



**EOG Resources United Kingdom Limited (EOGUK)
Conwy & Corfe Field Development Addendum
Environmental Statement (ES) Summary and Sign-Off**

Title:	Conwy & Corfe Field Development Environmental Statement Addendum 3
Operator:	EOG Resources United Kingdom Limited (EOGUKL)
Report No:	D/4077/2010
Submission Date:	February 2015
Quad/Block No:	110/12 & 110/13
Project Type:	Field Development
Reviewer:	Julie Cook
Date:	25 June 2015

Project Description:

The Conwy and Corfe Fields are located in Blocks 110/12 and 110/13, approximately 33 kilometres (km) west of the nearest UK coastline and 106 km east of the UK / Republic of Ireland median line, in a water depth of approximately 33 metres (m). The initial development proposals involve production from the Conwy Field, which has a maximum estimated recovery of 15.8 million barrels of oil. Following analysis of the results of an appraisal well, EOGUKL has decided not to proceed with development of the Corfe Field at this stage.

EOGUKL are planning to develop the Conwy Field as a tieback to the ENI Liverpool Bay Operating Company (formerly BHP Billiton Petroleum Limited) operated Douglas Complex. The planned development consists of a Normally Unattended Installation (NUI) and three platform production wells, a single produced water injection well to support production from the field, and a separate injection well for condensate disposal. The NUI will be tied back to the Douglas Complex via a 12 km production flowline, water injection pipeline, condensate line and electrohydraulic control and chemical injection umbilical. Fluids from the production wells will be comingled at the NUI manifold and exported to the Douglas Complex for processing.

The NUI was installed in 2012 and drilling and pipelay operations completed in 2013. The production and injection wells were drilled using a standard jack-up drilling rig, and using Water-Based Mud (WBM), with cuttings and associated WBM discharged to the sea. No extended well tests were carried out, but there was limited flaring during the well clean-up operations over a period of approximately 96 hours. The pipeline and umbilical installation operations were conducted using a conventional pipelay vessel, and operations were completed within approximately 30 days. Commissioning and first oil is scheduled for Q3 2015. All activities have been, and will continue to be, the subject of an approved Oil Pollution Emergency Plan (OPEP).

Key Environmental Sensitivities:

The EIA identified the following environmental sensitivities:

- Seabirds: Offshore areas of the East Irish Sea are visited by many seabird species, and it is an important over-wintering area for gulls, auks, kittiwakes, cormorants and black scoter. Seabird vulnerability is high or moderate throughout most of the year, but the timing of the proposed activities would have ensured that there are no detrimental effects on breeding bird populations and appropriate mitigation measures were in place to prevent accidental spills that could have a significant impact on seabirds.



- Protected habitats: There are no designated protected habitats in the vicinity of the proposed development. The proposed development is located approximately 15.5 km from the northern boundary of the Liverpool Bay SPA boundary and the proposed pipeline route does not cross the SPA. It is approximately 31 km from the Shell Flats site and approximately 43 km from the Lune Deep site.
- Protected species: Harbour porpoise, bottlenose dolphin, white-beaked dolphin and common dolphin are recorded in the development area, with a peak number of calves during the summer months. The East Irish Sea region also supports a small number of common and grey seals. In view of their marginal use of the development area, there are no anticipated significant impacts on marine mammals.
- Fish stocks: The area is a recognised spawning area for cod, whiting, sole, sprat, plaice and *Nephrops*, and a nursery area for whiting, herring, plaice and *Nephrops*. The electrohydraulic control umbilical from the Douglas Complex to the NUI was trenched and backfilled to reduce the impact of the associated electromagnetic field on sensitive fish species such as elasmobranchs and basking sharks.
- Other users of the sea: The proposed development is situated within ICES rectangle 36E6. Fishing occurs throughout the year, with the highest effort during spring and summer. Shipping density in the vicinity of the proposed development is moderate to high. Details of all planned works have therefore been communicated at all stages in the process through the normal notification procedures.

Key Environmental Impacts:

The EIA identified and discussed the following key activities as having the potential to result in an environmental impact:

- Physical Presence of the NUI and Drilling Rig – Appropriate mitigation measures, e.g. a 500 m safety zone, and relevant navigational aids and warnings, were put in place to minimise impacts on shipping and commercial fishing activities.
- Seabed Disturbance – Drilling operations (particularly cuttings discharge), jacket installation, and trenching and ploughing operations during pipeline and umbilical installation have the potential to disturb the sediment and impact benthic species. However, seabed disturbance during the proposed operations was anticipated to be local to the development and limited in scale. Any impacts on benthic communities were therefore anticipated to be negligible.
- Noise and Vibration – Noise will be generated during various activities, including the NUI installation, drilling operations, pipeline installation and vessel operations. However, the noise levels are not expected to significantly exceed normal background noise levels in the area, and unlikely to result in injury or disturbance of European Protected Species.
- Atmospheric Emissions – The emissions from vessels during NUI installation, drilling operations and pipeline installation operations, and from flaring during well clean-up and routine NUI operations, will have a negligible impact on air quality, and represent a trivial contribution to global warming.
- Marine Discharges – Discharges during drilling, pipeline and production operations have the potential to impact on water quality. Drill cuttings and associated drilling fluid



discharges would have had a very localised impact, and all drilling and production chemicals will be CEFAS registered and selected to minimise the environmental impact, with use and discharge monitored on a daily basis. Produced water will be treated prior to discharge to comply with the OSPAR 30 mg/l dispersed oil concentration standard.

