

Health and Safety Executive Board		HSE/11/61	
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AN UPDATE ON OFFSHORE MATTERS

Purpose of the paper

1. This paper provides a general update on offshore oil and gas matters and outlines the offshore programme of work for 2011/12 and beyond. The Board is asked to note the contents.

Background

2. Offshore Division (OSD) is responsible for regulating the upstream offshore oil and gas industry in the UK. It comprises around 270 installations ranging from unattended gas producing installations to large oil and gas production platforms, and includes floating production installations and mobile drilling rigs. Around 28,000 people who live and work offshore are directly employed by UK oil and gas companies and their major contractors. This is slightly up on 2009/10 numbers (26,599), but similar to 2008/09 figures (28,224).
3. The North Sea is a challenging and hostile working environment for oil and gas extraction. The UKCS is now a mature oil & gas producing region, but still a major contributor to the UK economy. Although the UK is no longer a net exporter of oil and gas there is still around 25 billion barrels remaining (approximately 40% of our total reserves). By 2020, the UK should still produce 40% of its oil & gas energy needs. However, the recent increase in revenue tax and economic uncertainty have resulted in some capital projects being put on hold or cancelled.
4. The industry is not static, changing in response to geological, economic and other drivers. Major companies are divesting assets to less well-known operators who specialise in exploiting mature fields or venture capital companies recognising investment opportunities. The technical challenges of maturing oil/gas basins, and the exploitation of deeper and more inaccessible fields are significant and have increased the development of innovative designs and technology.
5. The many ageing assets likely to remain in operation for the foreseeable future, with a significant proportion of offshore installations having already exceeded their original design life, also present particular and increasing challenges to the continued delivery of appropriate standards of major hazard risk control. With the long promised decommissioning of the UKCS offshore infrastructure is proving slow to take off, the industry still needs to be encouraged to maintain its focus on the control of major accident hazards, particularly in uncertain times.

Industry Performance

6. There were no fatalities in the offshore activities regulated by HSE¹ in 2010/11 (for the fourth year running). 2010/11 also saw a fall in the number of major injuries. The combined fatal and major injury rate fell to 151.8 per 100,000 workers in 2010/11, compared with 192 in 2009/10, continuing an overall downward trend. Similarly, the continued fall in the number of minor injuries led to an historical low over 3-day injury rate. The frequency rates in the UK offshore industry are also similar to those of Norway (the nearest equivalent offshore basin). Comparison with other UK industry sectors should, however, be made with caution as the circumstances in which the offshore employee population operates (living and working on top of the installation) are unique.
7. Most of the Occupational Health hazards common to industry are present offshore. These include chemical hazards (e.g. produced hydrocarbons, hydrogen sulphide, drilling muds and asbestos), physical hazards (noise, vibration, radiation, manual handling/ergonomics) and biological hazards (legionella, food hygiene, infectious diseases). However, the evidence base on the nature and extent of ill health incidence offshore is limited and Offshore Division has prioritised interventions by using the limited RIDDOR data, reading across from Norwegian data and its own operational intelligence. OSD secured a £300,000 fine for a health-related offence arising from an incident where workers were placed at risk from exposure to radiation from a poorly-controlled radioactive source being used offshore. Current initiatives include:
 - An ongoing inspection project looking at the management of occupational health risks, which has delivered improvements in the availability and competence of the occupational health experts being used by offshore operators;
 - Programmes of offshore inspections to look specifically at noise and vibration across the industry; and
 - Oil & Gas UK, Step Change and HSE working to develop guidance on good control practices for chemicals (Offshore COSHH Essentials).
8. Major and significant hydrocarbon releases (HCRs) have significantly reduced compared to 2009/10. However this only maintains the annual average rate over the previous five years, and the industry is finding it difficult to break through this particular plateau.
9. **Annex 1** provides extracts from the 2010/11 Offshore Statistics Bulletin, which provides provisional offshore statistical data for last year. These include, for the first time two industry-collected major hazard indicators - the level of backlog of safety critical maintenance and the level of 3rd party verification non-compliances. These have been developed by the industry, with HSE encouragement, as leading indicators of performance in respect of the effectiveness of major hazard risk control. They show a mixed picture, and only provide weak evidence of improving performance.

