

Offshore Safety Statistics Bulletin 2011/12

Fatal and major injuries to offshore workers

Figure 1: Fatal and major injuries
1998/1999 – 2011/12p

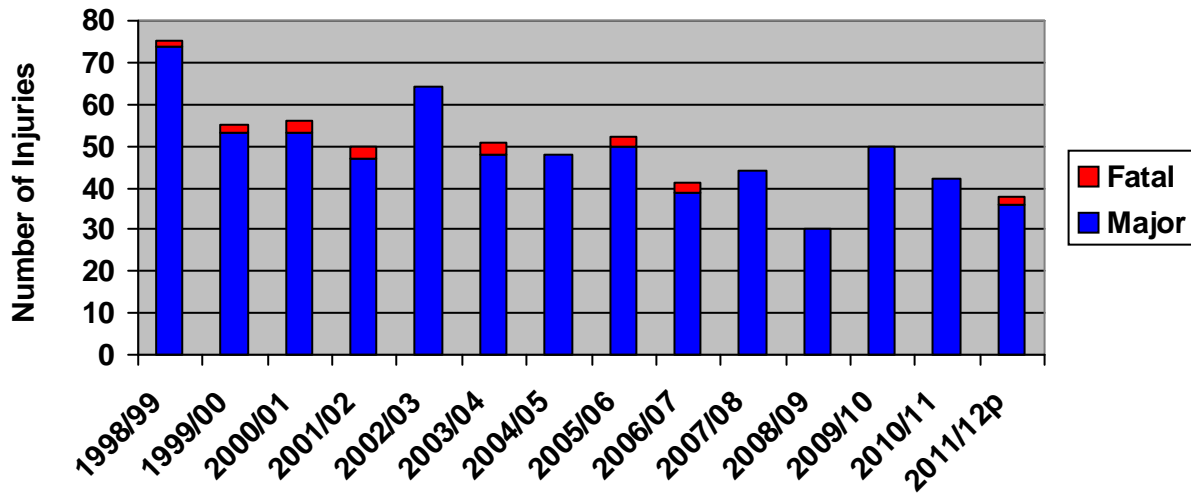
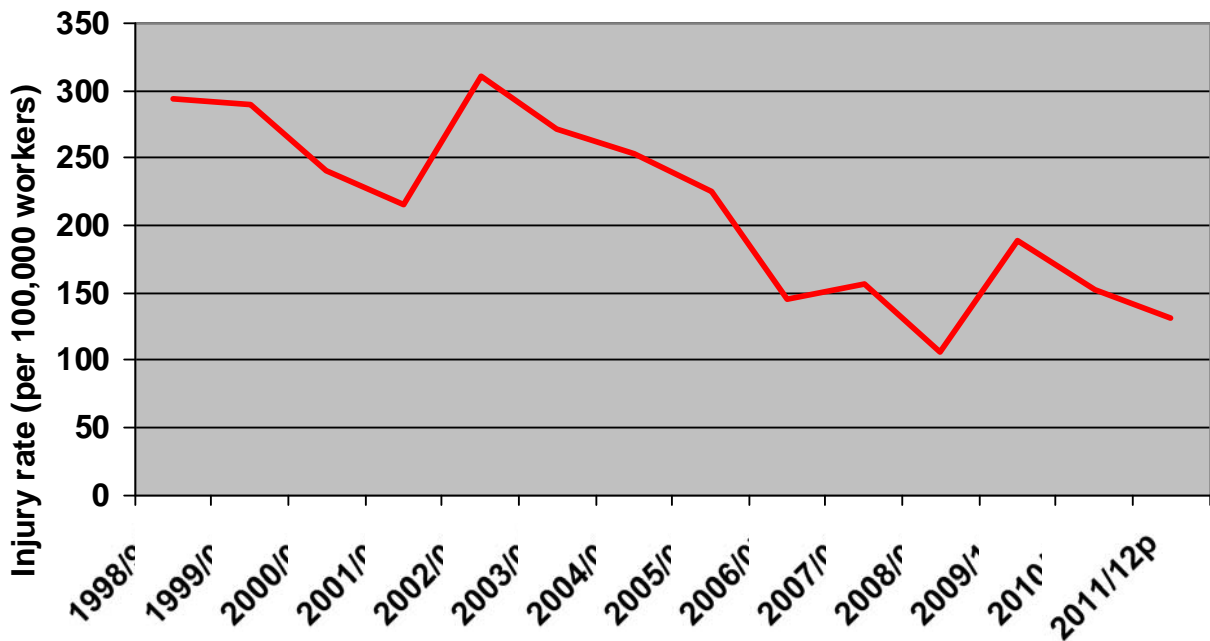


