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Energy and Climate Change Committee

UK Deepwater Drilling—Implications of the Gulf of Mexico Oil Spill

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Additional written evidence

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The Energy and Climate Change Committee

The Energy and Climate Change Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Department of Energy and Climate Change and associated public bodies.

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Witnesses

List of printed written evidence

List of additional written evidence

(published in Volume II on the Committee's website www.parliament.uk/ecc)

List of unprinted evidence

The following written evidence has been reported to the House, but to save printing costs has not been printed and copies have been placed in the House of Commons Library, where they may be inspected by Members. Other copies are in the Parliamentary Archives (www.parliament.uk/archives), and are available to the public for inspection. Requests for inspection should be addressed to The Parliamentary Archives, Houses of Parliament, London SW1A 0PW (tel. 020 7219 3074; email archives@parliament.uk). Opening hours are from 9.30 am to 5.00 pm on Mondays to Fridays.

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Written evidence

Memorandum submitted by the Institution of Mechanical Engineers

THE FUTURE OF DEEPWATER EXPLORATION AND PRODUCTION

Executive Summary

This submission is from an experienced risk and reliability professional with 20+ years experience in the industry and involvement in professional engineering bodies. Deepwater exploration brings economic benefits and risks can be managed but only by a transparent and acceptable process which must be given precedence over experience and ego. Spin offs to emerging technologies such as coal gasification and carbon capture are also very valuable. Production effectiveness and integrity are closely related and considerations need to be re-united in a holistic positive measured process, safety regimes having concentrated too much on consequence mitigation rather than *engineering* integrity assurance. The engineering profession has been active in formalising methods and standards and is now actively addressing formalised practitioner competences. The forthcoming ISO for management contains the essential risk management framework but this cannot function without the appropriate political support.

About Myself

I am a Chartered Engineer and Chartered Marine Engineer, currently member of Council and Chairman of the Institution of Mechanical Engineers Safety and Reliability Group and a Fellow and member of Council of the Safety and Reliability Society. I also attend the Inter (Engineering) Institutional Group on Safety, the Hazards Forum and have been active on the working group re-issuing Engineering Council Risk Guidelines.

Following "mainstream" engineering activities I specialised in performance and risk analysis and modelling, supporting design teams within several large oil and gas projects (green and brown-field) and later as a consultant carrying out detailed quantitative assessments for most of the majors within the North Sea, Far East and Australia including the DTI as well as in similar work in defence and transport. For the last five years I have been committed to very large heavy oil "upgrader" refineries project ($28 billion overall, $8 billion for the UK) and will be leading the team responsible for technical and business risk assurance, reporting to the sponsoring government and financial institutions.

Responses to the Questions

What are the implications of the Gulf of Mexico oil spill for deepwater drilling in UK?

1. There are currently several deepwater developments in place and several more are planned to the benefit of the British Economy. While there have not been any severe safety incidents the production performance has not been impressive (I carried out a detailed review for one operator). Given the awareness spurred by the GoM spill the public will demand (and deserve) greater transparency and effectiveness in integrity management if further development is to be allowed.

2. They also deserve a more consistent revenue flow through better asset design and management. These are not mutually exclusive and indeed the better HSE performers are also the better revenue generators. If the continued exploitation of UK resources is to receive full public support then there must be visible evidence of well designed assets with consistent and stable performance in every aspect.

3. No-one intended the GoM (or any other) disaster to happen and those concerned did not believe that their safety process was incomplete and inadequate. They fell into the trap of placing reliance on "previous experience" or "expert opinion", especially in the field, in effect a subjective approach that lacked a continuous, objective, quantified risk reference mechanism against which not only the expected but also the unexpected can be assessed.

4. The current "status quo" of a "static" safety case, i.e. one that is not continually updated by feedback from actual conditions and inclusion of everyone involved will no longer convince the wider public and sufficient mechanisms to build and maintain confidence in a manner that the former *can understand and support* is essential, "black arts" may spawn "experts" and "gurus" but do little to contain risk.

To what extent is the existing UK safety and environmental regulatory regime fit for purpose?

5. The purpose of regulation is to erect boundaries within which people are constrained to work through a structured, reasoned and recognised thought process before their intended actions are sanctioned or supportable.

6. Since the Cullen report there has been a division between production and "safety" in the belief that an "independent" view of integrity is best. I am of the opinion that it is time for the two to be linked again, although perhaps retaining legislative independence because there has been too lax a control on performance effectiveness and disconnect between reliability of equipment and safety.

7. Unlike the MoD the department responsible for oil and gas exploration and production did not direct licence holders (who are in many ways "contractors to bring the UK resource to market") to demonstrate their

design and operations maximise revenue potential—safely, the best whole value proposition in production and integrity. Accordingly there has been, with too few exceptions a sorry history of poor design and operations which have resulted in production efficiency by their own design (based on the many assessments I have carried out for majors and government).

8. Other fundamentally good performing assets were adversely affected by arbitrary cost cutting because the relationship between maintenance, support, production efficiency and integrity was not understood or denied in the face of short term pressures. Sadly the savings made were greatly outweighed by lost revenue because of the lack of (or in some cases dismissal) of objective measurement processes.

9. While such analyses and processes to ensure good design and effective and efficient operations are mature and proven, especially in defence; their application in the North Sea has actually declined in the last 10 years having been resisted as an imposition by those focussed on rapid career progression and allergic to "inconvenient" news, sadly to the detriment of profit and consequent tax revenue and integrity.

10. The safety regimes have focused heavily on mitigating and managing consequences rather than fundamental integrity assurances in equipment and systems by design and ensuring the right testing and assurance mechanisms are in place and enforced. HSE would concur with this as much of their current focus demonstrates.

11. An appropriate mechanical engineering analogy is of steam locomotive boilers which exploded with frightening regularity 150 years ago but by attention to materials, design and operations, not theoretical "safety cases", the risk was eliminated.

12. HSE have over the last five years made strides in addressing the need to focus on making safety related engineering "work" in Key Programme 3 but they would admit there is a long way to go. They "invited" companies and contractors to a seminar for encouragement two years ago (at which I was an "observer") to enforce the thrust to "ensure it does what it says on the tin"—i.e. that it is reliable. A lot of the difficulty lies in the disjoint between the often well thought out and comprehensive strategies at management level and "experience" at grass roots level which carries on regardless. This is by no means unique to oil and gas as demonstrated in other recent accidents.

13. Often the purpose of essential assurance actions are not fully understood by the persons carrying them out, demonstrated by "valve tested—now working" whereas continual feedback, especially when equipment does not "do what it is supposed to" adjusts actions and their frequency to meet quantified performance standards.

14. Competences need formalisation. A significant number of self appointed "gurus" in safety and reliability emerged to meet the market demand since 1988 but whose qualifications and expertise often did not support the responsibilities they assume.

15. The Professional Institutions have in recent years become more aware of the need to regularise competences and qualifications in the profession although even this has not been without resistance however all the relevant bodies from Engineering council to small training providers are making strides to bring a formality to this.

16. Suffice to say however that it needs to move from being optional and political support is essential for that. Clear reasoning supported by a joined up process, "thinking", as my colleague Prof John McDermid was quoted by Charles Haddon Cave QC in his report into the loss of Nimrod XV230 and this applies every bit as much in deepwater exploration and production, more so as there is very limited scope for it once a mishap occurs.

17. A "joined up" holistic process of quantified production and integrity is essential. Too much revenue has been lost to date (cumulatively a large proportion of the current national debt) and is at risk in the future and furthermore the current procedures do not give any cause for HSE and others to feel confident on safety and environmental issues.

18. The demonstrable transparency that the public need to feel at ease is best served by a partnership between the engineering profession and government.

19. An assessment and authentication process needs to be in place for every asset and asset interaction from concept through to final environmentally responsible disposal. It must capture and contain every decision making mechanism, reflecting the risks and the cost benefits of every option taking into account risk. "Flying by the seat of the pants" is still too common and seems to have been a major contribution to the recent disaster. It is now time for cowboys to ride off into the sunset.

What are the hazards and risks of deepwater drilling to the west of Shetland?

20. Principally loss of containment of oil and/or gas with potentially immense safety and environmental consequences but unseen is the threat of lost revenue through poor design and ineffective operations.

21. Unlike Gulf of Mexico, or indeed North Sea, distances and sea conditions make rescue and mitigation much more difficult. These are very unlikely to arise from completely unknown sources and therefore potential hazards can be proactively identified, designed out or mitigated.

22. Identified consequences should form the basis of proactive contingency strategies aligned to know possibilities and criticalities as the core of ongoing risk assessment. This should be the "norm" and follow comprehensive guidelines and draw on specific competences (but not prescription) and not be left to the discretion of the individual practitioner.

Is deepwater oil and gas production necessary during the UK's transition to a low carbon economy?

23. Yes. There are, as yet aspects of society's needs where alternative fuels have not been identified or are unlikely to be (aircraft etc) in the foreseeable future. A balance is essential to bridge the gap and we should not be "feared" unnecessarily to exploit the potential.

To what extent would deepwater oil and gas resources contribute to the UK's security of supply?

24. Firstly by continuing supplies but also in stimulating technology development to allow UK to get better and exploit future resources more effectively. Other energy sources such as coal gasification, which has massive potential, has benefitted from drilling technology spun off from the impetus to exploit deep water resources.

25. Carbon capture and storage also benefits from this and will become much more expensive if left to develop alone without the ability to draw on the investment and experience of oil and gas production which of course can justify much greater levels of investment.

The mechanism necessary to assure safety

26. Safe engineering requires fit for purpose technology, workable and practical management strategies backed by comprehensive, co-ordinated and holistic performance measurement, not just good words and intentions. Engineering is not inherently unsafe it only becomes so when it is misapplied or mistreated.

27. Few applications really push technical frontiers and assurance can be achieved simply by pausing for thought at the appropriate moments and drawing on evidence of similar technology. Unfortunately there is often an unwillingness or inability to face the possibility that risks exist (it has been ok for xx years) or other perceived greater priorities have overruled, usually costs or ego.

28. The Engineering Professions and the specialist bodies have been striving to develop and refine usable techniques for some 40 years now, not without resistance and IMechE is taking the lead to bring a degree of co-ordination and collaboration to bear. (I would say that wouldn't I—but it is true, we are pushing the others hard and have significant representations from HSE, MoD etc. We are currently opening dialogue with the Cabinet Office).

29. A "management" ISO is imminent (i.e. will be published in a couple of years once it has overcome the filtering process) and is summarised below because it already forms the basis of a risk management strategy

29.1. Develop a clear understanding of the purpose and the factors that could affect it.

29.2. Establish the appropriate organisation to manage achievement of that purpose.

29.3. Set out clear management responsibilities, boundaries and interfaces with mechanisms of assessment, analysis and authentication; emphasised as a good investment, not impediment or challenge to status.

29.4. Inspire leadership to give a sense of visible direction and control from top to bottom.

29.5. Demonstrate clear management commitment to compatible risk measurement and assessment processes integrated fully into the business processes, never "bolt on" or vulnerable to the reluctant or belligerent.

29.6. Ensure commitment by all in setting objectives, satisfying needs and requirements.

29.7. Formalise assigned and communicated management reporting systems.

29.8. Proactively plan for measurable objectives which should have a credible time frame for achievement and can be actively verified and monitored to build a "corporate memory" from the outset.

29.9. Listen to and address issues and concerns at every level, planning action accordingly to address them and implementing these actions into the management system. (Countless engineering mishaps have the root cause in unwillingness to consider the opinions of others.)

29.10. Build awareness with relevant external parties to ensure they are aware of their responsibilities

29.11. Ensure planned changes are subjected to formal change control mechanisms.

29.12. Monitor the management system effectiveness from concept through design, manufacture, installation, commissioning and service from the outset.

29.13. Instigate an appropriate audit programme, taking into consideration the criticality of the activities and processes concerned and the results of previous audits.

29.14. Plan regular reviews of the management process.

30. Note that there is no mention of safety, reliability or any other terminology or "fancy flute music statistics" in the above. They are metrics which demonstrate the outcome of an effective management process, not the process itself.

What is the Engineering Profession doing to be better organised to respond to risks?

31. Safety and Reliability techniques have matured over 30 years but their application still remains voluntary and practitioners unregulated. The profession has now created clear lines of communication between the different bodies to ensure no aspect falls "between the gratings" or is too jealously guarded. Duty holders will be left in no doubt as to their roles and responsibilities and practitioners suitable enabled to discharge them.

32. To guard against the irrational portrayal of engineering as "unsafe" and hazardous outcomes "inevitable" amongst the less well informed to the detriment of mankind's well being and prosperity, engineers need to provide an effective, consistent and understandable risk management framework. There may seem to be many symptomatic root causes of failures there is actually only one, namely the unwillingness to dispassionately and objectively consider the proposed function with the fitness for purpose of the proposed response to it and putting aside short term considerations of which the greatest and most deadly are cost and ego.

33. Domestic appliances are an example of continuous improvement, and there is a trail of corporate corpses of those who dismissed the need for thinking about better performance in that area. The necessary techniques and processes to enable reliability exist in standards and are taught in mainstream academic institutions.

34. HSE have an initiative to bring this awareness to undergraduates (but incredibly is having difficulty in finding funds!). Many of the specialist assessment techniques are "owned" by cross industry specialist bodies (IOSH, SaRS etc) but their application is best steered through the relevant professional institutions and adapted to the specific industries by engineers intimately connected to them. This forms the strategy that the co-ordinated efforts of the engineering professions and specialist bodies are embracing.

35. This reins in both the "expert" who rains down the boiled oil of confusion completely divorced from any knowledge of the specific technology and the "experienced engineer" who feels any directive to carry out safety and reliability assessments, especially by those perceived as "amateurs" as a slight to their virility.

36. The Engineering Council Guidelines lay down the principles that engineers should follow. All this however will be "toothless" unless there is political awareness and firm legislative direction. There needs to be a partnership between government and the profession to achieve this, it will take a little time but it is imperative.

September 2010

Memorandum submitted by the Joint Nature Conservation Committee

SUMMARY

The Joint Nature Conservation Committee is the statutory advisor to Government on the nature conservation implications of deepwater oil spills. The greatest nature conservation interest at risk from oil spills in deepwater areas is to seabird populations, with coastal habitats at risk should an oil spill be driven towards the shore. Available information on seabird distribution in offshore areas is now becoming old (much was collected more than 15 years ago); this means that both risk assessment, planning and response is not based on best possible data. JNCC has recommended that a programme to update information on seabird distribution and other key environmental features be funded.

1. *Introduction*

1.1 The Joint Nature Conservation Committee (JNCC) is the statutory advisor to Government on UK and international nature conservation, on behalf of the Council for Nature Conservation and the Countryside, the Countryside Council for Wales, Natural England and Scottish Natural Heritage.

2. *Background to the JNCC's work in relation to deepwater drilling*

2.1 JNCC are statutory consultees for oil and gas activities under several pieces of environmental legislation and are consulted for advice by DECC, the regulatory authority, concerning proposals that involve all drilling, including in deep water. We provide advice in offshore waters beyond 12 nautical miles, extending to the limit of the United Kingdom Continental Shelf. The main issues we provide advice on are the potential environmental impacts of proposals on seabirds, cetaceans and benthic communities.

2.2 In addition to advising on all drilling proposals, JNCC also comment on the Strategic Environmental Assessment (SEA) process for oil and gas licensing rounds.

2.3 In the event of a major oil spill, JNCC would provide advice to the Secretary of State's Representative as outlined in the National (oil spill) Contingency Plan. This would be done through representation on a Standing Environment Group. In addition to advising on appropriate measures to mitigate impacts on seabirds

and other marine life at sea we would work with the relevant country agency (i.e. SNH, NE or CCW) to provide advice in relation to measures to address impacts on coastal habitats.

3. *What are the implications of the Gulf of Mexico oil spill for deepwater drilling in UK?*

3.1 The Gulf of Mexico oil spill clearly raises the need to review in some detail the potential implications for the UK. The remit of the Oil Spill Prevention and Response Advisory Group (OSPRAG) established by Oil and Gas UK is comprehensive in this respect. JNCC's participation with OSPRAG is to the Oil Spill and Emergency Response Review Sub Group.

3.2 From JNCC's perspective the key implications are with respect to both the Government's and the industry's ability to understand and predict the environmental impacts of any oil spill. This is needed for both planning (to ensure the most appropriate response is available) and in responding should a spill occur.

3.3 A novel aspect of the response to the Gulf of Mexico spill has been the injection of dispersants into the spill at its source on the seabed. The traditional use of these dispersants has been at the water surface. We will be particularly interested to see an analysis of the effectiveness of this response as it adds to the range of possible tools that might be available should a blowout occur in deepwater areas of the UK.

4. *To what extent is the existing UK safety and environmental regulatory regime fit for purpose?*

4.1 From a nature conservation perspective, we consider that the current framework of regulatory control, with advice provided by JNCC, effectively meets the UK's various international and national obligations under the terms of the OSPAR convention, Marine Strategy Framework Directive, Habitats and Birds Directives, EIA & SEA Directives and the Marine and Coastal Access Act and Marine Act (Scotland). The statutory framework also provides the potential to deliver best practice measures.

4.2 The Oil Pollution Emergency Plans (OPEPs) are the key documents produced by operators in order to ensure appropriate measures are in place in the event of a major oil spill. JNCC are content that the legislative background requiring suitable planning for an oil spill is in place. Following consultation with JNCC, OPEP's are approved by the Department of Energy and Climate Change (DECC) Energy Development Unit (Offshore Environment and Decommissioning). The extent to which the content of OPEPs should be reviewed in response to the Gulf of Mexico oil spill is an issue that will be considered by OSPRAG.

5. *What are the hazards and risks of deepwater drilling to the west of Shetland?*

5.1 From JNCC's perspective, all oil spills can pose a hazard and risk to marine life. There are examples where relatively minor oil spills of a few hundred litres have led to severe environmental damage, while other very large spills have had nearly undetectable effects. The two critical factors appear to be the speed at which an oil is broken down in the marine environment, and the particular nature of the environment in the vicinity of the spill.

5.2 In general light oils break down faster than heavy oils. The two producing oil fields in deep water west of Shetland (Foinaven and Schehallion) have viscous or very viscous oils that will relatively rapidly form stable emulsions on the water surface. Should there be other such oil fields west of Shetland, this would increase the hazard relative to e.g. some of the light oil fields in the North Sea.

5.3 The greatest risks to nature conservation of oil on the offshore (deepwater) sea surface are to seabirds. Should the spill persist and be driven ashore, coastal habitats and species may also be severely affected, especially "low energy" habitats such as salt marshes and estuaries. There is relatively little evidence of effects on whales and dolphins (partly due to the difficulty of studying these animals), but seals can be affected badly. Little evidence is available on the effects of oil spills on deep-water seabed habitats.

5.4 In order to plan effective response to oil spills (or to avoid risky activities at times when seabirds are particularly concentrated in an area), it is necessary to have a good understanding of their distribution at sea throughout the year. The predecessor to JNCC established a major seabird project in the 1980s and 1990s to collect this information, using funding from a consortium of relevant Government and industry partners. Although some further information has been added in the past 15 years, including from partners in other European countries, the majority of information that is presently relied upon is now becoming old and potentially out of date (see Tasker *et al*. 1990 and Pollack *et al*. 2000). We are recommending to OSPRAG that a programme be established to update information on seabird distribution relevant to current and future oil and gas development and exploration areas.

5.5 Additional proposals to OSPRAG to collate and update information on the vulnerability of coastal habitats are an important first step to ensure an appropriate response is planned. JNCC have also made suggestions that would help improve our understanding of the possible impacts of a major oil spill on cetaceans. At the time of responding to this consultation we do not know the fate of these proposals.

6. *Is deepwater oil and gas production necessary during the UK's transition to a low carbon economy?*

6.1 JNCC has no comments to make in relation to this question.

7. *To what extent would deepwater oil and gas resources contribute to the UK's security of supply?*

7.1 JNCC has no comments to make in relation to this question.

Literature Cited

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Pollock C M, R Mavor, C R Weir, A Reid, R W White, M L Tasker, A Webb and JB Reid 2000. *The distribution of seabirds and marine mammals in the Atlantic Frontier, north and west of Scotland*. Joint Nature Conservation Committee, Aberdeen. 92pp.

September 2010

Memorandum submitted by Research Councils UK

Introduction

1. Research Councils UK (RCUK) is a strategic partnership set up to champion the research supported by the seven UK Research Councils. RCUK was established in 2002 to enable the Councils to work together more effectively to enhance the overall impact and effectiveness of their research, training and innovation activities, contributing to the delivery of the Government's objectives for science and innovation. Further details are available at www.rcuk.ac.uk.