HSE's Intervention Strategy

10. Although major companies are divesting assets to new smaller operators, the offshore oil and gas industry remains relatively discrete with good

¹ Helicopter and shipping activities are regulated by the Civil Aviation Authority and Maritime and Coastguard Agency respectively.
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communication channels and 'control' can be exercised by a relatively limited number of operators. OSD's main priorities are to exercise influence at the sector and operator level to ensure effective leadership is applied to deliver effective management and control of potentially catastrophic risks - given the inherent hazards. OSD continues to focus on the major hazards of fire and explosion from unintended hydrocarbon release, loss of structural or maritime integrity, and marine and aviation collisions. The remote and demanding working environment creates unique challenges in providing effective means of emergency escape, evacuation and rescue arrangements.

11. OSD's core activities under the permissioning regime are safety case assessment and verification, planned inspections, investigation of incidents and enforcement. These are informed by individual dutyholder/installation intervention plans and targeted priority topics involving specialist disciplines. The intelligence collected from these activities is used to engage with the industry jointly and severally to stimulate and, where necessary, enforce change in behaviour and performance.
12. Formal enforcement forms part of the strategy. During 2010/11, OSD served 48 Improvement Notices and 3 Prohibition Notices (see **Annex 2** for further historical offshore Notice statistics). Schlumberger Oilfield UK plc was fined £300,000 following the loss of control of a high activity radiation source on the Ensco 101 rig. In addition, over the last nine months OSD has used specific powers under the Offshore Installations (Safety Case) Regulations 2005 for the first time to direct three duty holders to revise and resubmit their safety cases, without which they cannot operate.
13. OSD investigates all significant and major hydrocarbon releases as part of its continuing drive to focus on major hazard precursor events that have plateaued in recent years following a previous welcome decline. Whilst the industry's performance compares favourably with other global provinces, it wishes to deliver further improvements and assurance and has set itself a challenging target of a 50% reduction in all HC releases by 2013. OSD has written to the CEOs of all its duty holders asking what plans they have in place to achieve the industry target.
14. The Offshore Division works with a wide range of stakeholders as a means of driving forward improvements in health and safety within the UKCS and as a global concern. **Annex 3** gives an overview of this work.
15. The work of Step Change deserves particular attention. Step Change has responded to the challenges of HSE's strategy and agreed its own Strategic Plan 2010-2015, which is closely linked to the HSE Strategy.

Avoiding Catastrophe

16. The work of OSD continues to concentrate on the avoidance of catastrophic events and the importance of asset integrity. The three-year Key Programme 4 (KP4) was launched in the summer of 2010, and concentrates on ensuring that the industry ensures that the risks to asset integrity due to ageing and life extension are adequately managed, looking to make sure that the future condition of offshore assets are adequately anticipated in asset management regimes/ approaches. This work has clear links to the Government's growth and energy agendas, and the continuing fitness of the UK plc offshore infrastructure

into the 2020s will be essential if the remaining offshore energy reserves are to be exploited commercially and safely. There has been considerable industry interest in, and support of, KP4 and the Programme has now moved from the initial pilot inspection stages to full inspection, with the aim of covering 12 dutyholders in Year 2. HSE is exploring what if any further tools it needs to effectively challenge industry on their design and risk assessment assumptions relating to extending the operational life of an offshore installation.

Leadership

17. OSD engages at the level of 'movers and shakers' in the industry in a variety of ways. It is actively involved with the work of Step Change² and the HoD is an active member of the Step Change Leadership Team (SCLT). We are also involved in various work groups and have taken this unique opportunity to influence the industry leaders through:
- Encouraging the sharing of good practice and lessons learnt;
 - Focussing industry leaders on major hazard risk control and its precursor data. The industry now share hydrocarbon release data along with verification findings and maintenance backlogs at individual company level;
 - We share comparative data with the industry association, Oil and Gas UK, so that the UK industry can benchmark against other European provinces such as Norway and the Netherlands;
 - We are implementing our key theme of the HSE strategy of motivating leaders in the industry to address their responsibilities. In 2010/11, OSD undertook a pilot exercise on leadership interventions with Dutyholder Managing Directors, involving one-to-one interviews with MDs/CEOs to explore the personal roles they undertake and the adequacy of information which they rely on to ensure their information is reliable and primarily related to MH risk control. This was part of a wider HID group piloting leadership interventions. OSD has undertaken four interventions in this exercise to date. OSD will be continuing these leadership interventions in 2011/12 building on the successful pilot work; and
 - OSD conducts annual reviews with the senior management of every UK operator to discuss any detected failings in the company's safety management system and to review safety performance.