Figure 2: Combined fatal and major injury rate
1998/1999 – 2011/12p



Based on provisional figures for 2011/12:

- There were 36 major injuries reported during the period, a reduction of six compared to 2010/11 and compares to an average of 41 major injuries over each of the previous five years.
- There were an estimated 29,058 offshore workers in 2011/12, an increase of 5% on the 2010/11 estimate of 27,600 workers. These figures were obtained from an industry-based data source¹.
- The combined fatal and major injury rate fell to 130.77 per 100,000 workers in 2011/12 compared to 151.84 in 2010/11, the second lowest rate over the last 10 years (the lowest in 2008 being 106.2). The five-year average prior to 11/12 is 149.6.
- Two fatalities occurred in 2011/12, the first fatalities on offshore installations since 2006/07. The first occurred in Q1, due to a fall from height during a work shift. The second, a fatality during a diving operation which was reported as a recordable fatality in Q3, should be considered as still provisional with investigations continuing.

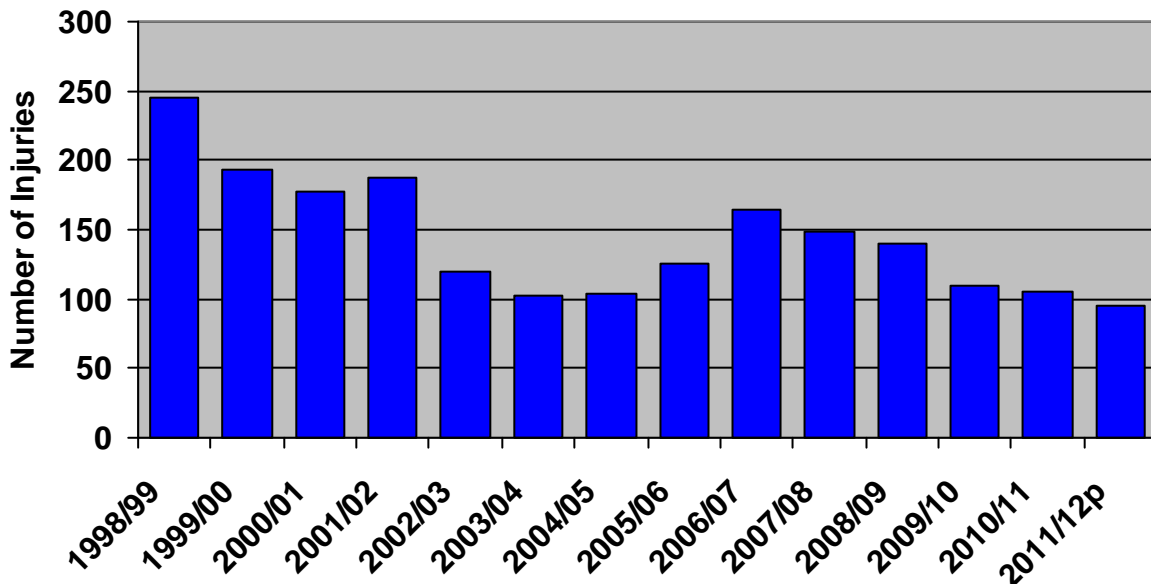
Types of accident

Based on provisional figures for 2011/2012:

- The main causes of major injuries were related to slips/trips/falls (17), being trapped or struck by moving objects (7), or injuries associated with lifts/pulls/pushes/handling of loads (7), accounting for 86% of the total;
- 17 major injuries were to the lower limb² and 16 to the upper limb/finger/wrist
- 23 major injuries (64%) were due to fracture.³

