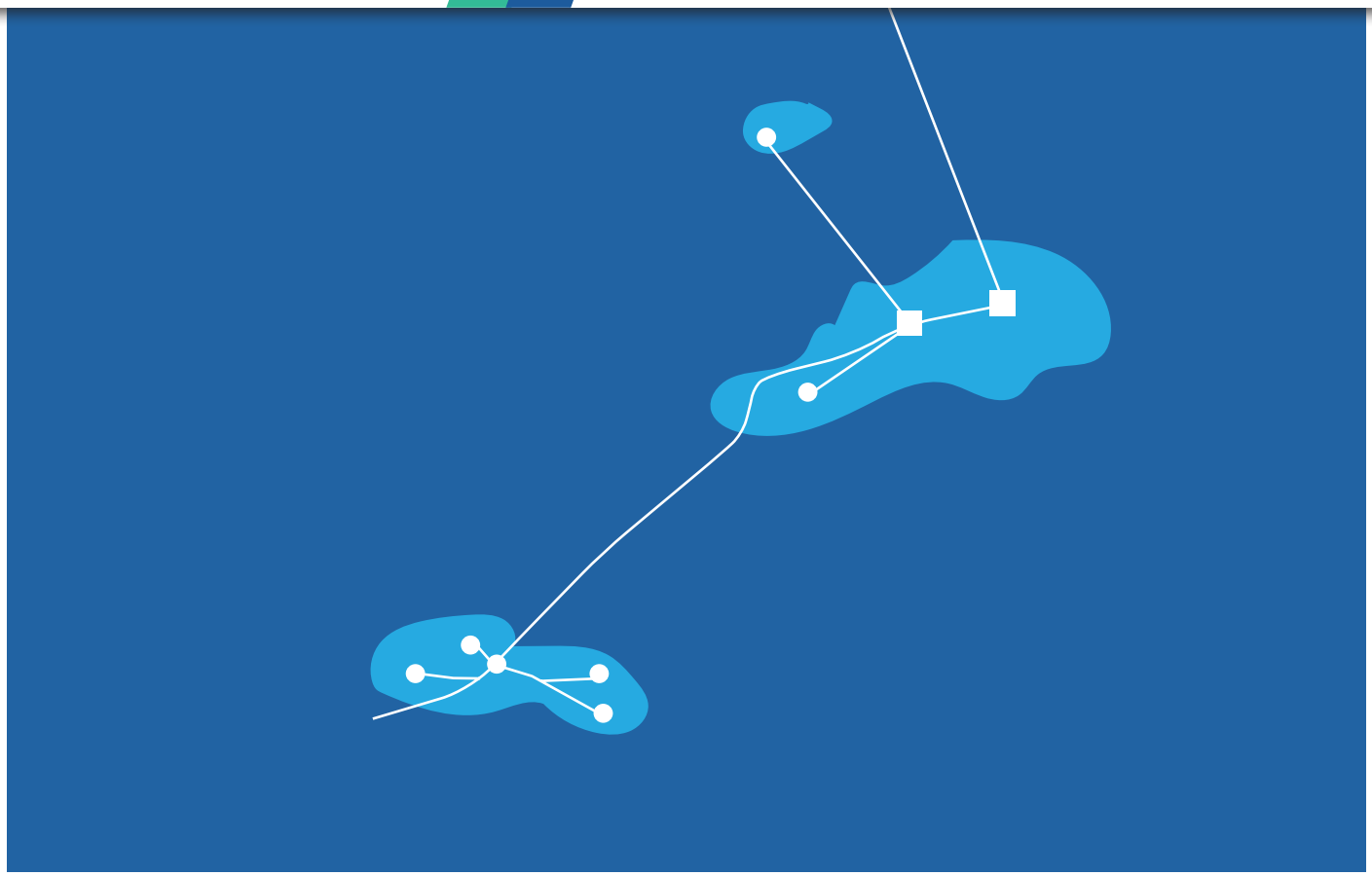
KINSALE ENERGY

Kinsale Area Decommissioning

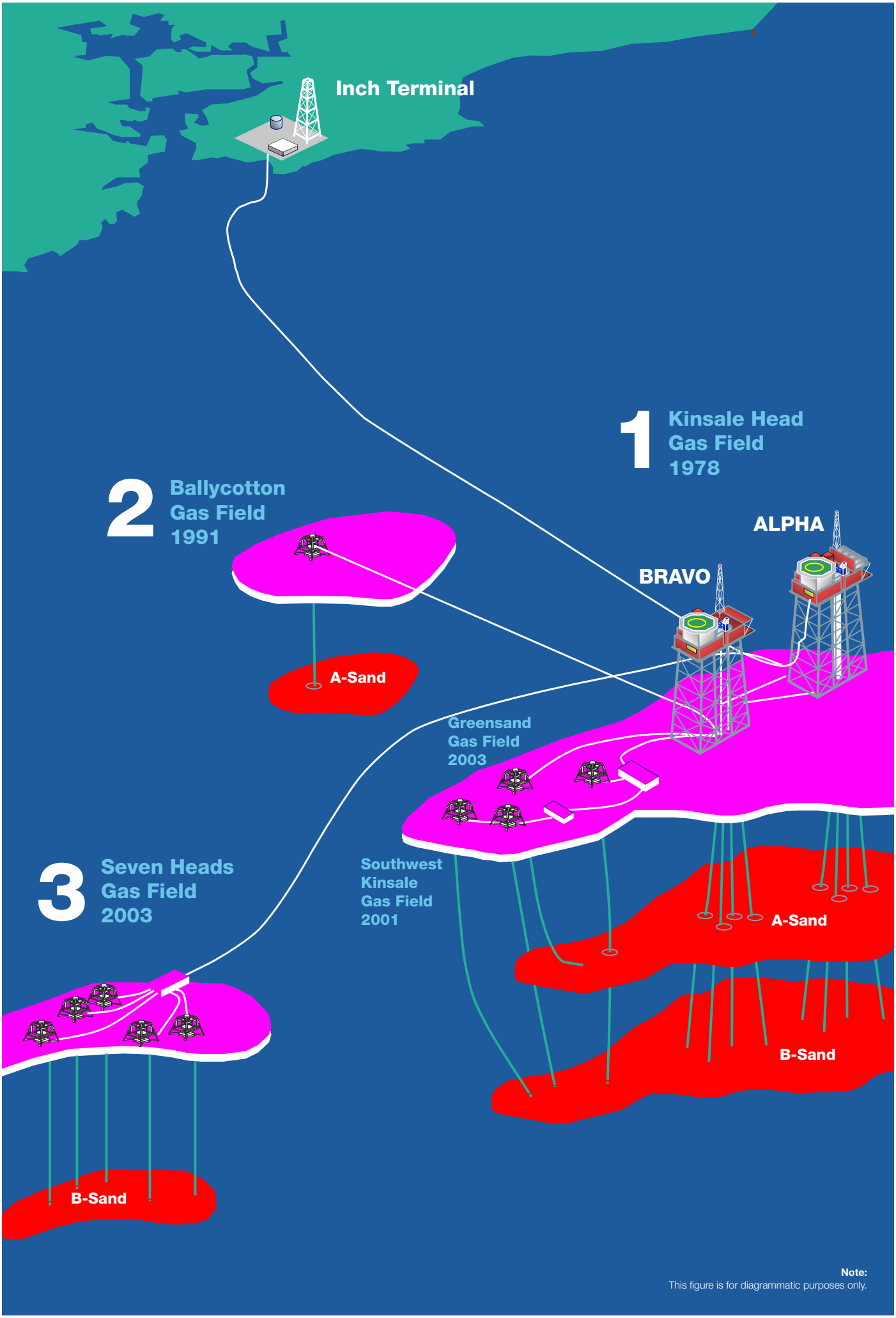
Environmental Impact Assessment Report Addendum



253993-00-REP-24 | August 2019

Hartley Anderson

ARUP


Inch Terminal
1
Kinsale Head
Gas Field
1978
2
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
3
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

Contents

Page

Contents **1**

Non-Technical Summary 1

1 Introduction **6**

1.1 Introduction and background 6
1.2 Updated Consent Application Process 7
1.3 Document Purpose and Scope: EIAR Addendum 7
1.4 Compilation of data or information to support the assessment 8
1.5 Consultation 9
1.6 List of Contributors 9

2 Legal and Policy Framework **12**

2.1 Environmental Impact Assessment Regulations 12
2.2 Draft Marine Planning Policy Statement 12
2.3 National Marine Planning Framework 13
2.4 Marine Planning and Development Management Bill 2019 (General Scheme published 24 July 2019) 13
2.5 Climate Action Plan 2019 14
2.6 Southern Region RSES 14
2.7 Implications for EIAR 15

