

Environmental Statement (ES) Summary and Sign-Off

Title:	Clair Ridge Development Environmental Statement
Operator:	BP Exploration Operating Company Ltd (BP)
Report No:	D/4091/2010
Submission Date:	30 September 2010
Block No:	UKCS 206/8
Development Type:	Clair Field Development, Phase 2
Reviewer:	Derek Seward
Date:	August 2011

A) Project Description:

BP requested approval for the second stage of the development of the Clair oil field in Block 206/8. The Clair Ridge area of the reservoir will be developed using two bridge-linked platforms, located approximately 55 kilometres (km) west of the Shetland Isles, 93 km southeast of the UK / Faroe median line and 5.6 km northeast of the existing Clair Phase 1 platform, in a water depth of approximately 140 metres. One of the platforms will support drilling and production (the DP platform) and the other will support accommodation and utilities (the QU platform). Up to 36 wells will be drilled, 26 producers and 10 water injectors, and the production wells will be provided with gas lift facilities. Between 3 and 7 wells will be drilled via an eight-slot subsea template, using a semi-submersible Mobile Drilling Unit (MoDU), prior to the installation of the platform facilities, and the remaining production and injection wells will be drilled from the drilling and production platform over a period of approximately 12 years. The reservoir fluids will be processed on the drilling and production platform, and the produced water re-injected into the reservoir. Low salinity water will also be generated on the installation and injected into the reservoir to maintain reservoir pressure and enhance oil recovery (LoSal™). The produced oil will be exported to the Sullom Voe Terminal (SVT) via a new 6.5 km concrete-coated pipeline connecting to the Clair Phase 1 oil export pipeline. The produced gas will be exported to SVT via a new 14 km pipeline connecting to the West of Shetland Pipeline System, which will be rock-dumped to provide stability and protection. Both pipelines will be laid on the surface of the seabed, because the hard seabed in this area means that trenching is not possible. Drilling is scheduled to commence in 2011 or 2012; installation of the pipelines is scheduled to take place in 2012 or 2013; and installation of the platforms and associated subsea infrastructure is scheduled to

take place in 2013 and 2014, with first oil scheduled for 2015. The new facilities will have a greater oil-handling capacity than the Clair Phase 1 platform, and will be pre-equipped with facilities to support a number of subsea developments in other areas of the Clair field if this is required in the future. Total oil recovery from the Clair Ridge area of the field is anticipated to be approximately 105 million cubic metres, over the 40-year scheduled life of the platform.

B) Key Environmental Impacts

The Environmental Statement (ES) identified and discussed the following key areas of potential environmental impact:

- Physical presence and disturbance of the seabed
- Discharges to the sea
- Noise
- Atmospheric emissions
- Interaction with other sea users
- Wider concerns - accidental events and cumulative effects

C) Key Environmental Sensitivities

The ES identified the following environmental sensitivities:

- **Benthic Species:** The seabed in the area consists of gravely sand with cobbles and numerous boulders, and the benthic species are typical of the area. The proposals were considered unlikely to have any significant impact outside the immediate vicinity of the platform complex.
- **Fish Stocks:** The area of the proposed development is within a very large spawning and nursery area for Norway pout, and within nursery areas for blue whiting and mackerel. It is also within a mackerel migration route. However, overall sensitivity is considered to be generally low, and the proposals are considered unlikely to have any significant impact on fish stocks.
- **Seabirds:** The area of the proposed development is very important for a number of seabird species, with species such as fulmar, gannet, herring gull, greater black-backed gull, kittiwake, guillemot, razorbill and puffin present throughout the year, and internationally important numbers of the European Storm Petrel present in the area during September. Overall sensitivity is moderate to high during all of the spring and summer months, and greatest during February and March and from May to June. Potential oil spills are therefore a significant issue, and appropriate mitigation is proposed to prevent adverse effects on seabirds in the Clair Ridge area and prevent adverse effects on the internationally and nationally important onshore breeding colonies on the Shetland and Orkney Isles.
- **Protected Habitats:** There are no designated offshore sites in the Clair Ridge area, but there are a number of very important protected sites on the Shetland and Orkney Isles, reinforcing the requirement for appropriate measures to prevent oil spills.
- **Protected Species:** Minke whales and several dolphin species are regularly observed in the vicinity of the proposed developments, in addition to