Over-3-day injuries to offshore workers

Figure 3: Over 3-day injuries
1998/1999 – 2011/2012p

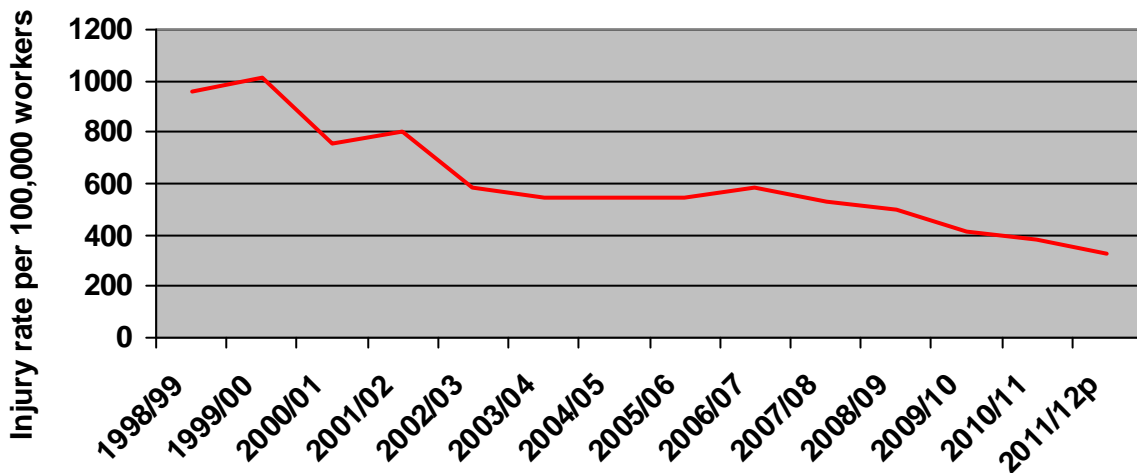


¹ Provisional data extracted from Vantage system via StepChange in Safety.

² Lower limb includes ankle, foot, toes and rest of lower limb.

³ Fractures to fingers, thumbs or toes are classed as over-3-day injuries and not as major injuries unless hospitalised over 24 hrs.

**Figure 4: Over 3-day injury rate
1998/1999 – 2011/2012p**



- The number of reported over-3-day injuries has reduced this year by 11 to 95 (10.4% fall) and continues the downward trend since 2006/07.
- Based on the workforce figure of 29,058 workers, the over-3-day injury rate per 100,000 workers (326.9) for 2011/12 shows a 14.7% fall on that recorded for 2010/11 (383) and is a new low.

Types of accident

Based on provisional figures for 2011/2012:

- Slips, trips and falls, accounted for approx. 32% of over-3-day injuries whilst injuries related to striking or being struck or trapped account for 36%. Lifting operations, handling of plant, push/pull activities and injuries from body movements accounted for approx. 22%;
- 43 over-3-day injuries (45%) resulted in injury to the upper limb⁴;
- 31% of injuries were to parts of the foot and lower limbs and 18% to the back, neck and torso area.

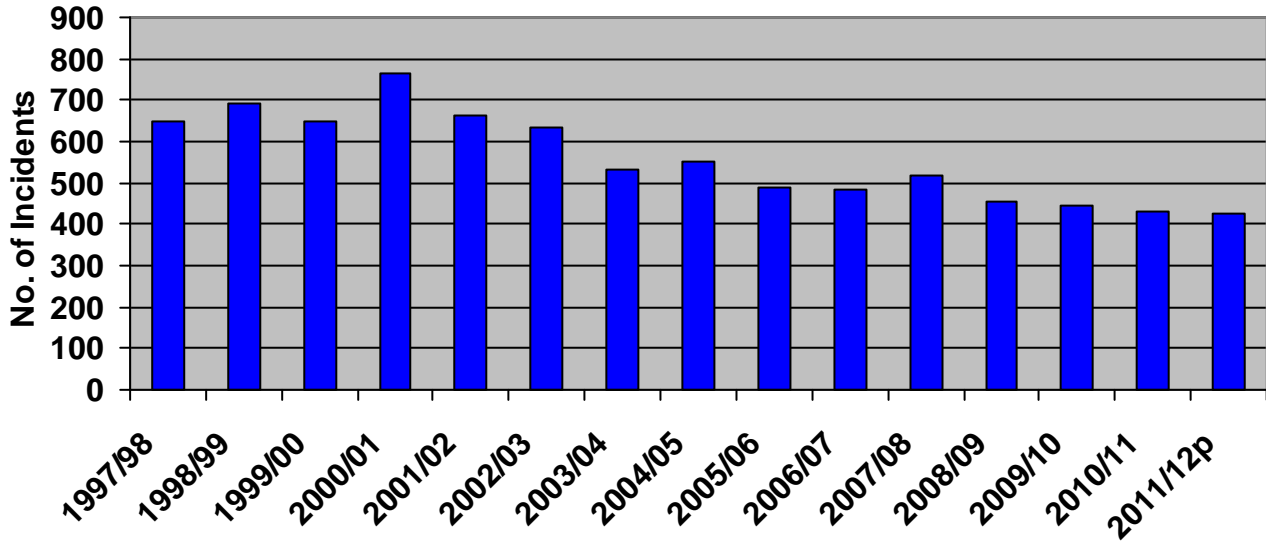
Incidences of ill health to workers offshore

- The total number of cases of offshore ill health reported was 14, an increase of 6 on the previous year.
- The diseases reported included 6 incidents of chickenpox and 1 case of scarlet fever. Occupational health conditions involved 4 cases of decompression illness and 3 cases of hand-arm vibration.