3 Characteristics of the Marine Environment **16**

3.1 Introduction 16
3.2 Survey data covering the Kinsale Area 16
3.3 Cultural heritage 20
3.4 Birds 21
3.5 Marine mammals 23

4 Consideration of Potential Effects **26**

4.1 Introduction 26
4.2 Transboundary effects 26
4.3 Underwater noise 27
4.4 Cumulative impacts 28

5 Management of Residual Impacts and Conclusions **34**

5.1 Introduction 34
5.2 Environmental Management Commitments and Mitigation Measures 34
5.3 Conclusion 39

6 References 40

Tables

Table 1: Kinsale Area Survey Coverage **17**
Table 2: Abundance estimates of seabirds for waters south of Ireland (Stratum 4) from the ObSERVE aerial surveys in 2015 and 2016 **22**
Table 3: The seasonal relative importance of the Kinsale area to different seabird species, based on results of the ObSERVE aerial surveys in 2015 and 2016 **23**
Table 4: Cetacean sighting numbers and abundance estimates for waters south of Ireland from the ObSERVE aerial surveys in 2015 and 2016 **24**
Table 5: Marine mammal species relevant to the project area, their auditory capabilities and hearing injury thresholds as described in Southall et al. (2019) **28**
Table 6: Criteria for the identification of potential effects from the Kinsale Area Decommissioning Project **30**
Table 7: Sources of potential effects, relevant environmental factors and related environmental receptors relevant to the transport of materials to the disposal yard **31**

Figures

Figure 1: Seabed Survey Coverage **19**

Appendices

Appendix A
Summary of Consultations

Appendix B
Kinsale Area Seabed Surveys (2002-2017)

Appendix C
Cultural Heritage

Appendix D
Environmental Management Plan

Appendix E
Waste Management Plan

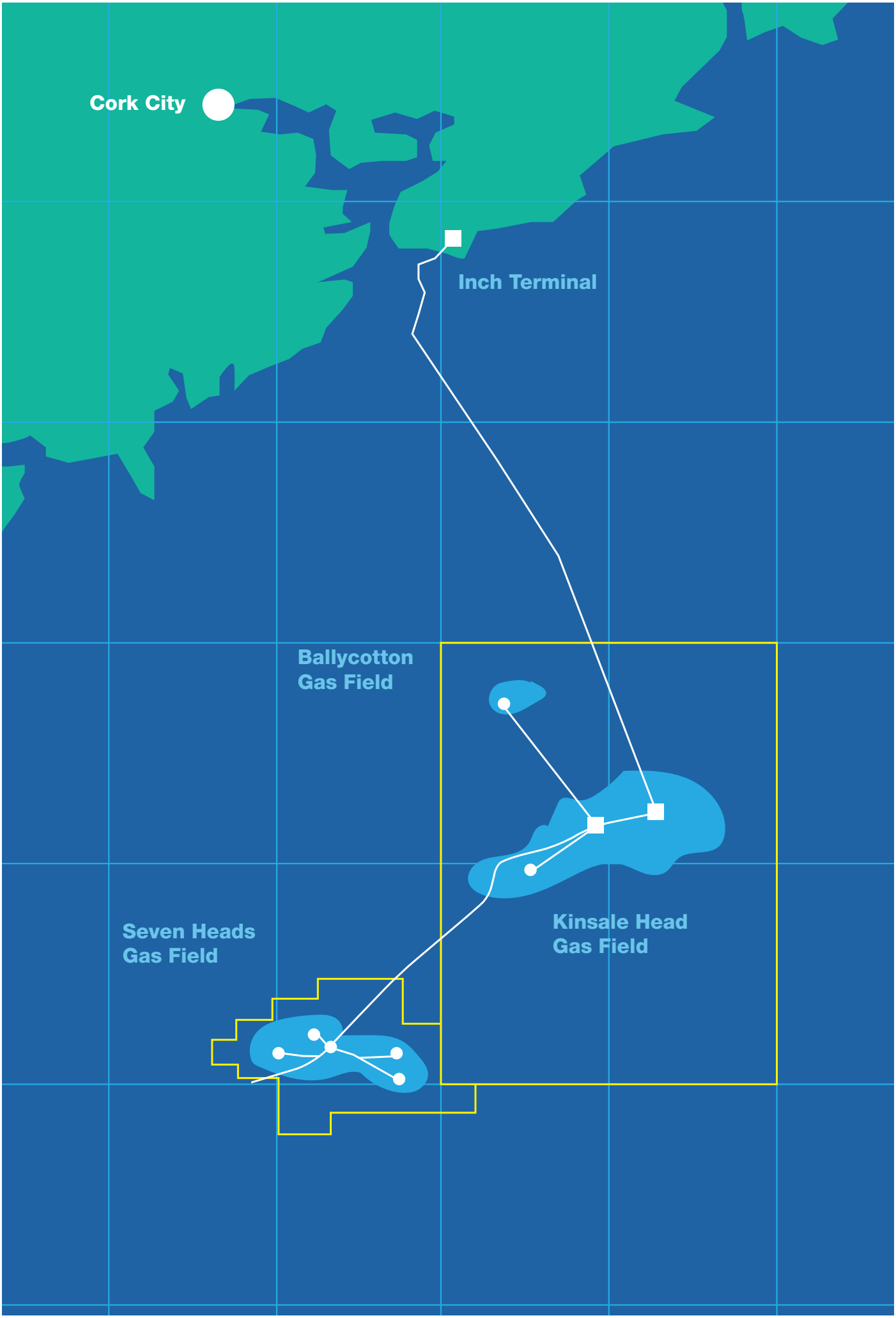
KINSALE ENERGY

Kinsale Area Decommissioning Project

Non-Technical Summary

Hartley Anderson

ARUP


Cork City
Inch Terminal
Ballycotton
Gas Field
Seven Heads
Gas Field
Kinsale Head
Gas Field

Non-Technical Summary

Introduction and background

PSE Kinsale Energy Limited (Kinsale Energy) is preparing for the decommissioning of the Kinsale Area gas fields and facilities (incorporating the Kinsale Head gas fields and facilities and the Seven Heads gas field and facilities), which are coming to the end of their productive life. Together the decommissioning of the entirety of the Kinsale Area gasfields and facilities is collectively referred to as the Kinsale Area Decommissioning Project (KADP).

Pursuant to Section 13 of the Petroleum and Other Minerals Development Act 1960 as amended (1960 Act), Kinsale Energy propose to submit Decommissioning Plans as addenda to the existing plans of development relevant to the Kinsale Area and Seven Heads Leases; which were submitted to and agreed with the then Minister under the terms of the Petroleum Leases under section 13 of the 1960 Act.

A staged consent application process for the Decommissioning Plans is proposed to reflect project scheduling requirements and to facilitate studies on the potential for any re-use options for the Kinsale Area facilities. Decommissioning Plans covering the first stage (Consent Application No. 1) were submitted on 28th June 2018 covering certain KADP activities relating to; facilities preparation, well plug and abandonment, platform topsides and subsea structure removal. It was proposed that a subsequent planning application would be made to cover the remaining elements of the KADP which are; the removal of the platform jackets and the decommissioning of the subsea pipelines and umbilicals. A separate planning application will be made for the decommissioning of the onshore gas terminal at Inch.

In accordance with the 1960 Act, an Environmental Impact Assessment Report (EIAR) was prepared to accompany the Decommissioning Plans for Consent Application No. 1. The EIAR considered all of the activities required to complete the KADP and is therefore also applicable to all consent applications. Following requests for further information from the Minister, which were formally responded to by Kinsale Energy, Ministerial consent for Consent Application No. 1 was received on 26th April 2019.

Subsequent to the above consent being granted, it has become apparent that there is no viable option for future re-use of the platform jackets, however, there are ongoing studies by others which may result in a future re-use of one or more of the subsea pipelines. To allow these studies to be concluded, it is proposed that Consent Application No.2 will consist of the decommissioning of the platform jackets only and will incorporate the conditions stipulated in Consent Application No.1, where relevant.The pipelines and associated umbilicals will be included in a future application or applications, as required.

Document Purpose

This EIAR Addendum has been produced to accompany the EIAR to reflect the additional information provided to the Minister on 14th November 2018 and 12th December 2018 during the Consent Application No. 1 process, and additional relevant environmental information which has been published in the interim.

This document should be read in conjunction with the EIAR which has also been submitted as part of this consent application process.

Legal and Policy Framework

There have been a number of changes to the policy and legislative context of relevance to the KADP since drafting the EIAR, some of which is in draft form but may be finalised in the timescale of the KADP.

Updated EIA Regulations (The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018) transpose amendments made to the EIA Directive into Irish legislation. The EIAR was prepared in compliance with the amended Directive in advance to this transposition.

