materials can be transported. All NORM contaminated waste generated during maintenance should be drummed or put into labeled containers. Representative samples should be collected from the waste and analysed for radioactivity. Obsolete NORM-contaminated pipes and equipments should be clearly labeled as "NORM Contaminated Materials" and removed to a designated area. The area should be labeled as "Containing Radioactive Materials" and restricted for the general public. The NORM yard in Bahja is PDO's licensed NORM waste facility. All contaminated equipments and sludge exceeding the PDO limit must be transported to the NORM waste yard in exclusive use vehicles and stored for decontamination or long term disposal. Prior to transporting to Bahja, all contaminated equipments shall be properly sealed, wrapped, labelled and inventoried.

Final note: Working with NORM is not something you may do every day, but the consequences of not planning the work and failing to comply with safe work procedures may place you or others at risk. For any further support, contact the Occupational Health team

