

Onshore Oil and Gas Exploration and Development:

Roles of regulatory agencies

The process of obtaining consent to drill a well within Great Britain is essentially the same whether the well is targeted at conventional or unconventional gas. Most companies seek a new Petroleum Act Licence (PEDL) from DECC which grants exclusivity, but they could also purchase an interest in another company's existing licence. However, DECC's licence does not remove the need to comply with planning, health and safety or environmental regulation, or to respect landowners' rights. Therefore, when an operator is ready to drill a well, it will have to address several factors including:

- access to the land (including the drill site and any location under which deviated wells are to be drilled), which usually means negotiating access with landowners;
- the need for planning permission;
- well consent pursuant to the Licence by DECC;
- environmental regulation implemented in England and Wales by the Environment Agency (EA) and in Scotland by the Scottish Environment Protection Agency (SEPA);
- health and safety legislation implemented by the Health & Safety Executive (HSE);
- and permission from the Coal Authority if the drilling entails encroachment on coal seams.

Petroleum Act Licence (DECC)

Any company wishing to exploit the nation's hydrocarbon resources needs a licence from DECC to do so. The onshore production licence is known as a Petroleum Exploration and Development Licence (PEDL). Each such licence grants exclusive rights to explore, drill and produce within a small, specified area. DECC awards PEDLs in a competitive and transparent system based on open Licensing Rounds. Before a licence can be awarded, the applicant must satisfy DECC of the competence of its proposed operator, and each member of the applicant group must satisfy DECC of its financial viability and financial capacity.

A Petroleum Act licence grants no permission for specific operations.

DRILLING OF WELLS

Planning Permission (Local Planning Authority)

To drill a well or conduct an extended well test, the Operator needs planning permission from the Local Planning Authority (LPA). EA or SEPA are statutory consultees for the LPA in the planning process.

EA/SEPA

In England and Wales, EA is the environmental agency. It expects the operator to notify EA of its intention to carry out drilling, at which time EA will advise on any requirement for control under the [Water Resources Act 1991](#) and [The Water Resources Act 1991 \(Amendment\) \(England and Wales\) Regulations 2009](#). EA recommends early consultation to prevent avoidable delays. On a site-by-site basis, the EA will assess the need for an

environmental permit by applying a proportionate risk-based approach to the prevention of pollution and protection of the environment.

A permit under the [Environmental Permitting Regulations 2010 \(EPR\)](#) is required where fluids containing pollutants (substances liable to cause pollution) are injected into rock formations that contain groundwater (a “groundwater activity” under EPR). An environmental permit may also be needed if the activity poses a risk of mobilising natural substances that could then cause pollution. The permit, if granted, will specify limits on the activity and any requirements for monitoring. All EA’s environmental permits are placed on the public register.

If EA decides that the activity poses an unacceptable risk to the environment, it will not issue a permit and if necessary may issue a notice under EPR to prohibit it. If EA decides that the activity cannot affect groundwater, a permit will not be necessary. The Water Framework Directive and EPR defines groundwater as all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil. Under statutory guidance it is for the EA to decide whether groundwater is present and whether a groundwater activity is taking or will take place. Each proposal will be assessed on a site-by-site basis.

In Scotland, SEPA is the environmental agency. Activities liable to have an adverse effect on the water environment fall within the scope of the [Water Environment \(Controlled Activities\) \(Scotland\) Regulations 2011](#). SEPA has taken the view that drilling for the purposes of unconventional gas extraction, due to the drilling depth being greater than 200m, falls within the scope of the Regulations and will require authorisation. Operators are expected to consult SEPA in advance of any application to discuss the operation and agree any mitigation and monitoring measures that will be applied. Where SEPA considers that the activity poses an unacceptable risk to the water environment or other water users, authorisation will be withheld. For further information see [SEPA’s Regulatory Guidance](#).

Coal Authority

Any activity which intersects, disturbs or enters coal seams requires prior written authorisation from the Coal Authority. See www.coal.gov.uk/services/licensing/modeldocuments.cfm

Well consent (DECC)

A licensee who wishes to drill needs consent from DECC and can apply for it using the Well Online Notification System (WONS). DECC will require evidence of Planning Permission, and will assess geotechnical data provided by the Operator and review its well site operational plans, including the possibility of sidetrack wells, hydraulic fracture stimulation, and plans to save or flare gas in testing for hydrocarbons. DECC will also notify HSE and EA/SEPA that they have received an application to drill.

If well testing operations are expected to last longer than 96 hours, the Operator will also have to apply for Extended Well Testing (EWT). It must demonstrate that this is necessary to gain the technical understanding or confidence in the performance of the field needed to progress towards a development. The EWT must have realistic and definable appraisal objectives essential to the success of a development and not be prejudicial to ultimate recovery. The consent will set the quantities of gas to be produced and saved or flared. An EWT is not an alternative to production under an approved Development Plan, and must also have permission and consents in place from the LPA, EA or SEPA.