⁴ Upper limb includes finger/thumbs, hand, wrist and rest of upper limb.

Dangerous occurrences offshore

Figure 5: Dangerous occurrences
1997/1998 – 2011/2012p

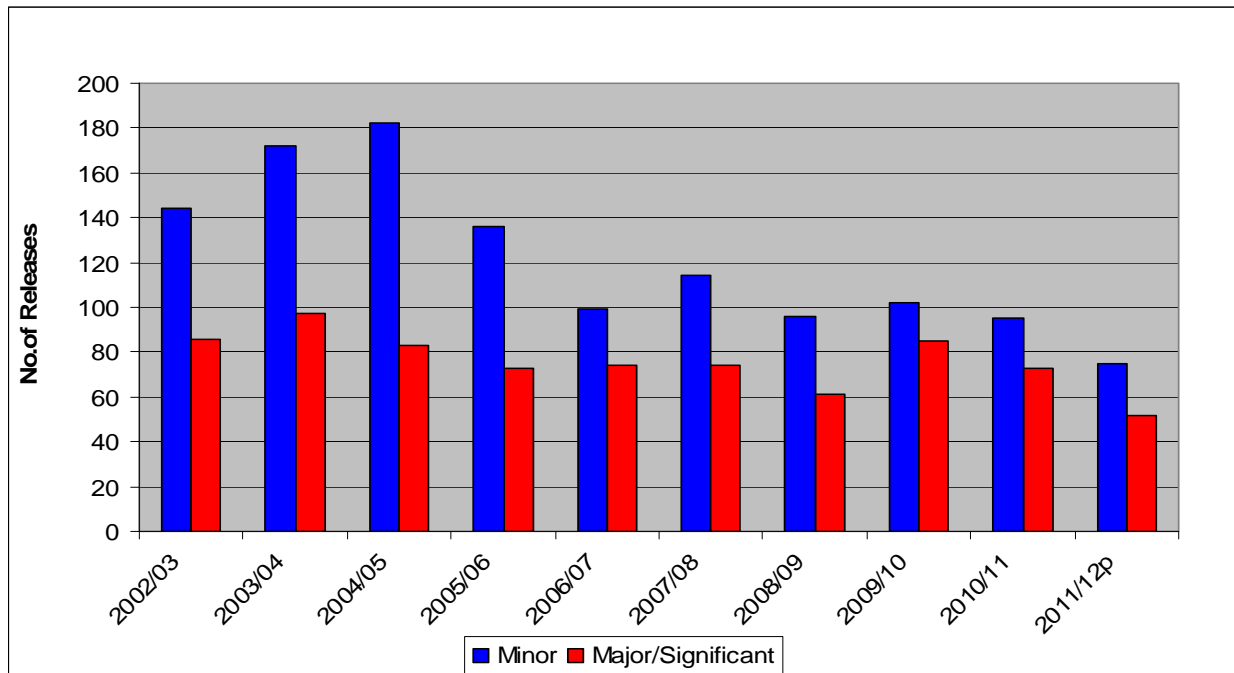


Based on provisional figures for 2011/2012:

- 425 dangerous occurrences (including well incidents) were reported.
- Main types of dangerous occurrences reported were failure of equipment offshore (30.6%), hydrocarbon releases (29.9%), well-related incidents (10.1%) and events of fire offshore (6.8%).

Hydrocarbon Releases (HCRs)⁵

**Figure 6: Offshore hydrocarbon releases
2002/2003 – 2011/2012p**



Hydrocarbon releases are regarded as potential precursors to major accidents if ignited, and HSE monitors the number of major and significant hydrocarbon releases as a key performance indicator (KPI) of the offshore industry's effectiveness of process health and safety management on offshore installations. Based on provisional figures for 2011/12:

- There was a significant reduction in the total number of Major and Significant HCRs (52) in 2011/12 compared to the previous year's total of 73 and the annual average of 73 over the previous five years.
- The number of minor HCRs also showed a considerable reduction in 2011/12 (75) compared to 2010/11 (93).
- Overall the total number of releases fell by 39 in 2011/12.
- The UK offshore industry has proposed a target 50% reduction in the total of all HCRs over the 2009/10 figure (187) by the end of March 2013 (details of the UK offshore industry's HCR reduction plan can be found on the Oil & Gas UK website at <http://www.oilandgasuk.co.uk/Hydrocarbonreleases.cfm>). This implies a challenging target by 31st March 2013 of 94 HCRs of all severities (i.e. total of Major, Significant and Minor HCRs). 2011/12 (127) showed a 23% reduction in HCRs compared to 2010/11 (166) and a similar fall in 2012/13 will go close to achieving the target set. (Note that no specific target relating solely to Major and Significant HCRs has been set HSE will continue to monitor progress in this area. If achieved, a corresponding 50% reduction in Major and Significant HCRs would equate to 43 by end of March 2013.)

