Offshore Petroleum Regulator
for Environment & Decommissioning

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Department for Business, Energy & Industrial Strategy

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

NOTICE UNDER REGULATION 12(1)

Talbot Field 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") in relation to the above project. Chrysaor Petroleum Company U.K. Limited is hereby required to provide further information in relation to the following:

1. The Field Development Plan (FDP) (final version, V4) mentions realising project synergies with NEO's Affleck project and aligning Final Investment Decision for both projects *'to allow execution as single Project'*. The Affleck project is not mentioned within the Talbot ES; what would the anticipated environmental impacts (positive or negative) be of any potential synergies with Affleck?
2. The following discrepancies between the FDP and ES have been identified:
    a. **Section 3.12** – Please confirm when end of field life is predicted. In the ES life of field is indicated as 10 years, but the FDP states the life of field as 12-16 years. Table 3:12 indicates 13 years (production profiles up to and including 2036). The Information Sheet at the beginning of the document states *'minimum 10 years*' so it's not clear why only 10 years has been assessed in parts of the document (e.g. Sections 8.3.4 and 8.4).
    b. **Section 3.8.2** – This section discusses connection to the Judy platform being via the PL1000 pipeline and riser currently in use by the Joanne field. The FDP mentions that the remaining design life of PL1000 is not compatible with Talbot and therefore an alternative tie-in arrangement is being assessed. This option is not discussed or assessed within the ES.

c. **Section 8.4** – The FDP and ES both mention an anticipated decrease in carbon intensity for the Judy installation, but the values of the reduction differ significantly (Section 3.9 and Table 10 of FDP).
d. **Section 8.4** – Total embodied carbon associated with the project is stated here as 135,940 tonnes over 10 years (0.92% of 2018 offshore emissions, which should presumably be 1%), which differs from the FDP figure of 123,973 tonnes (0.92% of 2018 offshore emissions). Which is correct? The FDP also quotes 211,970 tonnes of CO2e over the entire lifecycle, which is not mentioned within the ES; how was this figure calculated (Section 3.9 of FDP)?
e. **Section 8.5.2** – The FDP mentions 25,791 tonnes as the *'worst-case total annual total GWP contribution from Talbot during the proposed operations*'; this figure differs from that in the ES (Section 3.9 of FDP).
f. **Table 8:11** – The FDP has in Table 13 a similar list of potential emissions reduction projects but with some differences and an overall greater potential annual saving (tCO2e/year). Please confirm which is correct.

3. **Sections 3.11.1, 8.3.4.1 and 8.5.3.2 –** These mention that Judy has been largely on single gas compression operation recently, which contrasts with the most recent information received (Judy PPC variation PPC/49/7) indicating that operation of both trains is the current norm (possibly as far back as 2013). Does this alter the atmospheric emissions assessment, given *'For ES purposes we have assumed all increased fuel gas use and assessed all additional train operations to Talbot'*? Is it still the case that *'After this period, it is expected that Judy would return to predominantly single train operations'*? (The FDP also mentions that *'Talbot coming online . . . may result in Judy having to utilise two of its gas compressor turbines rather than just one, as it has managed to do recently*' which again seems to contradict current understanding that running both trains is the current norm.)
4. **Section 3.4** – Whilst it is useful to see an internal timeline of the development of the project (Figure 3:7), for the purposes of the ES there should also be a clear timeline showing approximately when each of the proposed project activities are likely to commence (e.g. drilling, pipelaying, trenching, infrastructure installation, commissioning, etc) and planned durations of each activity. Information should be provided on how seasonal sensitivities have been taken into account in planning the project activities.
5. **Section 3.5.5** – The well sections listed include contingency sections for the lower (LTOBM) sections but do not include any contingency for the upper (WBM) sections. This differs to the related drilling applications which have since been submitted.
6. **Section 3.5.5** – The cuttings transportation system mentioned here should be described in further detail, with information given on its use including the predicted location, nature, scale and extent of the discharged cuttings resulting from its use.
7. **Section 3.6.1** – Please provide a description of the 'mud-mats' associated with the manifold, including size and construction material. Have these been included in the dimensions of the manifold?
8. **Section 3.7.3** – This section discusses the subsea isolation valve (SSIV). Can you confirm whether this is situated within the manifold or is a separate piece of infrastructure? We note that the SSIV has not been included in the

seabed footprint calculation (Section 6.3.3) or underwater noise assessment. Are the piles indicated in Figure 3:11 the same as those for the manifold?