2. This evidence is submitted by RCUK on behalf of the Research Councils listed below and represents their independent views. It does not include or necessarily reflect the views of the Science and Research Group in the Department for Business, Innovation, and Skills (BIS). The submission is made on behalf of the following Councils:

Economic and Social Research Council (ESRC).
Natural Environment Research Council (NERC).

3. NERC's comments are based on input from by the following research centres and individuals: the British Geological Survey (BGS), the National Oceanography Centre (NOC), the Scottish Association for Marine Science (SAMS), the Sea Mammal Research Unit (SMRU), the UK Energy Research Centre (UKERC), and NERC Natural Hazards Theme Leader, Professor John Rees. For more information on NERC's research and collaborative centres and science themes visit the NERC website www.nerc.ac.uk.

4. Following responses to specific questions, Annex A outlines the need to establish a longer-term deep-water observatory in the west of Shetland in order to meet the high level objectives of the UK and Devolved Governments' *Our seas—A Shared Resource*[1]. Information on previous survey work and how NOC and BGS could continue to work with industry to survey the area in the future is provided.

Executive Summary

- The west of Shetland region is physically a very different environment to the Gulf of Mexico, so environmental impact of a deep water spill in this area would be different, in many aspects.
- A regulatory system could be enacted to compel companies to develop a shared- deep-water rapid response system to cap wells, and the levels of insurance cover companies are obliged to have could be increased.
- The UK's regulatory system is robust but could be improved, though there is a limit to which increased regulation can be implemented and effective.
- Scenarios which may reduce the need to exploit deepwater reserves during the transition to a low carbon economy are discussed. However, given our current reliance on oil and gas, such exploitation may be necessary.
- Under free market regulations the contribution of deepwater reserves to security of supply may be limited, though there may be some economic benefits of exploitation.

[1] http://www.defra.gov.uk/environment/marine/legislation/hlmo-sharedseas.htm

Responses to Questions

1. *What are the implications of the Gulf of Mexico oil spill for deepwater drilling in UK?*

Environmental implications

1.1 The spill appears to have had a significant environmental impact on the Gulf of Mexico (GoM), but the overall scale of the impact is not yet apparent and may not be for many years. Environmental impacts may not easily translate to the UK as the physical environment and ecology of deep waters off Shetland is significantly different to that encountered in the GoM:

(a) Geological differences—The seafloor geology of the UK shelf to the west of the Shetlands region is complex, with ridges and other features that would strongly influence the direction of dispersion of any releases.

(b) Temperature—The deep bottom water off Shetland is colder than that at a similar depth in the GoM, the surface temperature is also less than in the Gulf region (9–10°C in winter, much cooler than the Gulf's summer temperature of over 30°C). Consequently, there is less potential for evaporation of lighter hydrocarbon fractions, so a winter spill in the region will experience a slower biological decay and lower evaporative loss.

(c) Oceanographic conditions—The Shetland region is significant in terms of global ocean circulation so significant spills would not be as contained as in the Gulf, though the dispersion into deep open-ocean would be similar. The wave climate off Shetland is rougher though GoM storms are much larger and experience greater extremes in Hurricane season, which cause a complete shutdown of exploration, production and any remedial work on spills.

(d) Ecology—Extreme temperature ranges in the Shetland area are very important in regulating the distribution of animal life on the seafloor and in the water column. Though considerable work has been done on seafloor—or "benthic"—communities, they are less well understood with respect to the water column and how the deep sea ecosystem varies over time. There are gaps in knowledge around the toxicology of cold deep water organisms and their reactions to chemical and drilling muds used by the industry. Gaps in our knowledge are particularly significant given the water column supports some of the most commercially-important fish stocks in the UK eg North Atlantic mackerel and monkfish. In addition, the region is an important migratory route for marine mammals moving between the northern seas in the summer to temperate/tropical Atlantic waters in the winter.

1.2 It must be emphasised that there are significant dangers inherent in drilling on all parts of the UK Continental Shelf (UKCS), not just in deep water. A spill in any depth of water could occur as a consequence of exploration, appraisal or development drilling, or as a result of oil production on the UKCS. Indeed, there are often greater technical challenges in some of the relatively shallow water areas of the UKCS where the target reservoirs are under higher than normal heat and pressure eg in high pressure high temperature (HTHP) fields. However, despite these dangers, the record in the UKCS is very good.

Managerial and public perception implications

1.3 The BP experience in the GoM has already had the noticeable effect of tightening practices within drilling companies operating worldwide, which will, for as long as these improved practices continue, make all drilling safer.

1.4 There is a clear need for industry to develop a system of jointly coping with deep-water problems on the UKCS. A group of four GoM operating companies has already begun to develop their own rapid response plan whereby they are committing US $1 billion to create a rapid-response system to deal with deep-water spills in the GoM. This voluntary effort includes building modular containment equipment that will be kept on standby for emergency use. Their initial financing of $250 million each will be used to build a set of containment equipment, like underwater systems and pipelines, which will be able to deal with a variety of deepwater problems and can be deployed rapidly in the event of a spill. It would be sensible to consider, perhaps through legislation, the development of a similar system for the deep waters of the UKCS.

1.5 All companies operating on the UKCS are obliged to have insurance cover to offset the costs of cleaning up oil spills. The required levels of this cover could be reviewed.

1.6 A significant implication for deepwater drilling in the UK is public perception. The public view, enforced by both the media and US commentators, is that this is the US'—even the World's—worst environmental disaster. As more information has become available a better assessment of the impact has been derived it has become clear this is not the case. The majority of the major NGO's have put forward a realistic picture of the situation and NOC scientists have been involved in numerous public debates on radio, television, in open public meetings and online and in general there has been little disagreement over the core facts.

2. *To what extent is the existing UK safety and environmental regulatory regime fit for purpose?*

2.1 The UK/European safety and regulatory regime is better established than that for the US. A large magnitude oil spill would not respect national borders around the North Sea and Shetlands, as such, there is a strong European interest resulting in tighter regulations and response. Regulations and working practices have

evolved over the last 40 years based on a close working relationship between the offshore oil and gas sector and the relevant Government departments, and are arguably more stringent and better adhered to than in the GoM. Many pioneering deep-sea methodologies and technologies were initially developed and deployed in UK waters, in close collaboration with DTI (now BIS). The UK Health and Safety regime for offshore drilling was improved markedly in the wake of the Piper Alpha disaster and Government and industry efforts have continued to produce improvements in safety systems since. The UK system is now regarded as one of the safest operating systems in the world. However, no system is fool-proof nor beyond improvement.

2.2 It is understood that, in the wake of the GoM disaster, the HSE plans to increase the number of safety inspectors and the number of safety inspections of offshore installations, both of which are to be welcomed.

2.3 Daily operational reports should be produced by all operators and should be studied by responsible HSE staff to ensure that best practices are adhered to and that previously-agreed operational plans are implemented. However, it is impractical to expect HSE inspectors to be able necessarily to identify when short cuts have been taken; it would not be feasible, practical or desirable to monitor all communications between the various operational elements on a drilling rig to ensure that issues have been fully identified and correctly acted upon.

2.4 HMG already operates a system whereby potential operating companies undergo a rigorous vetting process to ensure that they are capable of conducting their offshore operations safely, thoroughly and effectively.

2.5 The UK regime takes into account requirements of treaties such as OSPAR and the evolving integrated European Marine and Maritime policy frameworks, however, currently the oil and gas sector lies outside of the remit of the Marine and Coastal Access Act, 2009. This omission leads to a situation where offshore wind, wave and tidal energy installations (and associated cables etc) are looked at in a holistic manner but oil and gas platforms are treated separately. A strong case could be made to bring all offshore activities under the same regulatory regime.

2.6 There are still issues over where emergency control centres are established once an incident takes place but generally the regime is healthy. The recently established Marine Management Organisation will be working closely with the Marine and Coastguard Agency to further develop oil spill response and management systems. Critically the UK has in place the Secretary of States Representative for Maritime Salvage and Intervention (SOSREP)[2]; a key role that did not have an equivalent in the initial stages of the GoM incident.

2.7 Safety and environmental legislation should draw on the best available and impartial science. High quality, high resolution seabed and habitat maps are necessary for the progress of science and effective, integrated management of the seas using ecosystem-based approaches. NERC is underpinning the provision of such resources through support for National Capability[3] and programmes (past and present) of strategic earth science and marine research, in particular at the NOC, BGS and SAMS. One example is the recently launched UK Marine Environmental Mapping Programme (MAREMAP) project[4]. MAREMAP is a new NERC initiative that will lead to an improved understanding of the marine environment around the UK. It is coordinated by the NOC, BGS and SAMS, in partnership with University of Southampton and Channel Coastal Observatory.

2.8 As well as informing the regulatory process, the capacity NERC supports is vital in times of emergency. A number of NERC scientists have been approached to advise the US regulatory authorities and others in the aftermath of the Gulf incident.

3. *What are the hazards and risks of deepwater drilling to the west of Shetland?*

3.1 The hazards of deepwater drilling to the west of Shetland are the same as drilling in any area of the continental shelf, though maybe less so than in places where there are known issues of high pressure and high temperature reservoirs. The greatest degree of danger lies in exploration of the unknown. As more wells are drilled in the deeper-water areas, so understanding of both the exploration setting and of the hazards to be encountered will increase.

3.2 There are known sea-bed hazards west of Shetland, such as slump scars and mass flow slides, that are well documented and for which industry already takes account when designing offshore drilling campaigns.

3.3 There is always a hazard when operations are conducted at depths below which divers can operate. In such circumstances it is necessary to rely on remotely operated vehicles (ROVs). ROVs have been used in the offshore industry for many years, and are effective tools for working at depth. However, they have their limitations. Clearly, as the GoM experience has demonstrated, operating equipment at great depths is difficult, and not all readily available mechanical systems are capable of operating at great depths. A shortage of supply of such equipment could provide a potential to increase hazard.

3.4 Potential penetration of shallow methane hydrate deposits may affect the technical specification of the well and its casing eg due to thermal effects on the setting of concrete structures. There is a large difference between the risks of drilling versus those encountered once production is underway with well-established

[2] http://www.mcga.gov.uk/c4mca/mcga-environmental/mcga-dops_cp_sosrep_role.htm
[3] http://www.nerc.ac.uk/research/capability/
[4] http://www.noc.soton.ac.uk/shmg/maremap

wellheads. Methane hydrate deposits are commonplace in the cold, deep waters of the North East Atlantic and may be detected locally by seismic survey techniques. Care must be taken to avoid introducing heat or rapid pressure changes during drilling and cementing activities to prevent physically destabilizing surrounding sediments. This can cause loss of integrity of sea-floor infrastructure, triggering submarine landslides or out-gassing of deposits and associated risk of explosion. In future these methane hydrates may themselves become an important source of fuel though no hydrates have been found in UK waters in drilling thus far. Research is underway to learn more about how they can be safely exploited, but for now they remain a hazard in sub-sea—especially cold water—development.

3.5 Extreme weather conditions in the West of Shetland present a hazard. Storms tend to be longer lived than the more violent hurricanes of the Gulf. Drilling activities are timed to avoid the worst Atlantic storms but unintended oil release from drill-ships or platforms severely damaged by heavy seas could occur. Persistent heavy weather would delay emergency responses.

3.6 Deep water installations west of Shetland typically use an automated seabed structure to collect oil and gas which is then pumped to a floating storage unit eg a modified oil tanker, on the surface. Potentially an accident or terrorist attack on the floating production system could lead to an oil spill. Damage to seafloor wellheads would require a deliberate act of sabotage, or the sinking of a heavy structure (such as a large ship or floating platform) directly onto the wellhead.

4. *Is deepwater oil and gas production necessary during the UK's transition to a low carbon economy?*

4.1 The UKERC Energy 2050[5] report examined scenarios exploring all dimensions of the possible development of the UK energy system through to 2050. The report examined scenarios to a) deliver reliable energy to consumers while b) meeting the UK's legal commitment to reduce carbon dioxide emissions by 80% by 2050 (as prescribed by the 2008 UK Climate Change Act). Scenarios fulfilling these criteria involved a significant reduction in demand for oil (up to 95%) and gas (up to 85%) based on 2005 levels. In the interim years the UK demand for oil and gas reduces whilst still being significant.

4.2 Within the UKERC 2050 scenarios there is significant variation in the rate and scale of demand reduction of oil and gas between different scenarios. Both oil and gas demand tend to decline more slowly when the carbon ambition is lower or when low-carbon technologies are delayed in deployment. Conversely, the fastest rate of decline in oil and gas demand arises when the carbon ambition is highest, when energy system resilience is prioritised and in scenarios when people adopt low-carbon lifestyles. For example, in a resilient low-carbon energy system scenario both oil and gas demand is approximately halved by 2030.

4.3 Reducing demand for oil and gas may further reduce the necessity for deepwater oil and gas production by reducing the UK's sensitivity to global shortages in these commodities. The UKERC Energy 2050 study represents a UK-centric view, but of course oil and gas markets are global.

4.4 Whilst the UKERC 2050 study demonstrates the potential for a decline in the demand for oil and gas, it should be noted that oil and gas currently provide 75% of the UK's total primary energy, and the UKCS satisfies about 2–3 of the UK's primary energy demand. It is predicted that in 2020, 70% of the primary energy in the UK will still come from oil and gas[6], even if the 20% target for renewable energy is met. The UKCS has the potential to satisfy half of the UK's oil and gas demand in 2020 if investment is sustained.

Peak oil as a driver of necessity

4.5 In 2009 the UKERC Technology and Policy Assessment team produced a report on Global Oil Depletion[7]. The report argues that conventional oil production is likely to peak before 2030, with a significant risk of a peak before 2020. A peak in conventional oil production is expected to be followed by a year on year decline in oil production of over 4%. This is likely to drive increased interest in harder to exploit oil (such as deepwater oil) and the exploitation of unconventional oil and gas resources such as tar sands and gas hydrates. However, a peak in oil production may also drive technology development in alternatives to oil such as biofuels, coal to liquid technology and increasing electrification of energy services (such as transport and heat).

4.6 At the global level, Shell has produced scenarios looking at the future development of the energy system[8]. In the two scenarios (scramble and blueprint) oil demand reaches a plateau in the 2020s and declines slowly afterwards. However, in neither of these scenarios are climate change goals met.

Market impacts of exploiting deepwater oil and gas

4.7 In the short term, preventing the exploitation of deepwater oil and may be welcomed by OPEC through its effect on oil price. In the longer run, high oil prices will result in a faster transition to a low carbon economy. However, economic studies show that a high oil price is a poor substitute to a high carbon price as a driver of de-carbonisation.

[5] http://www.ukerc.ac.uk/support/tiki-index.php?page=Energy+2050+Overview

[6] "Section 2: Industry at a Glance" in the Economic Report 2010 published by UK Oil and Gas, July 2010, see: http://www.oilandgasuk.co.uk/publications/viewpub.cfm?frmPubID=375

[7] http://www.ukerc.ac.uk/support/Global%20Oil%20Depletion

[8] http://www.shell.com/home/content/aboutshell/our_strategy/shell_global_scenarios/

4.8 In terms of gas production, a quicker decline in UK gas production leads to more rapid UK integration into (and dependence on) the global market, potentially driving transition to a low carbon economy. If gas discoveries are made in deep waters off the UK, the UK would essentially exit the liquified natural gas (LNG) market, just as shale gas exploitation has driven the US out of the LNG market.

4.9 The question of whether climate policies will boost or depress gas demand and therefore the necessity of exploitation of deepwater reserves is uncertain: it will probably boost it in electricity generation and depress it in industrial and residential sectors.

5. *To what extent would deepwater oil and gas resources contribute to the UK's security of supply?*

Limiting factors

5.1 Annex B summarises a recent Society of Petroleum Engineers article (2009)[9] which attempts to quantify the size of deep water hydrocarbon (oil and gas) resources across the globe. It suggests that the likely speed and volume of future deep water production is unlikely to arrest decline in existing production, or reduce the growing imports needed to fill the gap between supply and demand.

5.2 Under current oil market regulations it is difficult to see how deepwater oil will significantly improve security of supply over oil produced elsewhere in Europe. Since the UK operates a free market the oil will be sold in contracts on the global market. Protectionist policy is unlikely in the short to medium term, although a supply shock may change that.

5.3 Under IEA and EU rules, UK is committed to sharing available oil with partners in the event of major disruption so West of Shetland oil will not be in any way reserved for the UK. However, West of Shetland could be seen as the UK's contribution to collective security.

5.4 Given these considerations, reducing demand is arguably the best way to significantly improve security of supply with aggressive low-carbon roll-out a necessity.

Benefits of exploitation

5.5 Given the method used by the IEA and others to calculate future oil production, oil yet to be found and known oil fields yet to be developed are already accounted for. This includes deep water. If we were not to produce the resource known in UK waters then future projections would need to be revised and global future demand similarly reduced to deal with supply imbalance. Any future scenarios relying on IEA reference scenario will be necessarily affected.

5.6 Increased supply from deepwater sites, while unlikely to arrest the continuing decline in production, could reduce the rate of growth of imports. Although it is unlikely that as many resources will be found in deepwater as have already been exploited in the North Sea, future exploitation of gas hydrates could form a valuable component of the UK's long-term energy supply.

5.7 It is forecast that some 17% of the UK's remaining oil and gas reserves lie under waters to the west of Shetland. The remainder of the UKCS is classified as mature basin, and has a declining production curve profile. Potential revenue for exploitation may therefore prove valuable to the treasury and the UK economy.

5.8 In a global market, the west of Shetland will add to supply and put some downward pressure on global prices. In the event of a major disruption, having more supply in the hands of independent oil companies will ease the effects.

September 2010

Annex A

EXISTING ENVIRONMENTAL SURVEYS OF THE SEA BED OFF SHETLAND AND THE IMPORTANCE OF MAINTAINING SURVEY CAPABILITY

1. To ensure any prospective industrial operations in west of Shetland meet the UK's High Level Marine Objectives outlined in the UK and Devolved Governments' Our seas—A Shared Resource[1], operating companies and regulatory authorities must have the means to observe and monitor the condition of the marine environment. A great deal could be done collectively to instrument the region, using the tools and platforms already in place and available to the industrial and marine communities. The following paragraphs outline previous survey work and how surveys could be maintained and developed in the future.

Previous Surveys

2. In 1996 the Atlantic Frontier Environmental Network (AFEN), a consortium of oil and gas exploration companies, working with then the Southampton Oceanography Centre (now NOC), commissioned a large-scale regional survey of the West of Shetland seabed environment. This industry driven survey adopted a new ethos:

[9] *"Worldwide Deepwater Petroleum Exploration and Development Prospectivity: Comparative Analysis of Efforts and Outcomes"* Authors: Omowumi O. Iledare, SPE. Louisiana State University SPE Annual Technical Conference and Exhibition, 4–7 October 2009, New Orleans, Louisiana.

to work collectivity to make a strategic regional assessment rather than site-by-site specific assessments, and developed a new approach drawing on the experience of the industry, its regulators, industry contractors and the academic community. The practical conduct of the survey used the NERC ship RRS Charles Darwin and drew on a range of NERC developed technology and techniques for seabed survey, sampling and visualization. These seabed survey tools were operated in an integrated fashion, the sidescan sonar mapping guiding the seabed sampling and visualization, which in turn fed back ground-truthing data for the improved interpretation of the sidescan sonar data.

3. In 1998 AFEN commissioned a further survey, including areas north and west of Shetland and areas in the Rockall Trough. The general concept and approach of the AFEN surveys was then taken forward by the DTI with a survey of the Wyville Thomson Ridge and central axis of the Faroe-Shetland Channel in 1999. The DTI surveys continued with work during 2000 and the completion of SEA4 field work with the 2002 survey to the north of Shetland. Southampton Oceanography Centre was involved throughout.

4. Following the AFEN and DTI surveys, the SEA4 area is undoubtedly the most extensively studied deep-sea area in the world. These surveys were undertaken prior to any industrial development in the region and importantly, all of these studies have been carried out using common approaches and techniques throughout. The resultant dataset of biological and supporting environmental information is a unique resource for the study of deep-sea ecology and is the more interesting for the complex and varied environmental setting of the SEA4 area.