Workforce involvement

18. During 2010/11 HSE undertook an inspection programme of work to check industry compliance with the provision of SI 971 (Offshore Installations Safety Representatives and Safety Committees Regulations 1989). The findings of this project, which highlight common areas of non-compliance and also best practice, will be put onto the OSD website early September. The report will also be forwarded to the Step Change Workforce Engagement Group, and the OIAC Workforce Involvement Group (WIG), to take forward in their respective work.

² See Annex 2 for further information about Step Change
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19. A Workforce Involvement Group, chaired by Offshore Division, is tripartite and has been organising around three workforce focused events annually. These events are very well attended by the offshore workforce and are hugely influential in reinforcing the value of involving the workforce in all aspects of offshore safety including safety case preparation, incident investigations and site inspections.

Deepwater Horizon

20. The implications of the Deepwater Horizon incident in the Gulf of Mexico in 2010 continue to reverberate through the global industry. Offshore oil & gas exploration and production activity has a much higher media and political profile than before, both for the industry and for OSD as the offshore safety regulator. OSD has responded to the regulatory and wider stakeholder challenges arising from Deepwater Horizon across a variety of work streams. **Annex 4** summarises HSE's operational and policy response to date including initiatives at EU level and internationally. There is strong political interest in the EU work.
21. OSD set up its internal Deepwater Horizon Incident Review Group (DHIRG) to provide a forum to assess the implications of those incidents for the UKCS and ourselves as the regulator. Some of the emerging lessons from this work are;
- To date, the benchmarking of investigation report recommendations against UK legal requirements and practice has not revealed any critical gaps;
 - There is a need to renew focus on wells related safety critical elements;
 - A regulatory framework is not enough, there must also be a strong regulator that is independent, competent and is well resourced;
 - A key area for all regulators is succession planning and recruitment trends;
 - Regulators need to ensure that enforcement decisions remain transparent and consistent;
 - The industry need to ensure the engagement of the workforce to build a climate of trust so that information from safety related matters such as a potential for confusion, near misses or small deviations from the norm are brought to the attention of the operator and subsequently reviewed;
 - Industry to ensure that there is sufficient emphasis on the monitoring and audit aspect of the safety management system; and
 - Ensure that investigations arrive at the root causes of incidents; and that the industry learns from those conclusions.
22. An independent Review, chaired by Professor Maitland, of the UK's Offshore Regulatory Regime in the light of the Deepwater Horizon investigation reports is well advanced. The relationship between the safety integrity regulatory role of HSE, and the licensing and environmental protection/oil spill response regulatory role of DECC has come under particular scrutiny by the Review, given the strong interlink between these roles. Work is already underway to revise/strengthen the existing offshore MoU between HSE & DECC, but we can anticipate that the HSE/DECC interface will feature in the Review's interim report, expected by the end of September.

23. Offshore Division has wide international engagement, sharing lessons learnt, good practice, intelligence and seeking opportunities for harmonisation where possible:
- Our specialist inspectors sit on a number of ISO and CEN standard committees where their expertise and deep knowledge is internationally recognised and deeply influential;
 - We sit on the North Sea Offshore Authorities Forum (NSOAF) which consists of the North Western European players in our industry and chair a number of its work groups. NSOAF is becoming recognised as a model for other provinces throughout the world; and
 - We participate in and have an influential role in the more globally representative International Regulators Forum (IRF). The Head of OSD is the Programme Chair of an extraordinary IRF Industry Summit conference, to be held in Stavanger in October 2011, to take forward the lessons from Deepwater Horizon.

Resources

24. On 1 April 2011 Offshore Division had 113 (103 FTE) inspectors, providing expertise across the full range of offshore disciplines. The Division also provides specialist support to the offshore aspects of carbon capture and storage, the wells aspects of shale gas exploitation onshore, the well engineering and some aspects of salt cavern and depleted reservoir gas storage and regasification from LNG tankers, as well as aspects of the growing construction of offshore windfarms. There is also a resource in HID Policy Unit taking forward offshore-related legislative and European initiatives.
25. However this represents a shortfall of over 20 posts from OSD's workforce plan, with tough decisions being taken on prioritising offshore permissioning activities and targeting poor performers at the expense of other regulatory activities such as the provision of a full range of proactive specialist interventions over the five safety case year cycle for some dutyholders/installations. Over 20 retirements are expected over the next 2 years. Whilst OSD is able to transfer some suitable staff with major hazard regulatory competencies from elsewhere in HSE, this is proving difficult to achieve due to the Aberdeen location, the training expectation and the need for some key specialists to have direct offshore experience/knowledge. HSE is only having limited success in recruitment in a highly competitive offshore job market. Being able to attract and retain the right calibre of people from the industry and other parts of HSE remains a major challenge for the Division. We are exploring what further remedies might be available within the current pay constraints.

