



Offshore Petroleum Regulator
for Environment & Decommissioning

D/4272/2021

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NEO Energy Ltd
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31 January 2023

Dear ██████████

**THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING
AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS
2020**

NOTICE UNDER REGULATION 12(1)

Affleck Re-development

The Offshore Petroleum Regulator for Environment and Decommissioning (“OPRED”) acting on behalf of the Secretary of State for Business, Energy and Industrial Strategy (“the Secretary of State”) is currently considering the Environmental Statement (“ES”) and the representations received from the public consultation process in relation to the above project. Neo Energy Ltd (NEO) is hereby required to provide further information in relation to the following:

1. Please clarify what the emissions associated with the project mean in terms of the objectives of the UK Energy White paper and the North Sea Transition Deal.

Please provide a comparison of forecast GHGs with the UK Carbon Budgets going up to 2037, the expected field life, and provide a comparison with the North Sea Transition Deal target emission levels for 2025, 2027 and 2030.

2. It is understood that the Affleck and Talbot manifolds will now to be combined into a single manifold. Please provide detail of proposed changes and assess the potential environmental impact of these changes.
3. **Section 1.5.2** - States the EIA has been undertaken in line with latest OPRED Guidance dated December 2020, however footnote 1 refers to the more recent July 2021 version of the guidance. Please confirm the latest version of the guidance was used.
4. **Section 2.5** - ‘The assessment considered emissions from 2024 to 2030. In later chapters the CoP of Affleck is shown to extend beyond 2030. This date was used at the time for comparative purposes only and some of the emissions data pertaining to Judy may differ to later chapters as the project

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has progressed and better estimates have been gathered.' Please provide an update to this assessment with the more up to date estimates related to field life.

Please clarify if the more up to date estimates have any impact on the conclusion of the option selection. Clarify if extending the assessment of emissions beyond 2030 would alter the comparison between options.

5. **Section 2.5** – 'The Talbot project is forecast to make a small increase in emissions at Judy. The ownership of Talbot and Judy are aligned and therefore Talbot emissions may be considered Base Host emissions which would revise the incremental emissions due to Affleck over the period to 2030 from 15,715 to 13,216 tCO₂e. If this increase in Judy Base Host emissions is ignored, then a tie-back to Judy via Talbot is observed to result in an additional 4,269 tCO₂e gross emissions over the period to 2030 compared to a direct tie-back to Judy.' – please clarify what is meant in this paragraph.
6. **Table 2-3** - Shows a large differentiation between Clyde and Judy in the row 'Increase in total emissions due to Affleck to 2030'. Please detail how these figures were calculated.
7. **Table 2-5** – Please provide some further analysis on how seabed impacts determined the option selection.

The volume of rock and footprint of projects is discussed in this table, however, what other types of impact fed into option selection? For example, would there be any change to the piling regime and the associated impacts for the Clyde option?

8. **Section 3.1.2** – 'It is assumed that both Affleck wells have enough wellhead pressure to be able to simply flow by opening the chokes and flow the wells.' What would be the impact on the project if there is not enough wellhead pressure?
9. **Section 3.2.7** – Please clarify grout bag requirements now that it is being proposed to have a single manifold for both Affleck and Talbot installed.
10. **Section 3.3.1** – There is no discussion in the ES of the relatively high wax content of the crude at 13.8%. Will this have any impact on production, for example in terms of a potential increase in pigging operations?
11. **Table 3-5** - Please provide some rationale for the 50% contingency for mattresses. How has it been concluded that this contingency number of mattresses is required?
12. **Section 3.3.6** – This section appears to contradict information provided in the Talbot ES when discussing gas compression.

Section 3.3.6 states 'The Judy platform gas compression system consists of two compression trains powered by two GE LM2500 gas powered generators, with the volumes of gas to be compressed requiring both

trains. The addition of Affleck processing does not alter this philosophy, however there will be an incremental increase in fuel gas demand and the associated emissions from combusting Affleck gas.'

This is contradicted by Section 3.11 of the Talbot ES which states that 'Judy will be likely to operate on 2 train compression operations (largely on single train operation recently) during some of 2024 and into 2025 as result of Talbot coming online and other field hydrocarbon volumes through Judy. After this period, it is expected that Judy would return to predominantly single train operations with Talbot then accounting for very little additional fuel gas.'

Similarly, the PPC Permit for Judy states that the preferred mode of operation is to run 1 out of 2 compressors.

Please clarify how bringing Affleck online will alter operating procedure of the two compressors.