5. Critically the results of the AFEN and DTI studies have long been public domain and widely disseminated and a number of scientific journal articles relating to the Faroe-Shetland Channel have been published[10,11,12,13]. Our understanding of the region is also enhanced by one of the longest time series of measurements of hydrography maintained by Marine Scotland (formerly Fisheries Research Service) and by regular physical mapping eg of the Ellet Line, undertaken by SAMS and the NOC as part of NERC national capability, within the strategic marine research programme Oceans 2025 (2007–2012). NERC supported research at NOC on deep sea benthic biology, NOC capability for strategic environmental assessments and seabed mapping and SAMS Northern Seas Programme has built on this base. NOC is now regarded as a leading European player in this sphere eg in its lead of large European research projects such as HERMES and its successor HERMOINE; however, there is no routine biological mapping of the region.

6. BGS undertook a detailed research project (Westen Frontiers Association) on the geohazards associated with exploration in the Faroe-Shetland Basin with a focus on shallow geohazards, such as slope stability. This work was undertaken in collaboration with all the operators on the Atlantic Margin. Results of the work are both published and held by operators. This work did not include evaluation of deeper hazards such as over-pressured reservoirs, where the operators have the knowledge from their own work.

Maintaining Survey Capability

7. There is a great deal that could be done collectively to instrument the region, using the tools and platforms already in the region and available to the industrial and marine communities. The AFEN model of industrial and academic collaboration could be a good model for the institutional framework for further work. The opportunity to build observation and long term monitoring capacity into the design of the oil field infrastructure from the outset should not be missed. Alternately, if a drilling moratorium were to be established it would be vital to ensure that the region remained open to researchers—Government, academic and industrial.

8. Whilst a repeat of the AFEN surveys would be desirable scientifically, it would be extremely expensive. However, it should be possible to design a good comparator survey, with the support of the industry that might be undertaken within one or more research cruises. Such cruises could also help plug gaps in the knowledge in the light of the Gulf Experience and in relation to smaller marine fauna. Very different fauna exist in the Northern Rockall and the Faroe Shetland channel regions and it would be important to ensure that both are addressed and that work is done to identify "target organisms"—indicator species such as scavenging amphipods that are easily acquired and tested for toxicology impacts.

9. NOC would be well placed to work with the industry in specifying and designing such a long term observatory and along with the SAMS, inform the planning of research in the region. NOC, in close collaboration with key players in the oil and gas industry, runs the "Scientific and Environmental ROV Partnership using Existing Industrial Technology" (SERPENT) project which aims to make cutting-edge industrial ROV technology and data more accessible to the world's science community, share knowledge and progress deep-sea research. The programme interacts with science and conservation groups globally to communicate the project to the public, increasing the awareness of our fragile marine resources. The project

[10] Narayanaswamy B &, Bett BJ (in subm) Macrobenthic biomass relations in the Faroe-Shetland Channel: an Arctic-Atlantic boundary environment. PLoS ONE.

[11] Narayanaswamy BE, Bett BJ & Hughes DJ (2010) Deep-water macrofaunal diversity in the Faroe-Shetland region (NE Atlantic): a margin subject to an unusual thermal regime. *Marine Ecology Special Issue*. 31: 237–246. doi:10.1111/j.1439–0485.2010.00360.x

[12] Narayanaswamy BE, Bett BJ & Gage JD (2005) Ecology of bathyal polychaete fauna at an Arctic-Atlantic boundary (Faroe-Shetland Channel, North-east Atlantic). *Marine Biology Research* 1: 20–32.

[13] Narayanaswamy BE. (2000) Macrofaunal Ecology of the West Shetland Slope PhD thesis—University of Southampton.

has a growing network of UK and global partners. Observations are made to within 200m of the drill sites, focusing on the degree of disturbance.

10. NOC is currently a partner in the Deep-ocean Environmental Long-term Observatory System (DELOS) project led by the University of Aberdeen. This could also provide a model for developments in the Shetland region. The DELOS project aim is to increase understanding of the deep water areas BP are gradually extending into off Angola, and provide long term environmental monitoring to enhance deep sea scientific research.

Annex B

A NOTE ON UK DEEP WATER OIL RESOURCE

1. A recent Society of Petroleum Engineers article (2009) attempts to quantify the size of deep water hydrocarbon (oil and gas) resources across the globe. This resource is estimated at 11.9 billion tonnes oil equivalent (TOE) in 2007. Of this 15% (or about 1.8 billion TOE) was discovered in Europe and of that only 25% approximately was located in the UK (450 million TOE approx). Of this only 237 million TOE is oil.

2. Global production of oil in 2009 was 3820.5 million tonnes while 1P[14,15]remaining reserves stood at 181.7 billion tonnes. UK consumption in 2009 was 74.4 million tonnes. Therefore, in terms of global demand the UK deep water resource is small. It does amount to approx 3 years of domestic consumption. It is not, however, likely to be reserved for the domestic market unless the market regime is changed.

3. Global average lag time between discovery and production for deep water is approximately 80 months. However, Europe has a significantly greater lag than the global average, at approximately 116 months. This means that access to this deep water oil will be delayed and protracted, minimising the resources impact on global supplies significantly.

Memorandum submitted by KIMO UK

This Memorandum is submitted by KIMO UK (Local Authorities International Environmental Organisation). KIMO UK represents local authorities on marine pollution issues. KIMO has no objection to this response being made public.

We feel that the current compensation regime to reimburse those who have to clean up after oil spills (particularly local authorities) from oil rigs are not fit for purpose and in the event of a serious spill in the UK would leave oil spill responders out of pocket and the costs would ultimately rest with the taxpayer. We feel that the polluter must pay for any pollution from oil rigs and the associated clean up operations. We would ask the committee to refer to the American Oil Pollution Act (1990) as an example of legislation that ensures the polluter pays.

September 2010

Memorandum submitted by BG Group plc

1. Operating safely is the top priority for BG Group, and we welcome the opportunity to respond to the Energy and Climate Change Select Committee's inquiry on deepwater drilling in the UK.

2. BG Group is one of the leading players in the North Sea, with an interest in 16 UK Continental Shelf (UKCS) producing fields, and is evaluating a number of discoveries with development potential. We are operator of the Armada, Maria, Seymour, Everest and Lomond fields in the Central North Sea, and of the Blake and Atlantic fields in the Outer Moray Firth. We also made the Jackdaw discovery in the Central North Sea, which, were development to take place, we would operate. In addition to these operated fields, BG Group has interests as non-operator in a large number of other fields.

3. BG Group aims to continue producing around 50 million barrels of oil equivalent per year from the UKCS until at least 2014. Our strategy revolves around actively pursuing opportunities around our infrastructure hubs by identifying nearby exploration prospectivity, infill opportunities and third-party business. We are a leading player in High Pressure and High Temperature fields (HPHT), with significant production and exploration and appraisal assets.

4. In 2009, BG Group accounted for 5.2% of total UK oil and gas production, and 7% of total gas production. Production by volume in 2009 was 53% oil and 47% gas. According to the consultancy Woodmac, in 2009 BG Group was the seventh largest oil and gas producer in the UK.

5. BG Group believes that there is significant remaining potential in the UK Continental Shelf. According to the Economic Report 2010 by Oil and Gas UK, between 15 and 24 billion barrels of oil equivalent (boe) remain to be recovered in the UKCS. Of these, current investment plans can deliver 5.25 billion boe from

[14] 1P is a measure of Proven reserves.
[15] Though not stated the SPE is likely to be using a 1P definition of reserves.

existing fields. It is in the UK's national interest that UKCS production is maximised, because the higher our domestic production, the greater the UK's energy security and tax revenues.

6. BG Group believes that gas will be vital to the UK, not only as a transition fuel to the low-carbon economy, but also as a part of the low carbon economy itself. A new generation of combined cycle gas turbines (CCGTs) over the next decade could guarantee adequate power generation in a period when a third of the UK's generation capacity, which currently includes carbon unabated coal-fired power stations and nuclear plants, is scheduled to close. Gas should be the UK's fuel of choice, given its abundance worldwide, its affordability, and its environmental acceptability.

7. BG Group does not have interests in any deepwater fields in the UK. However, we believe that the blowout in the Macondo well was not necessarily directly related to water depth. As mentioned, from the evidence available to date, it appears that the Macondo blowout was significantly attributable to a flawed well design and compromised procedures. BG Group believes that the establishment of a defined code of practice, as described below (item 8), together with the verification of implementation of the code by an independent third party, would together significantly reduce the likelihood of reoccurrence of a blowout.

What are the implications of the Gulf of Mexico oil spill for deepwater drilling in UK?

8. The blowout of the Macondo well in the Gulf of Mexico has focused minds on the technical and environmental aspects of exploring for and producing oil and gas. BG Group believes that it is important to distinguish between well engineering, including well design, and the safety case system on rigs. There is a view in the industry that the Macondo blowout occurred mainly as a result of a flawed well design, and not because of the safety regime on the rig itself. We believe that the priority for action must be on applying minimum well design, engineering, and well construction standards across the industry. One way of achieving this could be to establish a pan-industry code of practice for well engineering, to be drawn up and overseen by an appropriate international body, for example the International Association of Oil and Gas Producers (OGP). On the environmental side, there are undoubtedly lessons to be learnt from the incident. An obvious step forward is to establish a team of experts under the aegis of one of the international industry bodies to take those lessons and reinforce the industry's response capabilities accordingly. BG Group therefore welcomes the recent creation by OGP of the Global Industry Response Group.

9. Although BG Group believes that risk of a reoccurrence of a Macondo type blowout would be further reduced by the establishment and implementation of a code of practice for well engineering, the blowout in the Gulf of Mexico also illustrated that the operator of the well needs to have the ability to rapidly control any spillage of oil at the wellhead. With this in mind, BG supports the idea of establishing an enhanced comprehensive oil spill response system, involving vessels capable of capping a blown-out well and siphoning off the leaking oil to a containment system on the surface. Rather than each company working independently, this system would be shared between operators and would be available for very rapid mobilisation to all operators in the region. Such a system is currently being developed in the Gulf of Mexico. In this context, BG Group welcomes the recent award of a design contract by the Offshore Spill Prevention and Response Advisory Group (OSPRAG) to Wood Group Kenny for an oil spill cap and containment system.

10. BG Group believes that the UK's strong safety record over the last 20 years demonstrates that offshore exploration and production regulation and procedures are robust. We do not agree with the European Commission that a drilling moratorium is warranted, nor that companies need to be able to demonstrate a high financial capability before drilling certain types of well. We believe that requiring a high financial capability would drive business from the North Sea, with serious implications for energy security, jobs, public revenues and competition. All offshore operators in the UK must belong to the Offshore Pollution Liability Association (OPOL) as a condition of their licence, which in itself is a demonstration of financial capability. BG Group supported the recommendation to increase the OPOL limit from $120 million to $250 million per occurrence, and $500 million in the annual aggregate.

11. One implication from the Macondo disaster is that other jurisdictions around the world may benefit from learning more about how the UK's offshore safety regime functions. It is important that the UK, both from DECC and the HSE, continue to share best regulatory practice with their counterparts in other oil and gas producing countries.

To what extent is the existing UK safety and environmental regulatory regime fit for purpose?

12. BG Group believes that the safety regime in the UK is one of the most robust in the world. The division of responsibility for licensing and safety is split between the Department of Energy and Climate Change (DECC) and the Health and Safety Executive (HSE), an arrangement that avoids the conflicts of interest that some policymakers in the US now suspect hampered the effective operation of the former Minerals Management Service (MMS).

13. In addition to this separation of responsibility, the UK regime is based on the "safety case" concept, which establishes a "duty of care" on operators to ensure safe procedures on rigs whilst providing a degree of flexibility as to how to achieve the safety case. Operators can select the procedures and equipment that they believe will most likely help to achieve the objectives of safe offshore activities. Unlike most other jurisdictions worldwide, the HSE requires all fixed and mobile offshore installations operating in UK waters to have a safety

case. Safety case regulations are reinforced by a code of practice and other guidance documents. The safety case concept was established in response to the 1988 Piper Alpha disaster. Since then, according to Oil & Gas UK, there has not been a single blowout, with over 7,000 wells drilled.

14. BG Group welcomes the recent Government decision to double the number of offshore inspections by HSE of installations, and to increase the number of HSE inspectors dedicated for this purpose from six to nine.

15. This is in contrast to the regime in the Gulf of Mexico, which is prescriptive in setting detailed rules and guidance for operators to follow. In the "Increased Safety Measures for Energy Development on the Outer Continental Shelf" report, published on May 27 2010 by the US Department of the Interior, one of the recommendations is to "adopt safety case requirements for floating drilling Operations on the OCS (Outer Continental Shelf)."

16. A further element in the robust nature of the UK regulatory regime is the requirement on companies to have their well-designs verified by an independent third party. We understand that the UK is one of the only jurisdictions in the world where this requirement exists. This provides added assurance as to the integrity of well-designs in UK waters. BG Group believes that other jurisdictions in the world should consider making this a mandatory requirement. It is standard BG Group practice worldwide for all of our BG operated well designs to be examined by an independent third party, in our case a company called NRG Well Management Ltd.

What are the hazards and risks of deepwater drilling to the west of Shetland?

17. BG Group does not operate, nor have any plans to operate, west of Shetland.

Is deepwater oil and gas production necessary during the UK's transition to a low carbon economy?

18. BG Group strongly believes that indigenous production of oil and gas will be vital to the UK, both during the transition to a low carbon economy, and beyond. Gas is the cleanest of the fossil fuels, producing half as much CO2 as coal when burnt. It is abundant worldwide, with the recent Shale Gas revolution in the US responsible for additional global supply. Gas is also the most cost effective source of energy for consumers when compared to offshore wind, nuclear, and coal with CCS. It is vitally important that new exploration and production is pursued in the UK, including in technically challenging areas such as deepwater or HPHT fields.

To what extent would deepwater oil and gas resources contribute to the UK's security of supply?

19. It is hard to state with certainty the precise contribution of deepwater oil and gas resources to the UK's security of supply. This is because the UK has relatively little deepwater acreage, and that which there is tends to be West of Shetland. BG Group has a number of High Pressure/High Temperature fields in our portfolio and these are more technically challenging than conventional fields. The challenge for government is to continue to incentivise, through new fiscal incentives, the development of these fields, and also of incremental developments to existing fields, which because of their demanding technical nature are more difficult to produce.

20. It is fair to conclude that volumes of indigenous oil and gas reserves which are not exploited would need to be sourced as imports instead, with implications for security of supply.

21. The offshore oil and gas sector is the most highly taxed in the UK at rates of between 50–75%. An effective way for the Government to encourage continued development would be via the introduction of new tax incentives, a general reduction in the current high rates, or a combination of both.

October 2010

Memorandum submitted by the British Rig Owners' Association

EXECUTIVE SUMMARY

In considering deep water drilling in the UK, the British Rig Owners' Association, which represents mobile offshore units, including drilling units, operating under the UK's jurisdiction, remains confident about the safety of these operations in the UK and perceives significant benefit from their commencement. Differences between the UK safety regime and that of the USA are noted, as well as ongoing technological developments stemming from recent experience in the Gulf of Mexico, and the level of risk is therefore considered to be within acceptable bounds despite frequently severe environmental conditions west of Shetland.

1. *Introduction*

1.1 The British Rig Owners' Association (BROA) is the association for persons or bodies corporate owning and/or managing mobile offshore units operating on a regular basis within the UK's jurisdiction. The membership includes companies operating Mobile Offshore Drilling Units (MODUs). BROA was established in 1982 to provide rig owners and managers with a forum for the discussion of common interests and to facilitate industry co-operation with the UK Government, the International Maritime Organization (IMO) and

the European Community. As a primarily technical association, BROA provides a forum for discussion by the members of what are in the main part safety issues, and thereby both benefits from and contributes to the collaborative approach of the British offshore community in striving to achieve constant improvements in safety for those working in the industry.

1.2 In responding to this call for evidence, we focus (in sections 2, 3 and 4 of this document, respectively) upon the first three questions asked, which align with our areas of expertise as an association. BROA is ready and willing to enter into discussions on the subject with a view to providing the best possible information to the your Committee, and would be happy to be called to give oral evidence.

2 *Implications of the Gulf of Mexico oil spill*

2.1 Environmental implications

2.1.1 Events following the blow-out experienced by the *Deepwater Horizon* in the Gulf of Mexico have clearly demonstrated the difficulties in intervention following a deepwater incident and the potential for a significant oil spill to result in the event that a blow-out does occur. Shetland and surrounding landmasses are an environmentally sensitive area, as is the marine ecosystem in the region. Dominant surface water currents flow North East along the Rockall Trough and Faroe-Shetland Channel into the Norwegian Sea through the region of the Faroe and Shetland Islands, while demonstrating a high degree of local variability caused by eddies and the slope of the continental shelf around the West of Shetland field itself (Metoc PLC, 2002). Within the Rockall Trough and Faroe-Shetland Channel, the NE flowing surface waters comprise North Atlantic Water to a depth of ~500 metres while Faroe-Shetland Channel bottom water flows in the other direction below ~600 metres depth (Holliday *et. al*, 2000, Turrell *et. al*, 1999). While the ecology of the Rockall Trough is largely representative of the wider North Atlantic, that of the Faroe Shetland Channel is substantially less diverse due to limited recolonisation after glacial periods (Bett, 2001). Nonetheless, the area as a whole is considered ecologically rich in the global context of deep sea-floor habitats. Current hydrocarbon contamination in the area appears to be largely from sources other than the oil and gas industry (McDougall, 2000).

2.1.2 The dangers to the environment west of Shetland and in the Shetland and Faroe islands of an oil spill such as that seen in the Gulf of Mexico occurring are therefore significant and it is consequently important to guard against the potential for damage occuring. However, BROA believes this to be effectively catered for by the UK's regulatory regime, as well as the industry's proactive and responsible approach to safety, which has been a primary focus during more than two decades since the *Piper Alpha* disaster. We expand below on the various measures taken to ensure a safe operating environment on the UK's continental shelf and the specific considerations in the environment west of Shetland.

2.2 Technical implications

2.2.1 Industry in the UK has taken a proactive approach to developing technical mechanisms for the resolution of deep water oil leaks of the form which took place following the *Deepwater Horizon* incident. Another trade association, Oil and Gas UK, has commissioned research through its "Oil Spill Prevention and Response Advisory Group" into possible methods of applying a 'cap' to achieve either full or partial pressure containment, or to gather leaking hydrocarbons without restraining the well pressure. The proposals thus far involve operation by remotely operated vehicles (ROVs) and coupling via Cameron HC or Vetco H4 connectors. It is anticipated that a final concept and costing will probably be available within one month and more detailed engineering design will follow.

2.2.2 Within the BROA membership, work has been carried out as a direct result of the *Deepwater Horizon* accident to review equipment, maintenance systems and the feasibility of ROV intervention, as well as the training of personnel and the spectrum of staff attending well control courses.

2.3 Regulatory implications

2.3.1 The Health and Safety Executive's regulatory regime for the UK's offshore oil and gas industry is recognised globally as being of an extremely high quality. This is expanded upon in section 4, below. Given the responsive nature of the regime, it is expected that lessons to learn from events in the Gulf of Mexico will be accurately identified by the HSE and swiftly accounted for through their mechanisms for ensuring safe operation in the industry.

2.3.2 Not only the HSE, but also the Department of Energy and Climate Change, have already increased their inspections of the industry, in the latter case doubling their number of inspections (DECC, 2010). These additional inspections focus upon environmental areas. Moreover, further developments in requirements placed upon operators are expected to use the "safety case" methodology practised by the HSE since 1993. This method of verifying operators' standards requires operators to identify all hazards and to define means of mitigation in a written document which has to be reviewed and accepted by the HSE. Thereafter, verification is undertaken annually by an external body (eg a classification society), which ensures not only high safety standards, but proactive awareness of risks by the operator.

2.3.3 It is hoped that careful assessment of the tragic events in the Gulf of Mexico will enable the regulators and the industry alike to further improve the already extremely high UK operating standards and thereby enable continued exploitation of our offshore hydrocarbon resources in a safe and efficient manner.

2.4 Financial implications

2.4.1 Both regulatory and technological changes can result in financial burdens to individual operators or within the industry as a whole. The increased administrative burden of a heightened level of auditing and certification as described above in section 2.3 is significant, and more severe are the commercial implications of the resultant delay to the deployment of mobile assets or commencement of operations. Meanwhile, substantial changes to equipment specifications (for instance an increase in the size of permissible blow-out preventers through the incorporation of additional sets of shear rams) could restrict the access to the market of some existing rigs which were unable to handle such altered equipment because of its size or weight. The consequent reduction in competition would be expected to lead to higher supply chain costs, in general.