More detail has become available on the approach to marine planning in Ireland since the EIAR was published. The Marine Planning and Development Management Bill 2019, draft Marine Planning Policy Statement and the developing National Marine Planning Framework, will provide a statutory basis for marine planning and marine policy for Irish Seas. Kinsale Energy will maintain awareness of the progress of this legislation/policy throughout the application process.

The Climate Action Plan 2019 builds on the National Mitigation Plan, the National Adaptation Framework, the National Development Plan, and the Offshore Renewable Energy Development Plan, identifying actions to enable Ireland to achieve its 2030 targets for carbon emissions, and achieve net zero carbon emissions by 2050. The Plan has an action to establish a steering group to examine the feasibility of Carbon Capture and Storage (CCS) in Ireland, with a sub-action to monitor a proposal by Ervia to develop Cork as a location for CCS. The EIAR recognises the status of the proposed ERVIA Carbon Capture Project and this has informed the consent application process being followed.

The Southern Regional Assembly has prepared a draft Regional Spatial and Economic Strategy (RSES) for the Southern Region covering 2019-2031. Of relevance to the KADP, is that the draft strategy recognises the potential role that CCS could play in the region in relation to electricity generation, and the storage of carbon dioxide in depleted offshore reservoirs.

The changes described above provide additional planning and legislative context, some of which remains draft or is to be subject to consultation, and Kinsale Energy will maintain awareness of these throughout the application process. None of these changes materially change the assessment made in the EIAR or its conclusions.

Characteristics of the Marine Environment

Updates to the description of the marine environment provided in the EIAR include information provided in response to the Request for Further Information in November 2018, and updated information on bird and marine mammal distribution and abundance from recent survey effort in the Celtic Sea.

Survey Data Covering the Kinsale Area

Further information on seabed surveys was requested as part of the RFI process. Extensive seabed survey work has been undertaken in the Kinsale Area since the discovery of the Kinsale Head field in 1971, and the most recent survey information covering the period 2002-2017 was used to inform the assessment presented in the EIAR. The additional information presented in the addendum includes a tabulation of survey scopes and methodologies, and a summary of the results for every survey (Appendix B). This information augments that already provided in relation to these surveys in the EIAR, but does not change either the environment description or any part of the assessment which is informed by these surveys.

Cultural Heritage

The Archaeological Diving Company Ltd. (ADCO) carried out a desk-top Cultural Heritage Assessment in November 2018 to augment the baseline information presented in the EIAR; the ADCO report was provided as part of the reponse to the 24th September Request for Information.The assessment provided information on wrecks located in the Kinsale Area, identifying four within 600m of the Kinsale facilities.

This information adds to that already provided in the EIAR, but does not change any part of the assessment in the EIAR.

Seabirds and Marine Mammals

New data on seabirds and marine mammals was available from the 2018 annual Celtic Sea Herring Acoustic Survey (CSHAS) and the ObSERVE programme.

Data from the CSHAS programme indicates that a lower number of individuals were recorded than in the previous two years, but the species composition was similar to previous years. The ObSERVE aerial survey data provide a greater level of quantification and seasonal information on seabirds than was previously available for offshore waters off the south coast, including the Kinsale Area. While the total abundance of seabirds was estimated to be similar in both summer and winter, the relative proportions of component species varied seasonally. For example. northern gannet were approximately twice as abundant in summer, while fulmar, black-legged kittiwake, most gull species and auks were considerably more abundant in winter. The general pattern of species composition and relative abundance of seabirds is unchanged from that which was previously described and assessed in the EIAR.

In the 2018 CSHAS, 88 hours of visual survey effort by dedicated marine mammal observers recorded a similar diversity and relative abundance of marine mammals as was recorded in previous years. Common dolphins were seen throughout coastal and offshore waters, and were by far the most frequently sighted and numerous species; fin whales were the second most numerous, and also observed in offshore waters and off the coast of Co. Waterford. Single sightings were recorded for each of harbour porpoise, bottlenose dolphin, humpback and minke whale and grey seal.

The ObSERVE data relating to the offshore area of the Celtic Sea indicates the abundance of bottlenose, common and unidentified dolphins was considerably higher in winter, with the opposite observed for harbour porpoise, which were by far the most abundant species recorded in summer. For the coastal survey area of the Celtic Sea, both harbour porpoise and all species of dolphin showed higher abundance in summer.

Minke whale abundance was estimated to be similar across two summer and one winter surveys, although the number of sightings was low. There were very few sightings of seals off the south coast of Ireland, with those few being clustered in the south-west and south-east, distant to the Kinsale Area.

The general pattern of species composition and relative abundance is unchanged from that previously described and assessed in the EIAR. These new data confirm the high diversity of cetacean species off the south coast, along with the seasonal patterns for the area which previous data had suggested.

Consideration of Potential Effects

The following section summarises additional assessment undertaken for the EIAR as requested during the Consent Application No. 1 RFI process in relation to transboundary effects from the transportation of materials to a North Sea dismantling yard. It also includes new information of relevance to the assessment of effects which has been published in the interim in relation to underwater noise and cumulative effects.

Transboundary effects

It is regarded that the main sources of potential effect are the physical presence, noise and visual intrusion of vessels during transit, and the presence and dismantling of the facilities at the disposal yard, noting that these yards would operate under their own licences.

The handling of the Kinsale facilities at existing yards, which is assumed to be within 700 nautical miles of the Kinsale area, would represent an increment to their ongoing work associated with wider North Sea decommissioning. A new decommissioning yard will not be required to dismantle the Kinsale facilities.

Whichever yard is chosen for the dismantling of the Kinsale facilities, impacts from their transportation would be transient (the vessels and barges being in motion for the duration of the journey) and temporary. Potential effects on shipping and fishing activity are restricted to temporary spatial conflict during transit of materials to any yard outside of Ireland. In the context of the current moderate to high shipping densities in these areas, established routes to ports, and relevant IMO routeing measures in the Irish Sea, Channel and North Sea, the addition of shipping at the scale associated with the transport of materials from the Kinsale area, is considered to represent a very minor increment, and it is not regarded that to result in any significant transboundary effects.

Interactions of the vessels in transit with sensitive species (e.g. birds, fish and marine mammals) both in terms of physical presence (including lighting) and noise are considered to be minor and not significant in terms of their increment to those from existing shipping operations in the Celtic Sea, Irish Sea, Channel and North Sea and significant effects are not predicted.

Atmospheric emissions (e.g. of sulphur dioxide) and discharges from vessels involved in the transport of materials to the dismantling yard are subject to mandatory controls under the International Convention for the Prevention of Pollution from Ships (MARPOL) or by the International Maritime Organisation (IMO). In view of these existing controls and the scale and duration of activity associated with transporting materials, significant transboundary effects are not predicted.

Underwater noise

With regard to marine mammals, the EIAR assessment made reference to hearing injury thresholds published by NMFS (2016), widely referred to as the NOAA thresholds. While there have been publications superseding MNFS (2016) since completing the EIAR, these have provided additional discussion or updated terminology, and do not change the outcome of the underwater noise assessment presented in the EIAR.

Cumulative effects

No new projects or activities have been proposed since the publication of the EIAR which are considered to be a source of potential in-combination effects either for the decommissioning of the offshore facilities or the Inch Terminal. There is some further information on projects already considered, including a site survey relating to the Barryroe oil discovery, and shortlisted cable landfalls for the Celtic Interconnector Project, but no further sources of in-combination effect are identified to assess, such that the conclusion of the EIAR remains unchanged.

Management of Residual Impacts

A number of mitigation measures and environmental management actions were identified in the consideration of potential effects within the EIAR which were reflected in a series of environmental management commitments and mitigation measures. These have informed the development of the KADP draft Environmental Management Plan which, in association with other relevant conditions to the consent, will ensure that potential residual impacts associated with the KADP are managed appropriately. In view of those conditions associated with the approval of Consent Application No. 1, it is anticipated that these would also be applied to any approval for Consent Application No. 2, and these are therefore reflected in the environmental management commitments where applicable to the EIAR.

Conclusion

This EIAR addendum takes into account consideration of the following:

- Updates to the legal and policy framework and the characteristics of the marine environment which are not considered to represent significant changes to the regulatory context and environmental baseline provided as part of Consent Application No. 1,
- Additional information including in relation to underwater noise effects, in-combination effects with other plans and programmes, and transboundary effects which were not found to be a source of likely significant effect,
- Environmental management commitments and relevant expected consent conditions

The activities associated with the proposed KADP, when considered in the context of the EIAR, as updated by the information presented in this addendum, will not result, either directly or indirectly, in likely significant adverse effects on the environment, alone or cumulatively with other existing or approved projects.

