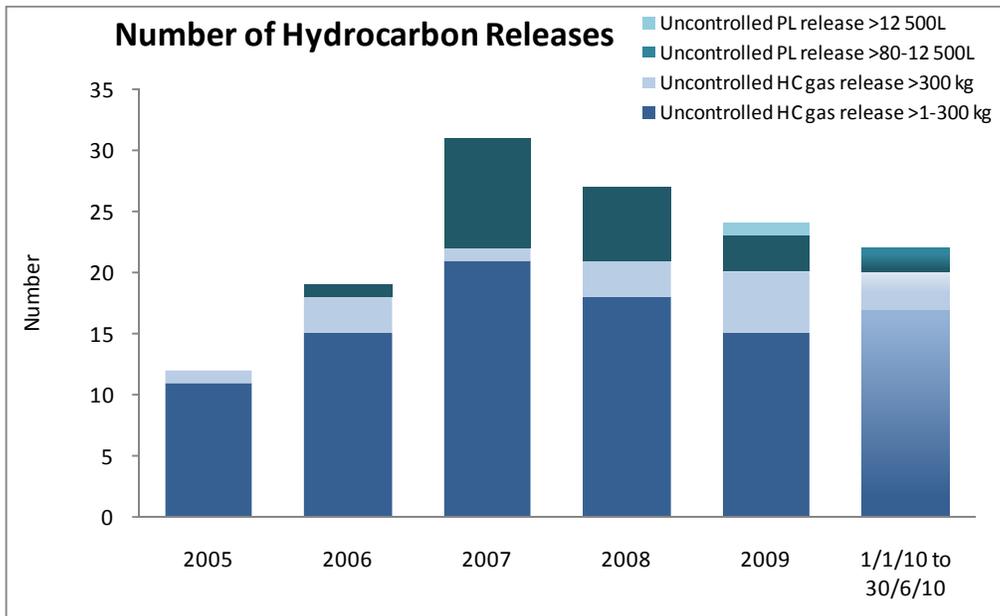


NATIONAL OFFSHORE PETROLEUM SAFETY AUTHORITY

## Hydrocarbon Releases 1 January – 30 June 2010

The industry's hydrocarbon release performance for the first 6 months of 2010 has displayed a marked increase in the number of incidents reported, when compared with previous years.



**This upward trend in statistics is cause for concern.**

The releases reported to NOPSA for the six months between January and June 2010(inclusive), are almost equal to the total for the entire 2009 twelve month period.

Whilst the majority of incidents have involved low flow, pinhole type releases (i.e. small release rates over extended periods of time) and in general, have posed a minimal threat to the safety of people, these releases are often found to be the precursors of far more serious events.

NOPSA has received 22 reports of hydrocarbon releases over this 6 month period. Of these:

- 20 have been gas releases;
- 16 have occurred on Floating Production, Storage and Offloading (FPSO) facilities; and
- 3 have been releases of over 300 kg of gas.

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The operators of facilities reporting these incidents have conducted internal investigations to determine the root causes and to develop corrective actions with the intent of preventing future occurrences of similar events. NOPSA has examined the operator's investigations and analysed trends in root causes and equipment types. From these reports the following data has been captured:

### Most common Root Causes:

- Lack of preventative / predictive maintenance
- Lack of routine inspection
- Inadequacies in competency / training
- Procedures Incorrect / Not Followed

### Most common Equipment Involved:

- Instrumentation and Fittings
- Gaskets and Seals

### Key Lessons

The most common root causes and equipment involved indicate where immediate attention is required, but there is also a requirement for long-term focus to reduce the number of hydrocarbon releases.

Operators are responsible for managing their facilities to prevent the loss of containment of hydrocarbons. Some of the findings from operators' reports can assist with improving the safety performance at offshore facilities.

### Issues to consider for safety performance improvement include:

- **The failure to complete corrective actions from operators' investigations and inspections in a timely manner**

*Deviations, Case to Operate, and Temporary Operating Procedures are often short-term fixes to allow for operating outside of the normal operating envelope. Ensure that they are not assigned "long term", but have a lifespan that allows reasonable time for permanent engineered solutions to be put in place.*

- **Are personnel competent for the task? Several reports listed cross threading, over-tightening etc. of fittings as a contributor to releases.**

NATIONAL OFFSHORE PETROLEUM SAFETY AUTHORITY

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*Have personnel received the correct training for identifying, installing and maintaining high pressure (HP) gas compression fittings?*

- **Generally, the primary focus for an FPSO is the oil stream.**

*Is appropriate focus placed on the facility's gas streams and systems?*

- **Some reports contained references to repeat failures.**

*Is the first warning being responded to effectively? Are "lessons learned" being captured effectively? Are these lessons being communicated? Are prevention measures and risk controls being implemented? Is it being confirmed that corrective actions have been fully implemented?*

- **Many leaks occurred during the re-starting of plant following planned and unplanned outages.**

*Is enough attention focused on the rate of change for pressure and temperature? To maintain integrity, do these engineered rates need to be re-visited as facilities and systems age? Is there a need for a Pre-Startup Safety Review?*

- **Investigations may need more focus on the "where" factor.**

*Where did it occur? Where else **can** it occur? Can something that happened on another facility happen on this facility?*

### Who is responsible?

- (i) The operator of an offshore facility is the primary duty holder and has a general duty of care under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* to ensure that all work and other activities are safe, and that the risk to the health of people is as low as reasonably practicable. Specifically, the operator must implement and maintain a safe system of work for any plant and equipment.
- (ii) Any person who is in control of any part of a facility or particular work carried out at a facility has similar duties to the operator for that part of the facility or that particular activity.
- (iii) Every person at a facility must at all times, take all reasonably practicable steps to ensure that by any act or omission, they do not create or increase a risk to the health or safety of either themselves or anyone else.

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## **Hydrocarbon Releases 1 January – 30 June 2010**

### **Contact**

For further information, email [alerts@nopsa.gov.au](mailto:alerts@nopsa.gov.au) and quote Alert 41.