RIDDOR reportable HCRs are unintended releases of petroleum gas or liquids from an offshore installation which either result in fire or explosion or require action to prevent or limit the consequences of a potential fire or explosion if ignited, or which have the potential to cause death

⁵ Major, Significant and Minor Release Severity Classifications are described on the HSE Website in the Hydrocarbons Release Database HELP facility (www.hse.gov.uk/hcr3/)

or major injury. During 2011/12 two releases (i.e. 1.6% of all reported HCRs) were reported as ignited events.

Few of these HCRs gave rise to incidents which could, in whole or in part, be considered as “oil spills⁶”. The number of the liquid based HCR incidents where a quantity of hydrocarbon liquid was released to the sea in 2011/12 was very small - seven in total – with the amounts ranging from minimal to 19000kg.

Supplementary data on hydrocarbon releases reported under RIDDOR are voluntarily reported to HSE by operators on Form OIR/12. Figure 6 is based upon those HCRs for which Form OIR/12 have been processed. Final figures may be subject to variation depending on when OIR/12 returns are made to HSE)

Well incidents 2007 - 2011

Well incidents were fewer in 2011 than for many years, both in absolute numbers and in relation level of rig activity. It should be noted, though, that the reduction is due in part to the low level of exploration drilling, especially in the Southern North Sea, where historically kicks from the Zechstein formations have been frequent. The number of reported incidents involving failure of a safety critical element of a well is also slightly lower than in previous years.

Table 1. All offshore well incidents

<u>RIDDOR Schedule</u>	<u>Description</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
13.a	*Uncontrolled flow from well	0	1	0	1	2
13.b	Close BOP to control flow	20	35	21	23	14
13.c	Detection of unexpected H ₂ S	1	0	3	2	2
13.d	Well intersection / near miss	0	1	0	0	0
13.e	Failure of SCE of well	15	9	10	16	9
Total		36	46	34	42	27

Table 2. *Uncontrolled flow from well

<u>Year</u>	<u>Summary of incident</u>
2008	Brief shallow gas flow at seabed from subsea well
2010	Brine flow observed from around subsea wellhead
2011-1	Gas bubbles observed from conductor subsea
2011-2	Gas bubbles observed around subsea conductor

Table 3. Well incidents – Platform

<u>RIDDOR Schedule</u>	<u>Description</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
13.b	Close BOP to control flow	7	7	3	4	4
13.c	Detection of unexpected H ₂ S	0	0	0	2	0
13.e	Failure of SCE of well	14	7	7	12	4
Total		21	14	10	18	8

⁶ Dept. of Energy and Climate Change (DECC) Petroleum Operations Notice 1 (PON1) report form is used by operators to report all releases of oils and chemicals of whatever size to sea from offshore installations and pipelines under the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (OPPC)(as amended) and Offshore Chemicals Regulations 2002 (OCR) (as amended) to DECC and other authorities. For details of spills to sea refer to DECC.

Table 4. Well incidents – Semi-submersible & Drillship

RIDDOR Schedule	Description	2007	2008	2009	2010	2011
13.a	Uncontrolled flow from well	0	1	0	1	2
13.b	Close BOP to control flow	5	6	5	9	1
13.c	Detection of unexpected H ₂ S	1	0	0	0	1
13.e	Failure of SCE of well	1	2	1	1	1
Total		7	9	6	11	5

Table 5. Well incidents – Jack-up

RIDDOR Schedule	Description	2007	2008	2009	2010	2011
13.b	Close BOP to control flow	8	22	13	10	9
13.c	Detection of unexpected H ₂ S	0	0	3	0	1
13.d	Well intersection / near miss	0	1	0	0	0
13.e	Failure of SCE of well	0	0	2	2	3
Total		8	23	18	12	13