13. **Section 3.3.10 and Section 9.8** – 'Protection aids such as mattresses or grout bags can be recovered using specialist recovery baskets.' – Do NEO anticipate that these protection aids will be recovered at decommissioning?
14. **Section 4.3.2** – 'The seabed imagery recorded three small pencil burrows and a single seapen at one station. The burrows were not considered to be consistent with, or in sufficient density to be, the OSPAR (2009) threatened and/or declining habitat, seapen and burrowing megafauna communities (Gardline, 2021b).' - Please expand upon this and provide clarity why the burrows were not consistent with the habitat.

In addition, in Section 4.3.2. please provide further clarity on why there is insufficient evidence to confirm if there a biogenic reef of horse mussels is present or not. Please provide any images from ground truthing that helps confirm the present of a biogenic reef. It is not sufficient to state that there are no sites due to 'insufficient evidence for the positive identification of biogenic reef.'

NEO should clarify how they propose to reduce impacts and follow the mitigation hierarchy to avoid, reduce, mitigate impacts to the potential conservation features by for example, minimising the seabed footprint and avoiding areas of known concentration as much as practically possible.

15. **Section 4.3.2** – 'Ocean quahog siphons were recorded at seven sampling locations in the Talbot survey area and dead shells were also recorded across almost all stations. The presence of ocean quahog could not be confirmed.' – please expand upon the assessment of the presence of Ocean Quahog within the project area.
16. **Section 5.7** – This section states that discharges to sea have been assessed against the possible impacts on organisms in the water column and to habitats and communities on the seabed however in 6.4.2 only water column impacts are assessed. Please clarify and provide an

assessment of impacts on benthic habitats and communities from discharges if applicable.

17. **Section 5.8** – The increase in VOCs and methane has been scoped out of the assessment. Please clarify to what extent these emissions will rise on Judy as a result of the Affleck project.
18. **Section 5.8** – This section states that issues were scoped out of the assessment, such as disposal of non-hazardous waste streams and Disturbance to ornithological features from vessels, due to the scale of impact, or magnitude.

This contradicts the EIA methodology within 5.6 which states that significance is determined through assessment of sensitivity, vulnerability, value magnitude and likelihood. Please clarify.

19. **Table 5-11** – The table shows that an event with a high and moderate consequence will have a significant impact. However, in Section 11.9 you conclude that an oil spill will have a high consequence but that the impact significance is not significant by virtue of the mitigation measures. There is limited detail in Section 11.7 of the management and mitigation measures, please provide further detail of all relevant mitigation which support the not significant conclusion.
20. **Section 6.4.1** – Please confirm whether Judy produced water modifications have capability to process the production fluids from the Affleck field and how this would impact oil in water content of produced water at Judy.
21. **Section 7.3.1** – Section states ‘Furthermore, the area is unlikely to be used by benthic spawners during the proposed operational period’. Please clarify whether this refers to the construction phase rather than operational period.

In addition in this section it states that ‘sandeel spawn in the winter months and therefore is unlikely to coincide with Development activities’ – Table 1-2 shows work being undertaken in Q4 during winter months. Please clarify.

22. **Section 7.3.1** – Section states that ‘the Development lies near the boundary of the Defra *Artica islandica* general distribution area (Figure 4-15).’ Please expand upon this point and provide a reference.
23. **Section 7.3** – The OPRED EIA Guidance states ‘Where there are still uncertainties relating to specific aspects of the proposals, for example where a number of techniques, technologies or operational arrangements could be applied and the final choice has still to be confirmed, the ES should briefly describe all the options and compare their environmental impacts.’ Please provide further details on the option to use jet trenching and the equivalent environmental impact of this option.
24. **Section 7.5** – Section states that there will be a direct seabed disturbance of 0.26km² and an indirect impact of 0.52km² but that the majority of this

area will be short term disturbance. The introduction of a hard substrate into a soft substrate area is a permanent impact and this appears to account for half of the impacted area identified. Please review and clarify the statements regarding short term disturbance.

25. **Section 7.5** - It is stated that there will be negligible cumulative impacts due to the small footprint of nearby installations. Please clarify and quantify the cumulative impact.
26. **Section 7.9** – The area of seabed disturbance differs between Sections 7.5 and 7.9. Please clarify.

In addition, in Section 7.9 it is stated that '0.028 km² of seabed habitat' will be lost due to the placement of stabilisation materials. Please clarify how the area of impact on habitat was quantified.

27. **Section 9.4.1** – This section states that the development will be constructed over a nine month period, however in Section 9.4.2 it is stated the installation phase is expected to occur over five months but that there may be a delay between the pipelay activities and backfill activities. Does the nine months referred to in Section 9.4.1 account for this potential delay?
28. **Section 9.9** - The table in this section shows that the sensitivity of shipping is medium, however the supporting text refers to it as low sensitivity. Please clarify.
29. **Section 10.3** – Section states that 'electrification is an ongoing project being assessed as part of emissions management on Judy, (see Section 5.5.1)'. It is not clear what this link is referring to. Please clarify.
30. **Section 10.4.4** – Section states that 'the introduction of Affleck fluids will require limited routine flaring on Judy.' Elsewhere in the ES it is stated earlier on that there is no routine flaring on Judy. Please clarify what flaring will be required during the life of the field.