3. *Hazards and risks of deepwater drilling west of Shetland*

3.1 Environmental risks west of Shetland

3.1.1 The weather conditions in the west of Shetland region can be both extreme and rapidly changeable. However, it should be noted that UK operators are well used to North Sea conditions which are themselves far from benign. Furthermore, maritime safety equipment and practices on board mobile drilling units are of a high standard as a result of their compliance with the regulations of the International Maritime Organization, which is the source of international safety legislation for the world's shipping. With poor weather in the region a year-round phenomenon, there is no clearly defined season and, because of limited warning of deteriorating conditions, assets would stay on location during bad weather but disconnect for safety reasons from the wells with which they were engaged. The need to be able to do this in itself ensures frequent verification of the function of blow out preventers.

3.1.2 Were a serious incident to occur in the west of Shetland region during bad weather, the response would be likely to be impeded by the weather. Access to the platform and its surroundings would be difficult and rescue efforts hampered. Furthermore, oil containment booms could be rendered ineffectual by the wave heights associated with poor weather in the region, albeit that conditions themselves would assist the break-up of any oil slick. However, given that platforms would be disconnected from their wells during periods of severe weather, it is extremely unlikely that a safety or environmental incident involving their hydrocarbon related work would coincide with these conditions.

3.2 Logistics and availability of assets

3.2.1 It is acknowledged that there could be a limited supply of rigs in the west of Shetland area which could drill relief wells if this were to prove necessary. Furthermore, moving available rigs into position during seasons characterised by inclement weather would be logistically difficult because of the remoteness of the area and consequent period of exposure during transit. However, as shown by the Gulf of Mexico spill, relief wells represent a long term solution, rather than a rapid solution to escaping oil.

3.2–2 By contrast to rigs, there is a high availability of offshore support vessels (OSVs) in this area, including those with oil recovery capability. Unfortunately, the UK's domestic oil recovery capability through these vessels is weakened because of unfavourable regulations in this country which disadvantage UK flagged operators. BROA hopes that the numbers of available vessels may be increased, if necessary through changes to the regulations. However, other North Sea nations have a significant number of ships equipped for oil recovery and a multinational fleet operating in the North and Irish Seas forms the basis for a significant pool of available OSVs. These ships would not be restricted from bringing equipment or working on an incident in the UK by protectionist measures and so could be readily deployed to the task.

4. *Fitness for purpose of the UK safety and environmental regulatory regime*

4.1 History and overview

4.1.1 The UK's regulatory regime for the offshore oil and gas industry is widely regarded as the best in the world. The HSE's Offshore Services Division (OSD) has been assembled over time specifically to address the needs of industry while enforcing safe practice across its range of activities. As such, they have become an extremely skilled regulator which is staffed by highly competent personnel who comprise a mixture of inspectors and specialists working together to focus on particular problems. This has enabled the HSE to remain responsive to new events and needs, supported by continuous monitoring and regular analysis of safety statistics for various aspects of the industry.

4.1.2 There has been a continuous focus on enhancing safety standards in the UK since the *Piper Alpha* disaster on the 6 July 1988. That major incident on our continental shelf, which shocked the country as a whole and especially the offshore community in Aberdeen, set the scene for safety practice in the industry ever since, as well as providing a graphic, and horrific, demonstration of the danger posed by offshore explosions. Following the *Piper Alpha* incident, industry associations including BROA, government and individual

companies were involved in intense debate as to mechanisms for preventing any similar event from taking place in future. The inquiry carried out by Lord Cullen spent two years examining the contributory factors to the incident in detail and its 106 recommendations were accepted by the industry. Among those changes was a transfer of responsibility for the safety of the offshore industry from the Department of Energy to the HSE, which resulted in the establishment of the OSD in April 1991.

4.1.3 Shortly after the creation by the HSE of its Offshore Services Division, the new goal-setting regime of industry regulation began, the Safety Case Regulations 1992 coming into force on the 30 November, 1993. The safety case regime brought to the offshore industry the philosophy of self-regulation by those creating major hazards which had been practised onshore for the previous twenty years under the Health and Safety at Work Act. The regulations require a safety case to be made for each new installation and this case to be accepted by the HSE. By November 1995, they were fully retrospectively applied to pre-existing installations and in 2005, the regime was updated to be more fit for purpose. In the case of mobile installations including MODUs, the design of which is largely regulated through the International Maritime Organization's MODU Code and the UK's Maritime and Coastguard Agency, a safety case requirement applies before the commencement of operations; as with all installations, the safety case must cover the full range of operations being undertaken and their associated risks. Ongoing scrutiny is provided via a dedicated Inspector assigned to each Duty Holder, who is in turn are supported by Topic Assessors with remits such as Structural and Mechanical aspects.

4.1.4 Key Programmes on thematic areas are put in place by HSE, the next one being "KP4—The Ageing & Life Extension Inspection Programme" which focuses on ageing Installations. Inspections will concentrate on these issues over and above the normal inspection process. KP4 will run until September 2013. It will include the development of technical information for operators on ageing installations covering three areas: structural integrity and the integrity of process plant, fire and explosion, and electrical and control systems. The objectives of the KP4 are:

- to identify duty holders' approaches to the management of the risks to asset integrity associated with ageing and life extension;
- to raise awareness of the need for specific consideration of ageing issues as a distinct activity within the asset integrity management process;
- to enforce an appropriate programme of remedial action where necessary; and
- to work with the offshore industry to establish a common approach to the management of ageing installations.

4.1.5 The HSE also engages directly with the industry through collaborative safety fora such as their Evacuation, Escape and Rescue Technical Advisory Group (EERTAG) and the Offshore Industry Advisory Committee (OIAC), and with other national regulators, for instance through the North Sea Offshore Authorities Forum (NSOAF). The sharing of knowledge and experience which this enables helps the HSE to remain responsive not only to the needs of industry, but also to arising safety matters and newly identified risks.

4.1.6 As a safety critical component, blow-out preventers are identified as falling under the HSE's verification scheme. Their operation, redundancy and maintenance, including closing rate and availability of tested backup, is closely monitored as a result. Tests of blow-out preventers must be documented for audit purposes. Furthermore, the design of wells themselves is carefully regulated and assessed (HSE, 1995).

4.2 Differences between the UK and the USA regimes

4.2.1 All emergency systems within the UK are based on major hazard risk analysis, ensuring the correct functioning of safety critical elements. The safety case regime ensures the proactivity of operators and goal-setting standards rather than the mere fulfilment of requirements. Furthermore, the nature of the way in which businesses are managed in UK is led by the HSE's encouragement of people to speak up if there is a concern, and operators have safety representatives and committees among their staff as a result. This is a part of the workforce route put in place by the HSE whereby part of an inspector's core role is to speak to workforce safety representatives without the presence of their management, creating an atmosphere in which any member of staff can comfortably highlight safety concerns. Drilling contractors' regimes in the UK therefore pride themselves on being inclusive of staff.

4.2.2 With specific regard to blow-out preventers and well design, the HSE's wells inspectors view safety cases for proposals in critical detail, while the choice and function of blow-out preventers are subject to careful ongoing verification. The USA's requirements, meanwhile, are restricted to specifying equipment and training. These are believed to be particularly substantive advantages of the UK's regime which dramatically reduce the risk of a blow-out occurring and therefore necessitating the activation of response plans.

4.3 Effectiveness of the UK regime

4.3.1 The emphasis of the HSE's safety regime on the design, installation and testing of blow-out preventers, and their safety-case assessment of the design of proposed wells, as well as the responsibility taken by operators for assessing the safety of hazardous operations, are believed to be major contributory factors to the widely held perception of the UK's continental shelf as a safe environment in the context of the global offshore

industry. This would be as much the case West of Shetland as it has been in areas of the UK's continental shelf which have previously been exploited. The current regulatory regime has successfully governed the safe progression to deeper waters and harsher environments during the last decade and a half and, in doing so, has already demonstrated its versatility.

4.3.2 In the event that an incident and/or oil spill does occur within UK waters, the MCA has a well developed set of procedures in the form of the National Contingency Plan for Marine Pollution from Shipping and Offshore Installations (MCA, National Contingency Plan). This document provides the basis for a pre-determined decision making framework. Moreover, conventions and bilateral agreements with other nations as laid out in Appendix C of that document strengthen the capability for response. The consolidation of relevant emergency powers in areas under the auspices of the Department for Transport and the Department of Energy and Climate Change for use by the Secretary of State's Representative for for Maritime Salvage and Intervention (SOSREP) provides for decisive and well managed responses to safety and pollution incidents.

5. Conclusions

5.1 Deepwater drilling, because of its technical complexity and the difficulty of direct intervention at the well head, poses risks over and above the same activity in shallower locations and these are exacerbated by the environmental conditions west of Shetland. For that reason, the industry is moving swiftly to respond to the environmental effects of the oil spill in the Gulf of Mexico by developing engineering solutions to the problem of stemming the flow of oil in the very unlikely event that a deep water blow out did occur in the UK. Primarily, however, BROA believes that the robustness of the UK's safety regime, its focus upon well design and testing and verification of blow out preventers, and the steps taken by both industry and regulators to continually enhance safety since the *Piper Alpha* disaster of 1988 mitigate those risks of a blow-out occurring to acceptable levels. While the precise causes of the *Deepwater Horizon* incident are not yet known, it would be considered by BROA, given the differences in the UK's and USA's regulatory and inspection regimes, to be premature to take restrictive regulatory action in the UK based upon a presumption of risk that a similar accident might take place west of Shetland.

September 2010

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Memorandum submitted by the Chamber of Shipping

The Chamber of Shipping is the trade association for the UK shipping industry, representing over 930 ships of 25 million gross tons. British shipping in 2009 had a turnover of £11.6 billion and export services earnings of £9.3 billion or 6%. It provides directly some 42,000 British jobs at sea and ashore and (when indirect effects are taken into account), supports about 150,000 British jobs in total.

The Chamber has an active committee of 20 companies representing the UK-based fleet of offshore support vessels (OSVs). While OSVs provide a supporting (rather than direct intervention) role to the offshore oil and gas industry, these ships work in close proximity to offshore installations and are instrumental in providing assistance in incidents such as that which occurred on the *Deepwater Horizon*, from both a safety and environmental perspective. The UK's OSV sector's substantial fleet has a wealth of experience operating in the North Sea environment and would readily engage with operations west of Shetland.

We are concerned about the low numbers of UK-flagged ships which are available to conduct clean-up work if an oil spill does occur. Discussions took place with the Maritime and Coastguard Agency during 2004 which had the objective of revising that organisation's Oil Recovery Guidelines governing ships equipped to deal with the aftermath of oil spills. Unfortunately at that time, there was no agreement on a number of prescriptive requirements, which were difficult for the industry to comply with and which we did not consider offered clear benefits. In practical terms, we believe that this has resulted in an under-representation of oil recovery capability in the UK-flagged fleet. Meanwhile, other nations' regulations in this regard are more pragmatic (eg in the Netherlands and Norway), while still ensuring equivalent levels of safety and effectiveness. It is our view that some of the existing regulations should be revisited, with the aim of redressing this disadvantage for the national fleet.

The sector is also alert to the extent to which volatility in the market suppresses rates for OSVs during lean times for oil and gas demand, as recently witnessed, to the point of operations becoming barely economical. While we appreciate that this is a product of the market, we fear that the severe driving-down of operating margins at such times can potentially reduce available operators' funds to spend on training and safety initiatives including the promotion of safe practices.

We support the planned development and exploitation of the west of Shetland resource, but wish briefly to draw the Committee's attention to these limitations relating to the UK's national capability to support the offshore oil and gas industry. The Chamber of Shipping, is currently reviewing our position on the Oil Recovery Guidelines, with the intention of reopening this debate with the MCA. Any measures which can be taken to ensure the continuation of a healthy, safe and competitive OSV sector under the UK flag—which is able both to support routine oil and gas production and to respond to any incidents which might to occur despite the good safety record of installations on the UK's continental shelf—would be of great benefit in ensuring that operations west of Shetland are conducted in a responsible and environmentally sound manner.

September 2010

Memorandum submitted by Platform

1. The BP spill in the Gulf of Mexico is but the latest reminder of the dangers inherent in the extraction of oil and gas. Much is being made of the technical failures of BP's operation and the difficulties facing all deepwater operations and their reliance on the cutting edge of engineering and technological capability. This memorandum argues, however, that beyond the technical considerations, deepwater operations, ageing infrastructure, and frontier oil expansion has not been matched with an appropriate level of regulation on the part of government, and a lack of overall rigour and stringency required to protect the UK public and environment.

Energy Security

2. A very narrow definition of "energy security", with a strong bias towards continued reliance upon fossil fuels, is increasingly being instrumentalised in both domestic and foreign energy policy. The push into the oceans, drilling into ever-deeper waters and increasingly far offshore has been driven and defended in significant part by governments demanding "energy security". Sensitivities over "imported oil" and "unreliable producers" have helped bolster the demands of oil companies to open up deepwater licence areas in the UK.

3. In the UK, expansion into the deep waters in the West of Shetland and more remote offshore blocks around the British Isles are justified along similar grounds as in the US. In January 2010, when Chancellor Alastair Darling announced record tax breaks for oil and gas companies wishing to exploit the West of Shetland, he justified it by saying: "The Government recognises the importance of the UK oil and gas industry to our economy and the dependable foundation it provides for the UK's energy security."[16]

4. A June 2009 report from the Energy & Climate Change Committee recommended exploiting deepwater gas resources off the west of Shetland, having re-affirmed that: "When determining policy on UK oil and gas, the Government's priority should be security of supply." This support for expanded exploration came despite industry bodies admitting that the region was hampered by a, "hostile marine environment, extreme weather and the shortage of infrastructure" making projects, "high risk and technically challenging". The Committee pushed the government to "take a more active role" that would "not preclude assistance with funding."[17]

5. In his first week on the job, Chris Huhne, Minister for Energy and Climate Change, spoke at an industry conference in Aberdeen where he gave unequivocal support for continued expansion into the North Sea. "There could be 20 billion barrels of oil equivalent left to exploit," he said adding, "but the UK competes against every other basin in the world for investment and I am committed to make sure that we have a licensing regime and investment environment that attracts quality companies and investment to fully exploit the remaining potential. We will work closely with the industry to ensure that we can achieve just that."[18] Emphasising the importance of energy security in the new government's thinking, he stressed: "Energy security, for too long a

[16] Alastair Darling, "Tax boost for West of Shetland gas fields", HM Treasury, Press Release, 27 January 2010.
[17] House of Commons Energy and Climate Change Committee, "UK Offshore Oil and Gas: First report of session 2008–2009", Vol 1, 17 June 2009.
[18] Chris Huhne, "Huhne Backs Aberdeen's Energy Industries (Press Release)", DECC Press Release, 20 May 2010.

second order issue, will be put back at the heart of our national security strategy. The oil and gas sector should take encouragement from that."[19]

6. The UK government, led by the Foreign Office, has also been pursuing an aggressive international diplomacy drive to increase opportunities for British oil and gas interests in remote and frontier areas. This is being done in a manner that is likely to increase reliance on fossil fuel imports, conflict with climate change goals, and create opportunities for diplomatic friction with other states while providing little real benefit to UK citizens. The most recent cabinet report on the UK's National Energy Security Strategy outlines the government's commitment to furthering UK oil and gas interests abroad: "Energy reserves are increasingly found in remote areas and it is therefore essential that the UK is able to contribute to a system that allows UK companies to participate safely in the extraction of these fuels and that provides for secure delivery routes for fuels to the UK."[20]

Energy Policy

7. One of the most damning critiques of the Gulf oil spill was the revelations of the degree of influence that oil companies held over key arms of the US government including regulators as well as policy departments. The British government, led by the Foreign Office with support from various departments, provides worrying levels of privileged access and support for the private commercial interests of British oil and gas companies in matters of state.

8. Foreign Secretary William Hague, recently described the support of British business as "an existential mission for the Foreign Office".[21] The level of diplomatic support afforded to British oil and gas companies internationally is a little acknowledged form of subsidy easily amounting to several millions of pounds annually in person hours, logistical support and consulting services. The diplomatic support companies like BP and Shell receive, has been instrumental in them gaining controversial contracts in places like Libya, Iraq, Azerbaijan and Russia.

9. The appointment of controversial business leaders to key government positions is also cause for concern. Shortly after the new coalition government took office, Lord John Browne of Madingley was appointed to head the UK government's cost-cutting and efficiency drives. Browne, former CEO of BP, is under fire for instituting drastic cost-cutting measures in BP, which have been slammed by US officials for being partly to blame for major environmental disasters and accidents that have led to the tragic deaths and injuries of workers. These include oil spills in the Alaskan Arctic, the Texas City refinery disaster, and the current crisis in the Gulf of Mexico.[22] Lord Browne will also be making recommendations for further appointments of business leaders into influential positions within government.

10. Former Monument Oil & Gas CEO and Non-Executive Director of ENI Lasmo, Tim Eggar, has been advising the Chancellor George Osborne on ways to streamline the tax system in the UK in order to promote more offshore oil and gas development. Eggar's report is currently unavailable to the public.[23] This, despite the fact that the current licensing round has had a record number of bids since offshore licensing began.[24]

11. Several Permanent Under Secretaries to the Foreign Office since the early 1990s, have since gone on to take up Director positions in major oil and gas companies including Shell and BP.[25] Robert Paterson, a former HSE lead offshore inspector, is now working for the UK oil lobby group Oil and Gas UK.

12. It is our view that these close links between the oil and gas industry and the government, undermine public confidence in the ability to regulate and legislate effectively at home, and complicate and possibly jeopardise international relations abroad. It also makes it difficult to institute meaningful institutional changes required in the face of climate change and peak oil.

Regulation

13. Despite recent assurances from the Department of Energy and Climate Change that the UK offshore regulatory regime is "fit for purpose", there is a concern that cost-cutting measures, lack of capacity and resources, a general trend towards "light-touch regulation", and a desire to swiftly expand offshore production will lead to insufficient oversight of the industry.

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[19] *Ibid*.

[20] Cabinet Office, "UK National Security Strategy: Report on Progress 2010", 18 March 2010.

[21] Foreign Secretary William Hague as quoted in: George Parker, James Blitz and Alex Barker, "Hague vows to defend embassy network", *Financial Times*, 13 July 2010.

[22] See for example: "The Report of the BP U.S. Refineries Independent Safety Review Panel", which concluded that with regards to the Texas City refinery disaster in 2005: "The Panel believes, however, that the company did not always ensure that adequate resources were effectively allocated to support or sustain a high level of process safety."

[23] Robin Pagnamenta, "Business Big Shot: Tim Eggar, former Energy Minister", *The Times,* 18 February 2010.

[24] Department for Energy and Climate Change, "Energy Minister gives go-ahead to new North Sea development", DECC Press Release, 28 June 2010.

[25] Sir Anthony Acland (Permanent Under-Secretary of State, Foreign & Commonwealth Office, 1982–86; Ambassador to USA 1986–91; Non-Executive Director of Shell 1991–99), Baron Kerr of Kinlochard (PUS, FCO, 1997–2002; Non-Executive Director, Shell, 2002 to date; currently Deputy Chairman), Lord Wright of Richmond (PUS, FCO, 1986–1991; Non-Executive Director BP 1996–2001); and Sir John Coles (PUS, FCO, 1994–1997; Non-Executive Director BG plc 1998–2008).

14. In the wake of the Gulf of Mexico disaster, there has been much condemnation of the failures of the US regulatory regime. In contrast, the regulatory systems of the UK and Norway have been held as shining examples of best practice. But greater scrutiny of the reality of the supposed gold-standard regimes of these two countries raise critical issues with regards to current practice and capacity.

15. The 26th licensing round for offshore oil and gas in the UK Continental Shelf (UKCS) has attracted record bids. 356 bids for blocks in all parts of the UKCS have been made, the highest ever since bid rounds began. Particular interest has been in the West of Shetland region—the deepest waters in the UKCS. The record interest will require regulatory oversight over the new exploration programmes, appraisal well drilling, sub-sea infrastructure development, pipeline management, spill response and production and transport apparatus.

16. Regulators from the Health and Safety Executive (HSE) will also be required to inspect the 293 offshore platforms currently in operation, thousands of kilometres of pipeline and sub-sea infrastructure, and related facilities.[26] There are 115 inspectors employed by the HSE to supervise all this activity as well as provide health and safety guidance for the approximately 20,000 workers in the offshore industry.[27] The concern is that there is insufficient capacity in the HSE to adequately monitor, regulate and enforce offshore oil and gas operations in the UKCS at a rigorous enough level.

