### 3 REGULATORY CONTEXT

#### 3.1 Introduction

DTI Licensing and Consents Unit is responsible for licensing exploration and regulating development of the UK's oil and gas resources.

### 3.2 Licensing

A brief overview of the offshore or "Seaward" licensing process is given below, more detail can be found on the DTI's website at <a href="https://www.og.dti.gov.uk/upstream/licensing/index.htm">www.og.dti.gov.uk/upstream/licensing/index.htm</a>.

The various orders made under the *Continental Shelf Act 1964* which designated areas of the UK continental shelf for hydrocarbon and mineral exploration, were consolidated up to that point by the *Continental Shelf (Designation of Areas) (Consolidation) Order 2000 SI 2000 No. 3062.* This has since been amended by further *Continental Shelf (Designation of Areas) Orders.* 

The *Petroleum Act 1998*, entered into force in 1999 and consolidated a number of provisions previously contained in five earlier pieces of primary legislation. The Act vests ownership of oil and gas within Great Britain and its territorial sea in the Crown, and gives Government rights to grant licences to explore for and exploit these resources and those on the UK Continental Shelf (UKCS). Regulations set out how applications for licences may be made, and specify the Model Clauses to be incorporated into the licences.

There are two types of Seaward Licences:

- Exploration Licences which are non-exclusive, permit the holder to conduct non-intrusive surveys, such as seismic or gravity and magnetic data acquisition, over any part of the UKCS not held under a Production Licence. Wells may be drilled under these licences, but must not exceed 350 metres in depth without the approval of the Secretary of State. These licences may be applied for at any time and are granted to applicants who have the technical and financial resources to undertake such work. Each licence is valid for three years, renewable at the Secretary of State's discretion for one further term of three years. Exploration licence holders may be commercial geophysical survey contractors or Production Licence Operators. A commercial contractor acquiring data over unlicensed acreage may market such data.
- Production Licences grant exclusive rights to holders "to search and bore for, and get, petroleum", in the area of the licence covering a specified block or blocks. The Traditional Licence is valid for a sequence of periods or "Terms". These Terms are designed to follow the typical exploration, appraisal, production lifecycle of a field. Each Licence expires automatically at the end of each Term, unless the Licensee has made enough progress to earn the chance to move into the next Term.

Following a consultation exercise conducted during 2002, the DTI introduced a new variant of the Production Licence (the "Promote" Licence) designed to increase the amount of oil and gas activity in the UKCS. "Promote" Licences were offered alongside Traditional Production Licences for the first time during the 21<sup>st</sup> offshore licensing round.

The "Promote" Licence initiative is aimed at harnessing the skills, knowledge and energy of the wider geotechnical community. The general concept of the "Promote" Licence is that Licensees will be given two years after award to attract the technical and financial

capacity to complete an agreed Work Programme. In effect, DTI will defer (not waive) its financial, technical and environmental checks until the preset Check Point. Promote Licensees are not allowed to carry out field operations such as seismic or drilling until they have met the full competence criteria.

In recent years, two other variations of the Traditional Production Licence have also been offered. These are the "Frontier" Licence, which is crafted to match the operating challenges in the deepwater areas to the west of Britain, and Licences specially drafted to cover the redevelopment of a decommissioned field such as the Ardmore (formerly the Argyll) field.

Offshore activities carried out under an Exploration or Production Licence require the consent of the Secretary of State and compliance with other legislative provisions and specific conditions attached to the consent – see below.

### 3.3 Control of operations

There is a wide range of International, European Union, UK and industry measures aimed at protecting the marine environment. Diverse international agreements, conventions and legislation apply to offshore activities including:

- The International Maritime Organization (IMO) was established by means of a Convention adopted under the auspices of the United Nations and is responsible for measures to improve the safety of international shipping and to prevent marine pollution from ships. The IMO International Convention for the Prevention of Pollution from Ships. 1973, as modified by the Protocol of 1978 (commonly referred to as MARPOL 73/78) contains six annexes covering pollution by oil, noxious liquids carried in bulk, harmful substances in packaged form, sewage, garbage and air pollution. MARPOL applies to shipping of various types and in part to oil rigs and production installations. Under an amendment to MARPOL the North West European waters were designated a "special area" where discharge into the sea of oil or oily mixture from any oil tanker and ship over 400 gross tonnes is prohibited. In July 2003, the IMO's Marine Environment Protection Committee (MEPC) agreed a finalised draft of a proposed International Convention for the Control and Management of Ships' Ballast Water and Sediments. It is estimated that about 10 billion tonnes of ballast water is transferred globally each year, potentially transferring from one location to another species of marine life that may prove ecologically harmful when released into a non-native environment. There is a proposal with the IMO MEPC for an area of north-western European waters stretching from the Shetland Isles to Portugal to be designated as a Particularly Sensitive Sea Area (PSSA). A PSSA is an area requiring special protection because of its significance for recognised ecological, socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities. Specific measures can be used to control the maritime activities in the PSSA, such as vessel routeing, and strict application of MARPOL discharge and equipment requirements for ships.
- OSPAR is the Convention for the Protection of the Marine Environment of the North East Atlantic 1992 which entered into force in March 1998. OSPAR amalgamates the principles of the 1972 Oslo and 1974 Paris Conventions and requires the application of:
  - the precautionary principle
  - the polluter pays principle

 best available techniques (BAT) and best environmental practice (BEP), including clean technology

There are currently five annexes to the convention in force:

- Annex I: Prevention and elimination of pollution from land-based sources
- Annex II: Prevention and elimination of pollution by dumping or incineration
- Annex III: Prevention and elimination of pollution from offshore sources
- Annex IV: Assessment of the quality of the marine environment
- Annex V: Protection and conservation of the ecosystem and biological diversity of the maritime area
- Under the 1987 United Nations Agreement on substances that deplete the ozone layer (the Montreal Protocol), governments agreed to phase out production and use of chlorofluorocarbons (CFCs), halons and other chemicals that destroy ozone in the stratosphere. The Protocol has been periodically reviewed and strengthened in the light of new scientific evidence. The EC implemented the revised Protocol through Regulation 3093/94. The UK has been able to meet the requirements of the Protocols largely through voluntary co-operation with industry and consumers.
- The Convention on Environmental Impact Assessment in a Transboundary Context was signed in 1991 (the Espoo Convention). This applies to various major activities with the potential to cause transboundary effects and includes offshore hydrocarbon production and large diameter oil and gas pipelines. Projects need to be screened for the potential transboundary effects and an Environmental Impact Assessment and international consultation conducted if necessary.
- The United Nations Framework Convention on Climate Change was signed in 1997 (the Kyoto Protocol) and forms a basis for reductions of greenhouse gas emissions. Six priority gases were identified including carbon dioxide, methane and nitrous oxide. The measures to be taken are to be decided by individual nations.
- The United Nations Convention on Biodiversity (the Rio Convention) was opened for signature at the Rio Earth Summit (1992) and aims to promote the conservation of biological diversity, the sustainable use of its components and the sharing of the benefits of genetic resources. Specific programmes are required for the identification of important components of biodiversity and their understanding and protection (see also OSPAR Annex V). The UK has published a biodiversity action plan (and various subsidiary plans) as part of its implementation of the Convention.
- The International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC), 1990 entered into force in 1995 and provides a framework for international co-operation in combating major incidents or threats of marine pollution. The UK has established Regulations to implement the convention – see below.
- Norway and the UK have developed the Norbrit Agreement (The Norway-United Kingdom Joint Contingency Plan) for joint counter pollution operations in the zone extending 50 miles either side of the median line separating the UK and Norwegian continental shelf. The Norbrit Agreement sets out command and control procedures for pollution incidents likely to affect both parties, as well as channels of communication and resources available.

- The UK is party to the Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or the Bonn Convention) which aims to conserve terrestrial, marine and avian migratory species throughout their range through international co-operation. The UK is party to several agreements which have been concluded to date under the auspices of CMS, e.g. the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS). Note: the ASCOBANS area was extended in August 2003 to include areas of the Atlantic to 15° West.
- The UK is a party to the Convention on Wetlands which was adopted in Ramsar in 1971, and came into force in 1975.