9. **Section 3.8.2** – Please explain how the selected option for a mechanical connector in combination with rigid spools (for Talbot tie-in to PL1000) reduces overall length of seabed impact. What were the other (discarded) options?
10. **Table 3:10** – A footnote states that mattresses within the Judy 500 m zone (n = 232) may be replaced with rock to minimise the number of mattresses. This does not appear to have been taken into account in the later impact assessment section (Section 6). What impact would this option have (increase or decrease) on the estimated areas of seabed disturbance?
11. **Section 3.10** – This states that stabilisation and protection materials used (other than rock) are all made of non-biodegradable materials. Please explain why biodegradable materials cannot be used e.g. hessian grout bags.
12. **Section 3.17** – Please clarify the justification for the assumption that the main export pipeline will be *'left in-situ in a safe condition'* given that all new developments should be designed to enable full removal.
13. **Section 4** – Schedule 6 of the EIA Regulations requires *'A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of its likely evolution without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge'.* A description of the baseline environment has been provided but discussion of the likely evolution of the environment without the Talbot project does not appear to be included.
14. **Section 4.2.6** – This section states that 33 boulders up to 0.8 m in height were observed from sonar records in the Talbot Field Development area survey. Has Chrysaor confirmed that the plan for the trench and burial of the Talbot export pipeline and umbilical will not be impacted by the presence of these boulders i.e. you do not envisage any obstruction to the trenching and backfill plough along the route?
15. **Section 6.3.2** – It is not clear where the dimensions of impact from the PL1000 tie-in (0.058 x 0.011 km) have come from, given Section 3.8.2 estimates the required trench size as 80 m x 3m.
16. **Section 6.3.2** – How does the allowance for four areas of upheaval buckling mentioned in this section relate to the 18 spot locations mentioned in Section 3.10/Table 3:10? Do the four areas averaging 300 m each in length cover these 18 spot locations, in which case could the rock be installed at these 18 (presumably shorter) locations only thereby reducing the overall quantity of rock required?
17. **Section 6.3.2** – How does the assumption that upheaval buckling areas will average 300 m in length relate to the 0.125 km pipeline length entered in Table 6:4 for spot placement along main route?
18. **Figure 6:3 - Figure 6:9** – These figures all denote a 10"/16" pipe-in-pipe pipeline and umbilical. Please confirm that the 12"/18" option (notably now confirmed within the FDP) would not alter the maximum quantities of stabilisation and protection materials (rock, concrete mattresses, etc.) anticipated to be required.
19. **Table 6:6** – It's not completely clear how this table aligns with the bullet points above (Section 6.3.3). Are the 6" hook-up spools between the manifold and

xmas trees the same as *'In-field pipelines'* in the table? If so, how is one of these at Judy (if between the manifold and trees)? Should this entry also be within the drill centre such that there are then three lines with each going to one of the trees? (If so then this should also be added to the footprint within the Fulmar MCZ.)

20. **Table 6:7** – The figures for pipelay and trenching in this table (along with a later reference to 0.178 km2 in Section 6.4.1) do not match the total figures given in Table 6:3. Please check and confirm the correct area of seabed disturbance expected from pipelaying and trenching activities.
21. **Section 6.5** – Can you provide justification for the figure of 3,020 m2 seabed disturbance for locating a rig/platform, given the seabed disturbance from locating the rig in this instance has been estimated as higher (4,425 m2)? The footnote to Table 6:8 states that this is based on previous Harbour applications; can you justify why these were more relevant that the current estimates within this submission?
22. **Section 6** – Please confirm that all vessels used for pipelaying, trenching and other construction work will be dynamically positioned i.e. not deploying anchors. Section 9 states *'All vessels aside from the guard vessel will be premised to be using dynamic positioning*'. Is this correct? Will the guard vessel in that case use anchors? If so this needs to be described and assessed.
23. **Section 7.3.2** – This section suggests that relatively large quantities of cement will be return to the surface. Please describe and quantify the predicted footprint of the area impacted from the discharge of cement to the seabed.
24. **Sections 7.3.6 and 7.4** – Please provide further information on the likely seabed footprint (including thickness) of the cuttings pile and its likely erosion over time. The ES should consider potential impacts to sensitive benthic receptors discussed in Section 4, in particular the Fulmar MCZ and its designating features. Do Chrysaor have specific information regarding the likely dispersion of cuttings from previous wells drilled at Talbot?
25. **Section 7.5** – The total volume of the cuttings pile assessed should be for all three wells, rather than just discussing 722 m3 which is understood to be the estimated cuttings pile from one well.
26. **Section 7.5** – Were the previous Talbot wells also drilled within the Fulmar MCZ? If so, what is the cumulative impact of the cuttings pile?
27. **Section 8** – Schedule 6 of the EIA Regulations requires *'the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change'*. This section describes in detail the impact of the project on climate, but information on vulnerability of the project (to climate change) doesn't appear to be included.
28. **Section 8.2** – This mentions that worst-case emissions (P90) have been compared. Presumably this is different to the P90 production case, given that the highest emissions would result from the P10 production case (highest production), rather than P90?
29. **Section 8.3.4.1** – This states that power generation requirements on the Judy platform are likely to increase from current operations. This should be quantified in terms of resultant atmospheric emissions from any change in power generation requirements / operating philosophy.