- Accidental Loss of Containment (Hydrocarbon Releases) – Appropriate mitigation measures will be in place to prevent accidental spills. Modelling has been undertaken to assess the potential impact of the worst-case scenarios, a blow-out involving the release of 1,908 tonnes/day of crude oil (low pressure reservoir requiring pumps to assist production) and the instantaneous release of 877 tonnes of diesel (the maximum fuel inventory of the supply vessels). Assuming that there was no intervention to stop the blow-out, the crude oil could beach at various locations around the Irish Sea, but the diesel would disperse naturally and would not impact any coastline. An Oil Pollution Emergency Plan (OPEP) and Emergency Procedures Plan (EPP) will be in place to detail arrangements for responding to any spill.
- Cumulative Impacts – The proposed development area is adjacent to a number of oil and gas operations, offshore wind farms, marine aggregate extraction areas and commercial fishing. However, in-combination effects have been assessed and are considered to be negligible.
- Transboundary Impacts – The nearest transboundary line is the UK / Republic of Ireland median line, approximately 106 km to the west of the development. It is therefore not anticipated that there will be any transboundary impacts.

Consultation:

The Joint Nature Conservation Committee (JNCC), the Countryside Council for Wales (CCW), the Centre for Environment, Fisheries and Aquaculture Science (CEFAS), the Marine Management Organisation (MMO), the Maritime and Coastguard Agency (MCA), the Ministry of Defence (MoD) and Trinity House Lighthouse Board (THLB) were consulted on the proposals. The ES was also subject to public notice.

JNCC/CCW: In a joint response, JNCC/CCW requested additional information in relation to seabed communities within Welsh territorial waters, the distribution of marine mammal populations, offshore and coastal protected sites and sensitive habitats and the potential impacts and effects of the development on these sites. They confirmed that they were satisfied with the additional information provided by EOGUKL, but have requested clarification of the response measures in the event of an accidental spill, which will be included in the relevant Oil Pollution Emergency Plans (OPEPs).

CEFAS: CEFAS Environment confirmed that there are no restrictions on drilling activities in the specified blocks, but pointed out that there are restrictions on seismic activities between January and June to protect spawning demersal stocks. CEFAS Chemicals noted, and had no objection to, the proposed generic chemicals list in the ES, but deferred final assessment until they were consulted on the relevant chemical permit applications.

MMO: MMO confirmed that they had no objections.

MCA: MCA confirmed that they had no objections subject to the normal navigational conditions that would be included in the relevant Consents to Locate.

MoD: MoD confirmed that they had no objections.



Trinity House: Trinity House confirmed that the standard marking requirements for offshore installations would apply, and requested details of any remote wellheads to determine if surface markings would be required.

Public Consultation: No comments were received in response to the public notice.

Further Information:

EOGUKL submitted a total of three addendums to the original ES, on 19th December 2011, 7th November 2012 and 17th February 2015, assessing the potential environmental impacts of the following changes:

- Installation of a new riser and emergency shutdown valve (ESDV) on the Douglas Complex;
- Installation of a new 3-inch condensate line attached as a piggy-back to the 8-inch production line between the Douglas Complex and Conwy Platform;
- Installation of a new ESDV on the Conwy Platform;
- New pipework on the Conwy Platform between the ESDV and water injection Xmas tree;
- Cancellation / postponement of the Corfe development proposals
- An additional condensate injection well from the Conwy platform;
- An additional production well at the Conwy platform;
- Revised reservoir simulations confirming that the Conwy wells have the capacity to flow unassisted;
- Revised oil spill modelling to reflect the new flow information;
- Revised production profiles; and
- Deferred production start-up.

Further information was requested from EOGUKL in relation to the revised production profiles. The response from EOGUKL adequately addressed the issues raised.

Conclusion:

Following its review of the ES and the addendums, DECC OGED is content that the Conwy Field Development is unlikely to have a significant adverse environmental effect on the marine environment in general, or on any protected sites or species or other users of the sea.

Recommendation:

On the basis of the information presented within the ES and addendums, and the advice received from consultees, DECC OGED is content that there are no environmental or navigational objections to approval of the proposals, and has advised DECC OGA that there are no objections to the grant of the relevant consents.

Approved

.....Sarah Pritchard.....

Date 25 June 2015

Sarah Pritchard

Head Offshore Environment Unit, DECC OGED