There are numerous pieces of legislation applicable to UK offshore oil and gas activities and a summary of the main environmental controls is given below. As the majority of international and EU measures require UK legislation for implementation, the list below focuses primarily on UK legislation with reference to relevant European or International legislation where this aids clarity. Copies of recent source legislation may be reviewed at <a href="https://www.hmso.gov.uk">www.hmso.gov.uk</a>.

Note - Any development within SEA 5 nearshore waters will be subject to controls additional to those described below, for example, discharges to controlled waters would also come under the remit of the Scottish Environment Protection Agency through the Water Resources Act 1991 as amended by the Environment Act 1995 and associated regulations.

#### **Aspect or Activity**

#### **Notes**

#### Approvals/Consents for Developments and Wells

The *Petroleum Act, 1998* provides the basis for granting licences to explore for and produce oil and gas. Production licences grant exclusive rights to the holders to "search and bore for, and get, petroleum" in specific blocks. Many of the detailed regulatory provisions are laid down in conditions attached to Licences. These conditions ("Model Clauses") are published in secondary legislation. In the past, they have been incorporated into each Licence by means of a single short paragraph, but with the 20th round they were set out in full in each Licence. A number of different sets of Model Clauses were gathered together in the *Petroleum (Current Model Clauses) Order 1999 (No 160)*. It is the Licensee's responsibility to ensure that relevant conditions are not breached.

Under the terms of a Production Licence, Licensees require the authorisation of the Secretary of State before installing facilities or producing hydrocarbons. Approval for development programmes and consent for wells, extended well tests, incremental projects and production consents are contingent on complying with the requirements of the Offshore Petroleum Production and Pipe-lines (Assessment of Environmental Effects) Regulations 1999.

The Offshore Petroleum Production and Pipe-lines (Assessment of Environmental Effects) Regulations 1999 implement the 1985 and 1997 EC Directives on the "Assessment of the effects of certain public and private projects on the environment" with regard to the offshore oil and gas industry. The regulations require an Environmental Impact Assessment (EIA) and a public consultation document, an Environmental Statement (ES) to be submitted for certain projects including new developments with expected production >500 tonnes of oil/day or 500,000 cubic metres of gas/day.

A number of projects (very small developments below the thresholds above, the drilling of wells, extended well tests, modifications to existing developments and small to medium-sized pipelines) may not need an ES to be prepared if a preliminary assessment demonstrates to the satisfaction of the Secretary of State that the project is unlikely to cause a significant adverse environmental impact. In such circumstances a direction from the Secretary of State may be sought that an ES is not required using the appropriate *Petroleum Operations* 

*Notice* (PON15). The PON15 must, as far as possible, be a stand alone document and contain sufficient information about the proposed project, its expected location and an environmental assessment to provide a basis for a determination to be made.

The Coast Protection Act (CPA) 1949 (as extended by the Continental Shelf Act 1964), provides that where obstruction or danger to navigation is caused or is likely to result, the prior written consent of the Secretary of State for the DTLR (now Department for Transport) is required for the siting of the offshore installation - whether mobile or permanent - in any part of the UK designated areas of the Continental Shelf. In practice, this means that consent must be obtained for each drilling operation and for all offshore production facilities.

Offshore safety zones (500m in radius) are automatically established for fixed and floating installations. Safety zones for subsea production installations and wells to minimise potential damage from third party activities (anchoring, fishing) may be established by Order following an application from the Operator.

Approvals/Consents for Pipelines

The *Petroleum Act, 1998* requires an authorisation (Pipeline Works Authorisation) from the DTI for the use of or works for the construction of a submarine pipeline. The application process includes a formal consultation process. The authorisation may include conditions for the design, route, construction and subsequent operation of the pipeline. The Pipeline Works Authorisation process has been streamlined and also includes consenting for the placement of concrete mattresses and rock dumping (DEPCON).

The Offshore Petroleum Production and Pipe-lines (Assessment of Environmental Effects) Regulations 1999 require an environmental impact assessment and an ES to be submitted for certain projects including new pipelines >40km in length and 800mm in diameter.