17. Concerns are also being expressed with regards to the changing culture and attitude to regulation at the HSE. Academics at Liverpool University and Liverpool John Moores University, have recently completed a study into health and safety regulation of business. They found that in the last ten years: "The number of inspections made of business premises have fallen by 69% and investigations of health and safety incidents have declined by 68%. The study also found a 48% reduction in prosecutions of companies who have breached HSE regulations over the same period.[28] One of the report's authors, Dr David Whyte, observed that: "The collapse in inspection, investigation and enforcement has dramatically reduced the chances of businesses being detected and prosecuted for committing safety offences. Most serious injuries now are not even investigated."[29]

Health and Safety

18. The UK Government does not monitor abandoned or suspended wells in the UK Continental Shelf. As many as several hundred abandoned and suspended wells may have slow leaks, fractures, corrosion and other worrying characteristics that could prove disastrous for the region if they continue to be left unmonitored.

19. The HSE does not currently monitor what happens to such wells in UK waters. At the time of this submission there have been 10,972 wells drilled in UK waters since the 1960s.[30] Several thousand of these have been "abandoned" by the companies. According to a number of studies of abandoned wells in the United States, it has been found that a high percentage of wells can rupture and leak over time due to poor cement work, erosion/corrosion, and subtle shifts in geology.[31] A recent six-kilometre oil slick in the Danish North Sea has baffled agents from the Environmental Protection Agency in Denmark, leading some to suggest that the source of the oil slick could be a leaking abandoned well.[32] Freedom of information requests to the HSE have revealed that the UK offshore regulator does not monitor abandoned wells in the UKCS, and recommended that: "The best source for this information is most probably going to be the individual licensees."[33]

20. The Department for Energy and Climate Change (DECC) does maintain a database of existing wells, however it has no monitoring role over abandoned wells.[34] The lack of oversight of abandoned and suspended wells is cause for serious alarm. Some US studies have indicated that onshore well failure rates were projected to be as high as 17%, and warned that offshore wells may likely have a higher failure rate due to the harsher conditions.[35] If a similar rate were applicable to the offshore wells in the UKCS, several hundred abandoned wells may be slowly leaking and poisoning the local environment and wildlife. A major leak is also possible.

21. Leaks may also go undetected due to the way hydrocarbons interact with the cold waters of the North Sea. A study by Det Norske Veritas (DNV)—an industry consultancy—found that subsea plumes would likely form in the thermoclimes of the North Sea waters and travel great distances before any oil might appear on

[26] DECC, "Existing UKCS installations", July 2010.

[27] Oil & Gas UK, "Background Information", Oil & Gas UK Knowledge Store, http://www.oilandgasuk.co.uk/knowledgecentre/Background_Information.cfm

[28] Prof Steve Tombs and Dr David Whyte, "Regulatory Surrender: death, injury and the non-enforcement of law", Liverpool University, 13 July 2010.

[29] *Ibid*.

[30] *Ibid*.

[31] US Government Accountability Office, "Offshore Oil and Gas Resources: Interior Can Improve Its Management of Lease Abandonment", GAO, RCED-94–82, 11 May 1994.

[32] Anthea Pitt, "New spill in Danish North Sea", Upstream Online, 23 June 2010. Followed by Freedom of Information requests to the Danish Environment Ministry MIM—Miljøministeriets Informationscenter on 24 June 2010, and Danish Energy Agency—Energistyrelsen 12 July 2010 (pending).

[33] Freedom of Information request to Health and Safety Executive Reference No. VBRY-876DPY, 8 July 2010.

[34] DECC, "Well Data", https://www.og.decc.gov.uk/pls/wons/wdep0100.qryWell
A Freedom of Information request regarding DECC management of abandoned wells is still pending at the time of this writing.

[35] Jeff Donn and Mitch Weiss, "Gulf awash in 27,000 abandoned wells", Associated Press, 6 July 2010.

the surface.[36] The study also raised concerns about the length of time deepwater operations might require to drill a relief well. One of the aspects of the Gulf of Mexico spill that is under investigation is the procedure used to cement the well. If a high-pressure or repressurised abandoned well in UK waters were to rupture, it could cause a major environmental and economic disaster for the region.

22. An industry study of blowouts in the deepwaters of the Gulf of Mexico and North Sea suggests that the potential failure rate for blowout preventers (BOPs) in these environments can be as high as 45%. A widely reported study by Det Norske Veritas, commissioned by drilling contractor Transocean—the company that owned and operated the ill-fated Deepwater Horizon rig— examined 11 cases where rig managers operating in deepwater areas had to activate a blowout preventer as a final failsafe due to loss of well control. Blowout preventers are the last line of defence in the event of an unstable build-up of pressure in a well. They usually contain several redundant mechanisms designed to seal the well in order to prevent hydrocarbons escaping up the well and potentially igniting on the platform as happened in the Deepwater Horizon explosion. Out of the 11 cases where a BOP was triggered, only six actually succeeded in preventing a blowout. The researchers concluded that as a result of their findings, the industry failure rate for blowout preventers in deepwater areas was a staggering 45%.[37]

23. Industry groups insist blowouts are very rare. However, given that drilling engineers use a variety of methods to maintain well pressure and prevent so-called "kicks" of pressure escaping up the well, even a moderate number of blowouts should be cause for alarm. In most cases, their occurrence signifies that there was in fact a dramatic cascade of concurrent failures in the well operation. Blowouts are not as rare as many would like to believe. Overall, there have been a total of 237 blowouts in the Gulf of Mexico and North Sea recorded in the period between 1 January 1980 and 1 January 2008 and 573 recorded worldwide.[38]

24. A recent spate of serious incidents in the North Sea underline the inherent risks in all oil and gas extraction projects, and the seeming inability of the industry to demonstrate global excellence in health and safety standards despite the numerous painful lessons of the past. A recent incident in the Norwegian North Sea at Statoil's Gulffaks C platform gives pause for concern. On 21 May 2010, an "unstable well event" led to a dangerous level of pressure build-up. This pressure led to the failure of one of the valves of the well's blowout preventer. All 90 rig workers were forced to evacuate and the event was categorised as "critical". The remaining valve managed to withstand the escaping pressure and the operations have been shut down for two months. The well itself has now been plugged, and one of the senior Statoil staff described the conditions of the well as a "high pressure zone in the Shetland/Lista formation" suggesting that other well operations in the region may also encounter problems with the high pressure hydrocarbon deposits present.[39] This would be the eighth incident in Norway that had "large scale potential" to cause a major disaster since the beginning of 2010.[40]

25. Shortly after the Gullfaks C shutdown, a major gas leak discovered at the massive Troll fields in the North Sea would also lead to a major shutdown and reduction of gas flows to the UK as a result. This would be second time this year that production would be stopped due to a major gas leak.[41] Blowouts and gas leaks have been at the root cause of many of the world's worst accidents involving offshore platforms. The infamous Piper Alpha explosion in 1988, which resulted in the deaths of 167 workers, was the result of such a leak.

Ageing Infrastructure

26. Nearly half of all offshore installations in the UKCS are operating beyond their original design life. While the Health and Safety Executive has been proactive in working with industry to address the unique challenges of maintaining ageing infrastructure and ensuring best practice, there nevertheless remain concerns about the continued reliance on decades-old technology and infrastructure. Of the 289 installations active in the UKCS, 93 are older than 30 years old—43 of those have been in active service for over 40 years, all in the Southern North Sea region close to the Scottish coastline.[42] The typical design life of a platform is between 20—25 years.[43] That would suggest that nearly half of all installations are operating beyond their expected design life.[44]

27. A 2008 report by Norwegian industry researchers SINTEF expressed serious concerns over the ability for companies and regulators to cope with ageing installations in the North Sea due to a lack of knowledge and experience, absence of coherent standards and procedures, and lack of sufficient regulatory capacity to

[36] Jesse Uzzell and Aage Bjørn Andersen "A Response Plan For Deep Sea Blowouts In The North Sea: Monitoring The Subsea Plume", Det Norske Veritas AS, #110, International Oil Spill Conference.

[37] David Barstow, Laura Dodd, James Glanz, Stephanie Saul and Ian Urbina, "Regulators Failed to Address Risks in Oil Rig Fail-Safe Device", New York Times, 20 June 2010.

[38] SINTEF Offshore Blowout Database, http://www.exprosoft.com/products/pdf/BlowoutDatabaseWeb.pdf

[39] Acting head of Gullfaks drilling and well operations, Rune Gaaso, as quoted in "Gullfaks C production resumes", Upstream Online, 14 July 2010.

[40] Wojciech Moskwa and Gwladys Fouche, "Statoil evacuates North Sea platform due 'unstable' well", *Reuters*, 21 May 2010.

[41] Angela Henshell, "Gas Leak Halts Production at Norway Troll A Field", Dow Jones Newswires, 29 June 2010.

[42] DECC, "Existing UKCS Installations", July 2010.

[43] Alexander Stacey, "HSE Research Initiatives on Ageing Offshore Installations in the UK", The International Committee on Regulatory Authority Research and Development (ICRARD). http://www.icrard.org/templates/Page____464.aspx

[44] *Ibid*.

provide more frequent and comprehensive regulatory scrutiny.[45] The group called for a root-and-branch assessment of ageing platforms and a robust assessment of their extensibility.[46]

Industry Performance

28. While improvements have been made, the overall record of industry in the North Sea since the Piper Alpha explosion in 1988 is still patchy and bears greater scrutiny. After the Piper Alpha incident and resultant Cullen Inquiry into the industry, there has been a presumption that the UK regulatory regime had become one of the strictest and best performing in the world. However, the record to date has been disappointing in many respects.

29. There has been a marked increase in the number of "Notice of Improvement" issued by the Health and Safety Executive to offshore platform operators in the past year. In that time period, BP has been served with 14 notices—seven for its West of Shetland operation in Schiehallion alone, just 18 months after a fire required the evacuation of staff there. In the past few years, serious concerns have been raised about the safety culture of companies operating in the North Sea.

30. In 2003, the cost-cutting measures of Shell were alleged to be responsible for the death of two workers and the near explosion from a gas leak at the Brent Bravo platform in the East of Shetland region. "Shell's negligence came close to destroying the platform that day and killing another 105 souls who were on board," remarked Jake Molloy from the Oil Industry Liaison Committee/Rail, Maritime and Transport union.[47] Despite the negative publicity and record fine of £900,000, the company's safety record has consistently been among the worst in the industry as it has continued to insist on deep cost-cutting measures.

31. According to industry journal *Upstream Online* in 2008, Shell had been "by far the worst performer" having received 6 out of a total of 18 legal notices issued by the HSE over a two-and-a-half year period.[48] The article revealed that Shell had received more notices than any other operator working in the UK North Sea. A *Financial Times* investigation in the same year found that, globally, Shell had the highest worker death rate than any other Western oil company.[49] A recent investigation by *The Press and Journal,* found that between 2006 and 2008 the HSE was involved in 1,042 incidents offshore. Among these were 841 "dangerous occurrences" and 192 accidents.[50] According to Carlo von Bernem, marine biologist and expert on oil pollution and coastal zone management at the German Institute for Coastal Research: "It is a wonder that an oil spill of the dimensions of the present one in the Gulf of Mexico has not occurred here."[51]

Environmental Impacts

32. The "normal" operation of offshore platforms and their attendant infrastructure—including pipelines and tanker traffic, as well as the relatively high frequency of unintended hydrocarbon releases—has resulted in the equivalent of a slow Gulf of Mexico-sized leak in the last two decades.

33. The steady waste from offshore oil and gas operations is routinely, and legally, dumped into the surrounding waters after some processing. The result is that in the whole of the North Sea, an estimated 10,000 tonnes of waste hydrocarbons is released into the water each year according to marine pollution expert Christian Bussau.[52] A further 10,000 tonnes is estimated to be illegally dumped by tanker traffic in the region. The combined effect of hundreds of platforms, tanker traffic, pipelines and well leaks, makes the North Sea "one of the most contaminated maritime areas of the world," according to Bussau.[53] The slow multiple-sourced leak of this magnitude poses a major threat to marine ecosystems and wildlife such as fish stocks and the livelihoods that depend on them, as well as impacts on tourism and other local economic impacts. Over a 25 year period the amount of pollution would be roughly equivalent to the Gulf of Mexico spill in volume.

34. As operations move into new areas and deeper waters, concerns mount that threatened ecosystems and marine habitats for endangered species will be severely impacted. Last year, for example, the British Geological Survey found previously unknown pristine deepwater coral reefs in the waters around the Rockall Basin—an area recently opened up for bidding by prospective companies in the 26th Seaward Licensing Round of the UK.[54]

35. The number of non-permissible hydrocarbon releases into UK waters has seen a sharp increase on previous years. Compared with the year before, the number of minor and "significant" hydrocarbon releases

[45] "Aging oil platforms focus minds in Norway", Scandinavian Oil & Gas Magazine, 26 November 2008.
[46] *Ibid*.
[47] Jake Molloy, "The High Price of Cost Cutting (again)", OILC, http://www.oilc.org/oilcorg/the-high-price-of-cost-cutt.html
[48] Chris Hopson, "Under fire: Shell is feeling the heat over its Brent Bravo safety record", *Upstream Online,* 14 March 2008.
[49] Ed Crooks, "Shell deaths higher than other western groups", *Financial Times, 30 November 2008.*
[50] Stephen Christie, "Alarm over hundreds of offshore incidents", The Press and Journal, 9 February 2009. http://www.pressandjournal.co.uk/Article.aspx/1068407/?UserKey=#ixzz0uB80GY6j
[51] Julio Godoy, "Oil Spill Will Devastate the North Sea Warn Experts", IPS, 14 May 2010.
[52] *Ibid*.
[53] *Ibid*.
[54] British Geological Survey, "New discovery of deep-water coral reefs in UK waters", BGS, July 2009.

into the sea in 2009–10 has increased by 20%, and major incidents have doubled.[55] A total of 182 spills have been reported in the period, up from 157 the year before. This despite the fact that the industry together with the HSE has committed to making 10% reductions in hydrocarbon releases year on year. The trend of increasing spills is likely to increase, as according to the HSE, the majority of hydrocarbon releases happen at facilities older than 20 years old, of which more than 50% of existing platforms fall under that category.[56]

Foreign Energy Policy

36. The controversial drilling programme currently underway in the Falkland Islands is directly supported by British government agencies and staff. The current exploration campaign taking place in the Falkland Islands, including several deepwater areas, has already uncovered one significant oil discovery and prompted much speculation about a major new oil province opening up in the South Atlantic. The sheer remoteness of the location, and the fractious history of the region give pause for concern about the potential impacts of any major development of offshore oil and gas in the region. The UK government claims to take a hands-off role with regards to the internal affairs of the Falkland Islands government, but the reality is that British government provides critical support to exploration companies and has had a direct hand in developing the territory's offshore licensing round.

37. Foreign Office officials, keen to stress the right to self-determination of the Falkland Islands, nonetheless acknowledge that every stage of the offshore licensing round in the Falklands Islands has had "ultimate sign-off by the Foreign Secretary".[57] It is estimated that over 30 members of staff and senior government officials across departments including the Department for Energy and Climate Change (DECC), and the Ministry of Defence (MoD) are regularly involved in discussions, consultations, policy development and planning about energy strategy in the Falkland Islands.[58] At the time of this writing, Foreign Secretary William Hague has been personally briefed on the Falkand Islands oil exploration progress several times since taking office.[59]

38. There are serious safety, political and environmental concerns about the drilling programme underway in the Falkland Islands. FCO officials have stressed that the Falklands explorations programme is "constantly reviewed in order to ensure that it is up to UK standards".[60] But analysis of the environmental impact statements of the companies currently drilling in the remote waters raises serious concerns, particularly in light of the BP spill in the Gulf of Mexico. Environmental impact assessments carried out by UK-based consultancy RPS Energy for four of the five companies planning to drill in the Falkland Islands, has played down the risks of a blowout as "extremely rare" and suggests that risks of an oil spill reaching the shores of the Falkland Islands are "negligible".[61] As a result, the company has advised against the need for any shore-based oil spill response measures to be put in place arguing that they are "impractical and unwarranted".

39. Without sufficient support infrastructure in place in the Falkland Islands, oil spill response crews and equipment would have to be imported. In the event of a major spill, the company suggested that airplanes can be flown in from the UK mainland in order to spray chemical dispersants. Only two support vessels are available to assist in any major response. A secondary rig could take as long as three months to reach the Falklands from the UK in order to begin drilling a relief well. The BP oil spill response operation is currently deploying thousands of vessels and has brought in two rigs from nearby locations to assist in relief well drilling. In the remote context of the Falklands, any extra support apparatus would take a significant length of time (it took approximately three months for the drilling rig Ocean Guardian to reach the Falkland Islands from Scotland) to mobilise, causing potential delays to any response operation.

40. The contingency plan also includes a provision to use the controversial dispersant Corexit 9500 manufactured by American company Nalco.[62] Use of Corexit is restricted in the UK, after failure of the rocky shore tests required for its approval,[63] and there remain concerns over the overall effects on shore-based animals and wildlife as well as the general toxicity of the product and its effects particularly on fish and marine mammals.[64] Two million gallons of the product has been used in cleanup operations in the Gulf of Mexico despite a public outcry and major concerns by lead scientists.

41. There are also concerns about the financial and insurance safeguards in place in the event of a major accident. To date, all the companies involved in the drilling programme are AIM-listed small-to-medium capitalisation companies. A Gulf of Mexico-type disaster could bankrupt such smaller companies, leaving the

[55] Health and Safety Executive, "All Offshore Hydrocarbon Releases", Database, HSE, Accessed 20 July 2010.
[56] Alan Thompson, "Analysis of offshore hydrocarbon releases 2001—2008".
[57] Interview with FCO representatives Victor Clarke and Kathryn Hogg, 14 July 2010.
[58] *Ibid*.
[59] *Ibid*.
[60] *Ibid*.
[61] J Perry/RPS Energy/Desire Petroleum plc, "Environmental Impact Assessment for Offshore Drilling The Falkland Islands to Desire Petroleum plc", November 2005.
[62] *Ibid*.
[63] Marine Management Organisation, "Oil spill treatment products approved for use in the United Kingdom", MMO, 18 May 2010.
[64] See for example: Andrew Rogersona and Jacques Berger, "The toxicity of the dispersant Corexit 9527 and oil-dispersant mixtures to ciliate protozoa" Department of Zoology, University of Toronto, 24 November 1980. Concluded that: "Chemically dispersed oil was more toxic than either the dispersant or crude oil alone." And US Environmental Protection Agency Office of Research and Development, "Analysis of Eight Oil Spill Dispersants Using In Vitro Tests for Endocrine and Other Biological Activity", 30 June 2010 where Corexit ranks among the most cytotoxic of the eight dispersants in the study.

UK taxpayer liable for the costs of the cleanup and any compensation claims. After the Gulf of Mexico spill, the DECC announced it would review the indemnity and insurance requirements for operators in the UK Continental Shelf, but this would not include the Falkland Islands, and is unlikely to come into force in the current year.[65]

Conclusion

42. BP, Shell and their competitors have identified the deep sea floor as a key exploration area for current and future efforts to replace their reserves. At the same time, civil servants and politicians who formulate and implement energy policy in both the UK and US describe the exploitation of offshore oil and gas as a solution within the frame of "energy security". This perception of overlapping interests has defined much of UK and US foreign and domestic energy policy, and led to mutual support in colonising the oceans for fossil fuel extraction. Actors from both the corporate and public sectors have been outspoken in promoting the urgent need to explore the outer reaches of the continental shelves.

43. British and American state support through various government departments and agencies has helped ensure that oil companies have both formal and informal regulatory, fiscal, diplomatic and social "licences to operate" in the deep waters off the US, Brazil, Angola, Azerbaijan and elsewhere. The oil majors have developed the technology and hired the contractors to build rigs that will drill and pump thousands of feet down through water and rock. Yet no-one has adequately created the means to deal with the situation when the engineering breaks and the house of cards collapses.

44. The Gulf of Mexico disaster shows that government policy driven by the current dominant "energy security" discourse fails to deliver "security" on many levels. And while we can expect certain ripples from the unfolding crisis in the Gulf to impact the industry as a whole, the long view from insiders suggests that continued expansion into ever more riskier environments is widely seen as an inevitability. However, that is predicated on the assumption that the "energy security" paradigm retains its primacy in decision-makers minds and public attitudes. Recent events may throw that assumption into question.

45. In light of the crisis unfolding in the Gulf of Mexico the United States, Canada, and Norway have imposed various restrictions on new offshore drilling. A recent speech by EU Energy Commissioner Günther Oettinger advocated a Europe-wide moratorium arguing that, "any authority in the world (not only in the US or in Europe) would be advised to implement a precautionary approach."[66] The UK has so far resisted instituting a freeze on new drilling permits, arguing that its regulatory regime and safety record is "fit for purpose".