It is also stated there will an increase in flaring of <7000t CO₂e over life of field and later refers to an increase in non-routine flaring. Please confirm if the <7000t CO₂ e increase in flaring includes both routine and non-routine flaring.

31. **Sections 10.4.4 and 10.4.5** - These sections imply that the increase in flaring on Judy will be exactly the same as the percentage increase in fuel gas demand. Please confirm if this is correct and clarify how these figures were derived.
32. **Section 10.4.6** - Please clarify how bringing Affleck online will impact the carbon intensity at Judy.
33. **Section 10.6.2** – The section states that 'where no sector-based or local emissions budgets exist, comparison can be made with the UK Carbon Budgets. In this assessment, NSTA sector-based area emission values

are available and are therefore used as a proxy for the impact of the Development on the global climate. On this basis, where GHG emissions from a development would be greater than 30%, the magnitude of the emissions would be considered large.' Please clarify and provide a reference to support the greater than 30% statement.

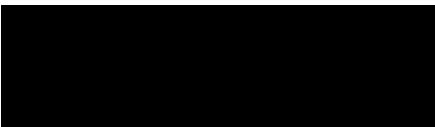
34. **Table 10-10** states that if the development resulted in an increase in emissions of between 3% and 30% of all emissions from offshore oil and gas then this would be a small increase. Please clarify.
35. **Table 10-4** – If operations result in 177 Tonnes CO₂e per year then it appears, given the total, that only 11 years have been accounted for rather than the full 2024 to 2037. Please clarify.
36. **Figure 10-4** – For 2021 a value of 13.45 kgCO₂e/boe is given in the first paragraph of Section 10.4.6 then it's stated to be 15.2 kgCO₂e/boe in the second paragraph. In Figure 10-4 it appears to be around 17 kgCO₂e/b. Please clarify.
37. **Table 10-4** - The atmospheric emissions from vessels during installation activities differ between Table 10-4 and Section 2.5. Please clarify which value is correct.
38. **Table 10-5** –Please clarify why flaring drops for three years then increases again in 2028. The information regarding Talbot in this table does not align with the data presented in the Talbot ES. Please clarify.
39. **Table 10-6** - The information regarding Talbot in this table does not align with the data presented in the Talbot ES. Please clarify.
40. **Section 10.6.1** - Please provide details on the impact of bringing Affleck online in terms of the Judy PPC permit and NO_x emissions.
41. **Section 10.6.2** – This Section states that the annual operational emissions from Affleck are expected to be around 0.006Mt CO₂e per year, however this does not align with the information presented in Table 10-7. Please clarify.
42. **Section 10.10.1** – This Section focuses on a seven year operational period. Please provide an assessment of the whole field life.
43. **Section 11** - Please include details of the properties of Affleck crude and the analogue crude used for oil spill modelling. These properties may include the following:
 - ITOPF Grouping
 - Specific Gravity
 - Viscosity
 - Wax Content
 - Asphaltene Content
 - Pour Point

44. Please provide information on the likelihood of natural disasters that could impact proposed activities, such as the likelihood of earthquakes or tsunamis and, if appropriate, to provide an assessment of potential impacts. See Section 3.2.10.2 of the OPRED EIA Guidance for further information.
45. **Section 11.6.2** - If there is a spill of crude oil, how will the wax content influence the behaviour of the spilled crude oil?
46. **Section 11.4** - Please include an hourly worst case blow out rate.
47. **Section 11.5.2** - This section has only considered shoreline contamination and not protected sites at sea. What is the potential risk of an oil spill on these receptors?
48. **Section 11.5.5** – Section states that it is unlikely that the hydrocarbons will be mixed in the water column in sufficient quantities or depth to interact with protected seabed features yet in Section 11.6.2 it is stated that the deterministic modelling results showed 32.15% of oil is predicted to be deposited on the seabed. Please provide justification for your initial statement on benthic environments or discuss the potential impact

Your response will be reviewed, and consideration given as to whether the information provided ought to be made public because the information is directly relevant to reaching a conclusion on whether the project is likely to have a significant effect on the environment. If so, OPRED will notify NEO under Regulation 12(3), and NEO will have to take further steps to publish information and make provision for further public consultation under Regulations 12(5) to 12(9).

OPRED looks forward to receiving your response so that we can progress our consideration of the ES.

Yours sincerely



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Environmental Manager

The Offshore Petroleum Regulator for Environment and Decommissioning
For and on behalf of the Secretary of State for Business, Energy and Industrial
Strategy