KINSALE ENERGY

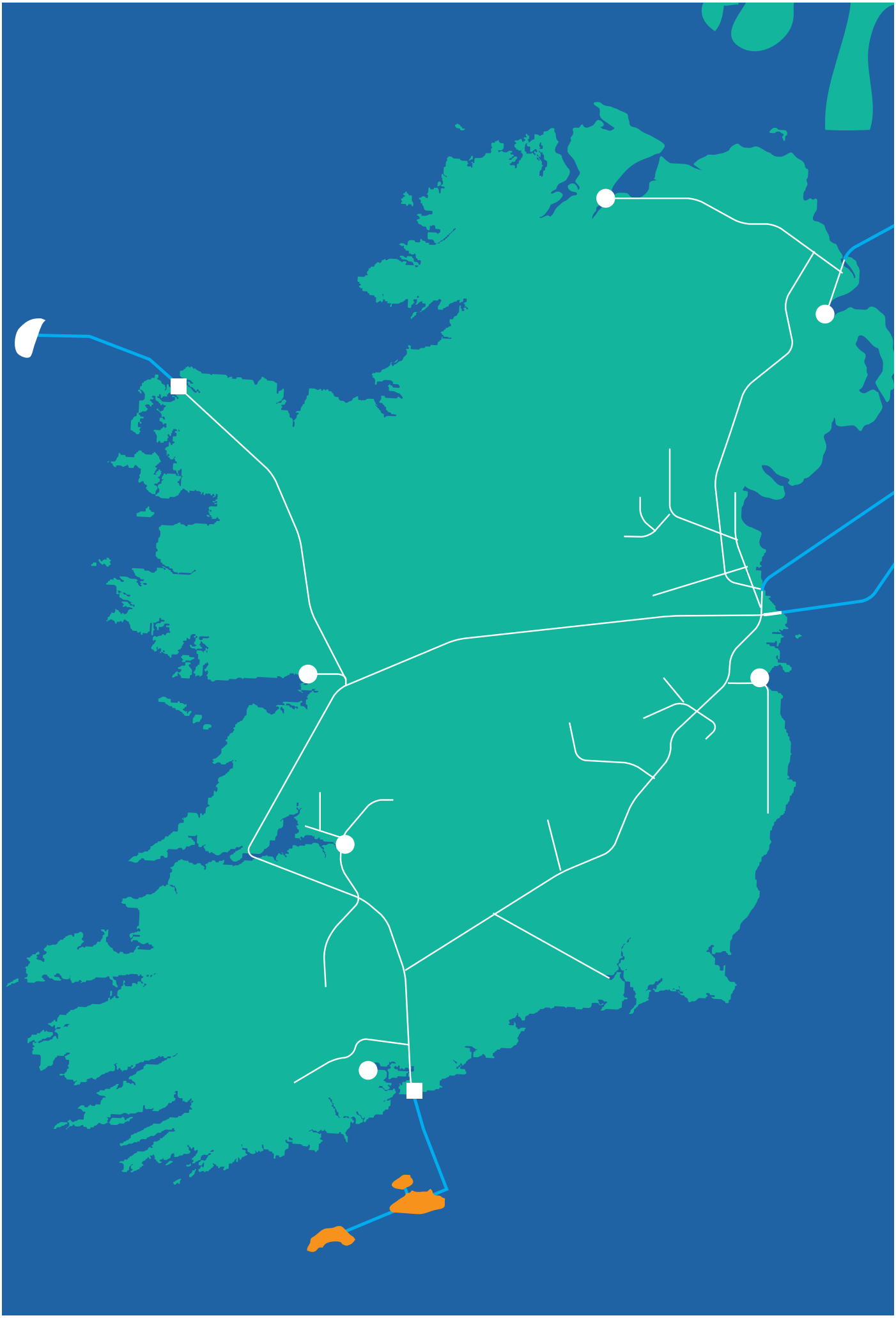
Kinsale Area Decommissioning Project

Section 1

Introduction and Background

Hartley Anderson

ARUP



1 Introduction

1.1 Introduction and background

PSE Kinsale Energy Limited (Kinsale Energy) is preparing for the decommissioning of the Kinsale Area gas fields and facilities (incorporating the Kinsale Head gas fields and facilities and the Seven Heads gas field and facilities), which are coming to the end of their productive life. Together the decommissioning of the entirety of the Kinsale Area gasfields and facilities is collectively referred to as the Kinsale Area Decommissioning Project (KADP).

Pursuant to Section 13 of the Petroleum and Other Minerals Development Act 1960 as amended (1960 Act), Kinsale Energy propose to submit Decommissioning Plans as addenda to the existing plans of development relevant to the Kinsale Area and Seven Heads Leases; which were submitted to and agreed with the then Minister under the terms of the Petroleum Leases under section 13 of the 1960 Act.

The entire KADP plan consists of:

- Facilities preparation: disconnect and degas process plant and pipelines (pipelines displaced with seawater, and inhibited seawater in the case of the 24" export pipeline).
- Wells: plug and abandon all platform and subsea wells and removal of any surface component of these wells, including wellhead structures and platform conductors.
- Platform topsides: complete removal in accordance with OSPAR Decision 98/3.
- Subsea structures: (e.g. manifolds, wellhead protection structures): full removal in accordance with OSPAR Decision 98/3, including the removal of connecting spool pieces, umbilical jumpers and protection materials.
- Platform jackets: complete removal in accordance with OSPAR Decision 98/3.
- Offshore pipelines and umbilicals: rock cover of freespans and/or remaining exposed sections and remaining in situ protection materials.
- Export pipeline (offshore and onshore section): fill onshore section with grout (if a viable re-use option is not identified) and rock cover of freespans and/or remaining exposed sections in offshore section.
- Decommissioning the Inch Terminal (full removal and reinstatement to agricultural use, as per the terms of the site planning permission, Cork County Council planning reference 2929/76).

To reflect project scheduling requirements and to facilitate studies on the potential for any re-use options for the Kinsale Area facilities, a two stage consent application process for the Decommissioning Plans was originally proposed by Kinsale Energy. Decommissioning Plans covering the first stage (Consent Application No. 1) were submitted on 28th June 2018 covering the following works:

- Facilities preparation: disconnect and degas process plant and pipelines (pipelines displaced with seawater, and inhibited seawater in the case of the 24" export pipeline and the 18" Seven Heads pipeline).
- Wells: plug and abandon all platform and subsea wells and removal of any surface component of these wells, including wellhead structures and platform conductors.

- Platform topsides: complete removal in accordance with OSPAR Decision 98/3.
- Subsea structures: (e.g. manifolds, wellhead protection structures): full removal in accordance with OSPAR Decision 98/3, including the removal of connecting spool pieces, umbilical jumpers and protection materials.

A subsequent application was proposed to cover the remaining offshore works required to complete the KADP. A separate planning application will be made for the decommissioning of the onshore gas terminal at Inch.

In accordance with section 13A of the 1960 Act, an Environmental Impact Assessment Report (EIAR) was prepared to accompany these Plans. That EIAR provided an assessment of all likely significant environmental impacts of the decommissioning of the Kinsale Area gas fields to enable the Minister for Communications, Climate Action & Environment to undertake an Environmental Impact Assessment to determine whether the proposed decommissioning of the offshore and onshore facilities associated with the Kinsale Area fields would or would not be likely to have significant effects on the environment.

Following a request for further information from the Minister, and a second request for supplementary information, both of which were formally responded to by Kinsale Energy, Ministerial consent for Consent Application No. 1 was received on 26th April 2019.

1.2 Updated Consent Application Process

Subsequent to the above consent being granted, and following ongoing discussions with potential users of the facilities and information received from potential decommissioning contractors, it has become apparent that there is no viable option for future re-use of the platform jackets. However, there are ongoing studies by others which may result in a future re-use of one or more of the subsea pipelines. To allow these studies to be concluded, it is proposed that Consent Application No.2 will consist of the decommissioning of the platform jackets only. The pipelines and associated umbilicals will be included in a future application or applications, as required. The scope of work to be covered by this and future applications is therefore:

- **Works covered in Consent Application 2:**
  - **Platform jackets:** complete removal in accordance with OSPAR Decision 98/3.
- **Works covered in future applications:**
  - **Offshore pipelines and umbilicals**: rock cover of freespans and/or remaining exposed sections and remaining *in situ* protection materials.
  - **Export pipeline (offshore and onshore section)**: fill onshore section with grout (if a viable re-use option is not identified) and rock cover of freespans and/or remaining exposed sections in offshore section.

1.3 Document Purpose and Scope: EIAR Addendum

This EIAR Addendum has been produced to accompany the EIAR to reflect the additional information provided to the Minister on 14th November 2018 and 12th

December 2018 during the Consent Application No. 1 process, and additional relevant environmental information which has been published in the interim. The relevant conditions applied as part of Consent Application No. 1 are also committed to as part of Consent Application No. 2. See Section 5 for the range of environmental management commitments for the KADP..