Action

26. The Board is invited to note the contents of this paper.

Paper clearance

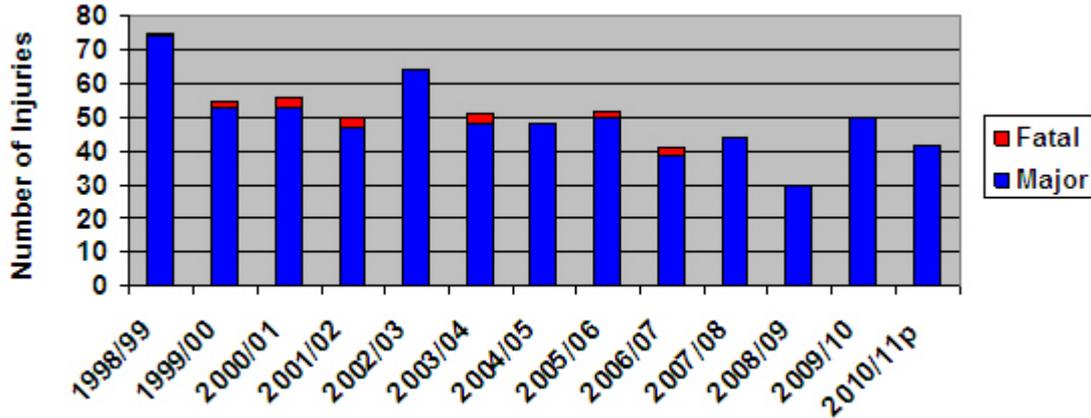
27. This paper was cleared by the Senior Management Team on 7 September 2011.

Contact:

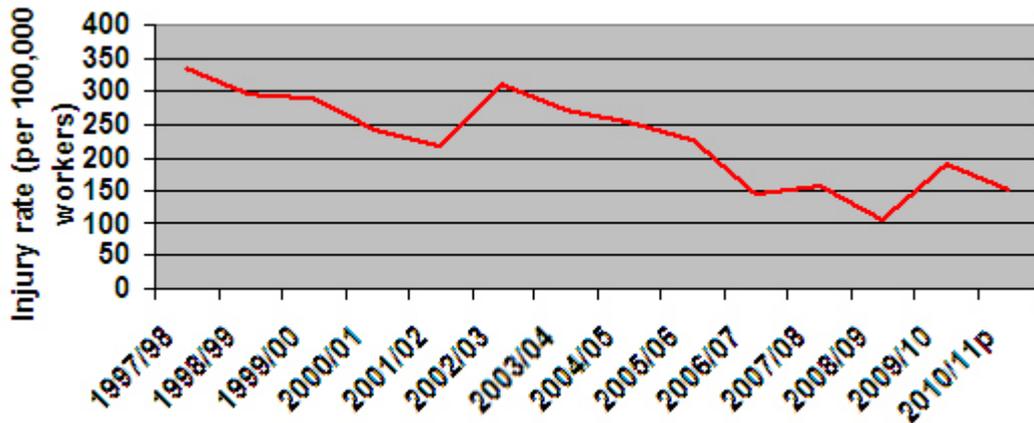
Steve Walker, Head of HSE's Offshore Division, steve.HID.walker@hse.gsi.gov.uk