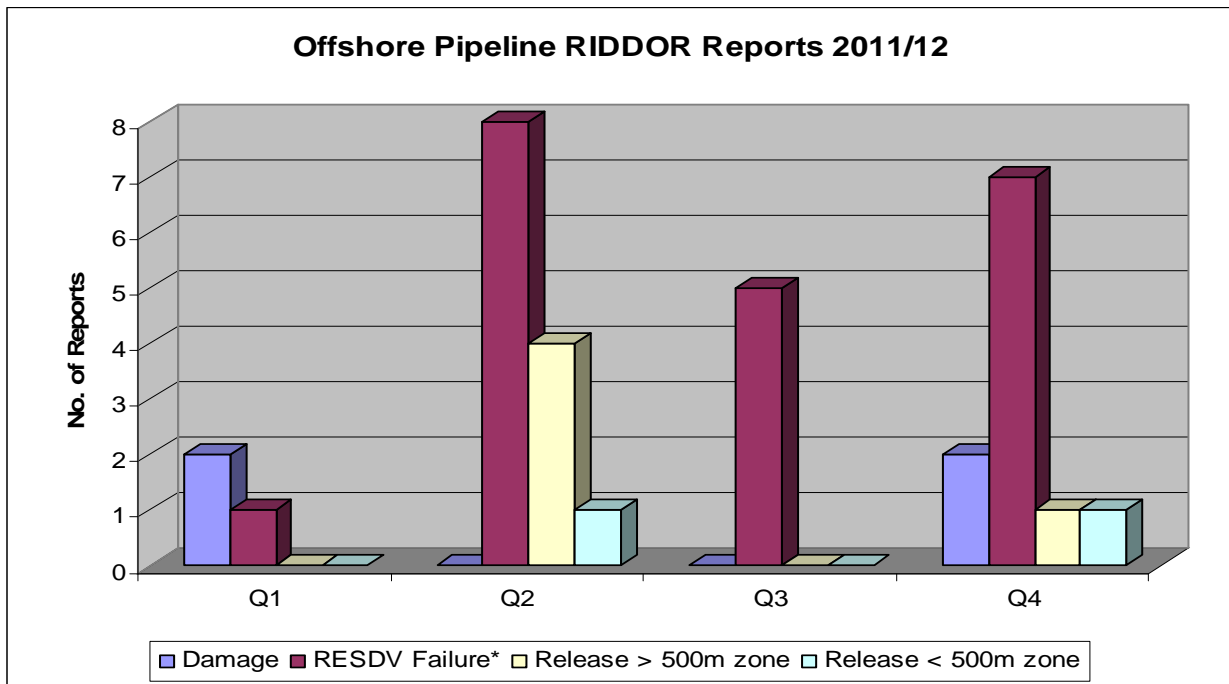
Table 6. Well incidents – Well Service Vessel

RIDDOR Schedule	Description	2007	2008	2009	2010	2011
13.e	Failure of SCE of well	0	0	0	1	1
Total		0	0	0	1	1

Table 7. Pipeline Related Dangerous Occurrences 2011/12

Type	Description	Number
14(a)	Uncontrolled/accidental release from a pipeline	7
14(b)	Unintended ignition of pipeline contents	0
14(c)	Pipeline damage	4
14(d)	Substantial/unintentional change in position of a pipeline	0
14(e)	Unintentional change in subsoil/seabed in the vicinity of a pipeline	1
14(f)	Failure of a pipeline isolation device, equipment or system	21
14(g)	Failure of equipment involved with pipeline works	0
	Total	33

Figure 7: Offshore pipeline RIDDOR reports 2011/12



Pipeline incidents are those reported as Dangerous Occurrence Type 14 in RIDDOR Schedule 2 which have the potential to cause death, major injury or damage to health and can include releases (unignited or ignited), major damage, significant change in position and failure of pipeline isolation devices. A significant number of reports during this period have resulted from failures of riser emergency shut down valves to operate on demand (mainly during testing – see note below). The vast majority of incidents (>80%) reported in this period either occurred on or within 500m of an offshore installation but there was one significant release from a subsea pipeline which also represented a potential pollution threat.