30. **Table 8:8** – This table shows emissions from flaring as a proportion of total UKCS flaring in 2018, but then also shows emissions from flaring only as a proportion of total UKCS emissions from exploration and production operations (i.e. including other sources of emissions). The Department would suggest that the 0.02% contribution indicated here is not representative.
31. **Section 8.4** – The discussion on carbon intensity mentions that an anticipated improvement (decrease) in carbon intensity is based on the power generation equipment operating with an optimal load when Talbot is included. Please explain what this refers to.
32. **Section 8.5.2** – The calculation of Talbot's contribution to 2018 UKCS exploration and production operations at 0.9% accounts for only one year of annual flaring (45,742 te). The reference to *'worst-case CO2e of the development, combining all drilling, construction, installation and production activities'* is therefore not quite correct as this only considers one year of production.
33. **Sections 8.5.3.1 and 8.5.3.2** – Can you provide background to the following calculations:
    a. Talbot will contribute 0.03% in 2025 and 0.06% in 2030 to the targets introduced in the North Sea Transition Deal?
    b. Talbot will contribute 0.02% of the 6th UKCCC Carbon Budget by 2035?
34. **Section 8.9** – 45,742 tonnes is mentioned here as *being 'worst-case total annual total GWP contribution from Talbot during the proposed operations'*, but elsewhere this figure seems to just relate to annual flaring from the development (not total emissions from the project). Additionally, 45,742 tonnes of 14.84 MtCO2 is not 0.03%.
35. **Sections 9.4.1, 9.7 and Appendix C Section 5.3** – These sections mention that onset of injury Permanent Threshold Shift may occur within 15 m of the piling for high-frequency cetaceans, using SPL peak thresholds; however, the table referred to (Appendix C, Table A.2) appears only to consider SEL thresholds. Please confirm.
36. **Section 9.4.3 and Appendix C Section 6** – These sections conclude no transboundary impacts are likely in terms of underwater noise, but the assessment found potential for behavioural change to occur within 10 km. Has this been considered given that the UK/Norway median line is located 7 km away?
37. **Section 10** – The modelling presented and subsequent impact assessment are different from the information presented in the Judy OPEP and communications and interface document, and applications for screening directions for the drilling operations. Please explain why, and which of these studies presents the worst case assessment.
38. **Sections 10.4.1 and 10.4.6** – Both deterministic modelling scenarios predict that a significant proportion of oil released in a blowout event would settle on the seabed. What would be the impacts on the benthic habitat and fauna and the protected sites designated for benthic features? The statement *'it is expected that oil will rise to the surface and be dispersed'* does not appear consistent with these modelling results. Section 10.4.1 should indicate short and long term impacts on benthic receptors and potential for recovery.
39. **Section 10.4.6** – Although impacts to ocean quahog have indeed been discussed in Sections 6.3.3, 7.4.1 and 7.4.4 these are impacts from different

activities. This section (10.4.6) should discuss potential impacts from an uncontrolled well blowout.

40. **Section 11.13** – The terminology used here to categorise significance differs from that used in Table 5:5 and so it is difficult to compare the two. For example, Table 5:5 uses low / medium / significant / high colour ranking for *'Overall significance (risk)*', but Table 12:1 considers *'Residual risk'* (low / medium / significant) and *'Significance'* (low / medium / high) separately. Please explain the relationship between these terms (and tables).
41. **Appendix B** – The ENVID report mentions an action *'Apply for contingent rock deposition for legs stabilisation and scour mitigation (dependent on geotechnical survey)*'. Is this still planned (acknowledging that the ENVID was carried out in October 2021)? If so this rock should be included within the relevant impact assessment in the ES.

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 Chrysaor Petroleum Company U.K. Limited under Regulation 12(3), and Chrysaor Petroleum Company U.K. Limited 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