National Audit Office

MEMORANDUM FOR THE HOUSE OF COMMONS ENERGY AND CLIMATE CHANGE SELECT COMMITTEE

OCTOBER 2010

Energy and Climate Change Committee inquiry into UK deepwater drilling

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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.[1]

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.

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.[2] 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.[3] They are also required to comply with requirements under relevant European Community and

[1] See http://www.deepwaterhorizonresponse.com/go/site/2931/
[2] See http://www.nao.org.uk/sectors/regulation,_consumers/hampton_reviews.aspx
[3] Offshore Installations and Wells (Design and Construction, etc.) Regulations 1996, No. 913

international convention obligations that require, for example, environmental assessments to be carried out for oil and gas activities.[4]

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[5] 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.

[4] The 1985 Council Directive on the Assessment of the Effects of Certain Public and Private Activities on the Environment (85/337/EEC).
[5] OSPAR: Oslo and Paris Conventions for the protection of the marine environment of the North-East Atlantic.

- 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.

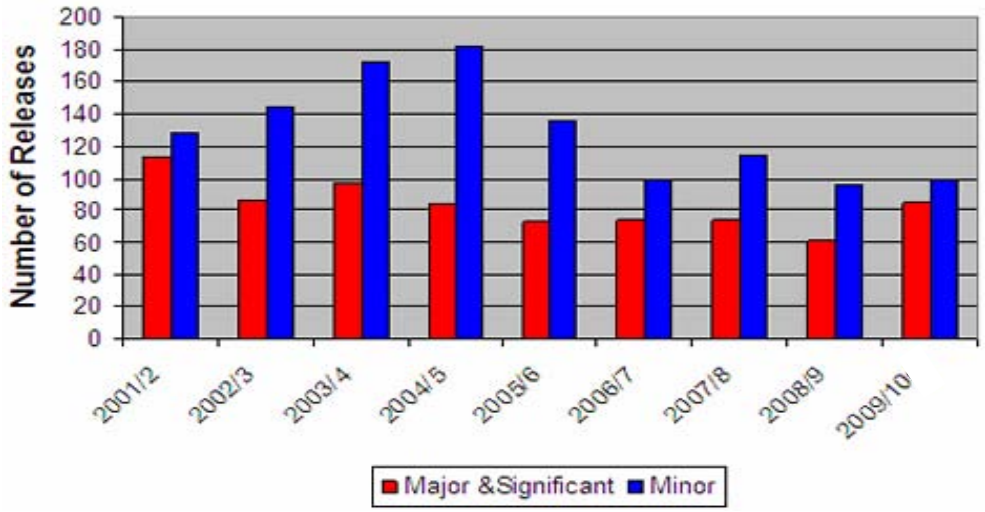
- The Environment Agency and Devolved Authorities have statutory responsibility for issuing authorisations, licences and consents for emissions and discharges into UK coastal waters, as well as responsibility for monitoring, compliance and enforcement with the regulations covering such discharges. However, 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 a major incident.[6] 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 to sea. The Department of Energy and Climate Change requires operators to separately supply it with details of such spills. During 2009, it was notified of 56 crude oil spills resulting in some 6 tonnes of crude oil being released into the 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.

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

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.[7]

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.

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

General principles of effective regulation

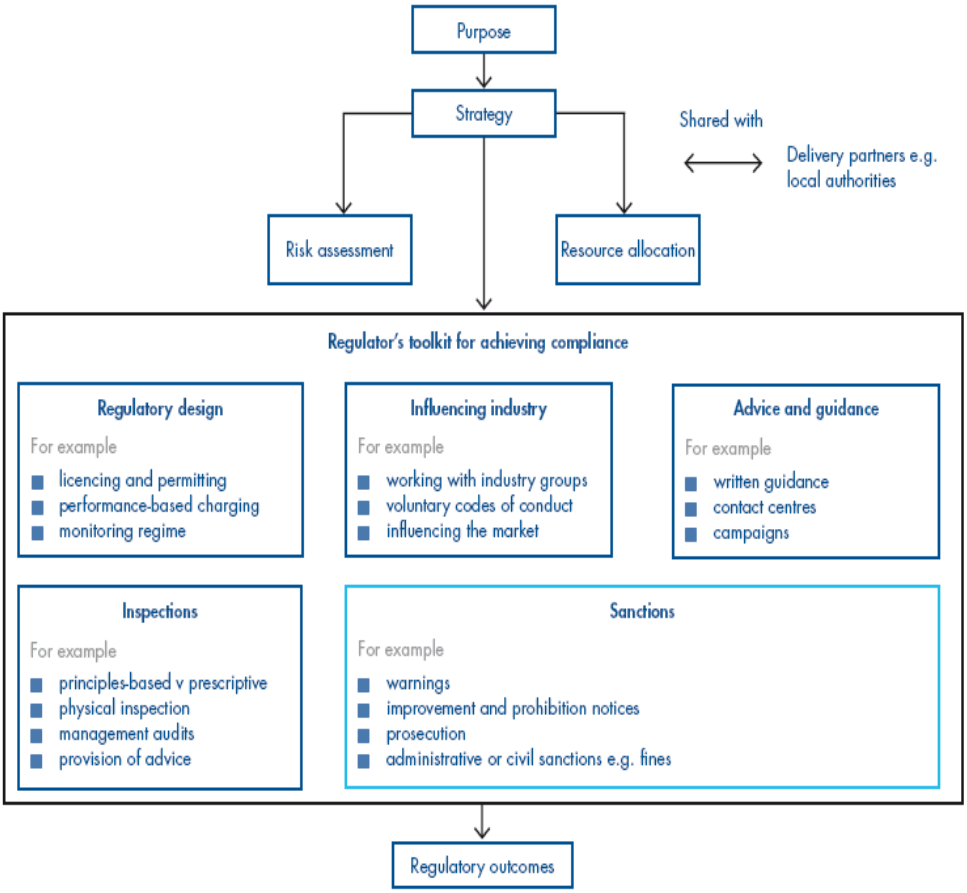
13 The National Audit Office has not previously examined the effectiveness of the regulation of offshore oil and gas operations, but we have examined the general principles and practices that characterise effective regulation in a series of reports, some of which were carried out jointly with the Better Regulation Executive.[8] 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
- 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.

[8] 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.

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.[9]

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

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

- 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

- 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.