Extracts from the Offshore Statistics Bulletin 2010/11

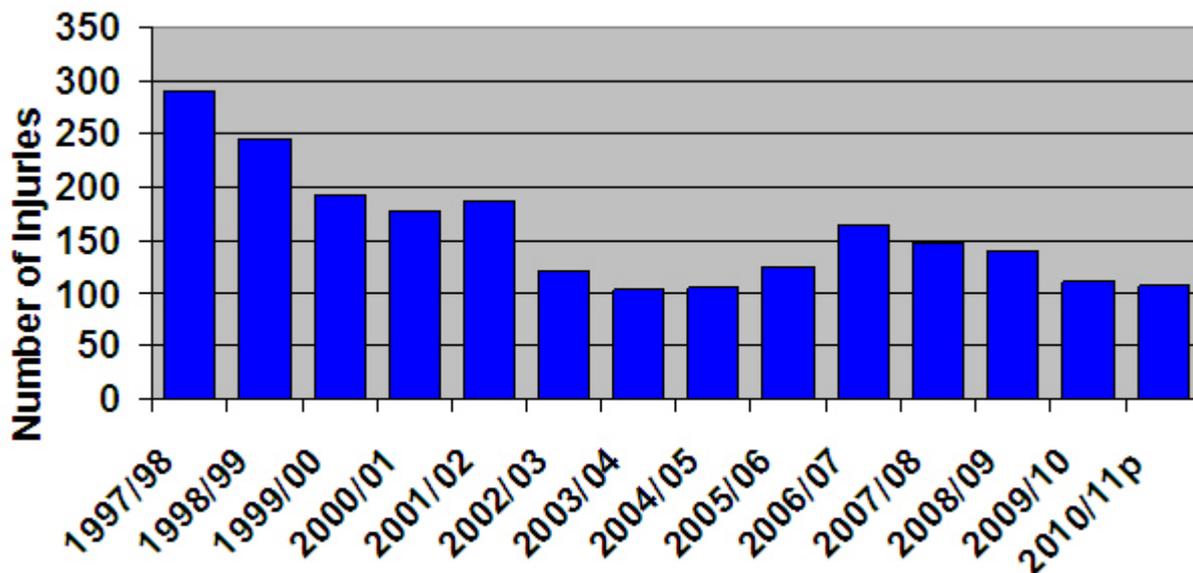
**Figure 1: Fatal and major injuries
1997/1998 – 2010/2011p**



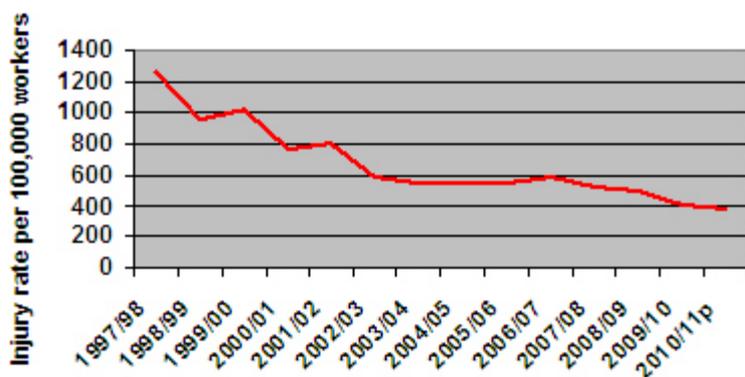
**Figure 2: Combined fatal and major injury rate
1997/1998 – 2009/10p**



**Figure 3: Over 3-Day Injuries
1997/1998 – 2010/2011p**



**Figure 4: Over 3-day injury rate
1997/1998 – 2010/2011p**



**Figure 5: Dangerous occurrences
1997/1998 – 2010/2011p**

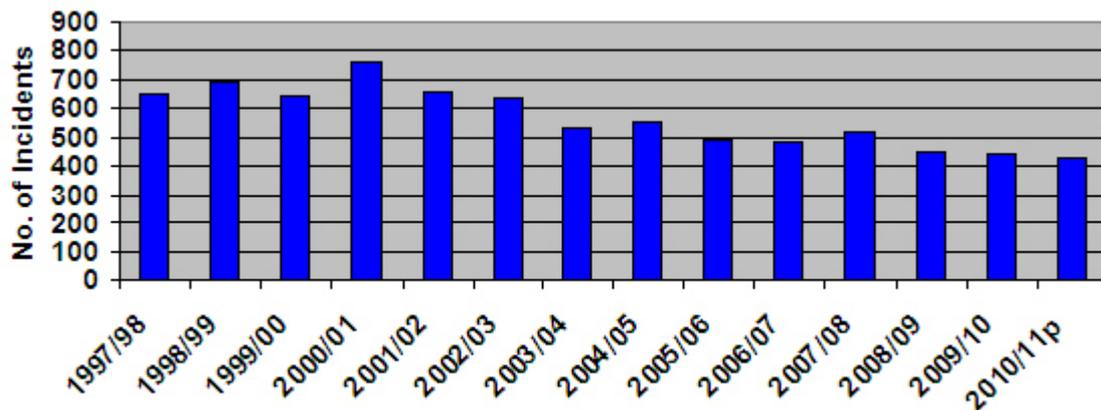
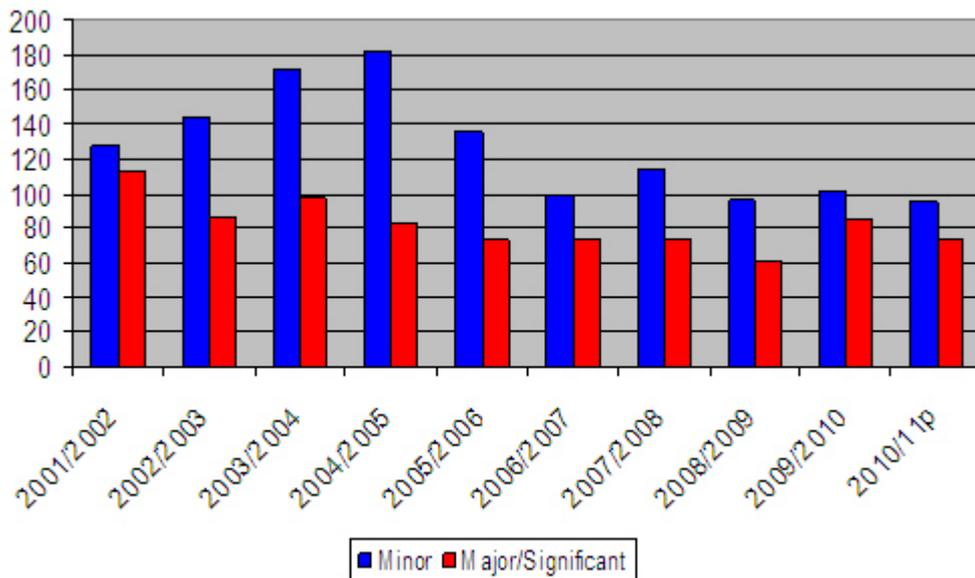