Well notification (HSE)

The Offshore Installations and Wells (Design and Construction, etc) 1996, apply to all oil and gas wells onshore and offshore, including those drilled for coal bed methane and shale gas. They cover the duties on well integrity placed on well operators. Guidance on the regulations applying to wells can be obtained from HSE's web site at

www.hse.gov.uk/pubns/priced/l84.pdf

If HSE is not satisfied by the well design it can serve an improvement notice requiring modifications, which must be implemented before drilling can begin. Once drilling has started, HSE's Well Operations Inspectors review weekly drilling activity reports submitted by the Operator.

In addition, the Well Operator is required to have a Well Examination Scheme in place, where an Independent Competent Well Examiner examines all well operations from design through to final abandonment (see Regulation 18 of the Offshore Installations and Wells (Design and Construction, etc) Regulations 1996).

FIELD DEVELOPMENT AND PRODUCTION

Once the commercial viability of a project has been established by exploration and appraisal work, the Operator will presumably wish to move to field development and production.

Planning Permission (Local Planning Authority)

The Licensee will need planning permission and access rights from landowners, as above under the drilling of wells.

The LPA will determine whether an Environmental Impact Assessment (EIA) is necessary, in consultation with its statutory consultee, EA or SEPA.

In England, EA will assess the need for an abstraction licence, controlled under the [Water Resources Act 1991](#), or an environmental permit under the [Environmental Permitting Regulations 2010 \(EPR\)](#) on a site-by-site basis, applying a proportionate risk-based approach to preventing pollution and protecting the environment (see below).

In Scotland, SEPA will advise the Local Authority that authorisation of the activity under the [Water Environment \(Controlled Activities\) \(Scotland\) Regulations 2011](#) will be required (see below). Operators may apply for authorisation before during or after an application for planning permission.

Field Development and Production Consent (DECC)

Once the Licensee has secured planning permission, it can seek Field Development Consent from DECC. The powers of the Secretary of State in relation to the development of and production from oil and gas fields were first set out in full in model clauses scheduled to the Petroleum and Submarine Pipe-lines Act 1975 and similar clauses are incorporated into every onshore licence.

When considering whether to authorise a proposal, the Secretary of State will take into account whether the proposed project accords with the Government's policy objectives and whether the methods proposed comply with good oilfield practice. In reviewing Field

Development Plans, the Department's objective is to maximise the economic recovery of UK oil and gas resources and to ensure security of gas supplies.

The Department recognises that during the appraisal, commissioning and production phases of a development, the flaring and/or venting of some gas may be unavoidable. Both flaring and venting require consent from DECC.

EA/SEPA

In England and Wales, as for the well consent stage, a permit under the Environmental Permitting Regulations and an abstraction licence under the Water Resources Act 1991 may be required. The operator should contact the EA for advice. A guidance note which sets out the EA role in relation to exploratory shale gas operations and how EA are going to regulate these operations in England and Wales

[Guidance Note for Exploratory Shale Gas Operations \(December 2012\)](https://brand.environment-agency.gov.uk/mb/EVQdrk)
(<https://brand.environment-agency.gov.uk/mb/EVQdrk>)

EA have produced a joint working strategy with the Health and Safety Executive which sets out how they will work together to ensure a joined up approach and that there is appropriate monitoring and inspection of operations.

[Working together agreement - Unconventional Oil and Gas Exploration](https://brand.environment-agency.gov.uk/mb/BbyYPN)
(<https://brand.environment-agency.gov.uk/mb/BbyYPN>)

In Scotland, the operator must apply to SEPA for an abstraction and discharge authorisation and may also require a Pollution Prevention and Control Permit to comply with the Pollution Prevention and Control (Scotland) Regulation 2012.

There may be a number of different activities associated with the field development for which authorisation will be required. These may include:

- discharge of water containing polluting substances into groundwater,
- abstraction of groundwater,
- discharge of this abstracted groundwater to another part of the water environment.

The operator must supply all information necessary, including details of polluting substances and their concentration in the discharge(s) and well construction, to enable an in-depth risk assessment to be undertaken. In Scotland, SEPA will also expect baseline and ongoing monitoring of groundwater be undertaken and this may also be the case in England and Wales depending on the circumstances of the activity.

The key planning and environmental legislation affecting the onshore hydrocarbon industry is summarised in a table:

[Environmental legislation applicable to the onshore hydrocarbon industry](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/15749/onshore_leg_1.doc)
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All projects involving the exploitation of coal seams require the agreement of the Coal Authority.

Each development well requires specific consent from DECC using the WONS system (see above), and HSE must be notified of all wells and significant activities at the site.