This document should be read in conjunction with the EIAR which has also been submitted as part of this consent application process.

The description of the project (**Section 3 of the EIAR**) is unchanged, and so is not described again in this document.

Consistent with the EIAR for the KADP submitted as part of Consent Application No. 1, this addendum has been produced to cover all consent applications, for both the Kinsale Head gas fields and Seven Heads gas field. The information in this EIAR addendum is presented as follows:

- Legal and policy framework (**Section 2.5**)
- Characteristics of the marine environment (**Section 4**)
- Consideration of potential effects (**Section 5**)
- Management of residual impacts and conclusions (**Section 6**)

1.4 Compilation of data or information to support the assessment

As previously submitted as part of the response to the Request for Further Information in November 2018, there were no major difficulties in compiling the relevant information to inform the assessment presented in the EIAR, or in this addendum. This is in part a reflection of the large amount of historical data available resulting from some 40 years of operations and the studies and assessments made for subsea developments tied back to the Kinsale Head platforms or for exploration wells drilled in the region by Kinsale Energy and others. In addition, over this period there has been significant new regional information generated through for example the Marine Institute surveys and the IOSEA programme; these are reflected in the EIAR and this addendum (e.g. see Section 4). Gaps in environmental information and details of the project design were identified early in the EIA process, which were addressed through additional seabed survey, baseline data collection, and information in the form of technical reports and discussion on the project basis of design.

Information on the baseline environment, technical aspects of the proposed project and the potential nature of effects were kept under continual review during the preparation of the EIAR.

Contracting for decommissioning services is not yet completed so actual vessel names cannot be given. Therefore, technical details of the rig, HLV and other vessels used in the assessment were based on typical vessels operating in the North Sea region, where conditions are similar to the Celtic Sea. The technical reports prepared for KEL that underpin each of the remaining technical solutions provided sufficient detail such that information on representative vessels could be used, along with worst case estimates of timing in the field (plus a 25% contingency) to calculate the related emissions and duration of potential interactions. The nature and timings of vessel operations were

scrutinised within KEL and are regarded to provide a robust input to the assessment and further information was not considered necessary.

Noting the further information requested on underwater archaeology and the description of the baseline marine environment (provided in **Section 3** of this document), there were no significant challenges in compiling the relevant baseline information to inform the EIA. Previous survey data was considered adequate (see **Section 3.2** of this document), and informed the pre-decommissioning survey scope. The remaining baseline information used to characterise the relevant aspects of the environmental factors was derived from primary and grey literature sources, and was considered sufficiently detailed to define the baseline relevant to the project scope.

1.5 Consultation

During the preparation of the EIAR, discussions were had and/or correspondence made with statutory and non-statutory bodies and other interested parties to ensure that issues relating to the proposed KADP were considered as appropriate in the EIAR process. This process was outlined in **Section 1.8 of the EIAR** and further detail is provided in the form of a summary in **Appendix A** to this addendum. The summary includes comments, views and feedback received from interested parties, and indicates how these were used to scope and inform the EIAR.

1.6 List of Contributors

This EIAR addendum was prepared by a team of competent experts on behalf of Kinsale Energy, which are tabulated below, and are a subset of those involved in the preparation of the EIAR.

Name	Qualification	Relevant Experience	Contribution to EIAR
Hartley Anderson Limited – Offshore/marine environmental consultants			
Dr JP Hartley	BSc (Hons) Zoology with Marine Zoology, PhD	Dr JP Hartley is a marine environmental consultant scientist with over 35 years of environmental assessment (EIA, SEA, HRA), applied marine research and environmental management experience in Ireland, the UK and internationally. He is technical Director of the independent environmental consultancy Hartley Anderson Ltd, which he co-founded. He is joint project director for the UK Offshore Energy Strategic Environmental Assessment programme from 1999 to date. He is a regular contributor to university Masters programmes. He has served on a range of marine scientific research and management steering groups for Renewables, Aggregate, Climate Change and Environmental Monitoring.	Sections 2, 3, 4 and 5. Appendix B.
Dr DM Borthwick	MA (Hons) Geography, PhD	Dr DM Borthwick has over ten years of experience in environmental assessment for offshore energy involving work at the strategic (SEA) and project (EIA) levels, including screening and Appropriate Assessment under the Habitats Directive. He has led or participated in Environmental Impact	Sections 2, 3.3, 4.2, 4.4 and 5

Name	Qualification	Relevant Experience	Contribution to EIAR
		Assessments for offshore projects (oil and gas and carbon dioxide transport and storage) in the North Sea. He has technical expertise in geology, substrates and coastal processes, seascape, marine archaeology and climate, Geographic Information Systems (GIS) marine spatial data and analysis.	
Dr RJ Trueman	BSc (Hons) Environmental Biology, PhD	Dr RJ Trueman has over 15 years of relevant experience, worked on EIAs for offshore projects in the North and Irish Seas, for oil and gas production and carbon dioxide transport and storage. He has also been involved in Strategic Environmental Assessment (SEA) for energy related plans and programmes in the marine and terrestrial environment, and related Appropriate Assessments.	Section 3.2 and 5. Appendix B.
Dr AM Brown	BSc Marine Geography, MRes Marine and Fisheries Science, PhD	Dr AM Brown is a marine scientist with a broad knowledge-base and strong research background, including specialisations in environmental assessment, GIS, offshore energy, marine mammals and fisheries. He has worked on EIA, SEA, Habitat Regulation Assessment and conducted noise assessments for several projects.	Sections 3.5, 3.5 and 4.3
Mr KM Carey	BSc Zoology, MSc Applied Geospatial Information Systems	KM Carey has five years Geographic Information System (GIS) applied experience in map production and data management for a range of marine environmental assessments, including national scale SEA and project specific EIA and permit applications.	Figure 3.1 and support to colleagues with spatial inputs
Arup – Onshore/terrestrial environmental consultants			
Clodagh O' Donovan	BE, MEngSc, CEng, FIEI, FConsEI, MCIWEM, C.WEM	Clodagh O'Donovan is a chartered civil engineer, with over 20 years' experience in the consultancy business in Ireland. As Environmental Team Leader for Arup Ireland, Clodagh has direct responsibility for both the team and the projects that it undertakes. Over her career, Clodagh has led the preparation of EIA and AA documentation for a wide range of projects, including in particular, the energy sector, where she has specialist knowledge.	Review of EIAR and Addendum
Janet Lynch	BE, CEng, MIEI	Janet Lynch is a chartered civil engineer with 19 years professional experience. Janet is responsible for project management and planning for waste, energy and environmental engineering projects. Key skills include:	Preparation of Waste Management Strategy

Name	Qualification	Relevant Experience	Contribution to EIAR
		• Resource and Waste Management Strategy Preparation • Environmental Impact Assessment (EIA/SEA) • Industrial Emissions Licensing for the waste, energy, pharmaceutical and industrial sectors Janet previously worked with Arup London, Dublin City Council Waste Management Division and Sustainable Energy Ireland.	

.