Small to medium-sized pipelines may not need an ES to be prepared if a preliminary assessment demonstrates to the satisfaction of the Secretary of State that the project is unlikely to cause a significant adverse environmental impact. In such circumstances a direction from the Secretary of State may be sought that an ES is not required using the appropriate PON15. The PON15 must, as far as possible, be a stand alone document and contain sufficient information about the proposed project, its expected location and an environmental assessment to provide a basis for a determination to be made.

Approval of the Pipeline Works Authorisation is contingent on complying with the above requirements.

Activities which may Potentially Affect SACs, SPAs or other Protected Conservation Interests A consultation exercise was launched in August 2003 on draft regulations, the Offshore Marine Conservation (Natural Habitats &c.) Regulations, which would apply Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora and the Council Directive of 2 April 1979 on the conservation of wild birds (79/409/EEC) to the UK Continental Shelf and waters beyond 12 nautical miles from the baselines over which the UK exercises sovereignty. The regulations would afford protection to species listed by the directives, primarily cetaceans, turtles, certain fish and birds, as well as requiring Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) to be identified and protected.

The Offshore Petroleum Activities (Conservation of Habitats) Regulations, 2001 implement the above directives in relation to oil and gas activities carried out in whole or in part on the UKCS. The DTI's Oil and Gas Directorate is the Competent Authority. The Secretary of State will, where it is considered that an activity completed under a project consent may have a significant effect on a Special Area of Conservation (SAC) or Special Protection Area (SPA), conduct an Appropriate Assessment (AA) prior to granting the consent. In territorial waters (12nm) the above Directives are implemented by the Conservation (Natural Habitats, &c.) Regulations 1994., birds, marine mammals and other wildlife also receive protection under the Wildlife and Country Side Act 1981 (as amended) and the Countryside and Rights of Way Act 2000 which updates Wildlife and Countryside Act.

## Consents for Seismic Surveys

The Offshore Petroleum Activities (Conservation of Habitats) Regulations, 2001 require prior consent in writing from the DTI for the conduct of geological surveys outside territorial waters – this includes seismic surveys, rig site surveys and pipeline route surveys. Application for consent is made using Petroleum Operations Notice No 14 (PON14) supported by an Environmental Narrative to enable an accurate assessment of the environmental effects of the survey. Consultation with Government Departments and other interested parties is conducted prior to issuing consent.

Surveys in territorial waters (i.e. from the low water mark up to 12 nautical miles offshore) are covered by the *Conservation (Natural Habitats &c) Regulations* 1994 (as amended). For surveys wholly or partially in territorial waters a PON14b is used to notify the DTI with an accompanying environmental narrative and consultations as above.

The application of the *JNCC Guidelines for Minimising acoustic disturbance to marine mammals from seismic surveys (JNCC Guidelines www.jncc.gov.uk)* are a strict condition of consent for all seismic surveys.

At the end of each survey the operator is required to submit a report of the survey and the marine mammal observations to the JNCC.

## Discharge of Drill Muds and Cuttings

OSPAR Decision 2000/3 on the Use of Organic-Phase Drilling Fluids (OPF) and the Discharge of OPF-Contaminated Cuttings came into force in January 2001. It applies to the use and discharge of all organic phase drilling fluids that is both oil based and synthetic based drilling fluids. No such fluids may be used without prior authorisation (normally through the PON15/Environmental Statement process), and discharge of cuttings to sea with a concentration >1% by weight of oil based fluids on dry cuttings is prohibited. The discharge to sea of cuttings contaminated with synthetic fluids will only be authorised in exceptional circumstances. For water based muds control, see also chemical use and discharge section below.

# Chemical Use and Discharge

A permit is required in advance for the use of drilling, production, utility and other chemicals offshore (Offshore Chemicals Regulations 2002). These regulations implement the OSPAR Decision (2000/2) and Recommendations (2000/4 and 2000/5) introducing a Harmonised Mandatory Control System for the use and reduction of the discharge of offshore chemicals. The permit application process (the PON15 is the mechanism for this) includes a mandatory risk assessment. Any variation in use from permit must have prior approval. Chemical use and discharge must be reported. Chemicals which are used offshore must be registered under the Offshore Chemical Notification Scheme. A database ranks chemicals by hazard, based on a PEC:PNEC (Predicted Effect Concentration : Predicted No Effect Concentration) approach. Separate permits are required for chemicals used in drilling, production, pipelines, workover and decommissioning.

