

# Memorandum

To: Michael Hanrahan

Cc: Clare Morgan

From: Stephen Jewell

Date: 26<sup>th</sup> July 2022

Subject: Seven Heads Petroleum Lease – Decommissioning Plan  
– Consent Application No. 2, Technical Review

## Introduction

An application for consent (the “**Consent Application**”) for the decommissioning of the Seven Heads Field and associated facilities (Ref.1) has been received by the Department of the Environment, Climate and Communications (“**DECC**”). The Consent Application is dated 13<sup>th</sup> October 2021 and has been subject to a statutory period of public consultation, now closed.

This memorandum summarises the findings of a technical review of the Consent Application submitted by the applicant, PSE Seven Heads Limited (“**SHL**”), a subsidiary of PSE Kinsale Energy Limited (“**KEL**”). In this application, referred to as No. 2 (or Phase 2), only the pipelines and related infrastructure (umbilicals and protective materials) have been considered for decommissioning. The removal of subsea facilities (manifolds / jumpers etc.) and wells has been covered in the No. 1 application, which was reviewed and documented in an earlier memorandum (Ref. 2). Ministerial Consent to the KADP No. 1 application was granted on 26<sup>th</sup> April 2019. This memorandum considers only items included in Consent Application No. 2.

Guidelines related to offshore pipelines and related infrastructure issued in 2018 by the UK Regulator (Ref. 3) have also been reviewed for comparison.

Finally, five submissions received from the Public Consultation are considered to require technical review and these have been included in this memorandum (Refs. 4-8).

## Summary of findings, conditions and recommendations

1. **Overall, there are no technical concerns with SHL’s application that would prevent the Minister from consenting to the Consent Application.**
2. SHL’s proposed approach to decommissioning the remaining pipeline infrastructure is conventional and consistent with that taken by Operators with similar infrastructure in the UK sector of the North Sea to date. KEL has undertaken a Comparative Assessment (CA) to determine the best option for decommissioning its pipelines and related infrastructure. This is also consistent with best practice adopted in the UK and encouraged by the UK Regulator in its Guidelines (Ref. 3, Section 10.2).
3. SHL proposes to undertake a ‘final’ pipeline survey to determine where sections of the infrastructure have become exposed (e.g., by scouring) or have developed free spans. This survey is described in KEL’s separate EIA submission (Ref. 10) and will be used to guide remediation works (primarily rock placement).
4. SHL refers to the remediation of pipeline ends, exposed sections of previously buried pipeline, and free spans (as concluded in the Comparative Assessment). It is understood that SHL will also include sections of pipeline where there is evidence of free span development requiring remediation.
5. **In common with earlier Consent Applications, approval of the Consent Application No.2 should be conditional upon all consented activities being completed within a defined term, in the order of 3 to 4 years.**
6. Although many conceptual schemes for possible re-use of Kinsale area pipeline infrastructure (including Seven Heads) have been proposed in the public domain by third parties, none has been identified to be demonstrably viable. Consequently, there is no reason or cause for SHL to delay decommissioning of the Kinsale and Seven Heads pipeline infrastructure. The diligent execution of any consented works is entirely consistent with UK Guidelines (Ref. 3) which states that decommissioning should be executed without delay “...carried out as soon as reasonably practicable following cessation of production.” (Ref. 3, Section 5.18).
7. **The Decommissioning Close Out report proposed by SHL should include an Operations Report and a related Verification Report.**
8. **The duration of the post-decommissioning monitoring period together with the type, timing and frequency of surveys planned over the post-decommissioning monitoring period should be explicitly agreed separately with GSRO, provided that such post-decommissioning monitoring surveys may lead to the identification of required rectification works and such rectification works must be carried out by SHL to GSRO’s satisfaction.**

9. Five submissions detailing comments to the Consent Application and related documents were technically reviewed as part of this assessment. Although four of these submissions called for the retention of pipeline infrastructure for potential future use, none was sufficiently mature to warrant a delay to the proposed decommissioning. None of the four had accounted for the fact that the pipelines had already been disconnected and displaced with seawater, nor had they addressed how future maintenance costs and associated liabilities would be met. None had specifically identified Seven Heads field infrastructure for repurposing or potential re-use. One submission sought reassurance that any pipeline infrastructure remaining in place would not be re-used for future hydrocarbon production and transportation.