occasional sightings of seals. A number of whale species are also observed in the deeper waters of the Faroe-Shetland Channel, including larger baleen whale species migrating between their northerly summer feeding grounds and their southerly winter breeding areas. However, the proposed activities will only result in limited and localised disturbance, and are therefore considered unlikely to have any significant impact on cetaceans or seals. In addition to the protected species found in the vicinity of the proposed development, there are important seal breeding areas on the Shetland and Orkney Isles, and the Shetland Isles support one of the densest otter populations in Europe, again reinforcing the requirement for appropriate measures to prevent oil spills.

- **Other Users of The Sea:** Demersal species found in the area are fished throughout the year, and fishing effort is moderate. There are also mackerel and herring fisheries at certain times of the year, but the pelagic fishing effort is comparatively low. Shipping intensity is also comparatively low in the immediate vicinity of the proposed development, and the proposals are considered unlikely to have any significant impact on either fishing or shipping.

D) Consultees

The Environmental Statement was copied to a number of consultees designated by DECC:

Joint Nature Conservation Committee (JNCC): JNCC considered that BP had taken adequate steps to minimise the potential impact of the proposed operations. It was considered that the proposed developments were unlikely to result in any significant impact on the nature conservation value of the marine environment, but JNCC requested additional information in relation to the installation of the pipeline systems; the LoSal™ water injection proposals; the underwater noise impact assessment; and the provision of the results of the 2010 environmental surveys. They also requested that additional information should be included in the Oil Pollution Emergency plan (OPEP) to address the efficacy of the proposed response to protect to prevent adverse effects on protected sites on the Shetland and Orkney Isles. BP was requested to respond to their comments, or to commit to addressing them in subsequent applications relating to specific elements of the proposals.

Marine Scotland (MS): MS confirmed that they were content that the ES should be accepted, but requested additional information in relation to the potential use of the hammer-mill to treat drill cuttings generated during the use of oil-based drilling fluids; the LoSal™ water injection proposals; and the provision of the results of the 2010 environmental surveys. BP was requested to respond to their comments, or to commit to addressing them in subsequent applications relating to specific elements of the proposals. MS also requested copies of a number of documents referenced in the ES, and BP was requested to provide copies.

Historic Scotland (HS): HS had no objections to the proposals.

Maritime and Coastguard Agency (MCA): MCA had no objections on the grounds of safety of navigation, subject to the relevant consents being subject to the standard navigational conditions.

Ministry of Defence (MOD): MOD had no objections to the proposals.

Lerwick Port Authority (LPA): LPA had no objections to the proposals.

E) Public Notice

No comments were received in response to the Public Notice, which was published in The Independent, Aberdeen Press and Journal and The Shetland Times.

F) Further Information

Further information was requested from BP following completion of the DECC OED review of the ES, to address issues identified by DECC and the designated consultees. BP were also advised of a number of minor editorial errors in the ES. Additional information, and an undertaking to address any outstanding issues in supplementary requests for approvals for specific elements of the proposals, were provided by BP in a response dated 19 August 2011, which adequately addressed the issues raised.

G) Conclusion

Following consultation and the provision of further information, DECC OED is satisfied that this project is unlikely to have any significant adverse environmental impact, and is content that it will not have a significant adverse effect on the marine environment in general or on any protected habitat or species.

H) Recommendation

DECC OED is satisfied that the Clair Ridge development should be granted consent to proceed.

Approved: Sarah Pritchard - Head of Environmental Operations Unit

Name: *Sarah Pritchard*

Date: 20/08/2011