KINSALE ENERGY

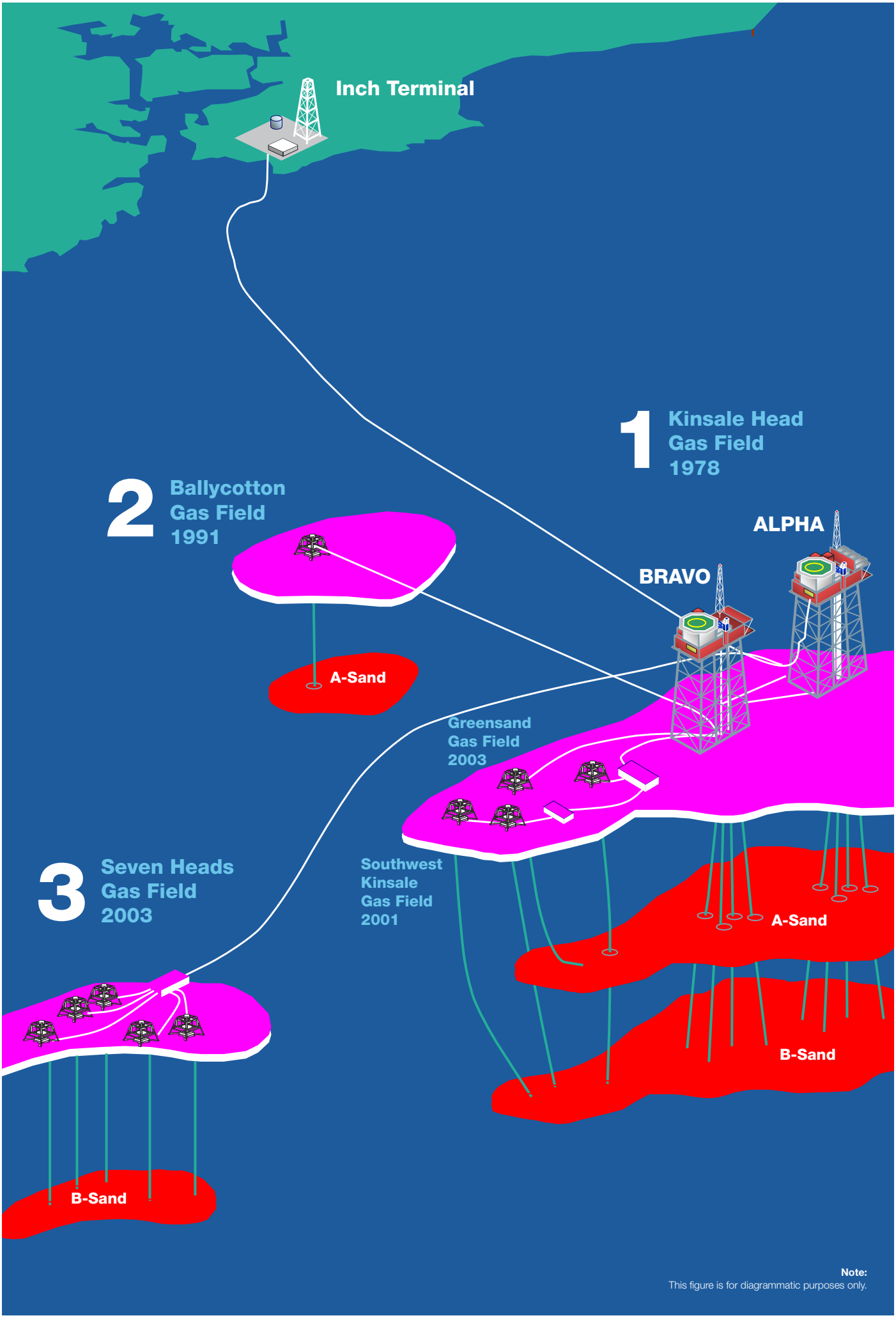
Kinsale Area Decommissioning Project

Section 2

Legal and Policy Framework

Hartley Anderson

ARUP


Inch Terminal
1
Kinsale Head
Gas Field
1978
2
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
3
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

2 Legal and Policy Framework

The following summarises changes to the policy context of relevance to the KADP since the drafting of the EIAR. Some of this policy and legislation is presently in draft form, but may be finalised in the timescale of the KADP.

2.1 Environmental Impact Assessment Regulations

Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment set out the requirements in relation to Environmental Impact Assessments (EIAs). Directive 2014/52/EU amended Directive 2011/92/EU (together the "EIA Directive") and replaced the requirement to prepare an Environmental Impact Statement (EIS) with a requirement for an Environmental Impact Report (EIAR). The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 came into force on 1st September 2018. These regulations transposed Directive 2014/52/EU into Irish legislation and made substantive amendments to the existing planning legislation. The EIAR was prepared in compliance with both Directive 2014/52/EU and Directive 2011/92/EU and there have been no changes since submission and assessment of the EIAR.

2.2 Draft Marine Planning Policy Statement

The draft Marine Planning Policy Statement (MPPS)[1] applies to all facets of marine planning and is being introduced on a non-statutory basis, pending the introduction of legislation in 2020 that will provide for the preparation, adoption and review of statutory marine planning policy statements on six-yearly cycles. The MPPS serves as a parallel to the 2015 Planning Policy Statement which underpins the operation of the entire land-planning system in Ireland. It sets out core principles to inform the evolving marine planning and development management process, including:

- Ensuring that developments consider as a matter of course ways to reduce the emission of greenhouse gases and that they have due regard to the impacts of a changing climate.
- Taking into account land-sea interactions broadly described as either being related to land-sea natural processes, or interactions among land and sea uses and activities.
- Integrating environmental, economic and social considerations, as well as supporting safety at sea.
- Ensuring the marine environment is used sustainably and in a manner that is consistent with the Good Environmental Status requirements of the Marine Strategy Framework Directive and the requirements of relevant national, European and OSPAR Convention standards.

[1] Consultation on the draft MPPS will run from June 10th to August 9th 2019: https://www.housing.gov.ie/planning/marine-spatial-planning/public-consultation-marine-planning-policy-statement

- Supporting the maintenance and restoration of biodiversity as a necessary prerequisite for healthy and resilient marine ecosystems and the sustainable development of our maritime and coastal areas.
- Supporting the preservation and enjoyment of Ireland's rich marine heritage – both natural and cultural – and our marine-related cultural and heritage assets.

2.3 National Marine Planning Framework

Marine Spatial Planning (MSP) in Ireland is underpinned by the European Marine Spatial Planning Directive (Directive 2014/89/EU) (MSPD), transposed into domestic legislation through the Planning and Development (Amendment) Act 2018. The Department of Housing, Planning and Local Government is leading the development of Ireland's first marine spatial plan. The plan, the National Marine Planning Framework (NMPF) will serve as a parallel to the National Planning Framework, setting out the Government's long-term planning objectives and priorities for the management of the seas for the next 20 years. It will create an overarching framework for marine decision-making that is consistent, evidence-based and secures a sustainable future for Ireland's marine area.

A draft NMPF will be published in Q3 2019 for a period of public engagement and consultation (this follows an earlier engagement phase on the NMPF Baseline Report[2]), with the final plan due in 2020. Both the draft and final plan will set out specific objectives and marine planning policies for all activities taking place in Ireland's seas. The plan will also set out the proposed future approach to the adoption of spatial designations for marine activities or designated marine protected areas.

2.4 Marine Planning and Development Management Bill 2019 (General Scheme published 24 July 2019)

The Marine Planning and Development Management Bill 2019 (formerly the Maritime Area and Foreshore (Amendment) Bill) will:

- Establish a statutory basis for the preparation of a MPPS (see above).
- Introduce powers for the Minister for Housing, Planning and Local Government to put in place statutory marine planning guidelines.
- Provide an enhanced statutory basis for marine forward planning.
- Introduce a single State consent system for the maritime area. The Ministers for the Department of Housing, Planning and Local Government (DHPLG) and Communications, Climate Action and Environment (DCCAE) will assume responsibility for consents relevant to the foreshore, territorial sea, exclusive economic zone and continental shelf of the maritime area, as appropriate. They will also be responsible for the granting of leave to apply for development consent/planning permission to An Bord Pleanála/local authorities for projects under their jurisdiction.

[2] https://www.housing.gov.ie/planning/marine-spatial-planning/national-marine-planning-framework-baseline-report

- Eliminate the unnecessary duplication of development management processes (including environmental assessments) for activities or developments that are currently assessed under both the foreshore and planning regimes.
- Introduce a single development management process for the maritime area for activities or developments that come within the remits of the Ministers for DHPLG & DCCAE (including, oil and gas production, minerals extraction and offshore renewable energy).

2.5 Climate Action Plan 2019

The Government published the Climate Action Plan in June 2019. The plan builds on the National Mitigation Plan, the National Adaptation Framework, the National Development Plan, and the Offshore Renewable Energy Development Plan, identifying actions to enable Ireland to achieve its 2030 targets for carbon emissions, and achieve net zero carbon emissions by 2050.

Of relevance is *Action 33: Establishment of a Steering Group to examine and oversee the feasibility of the utilisation of [Carbon Capture and Storage] CCS in Ireland, and report to the Standing Committee on Climate Action as appropriate*. A linked sub-action is to monitor progress of a proposal by Ervia to develop Cork as a location for CCS. Ervia identify key attributes in favour of Cork[3] as:

- The presence of the soon to be depleted Kinsale Energy offshore gas field due to be decommissioned in 2020/2021. They indicate further analysis will take place over the coming years to ensure that it is a suitable, secure CO_2 storage site.
- Existing local infrastructure (Kinsale Gas Field, Whitegate, Aghada and Inch) could potentially be repurposed for a CCS project.
- There is a large industrial cluster in Cork. The opportunity to be supplied with low-carbon electricity would attract more industry and jobs to the local areas.

It should be noted that the EIAR recognises the status of the proposed ERVIA Carbon Capture Project and this has informed the consent application process being followed.

2.6 Southern Region RSES

The Southern Regional Assembly has prepared a draft Regional Spatial and Economic Strategy (RSES) for the Southern Region covering 2019-2031. The draft RSES provides a long-term regional level strategic planning and economic framework, to support the implementation of the National Planning Framework, for the future physical, economic and social developments for the Southern Region. The draft RSES was open to public consultation from 18 December 2018 until 8 March 2019. Of relevance to the KADP is Section 5.1 Environment, which under Resource Efficiency states that '*Between fuel and energy production, Whitegate Energy Park has the potential to deliver 25% of the country's energy needs. It is a national asset in terms of developing bio-energy and is responsible for the production of a significant element of the national bio-fuel substitution target. As technology develops there is potential to store carbon dioxide from electricity generation in some of the depleted offshore reservoirs'.*

[3] http://www.ervia.ie/business-development/carbon-capture-storage/

2.7 Implications for EIAR

The changes described above provide additional planning and legislative context, some of which remains draft or is to be subject to consultation, and Kinsale Energy will maintain awareness of these throughout the application process. There have been no changes to the legislative framework for the KADP which would materially change the assessment made in the EIAR or its conclusions.