## **Seven Heads Field**

Each of the sections presented by SHL in its Consent Application No. 2 has been reviewed and is summarised below.

### **Section 1 – Introduction**

The historical background information and methodology described is appropriate for the proposed technical decommissioning works.

The overview of the decommissioning plan provides a convenient summary of all the activities required to complete the decommissioning of all the Kinsale Area fields, including Seven Heads.

The objectives stated appear reasonable with no obvious omissions.

SHL has repeated much of what was incorporated in its Consent Application No. 1 and appropriate reference is made to related facilities (and their decommissioning) at the Kinsale Field (Ref. 9).

Reference is made to a separate Environmental Impact Assessment Report (EIAR) submitted earlier and to an EIAR addendum submitted with the Seven Heads Consent Application No. 1. Two further addenda (2 and 3) to the EIAR have also been submitted with this Consent Application No. 2.

In summary, SHL is applying to leave the pipeline and umbilicals related to the Seven Heads fields in situ. This would include the use of engineering materials (rock placement) to cover or stabilise pipeline infrastructure offshore.

SHL refers to historical Consent Applications made for the Kinsale Area fields (OPL-1 Lease) in addition to those specifically made for Seven Heads.

An overview of the Seven Heads licences and facilities and the proposed methodology and plan for decommissioning is also provided.

### **Section 2 – Facilities Description**

A brief description and history of the fields and related facilities, including wells, is provided. The tie back of the Seven Heads Field to the Kinsale Field area complex is described.

A high-level inventory of the facilities to be decommissioned under Phase 2 is provided in Section 2.2. These include only the pipelines, umbilicals and protective materials which will be left in place following decommissioning.

The Seven Heads 18" export pipeline to the Kinsale complex is reported to have been displaced to seawater and disconnected (cut) from other infrastructure.

Reference is made to active (and inactive) telecommunications cables which cross (or are crossed by) Seven Heads pipelines/umbilicals. Concrete mattress separation is described but no specific risks to the telecommunication cables resulting from the planned rock placement is highlighted.

### Section 3 – Cessation of Production (CoP)

Cessation of Production (CoP) occurred on the 5<sup>th</sup> July 2020 in accordance with SHL's cessation of operations permit issued by DECC (DCCAE at the time).

The CoP timing decision was supported by a technical and economic evaluation report issued previously by SHL.

All Kinsale area facilities including the Seven Heads' pipelines and umbilicals have been considered for potential re-use. Further hydrocarbon production, carbon capture and storage and wind energy production were all considered – additional potential uses are also outlined in Sections 3.3. and 3.4 of the EIAR.

SHL has submitted Consent Application No. 2 on the basis that no provision would be made for future re-use of the pipeline infrastructure.

### Section 4 – Decommissioning Options

A Comparative Assessment (CA) has been used to determine the best choice for decommissioning of all the Kinsale area pipelines and umbilicals, including Seven Heads. The CA Report and its conclusions have been submitted as an appendix to the EIAR (Appendix E).

The preferred decommissioning option is to leave all pipelines and umbilicals in-situ and to use rock placement to remediate any free spans and to cover any exposed pipeline ends. Existing concrete mattresses will also remain in place to achieve the same remediation objective. This approach would minimise risks to third party users of the sea.

The amount of rock placement required to restore exposed pipeline coverage at Seven Heads has been estimated at 5059 tonnes. Additional rock placement would also be required to remediate free spans, the quantities being assessed during a pre-placement survey of the pipelines.

### Section 5 – Decommissioning Project Management

SHL's description of its Decommissioning Project Management is the same as that provided in its Consent Application No. 1 and described in the wider Kinsale Area Fields Decommissioning Plan (Ref. 9).

Management of the decommissioning project will be undertaken in accordance with Petronas' Project Management System (PPMS) – this system uses a 'stage gate' approach which would be considered 'best practice' by most larger organisations in the oil and gas industry.

The organisation and resources plan are presented at a high level and the intended method of reporting to the Regulator(s) is described. All the proposed reports and frequency of reporting look reasonable and should provide the various Regulators with sufficient information to monitor activities and to establish if the project remains 'on schedule' and/or 'within budget'.