46. But even a cursory glance at: the health and safety record of the industry in the North Sea; the increasingly ageing infrastructure; the increases in hydrocarbon releases; the lack of regulatory monitoring of abandoned wells; the data demonstrating major concerns over the reliability of failsafe mechanisms; the expansion into new deepwater areas; and the increased workload on the regulators in an era of cost-cutting and "light-touch regulation" are all sufficient reason to suspend new permits and institute a root-and-branch review of the industry and the regulatory regime. In particular, any expansion into deepwater offshore, both domestically and in British Territories such as the Falkand Islands, must be put on indefinite hold.

47. The role of the Foreign Office and other arms of government must also be held to account. British foreign policy should be every much subject to public debate and challenge as any other aspect of government, not myopically fixated on promoting narrow commercial interests. The degree of direct and indirect support afforded to British oil and gas corporations at the highest levels of office, cast doubts on the government's commitment to transparency, democracy and accountability, and the UK's reputation as a responsible global citizen and leader on climate change suffers as a whole when companies like BP cause such untold damage in other countries.

48. A broader critique of "energy security" discourse is also sorely needed. The instrumentalisation of a very narrow definition of energy security lies at the heart of domestic and foreign policy. Its use and misuse in advancing a course of perpetual reliance and dependency on offshore drilling and fossil fuels as a whole, flies in the face of the urgent need to address the root causes of climate change and a just and meaningful transition to a fossil-fuel free economy that does not adversely impact workers and the economy.

49. The work that the Committee on Energy and Climate Change in this regard is therefore critical. We look forward to providing further evidence in person and thank you all for the opportunity to address these issues.

September 2010

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[65] DECC, "UK increases North Sea rig inspections", DECC Press Release PN10/067, 8 June 2010.

[66] Günther Oettinger EU Commissioner for Energy, "Oil exploration and extraction—risks, liability and regulation" at the European Parliament Plenary Session Strasbourg, 7 July 2010.

Memorandum submitted by Greenpeace

1. Introduction

1.1 It is becoming increasingly evident that we need to end our dependence on oil. Easy to reach oil has virtually run out. International oil companies are having to take greater risks in more extreme environments to maintain oil supplies at the levels of demand from them we have come to expect. If we change now, we not only avoid the destruction and associated emissions from obtaining this difficult-to-reach oil, but we start to create a cleaner, energy secure world with less pollution, and a forward looking economy. The urgency with which we need to control carbon emissions and the decline in easily accessible oil means that the world is at a crossroads in which society must make a choice between clean energy or a continuing dependence on oil. Our taxes, instead of being used to prop up oil companies, could be used to start moving us beyond oil now. This is the only long term solution to the connected problems of oil supply and climate change.

1.2 This race for difficult to reach oil not only threatens some of the world's most delicate ecosystems but it seriously undermines efforts to fight climate change. Producing oil from these new sources is up to three times more energy intensive than from conventional sources.

1.3 Not only is this seriously damaging to the local environment and to the climate, but it also makes little long-term economic sense Continuing our dependence on oil is hindering the transition to a low carbon economy that we urgently need to make.

2. Decreasing Access to Easy Oil

2.1 In the 1960s, International Oil Companies (IOCs) had full access to around 85% of global oil reserves while today that access has declined to around 6%.[1] The decline primarily stems from rising resource nationalism[2] in oil producing countries. The exhaustion of existing oil fields, primarily in the North Sea and the USA, that for the past three decades provided the main oil resource for IOCs, has also diminished these companies' reserves.[3]

2.2 Faced with these ever increasing restraints on access to new resources, the IOCs have been forced to develop the technology to enable them to access the difficult oil. Ever deeper offshore production has become increasingly commercial in the past decade and is now a key component of these companies' oil production and reserves.[4] In the coming decade, the IOCs plan to push into the offshore Arctic[5], develop deeper and more widespread tar sands resources[6] and drill deeper in waters than ever before, for example in Brazil[7] and also in UK[8].

2.3 These "frontier" oil resources are risky, expensive and destructive. They require more energy per barrel to produce, increasing the climate impacts of oil use. As we have seen recently in the Gulf of Mexico, when they go wrong they can be extremely difficult to control, spilling oil into the environment for months. Despite industry claims to the contrary, they are unnecessary, will not make oil cheaper and do not adequately address energy security concerns. They may however, keep the IOCs in business, for the short term at least.

3. Impacts of the Gulf of Mexico Oil Spill

3.1 The Deepwater Horizon disaster resulted in the deaths of eleven people and oil gushing into the Gulf of Mexico for 87 days before it was stopped. It is the biggest oil spill in US history and may be second only to the destruction of the Kuwaiti oil fields by Saddam Hussein in 1991 in terms of global oil spill events.[9] Recently, it is estimated that 4.9 million barrels of oil leaked into the Gulf as a result of the explosion.[10]

3.2 It is still too early to quantify the full extent of the environmental, social and economic damage caused by the oil spill but it is clearly of huge consequence. Although it is 48 miles (77 kilometres) from land, currents and winds have carried the oil ashore from Texas in the west to Florida in the east.[11] It could yet find its way to the east coast of Florida and beyond via the Gulf Stream.[12]

3.3 Some marine scientists have expressed concern that the huge plume of oil and gas, spread throughout the water column from 5,000 foot below to the surface, may create giant oxygen-deprived dead zones as oil consuming microbes proliferate around the plume using up all the available oxygen.[13]

3.4 The impact on fisheries, wildlife, both coastal and marine, and tourism and recreation industries in the region will likely be felt for decades to come. There are concerns that the presence of so much oil in the marine ecosystem is killing certain species while encouraging others to proliferate, with serious implications for the entire food web.[14]

4. A Disaster Waiting to Happen?

4.1 The difficulty of completely stopping a blown out well at 5000 foot below sea level has become startlingly clear with the multiple failed attempts made at Macondo.[15] The ultimate solution, the drilling of relief wells, takes months. The low temperatures and high pressures present at these depths make speedy and effective mitigation very difficult[16]. Some of the dangers of working at these extreme depths were highlighted to the US Minerals Management Service (MMS) and other industry bodies by experts a number of times in

recent years. But the warnings appear to have been dismissed. There is a clear danger that the warnings will be dismissed in the UK as well.

4.2 A presentation to the Society of Petroleum Engineers in February 2003 warned that MMS procedures for offshore blowout containment dated back to 1990 and did not consider operations in water deeper than 1,500 feet.[17] The author posed the question of whether the chances of a blowout increased with water depth and concluded that the "*the odds are not in our favour*".[18] The plans for controlling blowouts in the UK context are no better. The government recently released oil spill response plans submitted by BP setting out how they would respond to an oil spill in wells in UK waters. In this plan, BP admit that—"the oil spill consequences of a catastrophic failure of a deep sub-sea well head, either due to equipment failure or accidental damage, have never been considered in detail."[19]

4.3 BP's disaster in the Gulf of Mexico and the story of how warnings were ignored,[20] illustrates the choice facing society as we move into the twighlight era of the oil age. If we continue to allow our demand for oil to grow despite the increasing difficulty and cost of supplying it, we face escalating risks with escalating consequences. Managing these at the best technological level at the very least requires increased costs. However, the expense of tighter safety regimes and procedures for deepwater production is something BP and the industry as a whole has fought successfully against for years.[21]

5. To What Extent

Is the existing UK safety and environmental regulatory regime fit for purpose?

5.1 Safety lessons have not yet been learned from the Deepwater Horizon incident—for the simple reason that the official investigation into the cause of the disaster has not yet been published. BP's own investigation, published on 8 September, identified a whole series of failures, both human and technological.[22] But the report is widely seen as an attempt to spread blame from BP to its contractors, as a possible precursor of BP's legal strategy; its focus is not on tightening the regulatory regime in order to prevent future accidents.

5.2 The UK Government has commissioned a review of the offshore drilling safety regime which is due to report later this year. However, within weeks of the blowout in the Gulf of Mexico it had completed an "emergency review", on the basis of which it has declared the regulations "fit for purpose" and rejected calls for a moratorium. It has doubled the rate of inspections,[23] but only from one to two per year, and increased the number of inspectors from six to nine.[24]

5.3 The Health and Safety Executive reports annually on the offshore industry's safety record, and this year issued a stern warning over the increase in both serious accidents and spilled oil.[25] It labelled the industry's performance "not good enough", and Steve Walker, head of the offshore division, commented: "I am particularly disappointed, and concerned, that major and significant hydrocarbon releases are up by more than a third on last year. This is a key indicator of how well the offshore industry is managing its major accident potential, and it really must up its game to identify and rectify the root causes of such events".[26]

5.4 The HSE has issued BP with a total of seven "notices of improvement" for a single project at Schiehallion in the West of Shetland.[27] In offshore inspection records released to the *Financial Times* under the Freedom of Information Act, all but one of BP's five North Sea installations inspected in 2009 were cited for failure to comply with emergency regulations on oil spills and rules on regular training for offshore operators on how to respond to an incident.[28]

5.5 Greenpeace believes the Government's response to the questions raised by the Gulf of Mexico disaster is totally inadequate and is calling for a moratorium on new drilling, following the lead of the US and Norway, and supported by Germany and the European Commission.[29] Greenpeace believes that pressing on with licences and permits to drill in deepwater, without waiting for the lessons from Deep Water, is unlawful.

6. What are the Hazards and Risks of Deepwater Drilling to the West of Shetland?

6.1 The West of Shetland region is home to diverse and abundant wildlife. Any spill would be highly like to cause harm to these delicate ecosystems.

For example, West of Shetland is home to:

- Endangered Fin and Sei whales, vulnerable Sperm whales, as well as Killer, Humpback, Minke and Long-Finned Pilot whales.
- Several species of dolphin and porpoise and three species of seal.
- 48 species of seabird, including Fulmars, Manx Shearwater, European and Leach's Storm Petrels.[30]

6.2 The area off the coast of Shetland also contains two "special areas of conservation" (SACs)—Darwin Mounds, designated for its cold water corals, and Wyville Thompson Ridge, proposed for its stony reef species and bottle nose dolphins.[31] These areas are designated SACs because of their significance to European biodiversity.

6.3 Oil spilled in the cold waters off Shetland would naturally disperse more slowly than the oil in the Gulf of Mexico, and microbial dispersants would be less effective. This means it could cause greater damage to wildlife, as it would remain in thicker slicks for longer.

6.4 Sea birds are particularly at risk, as they are very sensitive to both internal and external effects of oil, and spend a lot of time on or near the surface of the sea. Oil-coated birds can suffer hypothermia, dehydration, drowning and starvation, and become easy prey.[32]

The impacts of a spill are obvious in their impact on surface living animals but more significant damage may take place in the water columns and on the sea bed. These are more difficult to study but no less significance to the ecosystem.

The Secretary of State Huhne has himself acknowledged in parliamentary debate on 14 June 2010 that an oil spill West of Shetland "would be an absolutely enormous environmental disaster".

7. Is Deepwater Oil and Gas Production

Necessary During the UK's Transition to a Low Carbon Economy?

7.1 A transition to a low carbon economy is likely to be undermined by deepwater oil and gas production in the UK. The assumption that the global economy will sustain oil prices on an inexorable upward curve—and prop up the UK economy—is misguided. High oil prices can cause a slowdown in economic activity and thereby suppress oil demand.[33]

7.2 Countries such as China and the US are already reducing oil dependence.[34] The US is beginning to address the gross inefficiency in its transport system but still has a long way to go. However, even these first steps have caused a significant revision of future projections for oil demand. With more concerted government action these forecasts could be revised further.[35]

7.3 If the UK pursued more aggressively an energy policy that truly addresses climate change and oil dependence, it would impose serious risks on new deepwater production in UK waters. Indeed, addressing climate change is impossible without aggressively addressing oil consumption.

7.4 Current industry predictions for deepwater production growth do not account for the action necessary to limit the concentration of carbon in the atmosphere to ensure that global average temperatures rise no more than 2°C. To achieve this crucial goal we will need policies first that constrain the growing oil demand but then shrink significantly.

7.5 The IEA 2009 annual report[36] clearly outlined the choice facing the world regarding energy use and climate change. The IEA presented two scenarios, the Reference Scenario and the 450ppm scenario. The Reference Scenario projects energy use and GHG emissions on the basis that no new government policies aimed at reducing GHG emissions come into force; in other words business as usual. In this scenario oil demand grows from about 86 million b/d in 2010 to 105 million b/d in 2030.

The IEA states:

> "But these Reference Scenario trends have profound implications for environmental protection, energy security and economic development. The continuation of current trends would have dire consequences for climate change. They would also exacerbate ambient air quality concerns, thus causing serious public health and environmental effects, particularly in developing countries".[37]
>
> "Continuing on today's path, without new policies, would mean rapidly increasing dependence on fossil fuels and continuing wasteful use of energy, taking us towards a concentration of greenhouse gases in the atmosphere in excess of 1,000 parts per million (ppm) of CO_2-equivalent. This, the outcome of the Reference Scenario, would almost certainly lead to massive climatic change and irreparable damage to the planet".[38]

7.6 The IEA's 450ppm Scenario explores the implications of stabilising atmospheric concentrations of GHGs to avoid the catastrophic consequences of the Reference Scenario. This scenario sees fossil fuel consumption and its associated GHG emissions peaking by 2020.[39]

7.7 It is certainly possible to go further than the IEA suggests. For example, in the US Senator Jeff Merkley drafted a plan to cut US oil demand by 50% by 2030 entirely based on technologies that are available for use today.[40] Pursuing this comprehensive suite of policies to cut oil demand globally could undermine the push into frontiers such as the deepwater west of Shetland.

7.8 This would however require stronger, more aggressive emissions regulations and efficiency policies than are in place today. Achieving a stable climate, reducing oil demand and stopping the growth in frontier oil are all linked by polices and actions that need to be taken by governments not just in the UK.

7.9 The imperative to control GHG emissions and the decline in easily accessible oil requires a new approach. These conditions present policy makers with a choice: either to perpetuate an unsustainable supply based approach by pursuing increasingly expensive and polluting sources such as deepwater oil, or to constrain demand for oil through a combination of vehicle efficiency improvements, a shift to hybrid and electric

vehicles, greater support for public transport and changes in spatial planning that reduce the need to travel. The latter option is the only one that provides a long term solution to both the oil supply problem and climate change.

7.10 Chris Huhne, the Secretary of State for Energy and Climate Change, has said the UK will become a "dead end economy", facing spiralling risks and costs, if it remains economically, financially and technically dependent on fossil fuels.[41] Scrapping dangerous and dirty oil projects and diverting support to renewables will help to protect tax payers against future oil tax shocks.

8. To What Extent Would Deepwater Oil and Gas Resources Contribute to the UK's Security of Supply?

8.1 Increasing the UK's security of supply depends upon reducing demand for oil and gas. Transforming our transport system is crucial to reduce our dependency on oil; over three quarters of petroleum products used in the UK are used in the transport sector.[42]

8.2 It is also critical to cutting GHG emissions: as noted by the Committee on Climate Change (CCC), domestic transport emissions have increased by 9% between 1990 and 2006, and in 2008 accounted for 21% of GHG emissions in the UK and 22% of carbon emissions.[43] Emissions from international aviation have been growing much faster still, more than doubling in the same time period.[44]

8.3 Virtually all CO_2 emissions in the transport sector come from burning petroleum products (the exception being the tiny fraction from electric rail, tram and underground systems). The majority of transport emissions come from road transport (69%), with aviation (22%) and shipping (7%) contributing most of the remainder.

8.4 Action will be needed to tackle emissions from all types of transport, and different solutions will be appropriate for different modes. But there are certain cross cutting principles which ensure that emissions are reduced. Greenpeace advocates a hierarchy of principles for the transport sector that emphasises of demand reduction:

- Reduce the need to travel and the distance travelled (e.g. by localising services).
- Encourage a switch to the mode of transport that produces the lowest carbon emissions.
- Harness and develop clean technologies that reduce emissions from each mode of transport.

8.5 Demand management is vital because under a business as usual scenario, demand for transport is forecast to continue to grow, offsetting any gains in efficiency (as has happened in the past).

9. Conclusion

Our profligate use of oil, together with the commercial pressures on international oil companies, are driving oil exploration and production to more technically challenging and environmentally fragile places, where the consequences of technical failure are hard to manage and potentially very damaging. There have been warnings about the dangers of doing this but these have not been heeded. UK should not allow its marine habitat of European significance to come under such a threat but adopt an alternative strategy of demand reduction which leads to greater long-term security as well as essential reduction of climate change emissions.

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September 2010

Memorandum submitted by the Marine Conservation Society

Introduction

The Marine Conservation Society (MCS) is the UK charity dedicated to the protection of our seas, shores and wildlife. MCS campaigns for clean seas and beaches, sustainable fisheries, protection of marine life and their habitats, and the sustainable and sensitive use of our marine resources now and for future generations. Through advocacy, community involvement and collaboration, MCS raises awareness of the many threats that face our seas and promotes individual, industry and government action to protect the marine environment.

MCS has sat on the Steering Group of the Strategic Environmental Assessment of oil & gas licensing rounds for many years. We welcome the Committee's inquiry into deepwater drilling.

Summary

MCS and other UK NGOs have long had concerns about proposed and licensed drilling in the "Atlantic Frontier", which we have raised with DECC and its predecessors. The "Atlantic Frontier" includes areas to the west of the Shetland Islands, west of the Hebrides and the "white zone" to the south-east of the Faroes.

Following the Deepwater Horizon oil disaster, MCS is calling for a moratorium on deepwater drilling, usually defined as 200m in relation to oil & gas. The disaster in the Gulf of Mexico made it apparent that there are technological problems in preventing an ecological catastrophe in the event of a blowout in deepwater, not least since divers cannot reach a wellhead below 200m and unmanned ROVs proved unsuccessful in capping the wellhead for months in the Gulf of Mexico. Deepwater Horizon confirms that the deeper the water the higher the risk. The wildlife to the west of Shetland is too important to take such risks, with cetacean regularly occurring in the area ranging from white-beaked dolphin, Atlantic whitesided dolphin, Risso's dolphin to long-finned pilot whale, killer whale, sperm whale, Sowerby's beaked whale, humpback whale and Sei whale. As such, until technology improves sufficiently to reduce the risk of blowouts, and just as importantly allow for the capping of the wellhead swiftly in deepwater should a blowout occur, **MCS calls on the UK Government to introduce a moratorium on deepwater drilling.**

Response to the Committee's Questions

What are the implications of the Gulf of Mexico oil spill for deepwater drilling in the UK?

The Gulf of Mexico blowout called into question whether governments were regulating the oil industry effectively, whether the technology was in place to enable safe, pollution free deepwater drilling and highlighted the devastation brought on the environment, economy and society of such an oil disaster. Like others, MCS were surprised to find that even the technological advances, knowledge and money of the 21st century were unable to prevent one of, or possibly the worst oil pollution disaster the world has ever seen. US President Barak Obama said the disaster "will have the same effect on the US psyche as 9/11."

MCS believes that the UK Government must introduce a moratorium on all deepwater drilling, until technology improves sufficiently to prevent such blow-outs and cap them, should they occur. At a minimum we would suggest this is for five years, to allow technology to further advance, at which point we would recommend another thorough independent investigation is undertaken to consider technological and regulatory advances and ensure that these are utilised in the UK. The Government must review how much industry is relied on for self-regulation and whether further regulation needs to fall to government to prevent such disasters happening in future. The industry must also be made to be more transparent on environmental matters, with oil companies obliged to be completely open when things go wrong. The Government must also review its contingency plans to deal with accidents on this scale.

IMPACT OF THE GULF OF MEXICO OIL SPILL

(from MCS magazine *Marine Conservation*)

> The impact on the environment of the Gulf of Mexico and society and economy of the southern states of America has been devastating.

Wildlife

> The damage done to the natural environment in the vast area affected by the blowout has been enormous. Scientific assessments are at an early stage, but it is likely that large populations of fish and invertebrates have been adversely affected by the toxic, clogging oil, along with large numbers of seabirds, turtles and dolphins. The Gulf of Mexico is one of two major spawning locations for the endangered Atlantic Bluefin Tuna—much smaller spills of oil in the Gulf have been shown to have reduced the viability and survival of tuna eggs and their larvae.
>
> The long term effect on wildlife both in and out of the sea is unknown, but it is likely to have far reaching impacts on fish, wildlife and the food chain within the Gulf, and in the wider Atlantic and Caribbean, as the oil remains in the water column and sea bed.
>
> By the end of June, the US Fish and Wildlife Collection Report stated the following had been found dead, but these are likely to only be the tip of the iceberg: 997 dead birds were found, 749 oiled but alive and 93 have been cleaned and released. 400 dead turtles have been washed up, 84 oiled but alive turtles have been found and three have been cleaned and released. 47 dead mammals were also recorded.