Figure 6: Offshore hydrocarbon releases



**Fig.7: O&GUK chart
KPI-3 Safety critical planned maintenance backlogs**

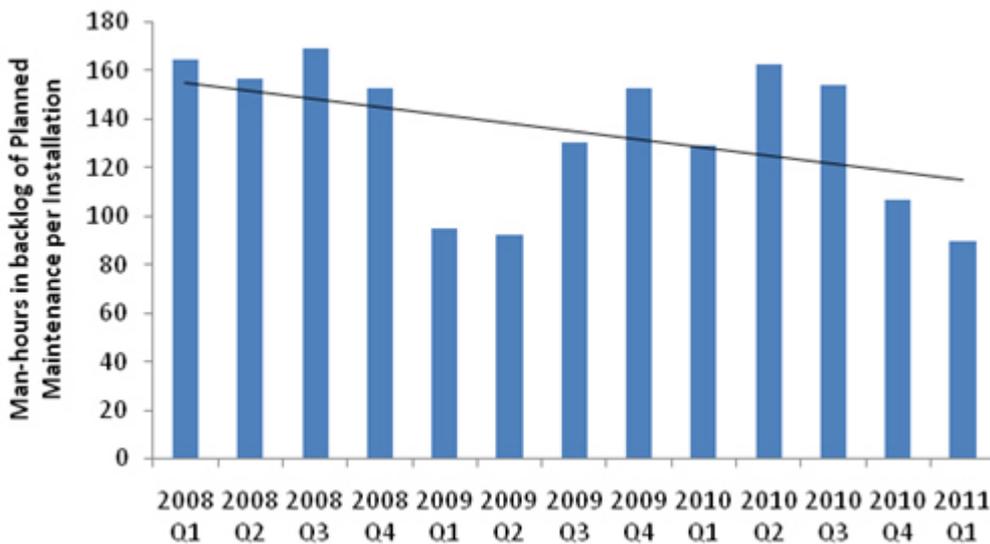


Fig.8: O&GUK graph

Verification non-compliance, Level 2 average - Open findings per installation

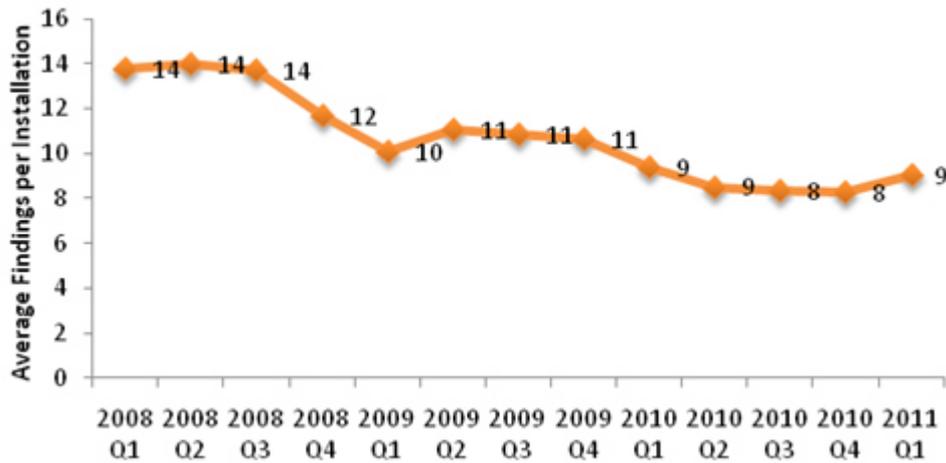
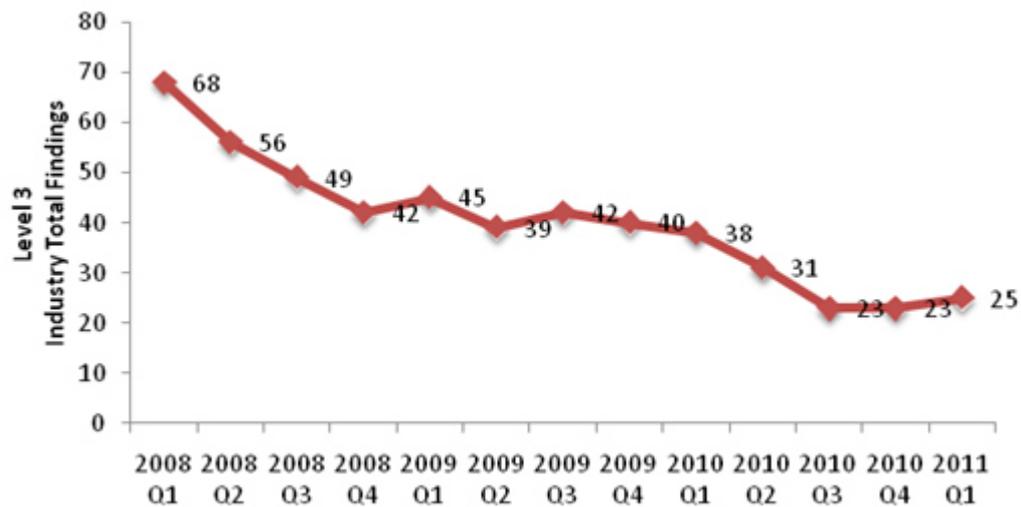


Fig.9: O&GUK graph

Verification non-compliance, Level 3 industry tool - Total findings



Offshore Notice Stats 1/4/2001 – 31/3/2011

Year	IN	PN	Total
2001/02	33	11	44
2002/03	46	7	53
2003/04	42	6	48
2004/05	27	2	29
2005/06	37	9	46
2006/07	53	8	61
2007/08	28	5	33
2008/09	48	4	52
2009/10	30	2	32
20010/11	41	3	44

Note: figures include related offshore diving and pipelines. Notices under appeal are not included.

HSE's Offshore Stakeholder Engagement

1. The Offshore Division works with a wide range of stakeholders as a means of driving forward improvements in health and safety within the UKCS and as a global concern. We participate in various forums and working groups on an international and European front.

2. Key partnership working arrangements during 2011/12 include:

Step Change in Safety: Step Change is a unique industry group established in 1997 with the aim to make the UK the safest place to work in the worldwide oil and gas industry. OSD continues to work with Step Change as a member of the Step Change Leadership Team (along with the trades unions) and on many of the working groups (<http://www.stepchangeinsafety.net/>). The Step Change Strategic Plan 2010/15 aims to deliver major improvements in the whole industry's safety performance and is the key way in which the UK offshore industry responded to take the HSE Strategy forward: (<http://www.stepchangeinsafety.net/knowledgecentre/publications/publication.cfm/publicationid/35>).

Offshore Industry Advisory Committee (OIAC): OIAC is a tripartite committee which and includes members representing employers, employees, unions, trade associations and government departments. The head of OSD, Steve Walker, chairs this Committee (<http://www.hse.gov.uk/aboutus/meetings/iacs/oiac/>). Particularly active is the Workforce Involvement Group (WIG), which is continuing to work with partners to develop an additional training matrix for safety representatives to include examples of good practice. The intention is to seek the Step Change Leadership Team support in the promotion of use of the training matrix as industry wide best practice. In addition to this, the OIAC/WIG intends to host two further workforce events in 2011/12.