KINSALE ENERGY

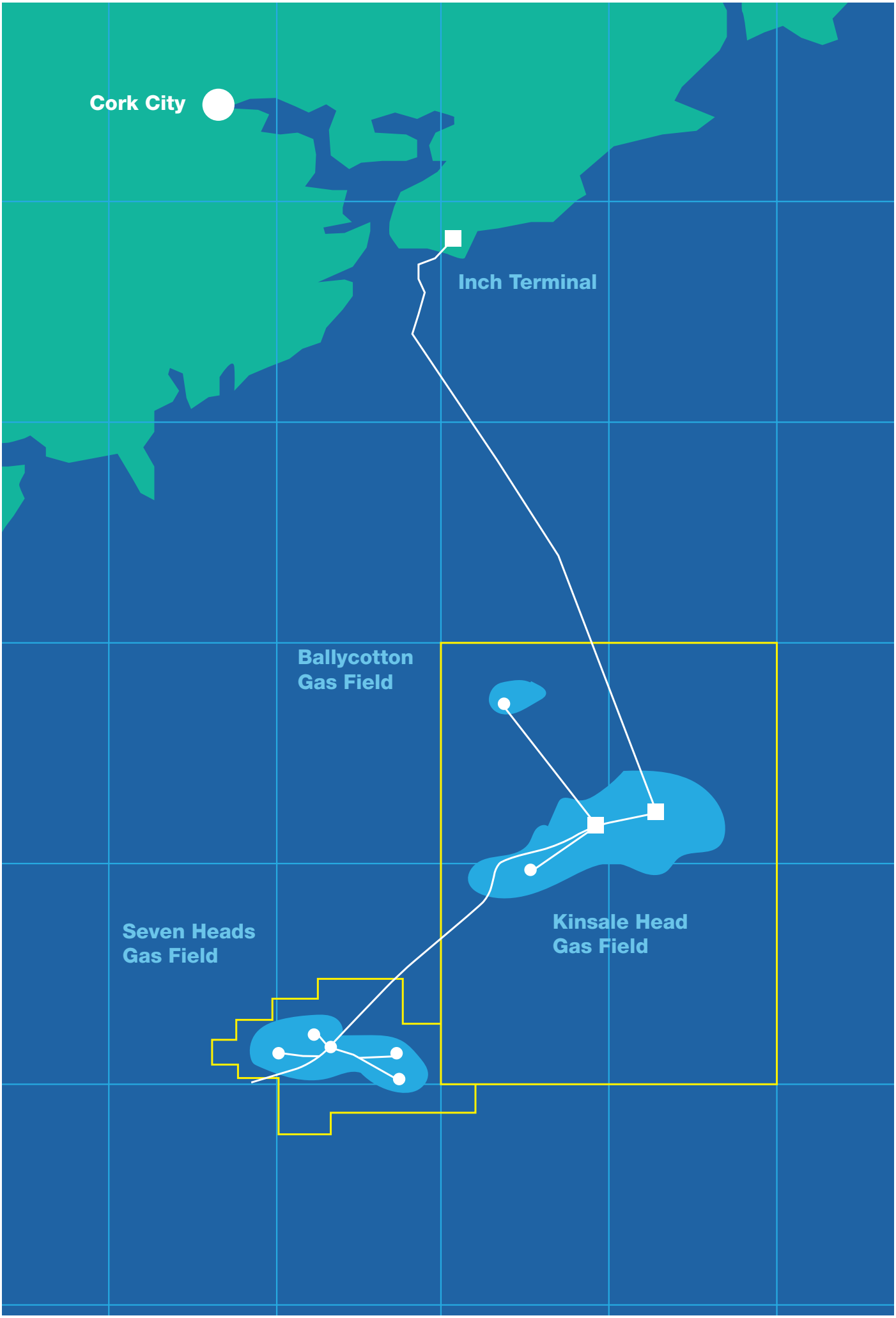
Kinsale Area Decommissioning Project

Section 3

Characteristics of the Marine Environment

Hartley Anderson

ARUP


Cork City
Inch Terminal
Ballycotton
Gas Field
Seven Heads
Gas Field
Kinsale Head
Gas Field

3 Characteristics of the Marine Environment

3.1 Introduction

This section includes the information provided in response to the Request for Further Information of November 2018 in relation to the marine environment baseline, including the survey coverage and methodologies used to characterise the Kinsale Area seabed (Section 3.2) and the charted location of wrecks in relation to the Kinsale facilities (Section 3.3). Additionally, updated information on bird (Section 3.4) and marine mammal (Section 3.5) distribution and abundance from recent survey effort in the Celtic Sea is presented.

3.2 Survey data covering the Kinsale Area

Extensive seabed survey work has been undertaken in the Kinsale Area since the discovery of the Kinsale Head field in 1971, and the most recent survey information covering the period 2002-2017 was used to inform the assessment presented in the EIAR. The survey coverage is shown in **Figure 1** and the scope and methodology in **Table 1**. Each survey is summarised in full in **Appendix B**. This information augments that already provided in relation to these surveys in the EIAR, but does not change either the environment description or any part of the assessment which is informed by these surveys. The syntheses of these survey data is provided in **Sections 4.1 and 4.4.2** of the EIAR, and is not presented again here.

Table 1: Kinsale Area Survey Coverage

Block/area	Author	Year	Coverage and Purpose	Scope					
				Bathymetry	Seabed sediments/features	Sediment contaminants	Annex I Habitat Survey	Photographs	Seabed fauna/habitats
48/20, 48/23, 48/24, 48/25, 49/16	Marine Institute	2017	Day grab sampling and drop down camera at 31 locations across the Kinsale Area including at Seven Heads, South West Kinsale and Greensand, Ballycotton and Kinsale Head. Pre-decommissioning baseline survey.	✓	✓	✓	-	✓	✓
49/11	Gardline	2015	Cruciform sampling with Day grab around each of 2 proposed well locations (Midleton A exploration well; Midleton B appraisal well); 11 stations total [1 reference @5.5k; 2 offset x50m locations; 4 cruciform (distances 250 to 593m)	✓	✓	✓	-	-	-
48/24	Fugro ERT report to Providence resources PLC	2012	Barryroe post-drilling ROV sampling and video; 17 stations in cruciform pattern out to 150m; no ref stn. Depth 101m	-	✓	✓	-	-	✓
48/24	Marine Institute report to Providence	2011	Barryroe pre-drill; EBS; 11 stations with 4 Day grabs/station and video at each station.	-	✓	✓	-	✓	✓
48/9, 48/10, 48/15, 48/20	Ecoserve (contracted by Marine Institute)	2011	EBS for installation of gas pipeline (&umbilical) between Inch and gas fields of Ballycotton and SW Kinsale (client, PSE Kinsale Ltd)	-	✓	✓	✓	✓	✓

Block/area	Author	Year	Coverage and Purpose	Scope					
				Bathymetry	Seabed sediments/features	Sediment contaminants	Annex I Habitat Survey	Photographs	Seabed fauna/habitats
48/9, 48/10, 48/15, 48/20	Marine Institute	2010	Covers bathymetry, seabed feature, shallow geology, geotechnical and hazards, in relation to the Kinsale Head gas storage project.	✓	✓	-	-	-	-
48/23, 49/23	Hartley Anderson report to Island Oil and Gas	2006	Celtic Sea drilling programme sediment samples pre-spud and post-well taken by ROV.	-	✓	✓	-	-	-
48/25	Aquafact contracted by HAL (report to Marathon Oil Ireland)	2004	7 stations in vicinity of Seven Head Greensand well for physico-chemical analyses.	-	✓	✓	-	-	-
48/20, 48/24, 48/25	Hartley Anderson report to Ramco	2003	Seabed Environmental Monitoring Programme for Seven Heads Development (5 devt wells); review of ROV video along pipeline route survey.	-	-	-	-	✓	✓
48/20, 48/24, 48/25	Aquafact contracted by HAL	2002 - 2003	Baseline survey; combination of seabed photography and quantitative grab sampling. Initial results indicated a variable mixture of mud, sand and gravel supporting a sparse fauna.	-	✓	✓	-	✓	✓