Cost Estimates will be provided to DECC in accordance with the requirements stipulated in the approval of Consent Applications No. 1 (Condition 7.).

### Section 6 – Decommissioning Activities and Schedule

SHL provides a basic description of the anticipated activities involved in decommissioning the various subsea pipelines and umbilicals – primarily the remediation of free spans and coverage of the pipe ends.

Although rock placement vessels are yet to be contracted, SHL estimates the rock placement activities will take between 10 and 12 days to complete 5059 tonnes of rock material placement.

An indicative project schedule for the entire Kinsale Area Decommissioning Project is provided to show how the various activities will be executed on all facilities, including the pipelines and umbilicals which are the subject of this application.

A survey of the pipelines prior to rock placement is expected to take place during the summer of 2022. Rock placement is expected to follow later in the same year. Weather and availability of suitable vessels may impact on the proposed schedule.

Materials and waste management principles are described in section 6.3. However, SHL states that it does not anticipate the generation of any waste materials from the proposed pipeline decommissioning activities described in the application.

Finally, reference is made to KEL's long established HSEMS and the various Safety Cases that will be required to execute the proposed decommissioning plan.

### Section 7 – Post Decommissioning

SHL re-states that the pipelines and related infrastructure will be left in-situ and that a Post Decommissioning Survey will be completed.

The Post Decommissioning Survey is described in the EIA submission (Ref 10) and will consist of both a pre and post rock placement survey, utilising geophysical (sonic) surveying methods.

The Decommissioning Close Out report proposed by SHL in section 7.3 should also explicitly include the following:

1. An Operations Report
2. A Verification Report on Operations

In terms of post-decommissioning monitoring SHL states that it will conduct acoustic surveys of the pipeline locations ‘at intervals over a ten-year period’ using ‘a risk based approach’, reporting the results of all such surveys to GSRO.

The duration of the post-decommissioning monitoring period together with the type, timing and frequency of surveys planned over the post-decommissioning monitoring period should be explicitly agreed separately with GSRO, provided that such post-decommissioning monitoring surveys may lead to the identification of required rectification works and such rectification works must be carried out by SHL to GSRO’s satisfaction. The pre and post rock placement surveys, which form part of this application (Consent Application No. 2), should help inform any requirements or conditions relating to the post-decommissioning monitoring.

### Section 8 – Environmental Assessment

This specialist section has not been reviewed here.

### Section 9 – Stakeholder Engagement

This specialist section has not been reviewed here. However, five responses received by DECC following a public consultation have been reviewed and these are summarised below.

## **Responses to the Public Consultation**

The following documents have been reviewed, being responses to the Public Consultation on Kinsale Area Decommissioning conducted by DECC:

### **Comments by the Simply Blue Group**

In an email to GSRO dated 17<sup>th</sup> November 2021 (Ref. 4) Simply Blue Group proposes that the main 24" pipeline and landfall facilities be retained for future potential re-use for several purposes (Wind Energy cable trunking, hydrogen transport and storage). No specific reference is made to the Seven Heads facilities.

Response:

1. All the pipelines in the field have already been disconnected from infrastructure and displaced to seawater. This does not preclude their future use as a cable conduit but some remediation and cost to access and survey the lines to assess their internal condition would be required.
2. Use of the pipeline for hydrogen storage and/or transportation also remains technically possible, but with the same caveat as stated in 1. above.

It is concluded that Simply Blue has no specific interest in re-use of the Seven Heads infrastructure for potential future re-use.

### **Comments by dCarbonX Ireland Ltd**

In a letter to GSRO (Ref. 5) dated 15<sup>th</sup> November 2021 dCarbonX Ireland Ltd provides details of its ambitions to develop a large-scale energy storage capability in Ireland. Such development is anticipated as being in the field of carbon sequestration and/or hydrogen/hydrogen carrier storage.

dCarbonX Ireland Ltd is calling for *'a full assessment of the potential reuse of the Kinsale Area gas field pipeline infrastructure for future energy storage capacity development....before choices become further limited by ongoing abandonment activities'*

dCarbonX Ireland Ltd justifies its call for a full assessment based on two points:

- The storage of hydrogen / hydrogen carriers has not been considered as a potential re-use option to date
- The availability of suitable pipeline infrastructure could reduce cycle times and costs for any future energy storage project

No specific reference is made to the Seven Heads facilities.