OSPRAG and the Wells Life Cycle Practises Forum – see Annex 2

Department of Energy & Climate Change (DECC) : In addition to working with DECC and MCA on the formal review of the UK's offshore oil & gas regulatory approach we are also working closer with DECC in sharing common regulatory information leading to, where appropriate, coordinated interventions with duty holders. Our existing MoU is currently being revised.

A Summary of HSE's Response to Deepwater Horizon

- **In response to the Gulf of Mexico incident, the Energy and Climate Change Committee initiated an inquiry into the safety and environmental regulation of oil and gas operations on the UK continental shelf (UKCS).** The Committee's Report concluded that there should not be a moratorium on deep water drilling in the UK, nor should there be any increased regulatory oversight from the European Commission. It also stressed that the UK has high offshore regulatory standards. These conclusions mirror the written and oral evidence HSE presented to the Committee. HSE is taking forward the Committee's recommendations relating to well control (via the Oil Spill Prevention and Response Advisory Group (OSPRAG)), and safety culture.
- **OSD set up its internal Deepwater Horizon Incident Review Group (DHIRG) to provide a forum to assess the implications of those incidents for the UKCS and ourselves as the regulator.** DHIRG will continue during 2011/12 as more reports are received from the US investigations. In 2010/11, OSD increased its frequency of assessing well control issues by including this aspect at all offshore inspections of mobile drilling rigs. This will continue into 2011/12. The verification scheme as applied to well control equipment is one of the key aspects of the UKCS regulatory regime that would aid in preventing an incident like Deepwater Horizon. HSE confirmed to the recent DECC Select Committee enquiry into deepwater drilling in the UKCS that we will undertake a focused inspection programme to gauge compliance with this statutory duty. During 2011/12, OSD will develop its expectations for an effective blow out prevention (BOP) integrity management system, to be followed by structured inspections to test compliance.
- **The European Commission published a Communication on "Facing the challenge of the safety of offshore oil and gas activities"** on the 13 October 2010. This document outlined the Commission's initial thinking on how to ensure that a disaster similar to the one in the Gulf of Mexico will never happen in European waters. HSE and DECC have met with the European Commission prior to the publication of their Communication and were successful in influencing the Commission away from some aspects of their initial thinking (e.g. a moratorium on deepwater drilling). However, there are still some areas which give us cause for concern (e.g. an EU offshore regulator and measures to increase oversight of regulators). HSE and DECC are continuing positive engagement with the Commission to influence its thinking and to minimise the impact - direct or collateral - on the UK regime. The European Commission are expected to publish their offshore proposals in September/October 2011.
- **OSPRAG** - HSE has worked with industry and trade unions as part of OSPRAG, which has been the UK offshore industry's focal point for the review of its offshore practises in the light of Deepwater Horizon. This work has included setting up the Wells Life Cycles Practices Forum, which is making good progress in considering well issues raised by the Select Committee and developing best practice.

- **Regulatory Review** - The formal independent review of the UK's Offshore Regulatory Regime in the light of the key Deep Water Horizon investigation reports is underway. Interviews have taken place to take account of stakeholders' views and an interim report is expected by the end of September.
- **US Activity** - Despite the U.S. Presidential Commission report asking for (a) safety case legislation and (b) a better resourced and more competent regulator, the prescriptive model of regulation is pervasive across all U.S. sectors. From recent discussions with the U.S., it is clear that the regulation of the offshore industry in the U.S. is continuing down a prescriptive route, with increasing amounts of legislation planned. Following a US Interior Department-led international forum on offshore energy safety and response, attended by Geoffrey Podger, Secretary Salazar concluded that there was a need to consider whether a new organisational forum was required to develop recommendations for international standards and offshore protocols for offshore oil & gas activities, or whether existing groups (e.g. the International Regulators Forum) could be strengthened. Recent draft proposals from the U.S. have reined back on these views but are still proposing a permanently staffed (and internationally funded) body at Ministerial level to oversee the international offshore industry. HSE is working with DECC to establish a UK line on this, but our initial view is to strongly question the need for such a body. We have strong allies in Australia, Netherlands and Norway in this.
- **Wider Engagement** - We have been and will continue to work closely with other international colleagues through International Regulators Forum, North Sea Offshore Authorities Forum and the G20 Global Marine Environmental workgroup to ensure that high standards of health and safety and high levels of protection for the environment are maintained across the globe in respect of oil and gas operations.