# Produced Water and other oil containing discharges

The *Prevention of Oil Pollution Act, 1971 (POPA)* (as amended) and associated Regulations prohibit the discharge of oil or oily mixtures to sea from any offshore installation or pipeline. The Act provides for exemptions to be obtained to allow lawful discharge of treated produced water, sand and other operational discharges. The current standard for produced water discharges is maximum monthly average of 40mg/kg oil-in-water.

The DTI have consulted on the *Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2003* which will largely replace POPA and introduce a new permitting regime for oily discharges. The new Regulations are expected to be in place by the end of 2004 and will update the definition of oil (to include condensate etc.), introduce new permitting system (Life or Term) for oil discharges to replace exemptions under Prevention of Oil Pollution Act and will further strengthen DTI powers to inspect and investigate oil discharges. In addition these Regulations will provide a route to implement OSPAR Recommendation 2001/1 (see below) and will include the necessary provisions to establish a hydrocarbon trading system.

OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations came into force in June 2001. It provides for a reduction in the discharge of oil in produced water by 15% over a five year period and a lowering of the discharge concentration from each installation to 30mg/l over the

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same period, and applies to the use and discharge of all organic phase drilling. The recommendation also includes a presumption against the discharge to sea of produced water from new stand-alone developments.

Drainage

The Merchant Shipping (Prevention of Oil Pollution) Regulations, 1996 (as amended) give effect to Annex I of MARPOL 73/78 (prevention of oil pollution) in UK waters. They address oily drainage from machinery spaces on vessels and installations. The North Sea is designated a "Special Area", within which the limit for oil in discharged water from these sources is 15ppm. Vessels and installations are required to hold a valid UKOPP (UK Oil Pollution Prevention) or IOPP (International Oil Pollution Prevention) Certificate.

**Deposits to Sea** 

The Food and Environment Protection Act 1985 (as amended) is a mechanism through which deposits in the sea are regulated. A licence is required for such activities unless specifically exempted under the Deposits in the Sea Exemptions Order 1985 which exempts a range of non-oil operational discharges, including drilling cuttings, associated with the exploration and production of oil and gas from the licensing requirements of the Act. The onsite injection of operational wastes is specifically exempted under the above Order. Off-site injection does not qualify for the above exemption, as the deposits will not be made on the site of drilling for, or production of, oil or gas and therefore it is necessary to obtain a FEPA Part II licence.

Flaring and Venting

A consent to flare or vent gas is also required from the DTI under the terms of the Model Clauses incorporated into Production Licences (see also the *Gas Act 1986*, as amended for venting).

Other combustion emissions

The Offshore Combustion Installations (Prevention and Control of Pollution) Regulations, 2001 introduced Integrated Pollution Prevention and Control (IPPC) to offshore oil and gas combustion installations with a combined total rated thermal input exceeding 50MW. Under the Regulations an IPPC Permit will be required in order to operate a qualifying offshore installation. The permit will be granted with conditions that will include provisions based on best available techniques, emission limits, and monitoring requirements. Existing installations must comply by October 2007.

The Greenhouse Gas Emissions Trading Scheme Regulations 2003 implement the EU Emissions Trading Scheme Directive and come into effect in January 2005. The aim is to achieve reductions in greenhouse gas emissions under the Kyoto Protocol. Regulations cover the first phase from January 2005 to December 2007 and just address combustion emissions of  $CO_2$ . It may be expanded in future phases to the other greenhouse gases. The threshold for the ETS is combined net rated thermal input of >20 MW(th). A National Allocation Plan sets out caps for all UK installations in the Scheme based on  $CO_2$  from turbines, diesels and fired heaters.

A Directive of the European Parliament and of the Council has been proposed which would amend Directive 1999/32/EC with regard to the sulphur content of marine fuels. The aim of the proposal is to reduce the impact of ships' emissions of sulphur dioxide (SO2 or SOx) and particulate matter (PM) on environmental acidification and human health.

