From:	Tony.Almond@hse.gov.uk
To:	Development Management (Economy Transport and Communities)
Subject:	CM4-0517-10 Bramleymoor Lane Construction of a well site new access track...
Date:	05 June 2017 12:39:03

Thank you for your email regarding application CM4-0517-10. Details of the health and safety regulatory regime applicable to these developments are below.

Regulation of onshore oil and gas wells

Wells drilled to explore for shale oil or gas are designed and constructed to the same standards as all other oil and gas wells that have been in operation in UK for a number of years. There have been 350 onshore oil and gas wells drilled in the UK since 2000.

All wells must be constructed to recognised industry standards and are cased using steel and cement to ensure the risk of an unplanned leak of fluids is as low as reasonably practicable. Near the surface, where there is nearby groundwater, or an aquifer, there are normally three layers of this steel casing. The operator will conduct a range of checks on the well to test for leaks. Suitable well control equipment must also be provided to protect against the risk of a release of fluids from the well.

Health and safety regulations applicable to onshore wells

HSE's regulatory regime is long-established and goal-setting. There are general duties under the Health and Safety at Work etc Act 1974 (HSWA). Those who create health and safety risks to workers or the public as part of their undertaking have a duty to manage and control the risks so far as is reasonably practicable. This is supplemented with more specific regulations particular to the extraction of gas and oil through wells, which includes shale gas and oil operations.

The Borehole Sites and Operations Regulations 1995 (BSOR) apply to all onshore oil and gas wells. These Regulations require notifications to be sent to HSE about the design, construction and operation of wells, and the development of a health and safety plan which sets out how risks are managed on site.

The Offshore Installations and Wells (Design and Construction etc) Regulations 1996 (DCR) include specific requirements for all wells, whether onshore or offshore, and include well integrity provisions which apply throughout the life of shale gas or oil wells. They also require the well operator to send a weekly report to HSE during the construction of the well so that inspectors can check that work is progressing as described in the notification.

The operator must also appoint an independent well examiner who has an important quality control role in ensuring that the well is designed, constructed operated and abandoned to industry and company standards and that regulatory requirements are met.

This combination of duties ensures that HSE is provided with information at key stages in the lifecycle of a well and allows HSE inspectors to assess whether risks are being adequately controlled and, if not, to take the appropriate regulatory action.

How HSE regulates oil and gas exploration activity

HSE's intervention approach has two main elements:

1. Specialist well engineers help develop best practice standards for the industry as a whole with Oil and Gas UK and the United Kingdom Onshore Oil and Gas (UKOOG). All members of UKOOG have agreed to comply with these standards. The latest standards http://www.ukoog.org.uk/onshore-extraction/industry-guidelines were published in February 2013.
2. The second element is to use risk-based interventions on particular sites and operators and to ensure they are managing well integrity. HSE uses its team of expert wells engineers who cover all types of hydrocarbon wells, both on and offshore. An oil or gas well is a complex engineered construction, most of which is below ground and not accessible to visual inspection. HSE therefore takes a lifecycle approach to well integrity, using the notifications and weekly well reports as well as meetings with the operator and on-site inspection to ensure the operator is managing the risks appropriately.

What information is provided to HSE and when?

To comply with BSOR, the well operator must submit a notification to HSE at least 21 days before work commences. It consists of information on the design and construction of the well including:

- the design of the well,
- equipment to be used,
- programme of work,
- location, depth and direction of the borehole,
- its relationship with other wells and mines,
- the geology of the drilling site,
- risks identified with the work and how these risks will be managed.

These notifications allow HSE to assess the well design before construction starts. This is a key phase of work where the vast majority of issues likely to have an impact on well integrity will be identified and addressed by the well operator. It includes ensuring that safety features are incorporated into the design. Inspectors will contact the operator if they have any concerns or queries about the information supplied.

Further notifications are required if there is a material change to the information previously supplied in a notification.

To comply with DCR, the operator must report to HSE every week during construction of the well and during work to decommission the well. This provides HSE with assurance that the operator is constructing and operating the well as described in the notification. If they are not, HSE can take the appropriate regulatory action. The weekly report gives details of all work that has taken place since the previous report including:

- well integrity tests,
- the depth and diameter of the borehole,
- the depth and diameter of the well casing,
- details of the drill fluid density which allows the inspector to gauge the pressure in the well and identify any stability issues.

There is also a specific set of occurrences that the well operator must report to HSE under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations):

- a blowout, ie an uncontrolled flow of well fluids,
- the unplanned use of blowout prevention equipment,
- the unexpected detection of H2S (hydrogen sulphide – an explosive gas),
- failure to maintain minimum separation distance between wells,
- mechanical failure of any safety-critical element of a well.

Reporting of well incidents enables HSE to investigate those that would have an effect on well integrity and ensures the well operator secures improvements to their operations.

Please do not hesitate to contact me should you require anything further.

Kind regards

Tony

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