Note: * Significant increase in reporting noted following major HSE intervention on Riser Emergency Shut Down Valve (RESDV) testing practice

Oil & Gas UK key performance indicators on Verification & Safety Critical Maintenance⁷

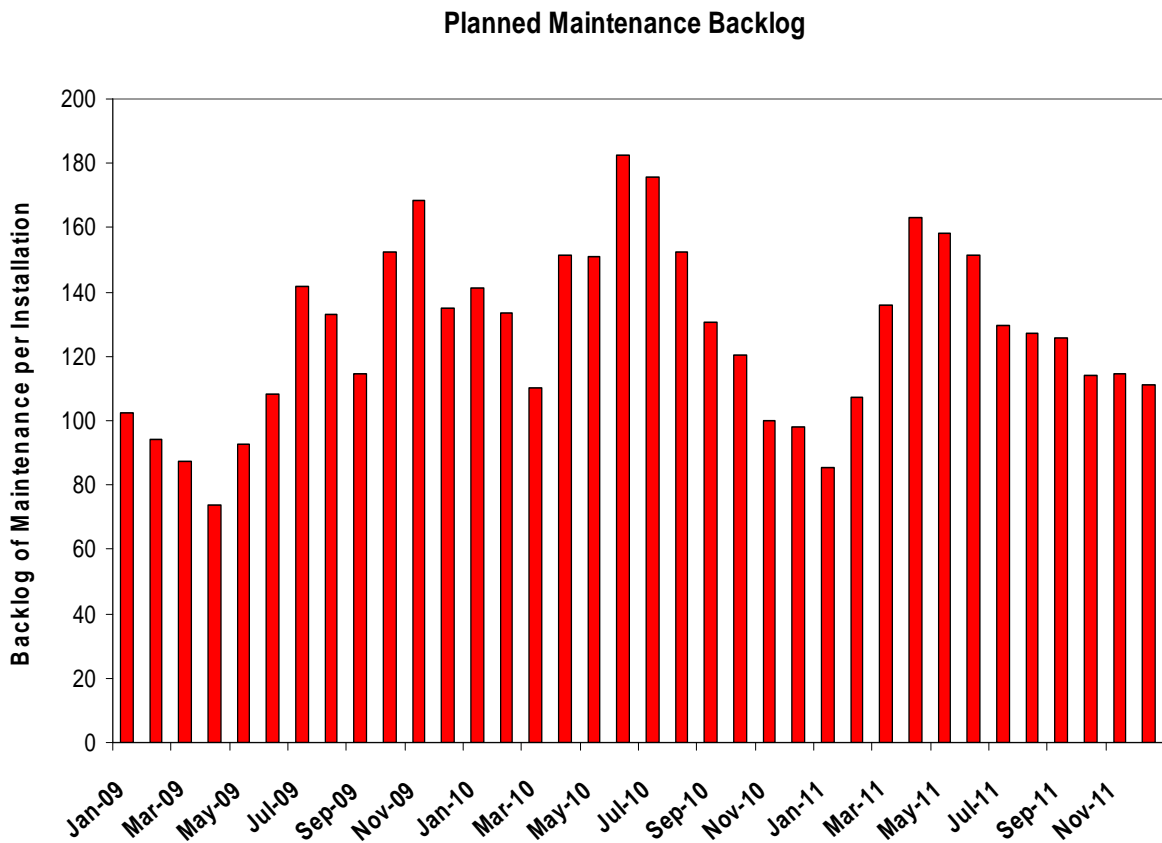
Since 2008, Oil and Gas UK (O&GUK) have been collecting voluntary industry data, monitoring two additional offshore KPIs to monitor industry performance in key areas of major hazard prevention. These two KPIs relate to the level of outstanding safety critical maintenance (KPI-3) and to the level of issues raised by its 3rd party verification (KPI-2) of the performance of its safety critical equipment (and how they are subsequently closed out). These two additional cross-industry KPIs are included in this HSE Offshore Safety Statistics Bulletin to provide useful additional evidence of the offshore industry’s major hazard performance.

⁷ For further details of O&GUK key performance indicators on verification (KPI-2) and safety critical maintenance backlogs (KPI-3) contact Oil & Gas UK (<http://www.oilandgasuk.co.uk/index.cfm>).

O&GUK monitoring activity is on a quarterly basis. Headline findings relating to their two KPIs are:

- (Fig.8) KPI-3 produces a report of the total number of backlog man-hours for planned safety-critical maintenance that is beyond its planned completion date. This excludes backlog maintenance that has been subject to a formal and robust deferral process involving relevant technical or engineering authorities. The data shows a seasonal (cyclic) nature probably reflecting campaign maintenance patterns (e.g. planned major maintenance shutdowns), but identifies no significant reductions over the past three years.