Society & Economy

> Compensation claims from victims are being thrashed out from a £13.5 billion fund set up by BP for the next four years.

To what extent is the existing UK safety and environmental regulatory regime fit for purpose?

MCS believes that the safety and environmental regulation could be considerably improved as detailed below. However, even with such improvements, MCS is concerned that the technology is still not advanced enough to prevent blowouts or cap the wellhead should they occur. We need to be certain that deepwater drilling is safe, and that drilling will not lead to environmental catastrophe. Only time, further review and improvement to regulation and technological advancement will ensure that.

Environmental regulation

DECC, and its predecessors, have been reasonably successful in the past decade or so in working with industry to implement international commitments that require reductions in the *operational* impact of oil & gas exploration and production, for example reinjection of produced water and replacing oil based drilling muds with alternatives. DECC has also been proactive in taking steps to meet EU Directives including the Strategic Environmental Assessment Directive, Habitats and Species Directive and EIA Directive. However, we have found that while DECC is prepared to follow the processes necessary to be seen to implement the letter of the law with regard to EU Directives, in MCS view licensing still proceeds sometimes in contravention of the Directives. While MCS support Government bodies such as DECC in their essential role in regulating industry, we find that they are sometimes drawn between implementing environmental regulation and implementing Government's policy, as detailed in the *draft* UK Marine Policy Statement, "to maximise economic development of the UK's oil and gas resources, reflecting their importance to the UK's economic prosperity and security of energy supply". Is this a case of the fox guarding the hen house? MCS think it probably is and as such we recommend that an independent Science Advisory Panel is established by Defra and devolved administrations, similar to the one developed to advise on Marine Conservation Zone selection. The panel of experts could analyse the work of DECC in their environmental regulation and advise Parliament of any concerns.

Safety regulation

The HSE expects companies to manage their own risks under a "goal-setting" approach. While this may give companies the flexibility to choose the best methods and equipment they believe are available, rather than relying on prescription from the HSE, it could also allow companies too much flexibility, enabling less expensive safety options to be chosen over more expensive, but possibly less safe technology. One of the

reasons for the Deepwater blowout was thought to be lack of investment in an expensive acoustic switch on the BOP—an acoustic system is typically a back-up to the primary control that are either hydraulic or electronic. Ironically, given the flaws we now see in America's oil drilling, Oil & Gas UK's parliamentary brief states that they often base their standards on those from the American Petroleum Institute. It is time that the HSE provided more guidance and possibly regulation with regard to the best available technology and methods to use.

OSPRAG

While the oil industry, HSE and DECC conducted a review of the existing safety and environmental regulatory regime through the Oil Spill Prevention and Response Advisory Group (OSPRAG), this happened behind closed doors with no request for input from Defra, MMO, JNCC, NE or environmental organisations. How thorough and honest this investigation was without independent overview is therefore questionable.

MCS hence welcomes an inquiry by the Select Committee, and suggests that should sufficient information not be forthcoming from those called to give evidence that an independent body is asked to review the existing UK safety and environmental regulatory regime and ensure they are fit for purpose.

Lessons must be learnt from a major oil disaster such as occurred in the Gulf of Mexico.

What are the hazards and risks of deepwater drilling to the west of Shetland?

The hazards and risks of deepwater drilling to the west of Shetland are in MCS' view, two-fold. Firstly the increased risk of an oil pollution disaster, and secondly**,** the unique wildlife assemblages and habitats that the UK has an international legal responsibility to conserve, together with the impacts of oil spills on local economies.

The first point regarding the increased risk of an oil pollution disaster in deepwater is covered above.

The west of Shetland is of unique importance to a diverse range of cetacean and fish, as detailed by the (then) DTI in their Strategic Environmental Assessment for the region—see box below. There are also other wonderful habitat and wildlife assemblages that can be found on the DECC web site:
http://www.offshore-sea.org.uk/site/

WILDLIFE & FISHERIES TO THE WEST OF SHETLAND

Source: DTI Strategic Environmental Assessment (SEA) 4 for the West of Shetland
http://www.offshore-sea.org.uk/site/

> Fisheries are very important in the SEA4 area, the mixed demersal fishery for cod, haddock and whiting, the pelagic fisheries for herring and mackerel, and the industrial fishery for sandeel, being the most important. Fish communities in the SEA4 area associated with the coast, shelf and shelf edge have affinities with communities elsewhere in the UK EEZ, such as to the west of the Hebrides, but the deep-water fish communities found in the very cold water below about 500m water depth in the Faroe Shetland Channel are unique to the UK EEZ.
>
> The SEA area is of undoubted importance internationally for cetaceans with the following species regularly occurring in the area: harbour porpoise, white-beaked dolphin, Atlantic whitesided dolphin, Risso's dolphin, long-finned pilot whale, killer whale, minke whale, fin whale and sperm whale. In addition to these, other, rarer species such as Sowerby's beaked whale, humpback whale, Sei whale and common dolphin are also known to regularly occur in the area. (SEA 4 p.99). A further eleven cetacean species and four pinniped species are occasional visitors, while grey seal, harbor seal, hooded seal are also occur regularly.

The impact on marine mammals of oil & chemical dispersants depends on the amount of internal or external exposure and the method of exposure, i.e. inhaled, ingested, absorbed, or external. Impacts can include ulcers, respiratory problems, immune suppression, reproductive failure, organ damage or death. With a large spill, such as in the Gulf of Mexico, marine mammals will be exposed for a long period of time. In addition, they will consume prey containing oil based chemicals that will lead to bioaccumulation of contaminants. For further information see Appendix I—National Oceanic and Atmospheric Administration (NOAA): Effects of Oil on Marine Mammals and Sea Turtles

All dolphins, porpoises and whales are listed on Annex IV of the Habitats Regulations.

Regulation 10 of The Offshore Petroleum Activities (Conservation of Habitats) Regulations makes it an offence to deliberately disturb these animals or cause deterioration or destruction of breeding sites or resting places of any such creature. Under the Habitats Regulations, the competent authority, DECC, must not grant a licence unless they are satisfied that the action authorised will not be detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range.

In addition to learning lessons from the Gulf of Mexico, we must learn from risks caused to wildlife and local economies in UK waters. The MV Braer ran aground off the coast of Shetland on the 5 January 1993, spilling 85,000 tonnes of oil and killing some 5,000 seabirds, with 32,000 birds in total estimated to have

perished. The Braer grounding could have been a much greater disaster for the Shetland. Breeding birds were away from Shetland, and the stormy weather dispersed the oil, with most being swept out to sea and less than 1% washed ashore. Inshore fisheries and salmon farms were badly affected, with oil concentrations up to 20,000 times higher than normal, and the harvests were lost. Fishing in the area was suspended for several weeks. Fish, shellfish, marine mammals and various bird species were all affected by the spill. Oil settled into the sediment in the Fair Isle Channel, which meant that the langoustine fishery remained closed for over a decade. Much of the light crude oil the Braer was carrying dispersed quickly, but it is more toxic than the heavier crude oils which were carried by the Prestige and the Erika.

On the evening of 15 February 1996 the oil tanker Sea Empress, carrying crude oil to Milford Haven in South West Wales, ran aground at St Ann's Head in the entrance to the Milford Haven waterway. The spill affected the Pembrokeshire Coast National Park, and the main spill area affected 35 Sites of Special Scientific Interest, two national nature reserves (at Stackpole and Skomer), and one of the UK's three marine nature reserves (Skomer). Over the next seven days approximately 72,000 tonnes of light crude oil was released, mainly at low tide, and 480 tonnes of heavy fuel oil escaped whilst the vessel was being re-floated and towed to a jetty within the waterway. The total cost of the accident was estimated at £45 million for the clean-up and salvage operation, £90 million in economic costs, and £29 million in environmental impacts.

Is deepwater oil and gas production necessary during the UK's transition to a low carbon economy?

Deepwater oil and gas production is not necessary during the UK's transition to a low carbon economy because:

- The UK is already heavily reliant on imports to meet our needs for oil & gas, just as we are for food, cars, timber etc. Similarly we can also select more sustainable sources of these products, in the case of oil, only utilising oil from shallower offshore reserves (both imported and national) for the next five to ten years until deepwater exploitation is less risky, more sustainable and more technologically advanced.
- A proportion of the UK's oil & gas must be kept in reserve in order that we maintain security of supply for the UK's essential goods and services, even once we are in a low carbon economy (see answer to next question below).
- Further exploitation and availability at this time (when oil & gas is relatively plentiful) will only further put off the difficult decisions, investment and commitment needed in the UK's transition to a low carbon economy. This includes the UK's objective of delivering 32 GW energy from offshore wind that MCS supports, providing developments are located and installed to avoid damage to nationally and internationally important sites, species and habitats and to avoid areas of particular sensitivity where there should be a presumption against development.

To what extent would deepwater oil and gas resources contribute to the UK's security of supply?

The suggestion that deepwater oil reserves must be exploited today regardless of tomorrow is illogical, and counter to the "UK's security of supply". Security of supply of oil & gas (as well as fish, timber etc) should not be viewed as a short term objective for the next five or ten years or so, but rather a long term goal. As such we need to hold some oil in reserve and not exploit it, in order that in times of real need, due to real scarcity of supply as imports are restricted, or due to war, the critical services that the UK needs to operate can continue—such as trains, ships, hospitals etc. The UK oil & gas policy as presently drafted in the draft UK Marine Policy Statement is therefore misguided: "The UK's policy objective to maximize economic development of the UK's oil and gas resources reflecting their importance to the UK's economic prosperity and security of energy supply" (pp 45 draft UK Marine Policy Statement).

October 2010

Memorandum submitted by the National Audit Office

Introduction

1. The National Audit Office has prepared this Memorandum to help inform the House of Commons Energy and Climate Change Committee's inquiry into the implications of the recent oil spill in the Gulf of Mexico for UK deep water drilling. The oil spill followed an explosion on BP's Deepwater Horizon oil rig, which was operating in a water depth of some 5,000 feet. The explosion killed 11 operators, and resulted in an estimated 4.9 million barrels of oil leaking into the Gulf of Mexico. BP estimates that it applied some 1.8 million gallons of dispersant to break up the oil.[67]

2. The Committee wants to find out about the safety and environmental regulation of oil and gas operations on the UK continental shelf, especially in the deepwater to the west of the Shetland Islands, and the potential positive and negative impacts of a moratorium on deepwater drilling in UK waters. As part of its inquiry, the Committee is considering the extent to which the existing safety and environmental regulatory regime that applies to UK deepwater drilling is fit for purpose.

[67] See http://www.deepwaterhorizonresponse.com/go/site/2931/

3. This briefing provides an introductory description of the regulation of deepwater drilling and an overview of general regulatory principles that are relevant, but not specific to deepwater drilling.

4. The briefing presents the general principles and practices that characterise effective regulation, drawn from a series of National Audit Office reports on regulation, some of which were carried out jointly with the Better Regulation Executive.[68] We have also considered the latest data on offshore injuries and hydrocarbon releases, and reports by the Government Accountability Office on the offshore oil and gas regulatory regime in the United States. In this briefing we describe these principles and practices for effective regulation, and their relevance to assessing whether the regulation of UK deepwater drilling is fit for purpose. Based on this review we do not offer an assessment of the effectiveness of the regulatory regime for deepwater drilling.

Overview of the Regulation of UK Deepwater Drilling

5. The operators of fixed offshore installations and the owners of mobile installations operating in UK waters are required at all times to ensure that installations (including wells) are designed, managed and decommissioned in such a way to ensure the risks of unplanned escapes of oil, gas or other fluids, and the risks to people and the environment, are as low as reasonably practicable.[69] They are also required to comply with requirements under relevant European Community and international convention obligations that require, for example, environmental assessments to be carried out for oil and gas activities.[70]

6. The supporting regulatory regime for offshore drilling is based on a system of safety cases, permits, notifications, inspections and enforcement, under which environmental regulation is carried out independently from safety regulation.

Environmental Regulation

7. The Department of Energy and Climate Change ("the Department") has primary responsibility for the environmental regulation of offshore oil and gas activity including offshore drilling. The regulatory regime is largely prescriptive, with specific obligations detailed in the permits and other approvals that are issued for offshore oil and gas exploration and production, including the approvals of environmental impact assessments prepared by offshore oil and gas operators.

8. The Department monitors regulatory compliance and carries out environmental inspections to assess compliance with the conditions imposed under relevant regulations, to identify any preventative or remedial measures that may be required and to hold operators to account when they fail to comply.

9. In considering whether to authorise offshore drilling activities, the Department routinely seeks advice from other Government departments and statutory nature conservation agencies that also have a role in environmental regulation. The main departments and agencies involved are:

- The Department for the Environment, Food and Rural Affairs, through its own agencies, and Devolved Authorities advise the Department on the potential impact of offshore operations such as seismic surveys, rig location, pipeline laying, drilling and production operations, deposits in the sea and decommissioning, including providing advice in relation to dispersant and chemical use. It also represents the UK's environmental interests at OSPAR[71] conventions, although responsibility for the OSPAR offshore oil and gas industry work area is devolved to the Department of Energy and Climate Change.
- The Joint Nature Conservation Committee is the main government and oil industry advisor on the potential impact of offshore operations on conservation and protected habits and species during exploration, drilling, production and decommissioning. The relevant inshore statutory nature conservations bodies, such as Natural England, are also consulted where appropriate.
- The Maritime and Coastguard Agency is the main government advisor on the potential impact of offshore operations on navigational interests. It is responsible for counter pollution responses at sea, and maintains the "National Contingency Plan for Marine pollution from Shipping and Offshore Installations". All operators of offshore installations are required to prepare oil pollution emergency plans that must be approved by the Department which consults with the Agency as part of the review process.
- The Environment Agency and Devolved Authorities have statutory responsibility for issuing authorisations, licences and consents for emissions and discharges into UK coastal waters, as well as responsibility for monitoring, compliance and enforcement with the regulations covering such discharges. However, as its responsibilities only extend up to a three mile limit, it is not routinely involved in the regulation of any oil and gas activities.

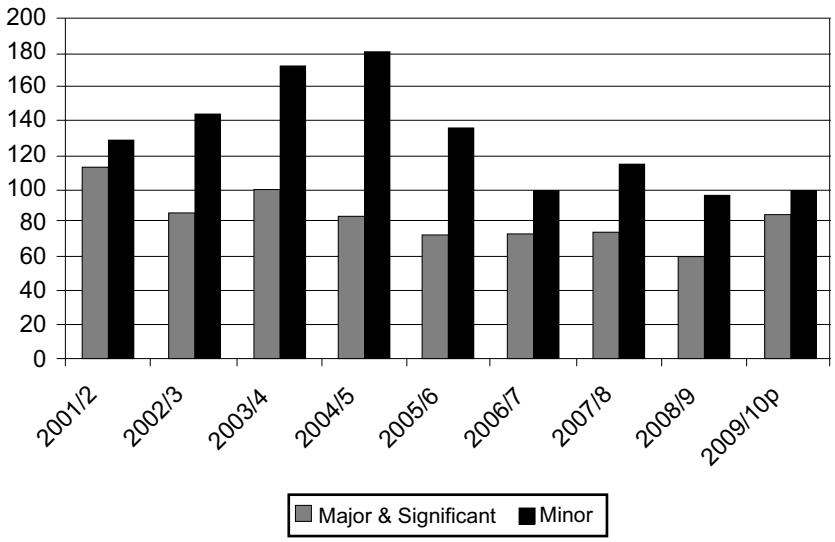
10. In August 2010, the Health and Safety Executive published its annual offshore statistics for 2009–10. These included the numbers of major and significant hydrocarbon releases, regarded as potential precursors to

[68] See http://www.nao.org.uk/sectors/regulation,_consumers/hampton_reviews.aspx
[69] Offshore Installations and Wells (Design and Construction, etc.) Regulations 1996, No. 913.
[70] The 1985 Council Directive on the Assessment of the Effects of Certain Public and Private Activities on the Environment (85/337/EEC).
[71] OSPAR: Oslo and Paris Conventions for the protection of the marine environment of the North-East Atlantic.

a major incident.[72] The number of hydrocarbon releases each year has followed a falling trend from 2001–02 to 2008–09 but increased in 2009–10 (Figure 1). The Health and Safety Executive has recently increased the level of its offshore investigations of all major and significant hydrocarbon releases to ensure that operators identify and address the causes of the increase. The statistics on hydrocarbon releases, which are provisional, do not identify the incidents that would have given rise to a loss of liquid hydrocarbon into the sea. The Department of Energy and Climate Change requires operators to separately supply it with details of such spills. During 2009, the Department was notified of 56 crude oil spills resulting in some six tonnes of crude oil being released to sea, which was a significant reduction on the previous year when 83 crude oil spills were notified and some 20 tonnes of oil were released.

Figure 1

OFFSHORE HYDROCARBON RELEASES 2001–02 TO 2009-10



Source: Health and Safety Executive, Offshore safety statistics bulletin 2009–10.

Health and safety regulation

11. The regulation of offshore health and safety is the responsibility of the Health and Safety Executive. It took on this responsibility from the former Department of Energy, following recommendations resulting from Lord Cullen's inquiry into the 1988 Piper Alpha oil rig disaster in the North Sea that claimed 167 lives. There are specific regulations that apply to offshore drilling.[73]

12. The health and safety regulations for offshore oil and gas are based on an approach that places the onus for health and safety on those who own, manage and work in offshore installations. The regime requires operators to prepare individual written safety cases and risk assessments for the design, operation and decommissioning of each oil and gas installation in UK waters, which must demonstrate that major accident hazards are adequately controlled and systems for managing safety are suitable. The Health and Safety Executive must accept safety cases before installations can be brought into use.

General Principles of Effective Regulation

13. The National Audit Office has not previously examined the effectiveness of the regulation of offshore oil and gas operations, but we have examined the general principles and practices that characterise effective regulation in a series of reports, some of which were carried out jointly with the Better Regulation Executive.[74] Our assessments of regulatory effectiveness have been informed by a model we developed (Figure 2) which identified the following six key elements for sound regulation:

- strategy, risk assessment and resource allocation;
- regulatory design;
- influencing industry;
- advice and guidance;
- inspections; and

[72] See http://www.hse.gov.uk/press/2010/hse-offshorestats.htm

[73] Currently, the Offshore Installations (Safety Case) Regulations 2005.

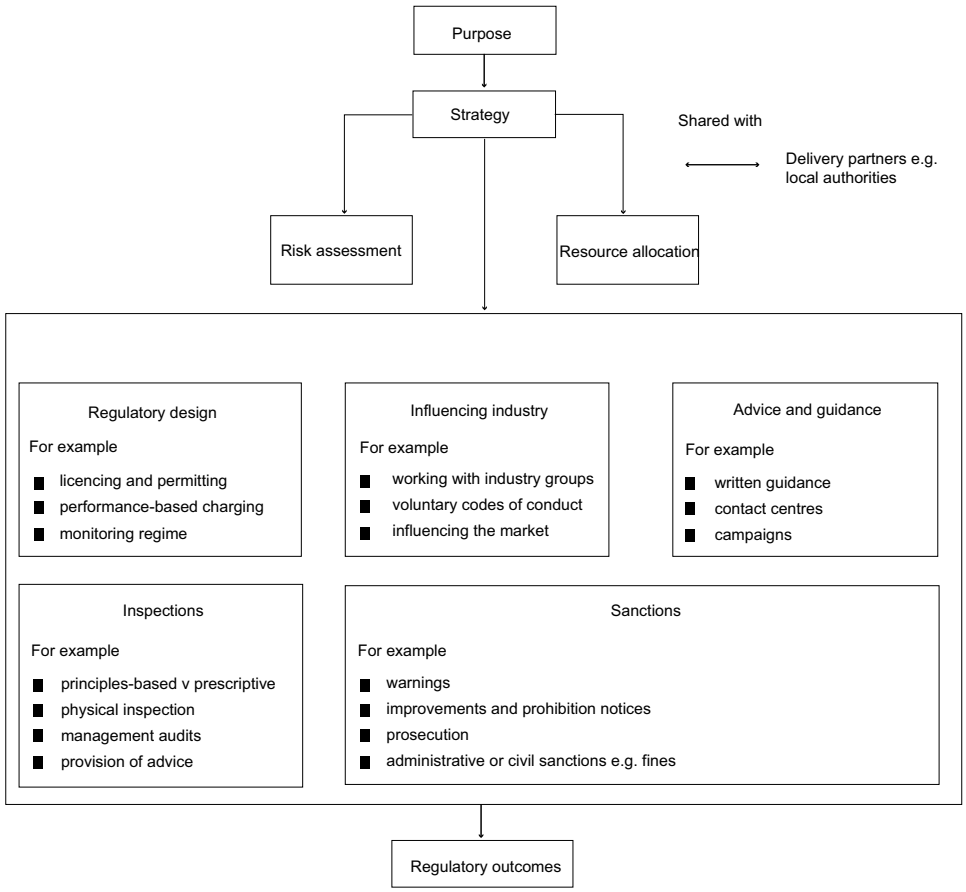
[74] See C&AG's report *Regulatory quality: how regulators are implementing the Hampton Vision*, July 2008 which brought together the findings from the first five reviews. Since that report, the Better Regulation Executive has carried out further reviews, with assistance from the National Audit Office, which we draw on in this briefing.