Response:

1. The reduction of cycle times and costs through re-use of existing pipelines is certainly a possibility but is by no means a certainty. The age and condition of the current lines may make them unsuitable, depending on the nature of the potential storage project, its scale and projected lifespan. Remediation and re-purposing of the existing pipeline(s) may not offer the best solution and the procurement of new suitably engineered infrastructure might be more attractive.
2. All the pipelines in the field have already been disconnected from infrastructure and displaced to seawater. This does not preclude their future use but some remediation and cost to access and survey the lines to assess their internal condition would be required.
3. Use of the pipeline for hydrogen storage and/or transportation also remains technically possible, but with the same caveat as stated in 1. and 2. above.
4. Until the ideas proposed by dCarbonX Ireland Ltd are sufficiently mature it is not possible to conclude whether re-use of the existing infrastructure will offer the best solution for large scale offshore energy storage.
5. dCarbonX Ireland Ltd calls for a full assessment but does not indicate who should undertake such a study and how it might be funded.

It is concluded that dCarbonX has no clear or specific interest in the Seven Heads infrastructure for potential future re-use

**Comments by SLR Consulting Ireland on behalf of Mag Mell Energy Ireland Ltd (Ref: 501.00269.00004 L2)**

In a letter to GSRO (Ref. 6) dated 11<sup>th</sup> November 2021 SLR Consulting corresponds on behalf of its client Mag Mell Energy Ireland Ltd as planning and environmental advisors to Mag Mell Energy Ireland Ltd (MMEI).

MMEI is proposing to develop an offshore liquified natural gas (LNG) Floating Storage and Regasification Unit (FSRU) some 50km off the Cork coast. MMEI claims it has contracted with Gas Networks Ireland (GNI) to assess upgrades to the onshore gas network in Ireland to facilitate the connection of an LNG FSRU to the onshore terminal at Inch via the existing Kinsale offshore pipeline.

Consequently, MMEI objects to KEL's Consent Application No. 3 on two specific points:

- The grouting of the foreshore pipeline section

- Decommissioning of the Inch terminal

MMEI further states that the existing 24" pipeline could be left '*in a state of interim decommissioning (i.e., as is, filled with inhibited seawater)*' until such time as MMEI establishes access to the pipeline and Inch terminal. MMEI also states that the grouting of the onshore pipeline section is premature and a decision to defer this aspect of the decommissioning would not adversely affect the overall cost or schedule.

MMEI states that the potential re-use of the 24" pipeline and the Inch terminal for LNG import via an offshore FSRU has not been considered in the decommissioning plans.

Response:

1. Although MMEI refers to potential re-use of the 24" trunkline from Kinsale to Inch, and the Inch terminal itself, no specific reference is made to Seven Heads.
2. It is concluded that MMEI has no specific interest in, or proposals for, the re-use of the Seven Heads infrastructure for the purpose of future LNG import.

**Submission by SLR Consulting Ireland on behalf of Predator Oil and Gas Holdings Ltd (Ref: 501.00269.00004 L2)**

In a further letter to GSRO (Ref. 7) dated 11<sup>th</sup> November 2021 (submitted with the same reference as the previous letter regarding the Mag Mell LNG FSRU), SLR Consulting corresponds on behalf of a client Predator Oil and Gas Holdings plc. SLR Consulting act as planning and environmental advisors to Predator Oil and Gas Holdings plc and its subsidiary Predator Oil and Gas Ventures Ltd (Predator).

Predator states that it has applied for an Exploration Licence under the terms of a Licence option LO16/30 which includes an historical gas discovery, referred to as Ram Head. Predator claims that it intends to use the Ram Head reservoir as a storage facility linked to its proposed Mag Mell LNG FSRU development, described earlier. As such Predator submits that:

- The Ram Head Storage concept offers an alternative re-use option for the 24" Kinsale trunk line
- It objects to the grouting of the foreshore section of the 24" trunk line
- It objects to the decommissioning of the Inch onshore terminal
- DECC should adopt a 'deferral and phased decommissioning approach' as practised in the UK
- DECC could alternatively adopt 'an interim pipeline regime as practised in the UK'

Predator further states that the existing 24" pipeline could be left '*in a state of interim decommissioning (i.e., as is, filled with inhibited seawater)*' until such time as Predator establishes access to the pipeline and Inch terminal. Predator also states that the grouting of the onshore pipeline section is premature and a decision to defer this aspect of the decommissioning would not adversely affect the overall cost or schedule.