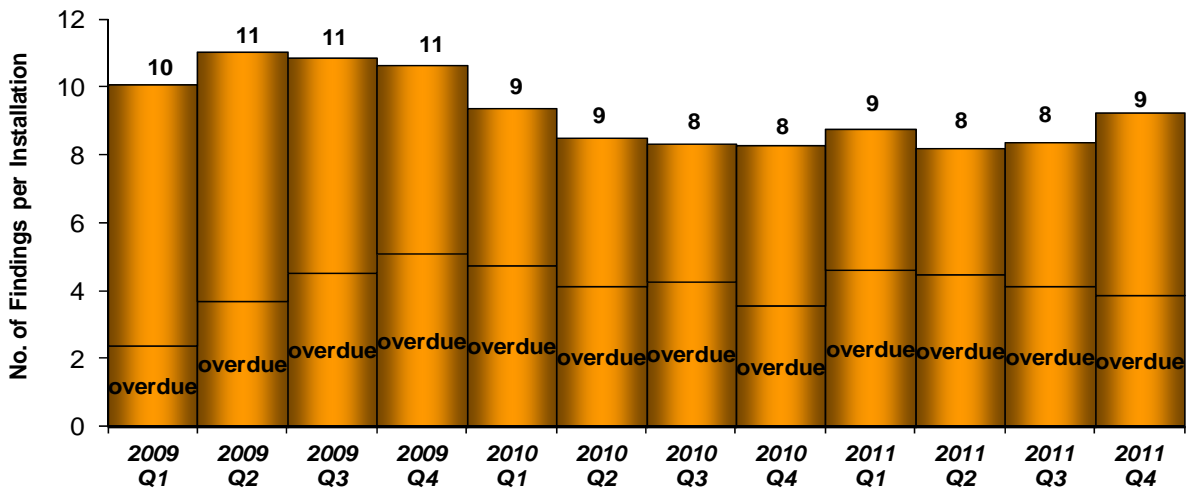
Figure 8: O&GUK Chart – KPI-3 Safety Critical Maintenance Backlog



- (Fig 9) Verification non-compliance for less significant Level 2 findings based on average number of findings per installation has shown a 21% reduction since 2009.

Figure 9: O&GUK Graph – KPI-2 Verification Non-Compliance

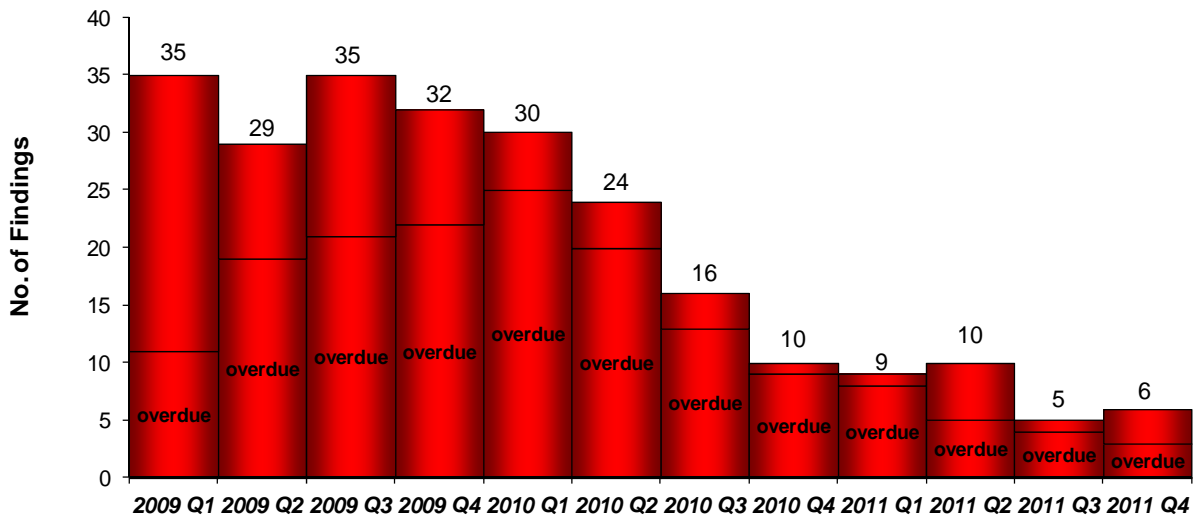
Level 2 Open Findings per Installation



- (Fig.10) Verification non-compliance measured across 191 reporting installations since Q1 – 2009 has shown a 83% reduction (35 to 6) in the more significant (Level 3) findings by independent verification bodies over the 3 year period.

Figure 10: O&GUK Graph – KPI-2 Verification Non-Compliance

Total Number of Level 3 Findings



Notes:

This bulletin provides provisional data for 2011/12. A further breakdown of the headline information contained in this Bulletin will be provided later this year in the annual Offshore Injury and Incident Statistics Report, produced as part of the HID Statistics Report (HSR) series of publications.

Interpretation of trends over a short period of time should be treated with caution, particularly when addressing small data populations.