The Merchant Shipping (Prevention of Pollution by Garbage) Regulations, 1998 implement Annex IV of MARPOL 73/78 and apply to all fixed and floating offshore installations (including rigs) and their support vessels operating on the UKCS. All domestic and operational wastes, except ground food waste must be stored and taken to shore for disposal.

Food ground to particles 25mm or less may be discharged overboard but only if 12 nautical miles or more offshore. Installations and vessels are required to have a Garbage Management Plan or equivalent.

The Environmental Protection Act 1990 and associated regulations introduced a "Duty of Care" for all controlled wastes. Waste producers are required to ensure that wastes are identified, described and labelled accurately, kept securely and safely during storage, transferred only to authorised persons and that records of transfers (waste transfer notes) are maintained for a minimum of two years.

Waste

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Carriers and waste handling sites require licensing.

Although the Act does not apply to offshore installations, it requires operators to ensure that offshore waste is handled and disposed onshore in accordance with the *Duty of Care* introduced by the Act.

Additional controls are applied to more hazardous (special) types of controlled waste by the *Special Waste Regulations 1996 (as amended)*. These Regulations require controlled wastes that are also considered to be special wastes because of their potentially harmful properties, to be correctly documented, recorded and disposed at an appropriately licensed site. Records of transfers (special waste consignment notes) are to be maintained for a minimum of three years.

Oil spill response and reporting

The Merchant Shipping (Oil Pollution Preparedness, Response and Cooperation Convention) Regulations, 1998 came into force in May 1998 and require all existing offshore installations, including drilling from rigs and oil handling facilities (e.g. pipelines), to have an approved oil spill contingency plan. Oil spill plans must be submitted to the DTI for approval at least two months in advance of commencement of operations. Oil Spill Contingency Plans are required to follow a defined format and to include spill risk assessment.

The plan must also meet the requirements of the *Offshore Installations* (*Emergency Pollution Control*) Regulations 2002. In his report of the review of the Government's involvement in salvage and intervention in pollution incidents following the grounding and subsequent salvage of the Sea Empress at Milford Haven, Lord Donaldson of Lymington made a number of recommendations relating to the offshore industry. In particular, he recommended that a single representative should be authorised to act on behalf of the Secretary of State for Trade and Industry i.e. a SOSREP. The SOSREP role is to monitor and if necessary intervene to protect the environment in the event of a threatened or actual pollution incident in connection with an offshore installation.

Under the *Merchant Shipping (Prevention of Oil Pollution) Regulations*, 1996 (as amended) vessels and drilling rigs are also required to hold a current, approved Shipboard Oil Pollution Emergency Plan (SOPEP) in accordance with guidelines issued by the Marine Environment Protection Committee of the International Maritime Organisation.

All oil spills are required to be reported as soon as possible, regardless of size to the Coastguard, DTI and other relevant authorities according to the instructions and format included with *Petroleum Operations Notice 1* (PON 1).

Use of radioactive sources

Under the *Radioactive Substances Act 1993* a registration certificate from the Environment Agency or Scottish Environment Protection Agency is required to keep and use radioactive sources offshore. The certificate contains details of source type, activity and purpose.

Low specific activity material

Onshore and offshore storage and disposal of naturally occurring radioactive materials (NORM) is regulated under the *Radioactive Substances Act 1993* and operators are required to hold, for each relevant installation, an authorisation to store and dispose of radioactive wastes such as low specific activity scale (LSA) which may be deposited in vessels and pipework. Schedule 1 to the Act specifies the elements of concern and activity thresholds. The authorisation specifies the route and method of disposal. Records of disposals are required.

Decommissioning

The UK's international obligations on decommissioning are governed principally by the OSPAR Convention. Agreement on the regime to be applied to the decommissioning of offshore installations in the Convention area was reached at a meeting of the OSPAR Commission in July 1998. Under the *Petroleum Act 1998*, operators proposing to decommission an installation must submit a Decommissioning Programme with supporting Environmental Impact Statement to the DTI for approval prior to any works being commenced. Consultation is a required element of the process

DTI guidance indicates a presumption that all offshore installations will be reused, recycled or disposed of on land and that any exceptions to that general rule will be assessed individually in accordance with the provisions of OSPAR Decision 98/3.