Response:

1. Although Predator refers to potential re-use of the 24" trunkline from Kinsale to Inch, and the Inch terminal itself, no specific reference is made to Seven Heads. In a section entitled 'Project Concept and Proposal' (Page 2), SLR suggests that Seven Heads would be unsuitable for future gas storage.
2. It is concluded that Predator has no specific interest in, or proposals for, the re-use of the Seven Heads infrastructure for the purpose of gas storage.

### **Submission by Not Here, Not Anywhere, 7<sup>th</sup> March 2022**

In a letter to GSRO (Ref. 8) dated 7<sup>th</sup> March 2022, Not Here, Not Anywhere (NHNA) submits that the decommissioning of the pipeline infrastructure by 'leaving in situ' poses a risk that such infrastructure might be re-used in the future to produce fossil fuels.

Response:

1. KEL's Comparative Assessment is a thorough evaluation of all decommissioning options and impacts. KEL has demonstrated that the decommissioning of the pipeline infrastructure *in situ* is the best overall alternative. NHNA does not suggest an alternative technical solution (e.g., complete removal) but seeks reassurance that re-use for hydrocarbon production will not be permitted if the infrastructure is to remain in place.
2. The entire pipeline system including that related to Seven Heads has already been flushed to seawater and is unlikely, given the age and likely internal condition, to be suitable for immediate or future re-use for hydrocarbon transportation. As time passes further deterioration of the pipeline condition will occur, making potential re-use increasingly unlikely.
3. The pipeline ends have been cut and will be buried. Their re-exposure and re-termination for re-use in the future would be both technically challenging and expensive.

Not Here, Not Anywhere makes no reference to Seven Heads related infrastructure specifically.

A handwritten signature in black ink, appearing to read 'Jewell', written in a cursive style.

**Stephen Jewell**  
Selgovia Limited

## References

- (1) Report “Decommissioning Plan – Seven Heads Petroleum Lease, Consent Application No. 2”, Kinsale Energy, Ref. 253993-00-REP-29, 30<sup>th</sup> September 2021
- (2) Memorandum from Stephen Jewell to Clare Morgan “Seven Heads Fields – Decommissioning Plan – Consent Application No. 1, Technical Review” 8<sup>th</sup> March 2019
- (3) Guidance Notes for the Decommissioning of Offshore Oil and Gas Installations and Pipeline, May 2018, published by UK Department for Business, Energy and Industrial Strategy
- (4) E-mail correspondence to GSRO DECC, ‘Kinsale Head Consent Application no. 3 and Seven Heads Application no. 2’, Simply Blue Energy, 17<sup>th</sup> November 2021
- (5) Letter from dCarbonX Ireland Ltd to GSRO DECC, ‘Re. Public consultation on the application for decommissioning of certain facilities within the Kinsale Area gas fields’, dated 15<sup>th</sup> November 2021
- (6) Letter from SLR Consulting sent by e-mail to GSRO DECC ‘The leaving in situ of the 24” export pipeline (offshore and onshore section), the filling of the onshore section with grout and decommission of the Inch terminal’, on behalf of Mag Mell Energy Ireland Ltd, 11<sup>th</sup> November 2021
- (7) Letter from SLR Consulting sent by e-mail to GSRO DECC ‘The leaving in situ of the 24” export pipeline (offshore and onshore section), the filling of the onshore section with grout and decommission of the Inch terminal’, on behalf of Predator Oil and Gas Holdings Ltd, 11<sup>th</sup> November 2021
- (8) Letter from ‘Not Here, Not Anywhere’, 7th March 2022
- (9) Report “Decommissioning Plan – Kinsale Head Petroleum Lease (OPL 1), Consent Application No. 3”, Kinsale Energy, Ref. 253993-00-REP-28, 30<sup>th</sup> September 2021
- (10) EIA Addendum No. 3, Section 2.2, 27<sup>th</sup> January 2022