— sanctions.

14. The following sections describe the principles and practices that we consider characterise effective regulation under each of the six headings in our model and based on those principles, key features we would expect to see in place in the regulation of deepwater drilling.

Figure 2

A REGULATORY COMPLIANCE MODEL



Notes: This model was informed by the principles set out by Philip Hampton in *Reducing administrative burdens: effective inspection and enforcement,* HM Treasury, March 2005.

Source: C&AG's Report, Regulatory quality: how regulators are implementing the Hampton Vision, July 2008.

Strategy, Risk Assessment and Resource Allocation

15. Regulators should use a comprehensive risk assessment to concentrate their resources on areas that need them most. Their assessments should inform all aspects of the regulatory lifecycle, from selection and development of appropriate regulatory and policy instruments, through to data collection, inspection and prosecution of individual operators. Effective risk assessments require good quality data, should be kept up to date and implemented uniformly and impartially.

16. Regulators use a variety of models for assessing regulatory risk associated with individual types of business, which typically assess the potential danger or hazard, businesses' ability to manage the risk posed and their compliance history. Good information is essential to these assessments, and regulators therefore need to make effective use of all potential sources of information and intelligence about the businesses they regulate. Supporting information systems are needed to enable the efficient capture, collation, sharing and effective use of this information.

17. Risk assessments must also be kept up-to-date to address changes in underlying risk factors. Historically, most UK offshore drilling operations have been located in shallow waters, but the expansion of oil exploration in deeper waters to the west and north of the Shetland Islands could introduce new risks.

18. In assessing whether the regulation of deepwater drilling is fit for purpose, we would therefore expect to see evidence of:

— a standardised approach to risk assessment;

— effective use of information; and

— risk assessments regularly updated to reflect new information.

Regulatory Design

19. Regulatory design processes should be transparent, and should consider a range of design approaches, drawing on evidence of their likely effectiveness and cost-benefit. Regulations should be easily understood, implemented, enforced and proportionate. Regulators should monitor their effectiveness, and identify any opportunities for improving regulations where they have become out of date, or are not working effectively.

20. Trends in the number and nature of incidents provide one measure of the effectiveness of regulatory design. Any weaknesses in management information on compliance levels, enforcement activities and costs will make it difficult to readily quantify the total level of non-compliance, justify the level of resources required to tackle non-compliance or prove that resources are directed to where they have most impact.

21. A regulatory design that involves a number of regulators requires a clear approach to co-ordinating their activities. Regular contact is needed to provide opportunities to discuss matters such as joint-working arrangements, matters of common interest and, where appropriate, information sharing.

22. Over time, regulations can become out of date, for example where they fail to match current business practice or technology, or if organisational arrangements in regimes involving a number of regulators are not working effectively. In addition, some regulations simply do not work very well or impose disproportionate burdens on business compared to the benefits. Some regulators carry out post-implementation reviews of new regulations after a few years of operation. However, we have previously found that regulators do not always deal effectively with their back catalogue of existing regulations, assuming perhaps that regulations are useful or, at least, not harmful unless there is lobbying from business or other stakeholders for change.

23. In assessing the design of the regulation of deepwater drilling, we would therefore expect to see evidence that regulators are:

— co-ordinating their activities through effective governance arrangements;

— collecting and analysing information on the operation of the regime, to assess its effectiveness; and

— identifying opportunities to improve the design of regulations, if appropriate.

Influencing Industry

24. The provision of advice and guidance, and the threat of sanctions, can encourage businesses to comply with regulations. However, regulators should also aim to persuade business that it is in their interest to comply with regulations through informal means, for example, by working with trade associations.

25. Regulators employ a range of different methods aimed at influencing the business community. This can include consulting extensively with industry, to help businesses recognise the potential benefits to them and their employees of complying with relevant regulations. Some regulators have established committees that include industry representatives to provide forums for sharing information and promoting improved standards.

26. Regulators are also increasingly making information available to the public about the performance of regulated businesses, for example by publishing information on the type and location of pollution incidents, and rating the performance of individual companies in meeting environmental or safety regulations.

27. In assessing the effectiveness of regulators' ability to influence the offshore drilling industry, we would expect to see evidence that:

— they are making effective use of using a range of approaches that go beyond issuing formal guidance; and

— using the threat of sanctions to encourage compliance.

Advice and Guidance

28. Regulators typically place strong emphasis on providing advice and guidance to enable businesses understand what they need to do to comply with relevant regulations. Advice and guidance need to be clear; written in plain English and seek to make complicated legislative requirements comprehensible. They also need to be underpinned by an overarching strategy that shows what the provision of advice is intended to achieve, and how its effectiveness will be measured.

29. We have found in our assessments of individual regulators examples of good practice in the provision of advice and guidance. These include working with industry to determine what advice and guidance is most useful to business, how the guidance can be simplified to convey its meaning most clearly and what format to provide it in.

30. In assessing the effectiveness of advice and guidance for deepwater drilling, we would expect to see evidence that:

— guidance is readily accessible, simple and clear and unambiguous in explaining the obligations that individual businesses have;

— resources are targeted at forms of communication that are the most effective and efficient; and

— regulators have worked with industry to check that guidance meets their needs.

Inspections

31. Our reviews of regulators in sectors other than oil and gas have identified that regulators place reliance on inspections as their principal means of monitoring and enforcing compliance. Inspections should follow a risk-based approach, so that companies and activities more likely to breach regulations are targeted more often for inspection, and the regulatory burden on companies which comply is minimised. Selection criteria and the inspection approach should reflect the risk of non-compliance, taking into account the nature of a business, systems for managing risk and past performance. We have identified that regulators have not always been successful in integrating their risk assessments with inspection activity or, where two or more regulators are inspecting the same company, coordinating risk-based inspections.

32. The quality of inspections is dependent on the skill and experience of inspectors, and suitable training frameworks must be maintained to ensure that inspectors develop and maintain the right skills and experience. Inspection skills can vary between, and within individual regulators, which can result in inconsistencies in the way inspections are planned and conducted and in businesses receiving less value from the inspection.

33. A significant factor determining the resources regulators apply to inspection activity is their view of the usefulness of inspections in delivering their overall outcomes. Regulators, in the sectors we have examined have, however, typically found it difficult to "prove" that inspection works due to the influence of external factors. It is therefore largely a matter of judgement to decide what the right level of inspections should be. In making these judgements, regulators take account of their perception of public attitudes to risk and the need to provide assurance that they are sufficiently investigating and prosecuting companies that fail to comply with regulations. Following the Deepwater Horizon incident, the Secretary of State announced in June 2010 plans to double the number of annual environmental inspections of mobile drilling units undertaken by the Department.[75]

34. Increased interest in oil and gas exploration west of the Shetland Islands is likely to lead to an increase in deepwater drilling activity in UK waters as more oil and gas companies seek to exploit those resources and search for new reserves. The resourcing and targeting of inspections will need to take into account any increases in the number of companies involved that are seeking to explore and drill in new sites.

35. In assessing the effectiveness of the inspection of deepwater drilling activities, we would expect to see evidence that:

— inspections are targeted according to risk and changes in risk;

— the reasons for any changes in inspection activity are clear; and

— inspection programmes are adequately resourced with the right number of inspectors possessing the right skills.

Sanctions

36. Sanctions should act as an effective deterrent and penalties should be proportionate to both the seriousness of the breach and any commercial gain resulting from it. If businesses persistently break regulations, they should be identified quickly and face proportionate and meaningful sanctions. If sanctions are insufficient or if regulators delay in applying sanctions, companies may be more likely to take the view that non-compliance is financially viable.

37. Regulators need to have systems that ensure sanctions are applied on a fair and consistent basis. We found that the systems used by the regulators we examined generally do work. Regulators apply a graduated response to breaches of regulation in accordance with their published policies, which set out the types of factors they consider in escalating their response from written warning to civil injunction or prosecution, such as nature of the breach, the harm caused and previous history.

38. Sanctions must offer a sufficient level of deterrence compared with any potential benefits of not complying if they are to be effective. Where prosecution and fines imposed by the courts have not provided an effective deterrent, regulators may have recourse to civil powers. We have found that the use of non-financial sanctions, such as suspending licences, can sometimes provide a more effective deterrent against non–compliance, particularly for repeat offenders.

39. In assessing the effectiveness of sanctions for deepwater drilling, we would expect to see evidence that:

— sanctions are acting as an effective deterrent; and

[75] Department of Energy and Climate Change Press Release, *UK Increases north sea rig inspections*, June 2010.

— regulators are using civil and non-financial sanctions, where available, if there is evidence to suggest that fines are too low to act as an effective deterrent.

October 2010

Memorandum submitted by Caroline Lucas MP

1. Following press reports on 1 October of an announcement by DECC on that drilling is to be permitted at Lagavulin, West of Shetland, I contacted Chris Huhne's private office to ask how the announcement was made. There were no details of the announcement made on the DECC website and, despite repeated requests on how the announcement was made, I have still not been told. On the date of writing I can still find no details of the announcement or how it was made on the DECC website. It would be helpful to know both how the announcement was made and why it was made in recess, just a couple of weeks after the September sitting and just ten days before the House was due to return on 11 October.

2. I wrote to the Secretary of State, Chris Huhne, to express my concern that the announcement had not been made to Parliament, thus denying MPs the chance to scrutinise. In response the Secretary of State referred to his statement on the floor of the House on 14 June on the issues surrounding the BP disaster in the Gulf of Mexico. He also made reference to the work being done by the Climate Change Select Committee. However, I responded to point out that neither provided a substitute for a debate on the announcement that drilling is to be permitted at Lagavulin.

3. On the work of the DECC Select Committee, I understand that the Committee is not expecting to report until the end of this year or possibly early 2011**. It is scandalous that the Government has taken its decision before the Committee's Inquiry is complete.** The very purpose of the Committee's work is to assess whether there should be a moratorium on deepwater drilling, as this from the Committee's website makes clear:
The Committee wants to find out about the safety and environmental regulations of oil and gas operations on the UK continental shelf—especially in the deepwater to the west of the Shetlands—and the potential positive and negative impacts of a moratorium on deepwater drilling.[76]

4. Turning to the 14 June Statement, the Secretary of State clearly indicated that there was a need for detailed analysis of the factors that caused the Gulf incident **before** exploration begins in the deep waters west of Shetland.

For ease of reference the relevant *Hansard* record of this is below:

> **14 Jun 2010 : Column 630**
>
> It is my responsibility to make sure that the oil and gas industry maintains the highest possible standards in UK waters, and I have had an urgent review undertaken. It is clear that our safety and environmental regulatory regime is already among the most robust in the world, and the industry's record in the North sea is strong. However, as exploration begins in deeper waters west of Shetland, we must be vigilant. Initial steps are already under way, including a doubling of the Department's annual environmental inspections of drilling rigs. I will also review our new and existing procedures as soon as detailed analysis of the factors that caused the incident in the gulf of Mexico is available. That will build upon the work already begun by the newly-formed Oil Spill Prevention and Response Advisory Group. Given the importance of global deep-water production during our transition to a low-carbon economy, I will also ensure that lessons and practice are shared with relevant regulators and operating companies.

5. However, the Committee will be aware, and the Secretary of State acknowledged in his letter to me, that US formal investigations into the factors that caused the Gulf incident will not be complete until 2011. It cannot be called "vigilant" to make the decision to permit drilling before the review that you promise will take place can be undertaken.

6. In his letter to me, the Secretary of State used the track record of offshore drilling in the UK as a justification for the decision to go ahead with drilling at Lagavulin before the Gulf investigation is complete. However, only a small percentage of UK deep water wells have been sunk in the Atlantic Frontier / West of Shetland. It is not reasonable to say "West of Shetland will be fine because we have dug hundreds of deep wells in the UK and they've been fine" because the industry simply doesn't have a significant experience of working in this region. Working here is very different from drilling shallow wells in the North Sea.

7. The oil industry has been reticent to develop deep water West of Shetland because of its remoteness, the technical difficulties in extracting oil and the high cost of doing so. It is only because of recent tax breaks the previous government, and now the coalition, have given to the oil industry to support development of new unconventional UK fields that companies are gearing up to go there.[77] The Committee will know that this is an extreme and hostile environment with very deep waters (Lagavulin, though not the deepest ever UK well—that was around 1,900m—is, at 1,569m, very deep and technically very challenging), strong winds, currents, big waves and cold temperatures.

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[76] http://www.parliament.uk/business/committees/committees-a-z/commons-select/energy-and-climate-change-committee/inquiries/uk-deepwater-drilling/

[77] See http://www.publications.parliament.uk/pa/cm201011/cmgeneral/deleg3/100720/100720s01.htm for more.

8. The Committee will also be aware that the Health and Safety Executive (HSE) this year issued a stern warning over the increase in both serious accidents and spilled oil in UK waters, labelling the industry's performance "*not good enough*." The HSE's head of Offshore Division added, "*I am particularly disappointed, and concerned, that major and significant hydrocarbon releases are up by more than a third on last year. This is a key indicator of how well the offshore industry is managing its major accident potential, and it really must up its game to identify and rectify the root causes of such events*."[78] Again, this represents another reason why it is not acceptable to casually rely on the notion of a "strong track record".

9. To conclude, DECC granted drilling consent before either the Select Committee scrutinising this policy area had finished its inquiry and before the formal US investigations have been completed. The announcement was not made to Parliament, was not posted on the DECC website and I still haven't been told how it was made despite repeated requests. The Government is rushing ahead with new deepwater drilling with no care for a precautionary approach and should be condemned for its actions. I very much hope the DECC Select Committee will call for the Government to introduce a moratorium on new deepwater drilling, at the very least, until it has concluded its Inquiry and the US formal investigation has reported.

November 2010

Memorandum submitted by the RMT

To what extent is the existing UK safety and environmental regulatory regime fit for purpose?

Offshore Safety Representatives, the need for greater powers

The RMT represent 4,000 workers in the offshore sector.

The powers of offshore safety regulations are set out in the Law. The "Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989" (SI 971) have existed for over 20 years. During this time there have been only minor changes to the regulations.

We believe ample evidence exists today to support a complete revision of these regulations and specifically with regards to enhancing the powers of elected Safety Representatives.

Ever since the SI 971 regulations came into being there has been ongoing debate about improving "workforce involvement" to improve the industry's safety performance. Countless studies and reports have been produced by various groups down the years about the levels of "involvement" and how this might be improved. Today the topic features prominently in the industry driven "Step Change in Safety" forum and the tri-partite group "Offshore Industry Advisory Committee" (OIAC) which includes representatives from HSE, industry and trade unions.

Over the last few years the issue of "workforce involvement" has had greater emphasis as a number of HSE reports have been produced. In 2007 the HSE produced their "Key Programme 3" (KP3) report, which was a three-year inspection initiative looking at "asset integrity".
www.hse.gov.uk/offshore/kp3.pdf

The HSE findings raised significant concerns regarding the maintenance of safety-critical systems in the industry. In July 2008 after a parliamentary debate, the Secretary of State for Work and Pensions commissioned the HSE to conduct a review of the industries progress on asset integrity.

In July 2009 the HSE published their findings, "KP3—Asset Integrity; A review of industry's progress".
www.oilandgasuk.co.uk/issues/health/kp3.pdf A significant section of this report placed great emphasis on the need for greater workforce involvement;
www.hse.gov.uk/offshore/kp3workforceinvolvement.pdf

To this end the HSE commenced an inspection programme looking specifically at industry compliance with SI 971 and how effective the regulations are. **Surprisingly, there had never been such an inspection previously in the 20 years of HSE being the regulator.**

Since KP3 and the subsequent KP3 review, the HSE has launched a new project, "Ageing & Life Extension Inspection Programme" or KP4. As the title suggests, this project will look at the effect of installation ageing and how this is managed to ensure installation integrity and safety critical systems are maintained.
www.hse.gov.uk/offshore/ageing.htm Given the obvious HSE concerns about ageing assets, added to the ongoing concerns about asset integrity, we believe that Safety Reps have a fundamental and vital role to play in ensuring that asset integrity issues are properly managed.

If evidence were needed to support the concerns of HSE, we need only consider the fact that Hydrocarbon releases have increased this last reporting year, with major and significant releases up to 85 from 61 the previous year. Additionally, major injuries have also increased during the last reporting year, up to 50 from 30 the previous year.
www.hse.gov.uk/offshore/statistics/stat0910.htm And still fresh in the minds of all are the horrifying pictures of Deepwater Horizon, the deaths of 11 men and the devastation of the US coast in the immediate region.

[78] http://www.shponline.co.uk/news-content/full/offshore-industry-warned-over-major-accident-potential

The SI 971 inspection project report referred to is scheduled to be completed by end November 2010. However, provisional data indicates that almost 80% of installations inspected would need to improve their application of SI 971. (The final report should be available very shortly.

In addition to this inspection programme there has been several "workforce involvement" events organised by a sub-committee of OIAC, the Workforce Involvement Group (WIG), where workers from across the industry have come together to discuss how workforce involvement could be improved. The main finding from these events has been that Safety Reps require further extensive training in order to become effective and therefore fully "involved". There is one further event scheduled for 30th November.

The WIG sub-committee also commissioned a survey of workers during early 2009 asking questions to try and gauge the levels of "involvement" (see KP3 review). This survey found that around 85% of workers felt they were "involved" in safety, however, less than 30% had ever had any involvement and/or consultation in their respective installation Safety Case. It is the Installation Safety Case which determines how the integrity and safety critical systems of an installation are managed. These are the areas which HSE are most concerned about. It therefore follows that where greater workforce involvement in the Safety Case can be achieved, there will be greater scrutiny by the workforce of the areas of concern—platform integrity, safety critical systems and ageing infrastructure. To achieve this, Safety Reps will require further training.

To support the opinion on the need for more training of Safety Reps, the training providers currently running the existing "five-day basic safety rep course" have been consulted and they all report that delegates indicate their desire for more extensive training. After the 30 November WIG event, the group will file a report to OIAC collating all of the information gathered from the HSE inspection report, feedback from the WIG events, and information from the training providers. The WIG group will thereafter be calling on OIAC to make a recommendation to industry that more specialised training for elected Safety Reps should be provided. However, this will only be a "recommendation".

We believe that we need more than a recommendation. We want to see more specialised training become a statutory entitlement, by having it written into the SI971 Regulations and specifically training in:

- Principles of Risk Assessment.
- Root Cause Analysis—accident/incident investigation.
- Major Hazard Awareness.
- Development of Safety auditing/Inspection skills.
- Communication skills—Presentation; Negotiation; Interpersonal; Meeting Organisation.

Currently under SI 971 there is only a requirement to provide a five-day basic safety rep course, with a clause (Reg 27) suggesting that any other training considered "reasonable" should be provided. This differs significantly from onshore, albeit more extensive training tends to be incorporated into industries where meaningful trade union recognition exists. Unfortunately, due to the nature of the existing offshore recognition arrangements (sweetheart deals with Unite) this route to securing more training is virtually a non-starter.

So, Safety Reps should have the statutory power to insist on more training and we want this incorporated into SI 971. We also believe that once properly trained they should use the existing powers of SI 971 to conduct regular inspections. We believe an additional power should be incorporated into those powers of inspection in the form of the **right to issue "Provisional Improvement Notices"** (PIN). A Safety Committee or individual Safety Rep should have this statutory power, as we believe this would be a significant deterrent to bad practice and especially when dealing with installation integrity and safety critical issues. The respective installation manager served a PIN should be required to forward the PIN to the next senior onshore manager and the relevant HSE Inspector.

It is also important to note that in response to the Deepwater Horizon incident in the Gulf of Mexico the EU Commissioners are calling for an EU wide standard on health and safety practice, or in industry speak—adoption of best practice in Europe.

In line with EU Commissioners calls, we want to see the adoption of the Norwegian standards applicable to safety reps including greater worker involvement, training and also enforcement powers.

December 2010

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