



Environmental Statement (ES) Summary and Sign-Off

Title:	Glenlivet Development Project Environmental Statement
Operator:	Total Exploration & Production UK Ltd (TEPUK)
Report No:	D/4169/2014
Submission Date:	October 2014
Quad/Block:	214/30a
Project Type:	Field Development
Reviewer:	Julie Cook
Date:	March 2015

(A) Project Description

TEPUK propose to develop the Glenlivet Field located in Block 214/30a, approximately 70 kilometres (km) northwest of the Shetland Islands and 95 km east of the UK/Faroe median line. The field is located in a water depth of approximately 435 metres (m).

The Glenlivet Field is proposed to be developed as a subsea tieback to the existing Laggan and Tormore Fields subsea infrastructure. The proposed development will consist of drilling two production wells, installation of a new manifold, laying of 35 km 12" production flowline to Laggan and Tormore, 18 km 6" Monoethylene glycol (MEG) pipeline and 2" service line to Edradour Field, and 19 km control umbilical to Edradour Field. Control of the Glenlivet subsea facilities will be from the SGP via the control umbilical from Edradour Field.

Production fluids from the Glenlivet Field will be commingled with the Laggan, Tormore and Edradour fluids and processed at the Shetland Gas Plant (SGP). Processed gas from the SGP will then be exported to the St Fergus gas terminal in northeast Scotland via the Shetland Island Region Gas Export (SIRGE) pipeline. Based on the projected recovery rate, it is estimated that gas production from Glenlivet Field will peak at 3,943 thousand standard cubic metres per day (kSm³/day) in 2019 before steadily declining to 497 kSm³/day in 2029.

The wells will be drilled using dynamically positioned drilling rig or conventional semi-submersible drilling rig anchored over the well location. The top and the lower sections will be drilled with water based mud (WBM) with each well generating approximately 2,650 tonnes of WBM cuttings which will be discharged to sea. No extended well test will be carried out, but there will be limited flaring during well clean-up limited to approximately 96 hours for each well.

Pipelay operations to install the flow line, MEG pipeline and umbilical will be conducted using a pipeline reel-lay vessel and flexible lay vessel. The pipelines will be trenched and buried using a shallow-plough device. An estimated 500,000 tonnes of rock and concrete mattresses will be required to mitigate against upheaval buckling, and to protect pipeline and subsea infrastructure.

Drilling of the wells is expected to occur in the first half of 2015. The pipelines, subsea infrastructure and the umbilical would be installed during summer 2017, with tie-in and commissioning in mid-2018. First production is anticipated in 2018. All activities will be

subject of an Oil Pollution Emergency Plan (OPEP) that will need to be approved prior to commencement of operations.

(B) Key Environmental Impacts

The ES identified and discussed the following key activities as having the potential to cause an environmental impact:

- Drilling – combustion emissions, well clean-up emissions, drill rig anchors, rig and vessel noise, accidental hydrocarbon spills.
- Sub-sea installation – combustion emissions, subsea infrastructure and pipelines installation, rock dumping, subsea infrastructure installation noise, hydrotest discharges, accidental spills.
- Wider concerns – accidental events, transboundary issues, cumulative effects

(C) Key Environmental Sensitivities

The ES identified the following environmental sensitivities:

Fish: Norway pout and whiting spawn in the area of the proposed development, and it is also a nursery area for blue whiting, cod, ling, hake, Norway pout, mackerel, sandeels, common skate, herring, spurdog, whiting and anglerfish. The spawning and nursery areas are extensive and the development proposals are unlikely to have an impact on these species.

Seabirds: Seabird vulnerability in the vicinity of the proposed development is high between February and July, and moderate to low for the remainder of the year. It has been assessed that there are sufficient mitigation measures in place to prevent accidental spills that could have a significant impact on seabirds and this will also be covered by the OPEP.

Protected Habitats: The proposed development lies partially within the designated Faroe-Shetland Sponge Belt (FSS) Nature Conservation Marine Protected Area (MPA), but further investigation confirmed that the sponge communities lacked the characteristics of the northeast Atlantic deep sponge communities that are considered to be of conservation interest. The Glenlivet pipeline route also falls within the distribution of the cold-water coral *Lophelia pertusa*, but there was no evidence consistent of aggregations of corals in the area. Areas of cobble and boulder materials were observed along the pipeline and umbilical route, but further investigation concluded that these areas would not merit designation as an Annex I stony reef habitat. The nearest Special Area of Conservation (cSAC) is the Wyville Thomson Ridge, located approximately 247 km to the southwest of the proposed development. The development proposals are therefore not expected to have any significant impact on protected habitats.

Protected Species: Humpback whale, Sperm whale, Killer whale, Long-finned pilot whale, Minke whale, White-beaked dolphin, Atlantic white-sided dolphin and Harbour porpoise have been recorded in this general area with highest numbers recorded during the period of July to September. Bottlenose dolphin is commonly sighted in coastal waters of the Shetland Islands. Grey and common seals inhabit the coastal waters around the North Sea and have occasionally been observed to travel long distances when foraging, but both species are

unlikely to be present in significant numbers at the development location. Any disturbance of marine mammals is expected to be limited to the drilling period and during installation of subsea infrastructure, and the localised disturbance is considered unlikely to have any significant impact.

Other Users of the Sea: The level of fishing activity and shipping traffic in the development area is low.

(D) Consultation

The Joint Nature Conservation Committee (JNCC), Marine Scotland (MS), the Maritime and Coastguard Agency (MCA), Ministry of Defence (MoD) and Northern Lighthouse Board (NLB) were consulted on the proposals. The ES was also subject to public notice, but no comments were received. The consultees did not raise any objections to the proposals.

JNCC: JNCC requested additional information in relation to the potential impacts on the designated Faroe-Shetland Sponge Belt Nature Conservation MPA. Following the provision of additional information, JNCC concluded that the development would have a negligible impact on the Faroe-Shetland Sponge Belt Nature Conservation MPA.

(E) Further Information

Further information was requested from TEPUK to address issues raised by JNCC and identified during the DECC OGED review, which included clarification in relation to the potential impacts of the development on designated features within the Faroe-Shetland Sponge Belt Nature Conservation MPA. The response received from TEPUK on 5th March 2015 adequately addressed the issues raised.

(F) Conclusion

Following review of the ES, the comments received from consultees and the additional information provided by TEPUK, DECC OGED is satisfied that the project will not have a significant adverse impact on the receiving environment or on the living resources it supports, or on any protected sites or species or other users of the sea.

(G) Recommendation

On the basis of the information presented within the ES and 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 LED that there are no objections to the grant of the relevant consents.

Approved

Sarah Pritchard

.....Date 19 March 2015

Sarah Pritchard

Head of Offshore Oil & Gas Environment, DECC OGED