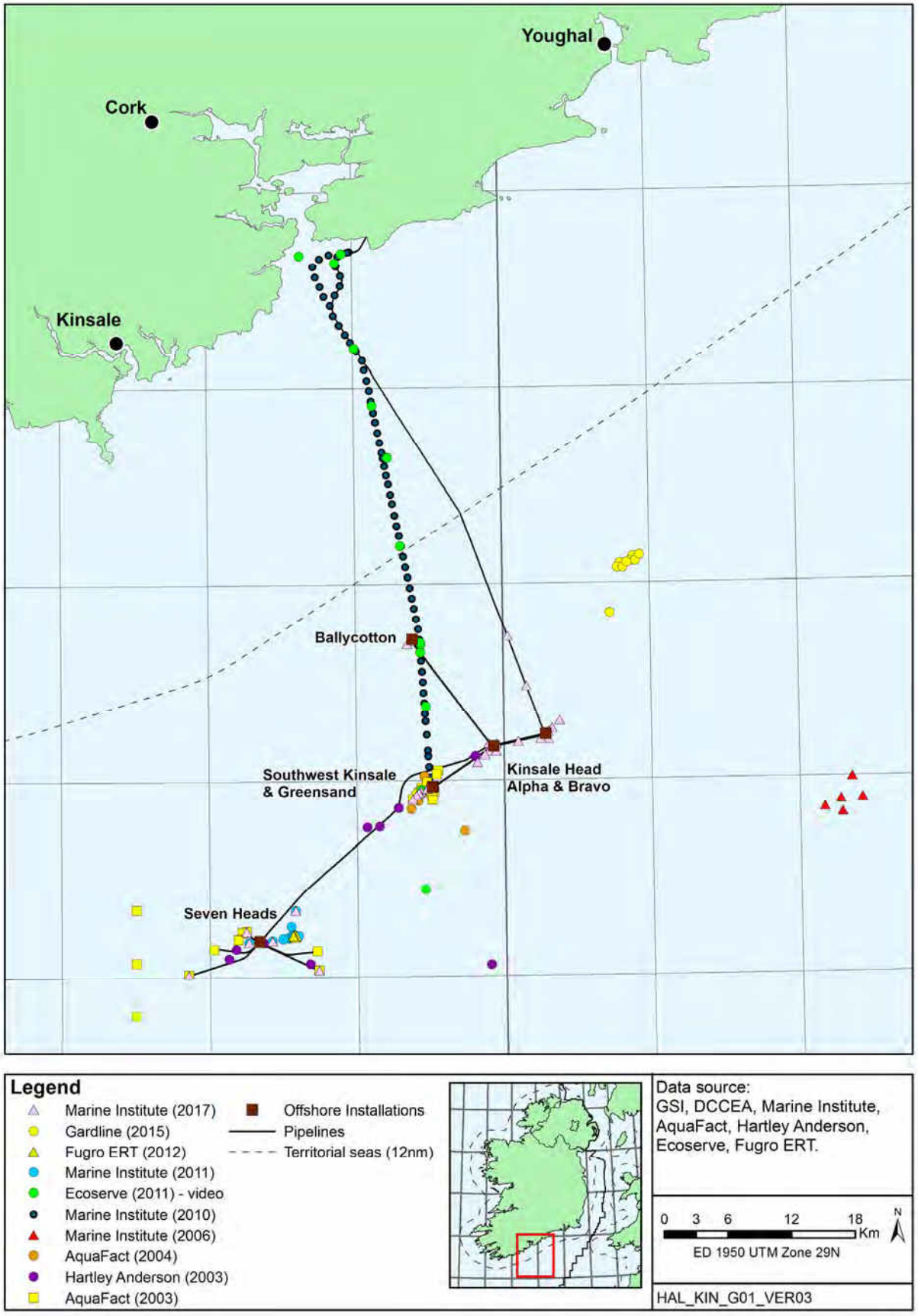


Figure 1: Seabed Survey Coverage

3.3 Cultural heritage

The Archaeological Diving Company Ltd. (ADCO) carried out a desk-top Cultural Heritage Assessment in November 2018 to augment the baseline information presented in **Section 4.6** of the EIAR. The report findings are summarised below and presented in full in **Appendix C** to this addendum.

As highlighted in the Marine Institute (2010) marine geophysical survey report, the seabed across the Kinsale Area is regarded as retaining high archaeological potential, indicated by the sheer volume of recorded wrecksites. These are summarised below for those parts of the Kinsale Area in which they are found. The potential for cultural heritage is recognised here and in the EIAR, and following those conditions applied to cultural heritage interests as part of Consent Application 1, Kinsale Energy commits to implementing these in relation to Consent Application 2 (see **Section 4.2.2.1**).

3.3.1 Kinsale Head

There are six known wrecksites in proximity to the Kinsale Head and South West Kinsale facilities. Wreck W10722 is an unknown vessel which lies 1.7km to the south of Kinsale Alpha. Named wrecks are; W05156 is the steamship *San Andreas* lost in 1918, and lies 6.2km northeast of Kinsale Alpha, while W10143 is the site of U-boat U-772, which was lost in 1944 and lies 7km south of the Southwest Kinsale & Greensand. Wreck W11064 is 700m from South West Kinsale and the Western Drill Centre, and some 190m north of the 12" Western Drill Centre pipeline.

3.3.2 Ballycotton

The charted location of W11077 is 268m southeast of the Ballycotton wellhead and 30m east of the 10" Ballycotton pipeline. The vessel name is not known and further information is not available on it. There are several wrecksites to the north and west of Ballycotton, but all are at least 5km away.

3.3.3 Seven Heads

There are four known wrecksites in the wider vicinity of Seven Heads, the closest of which, Wreck W11050, lies 2.7km north of well 48/24-6, to the west of the Seven Heads manifold. The names and details of the wrecks in the vicinity of Seven Heads are not known.

3.3.4 Export pipeline

There are several charted wrecksite locations that lie close to the export pipeline from the Kinsale Head Field as follows:

- Wreck W1076 is an unnamed wreck near the Kinsale Head Field, 700m east of the pipeline.
- Wreck W08054, named as the *Carrabin*, is located inshore (within territorial waters) and is a wrecked sailing ship lost in 1917, and has its charted location 680m east of the pipeline.
- Wreck W10138 is named as the site of U-boat U058, and is also located inshore, lying 4.2km west of the pipeline.

- Wreck W08211 is the wreck of the ketch, the *Elizabeth Jane*, lost in 1916. It lies within 600m of the pipeline to its east.
- Wreck W5519 lies only 30m east of the pipeline and is the site of a German submarine, UC-42, which was lost in September 1917 while attempting to lay mines across the mouth of Cork harbour. The submarine measures 5m wide, 45m long, 3.7m in maximum height and lies on its port side, orientated NW-SE, at a depth of 27m.

3.3.5 Inch Terminal

There are no known archaeological sites at the Inch terminal. The closest site is that of a house in Ballintra East townland, located 200m West (Sites and Monuments Record number CO100-036). A prehistoric lithics scatter is also identified in Inch townland, located 250m east of the terminal (CO100-043).

3.4 Birds

There are two main surveys/studies providing new data on seabirds additional to that presented in the EIAR: the 2018 annual Celtic Sea Herring Acoustic Survey (CSHAS) and the ObSERVE programme. A total of 3,805 individual seabirds of 23 species were sighted during the 2018 CSHAS, this is a lower number, and represents a lower encounter rate, than in the two previous years (O'Donnell *et al*. 2018). The most commonly recorded species were guillemot (1,421 individuals), northern gannet (1,205), guillemot or razorbill (341), black-legged kittiwake (208), great black-backed gull (193), razorbill (114) and fulmar (84). Fewer than 50 individuals of all other species were recorded. The species composition was similar to previous years.

As part of the ObSERVE programme, widespread aerial surveys of Ireland's offshore waters were conducted in both summer and winter in 2015 and 2016 to investigate the occurrence, distribution and abundance of seabirds, cetaceans and other marine megafauna (Rogan *et al*. 2018). Offshore waters off the south coast, including the Kinsale area, are in Stratum 4, a large area of 62,510km^2 extending from approximately 15-20km off the coast to the RoI/UK median line and shelf waters, west to longitude 11°W. Abundance estimates within this stratum are summarised in **Table 2**.

Table 2: Abundance estimates of seabirds for waters south of Ireland (Stratum 4) from the ObSERVE aerial surveys in 2015 and 2016

Species/species group	Summer			Winter		
	Abundance	Density	CV	Abundance	Density	CV
Northern gannet	19,205	0.307	12.3	10,390	0.166	22.2
Fulmar	7,212	0.115	28.5	27,942	0.446	45.8
Herring/common gull	987	0.016	65.5	142	0.002	36.6
Greater/lesser black-backed gull	418	0.007	65.0	1,737	0.028	23.3
Black-legged kittiwake	1,860	0.030	24.3	21,524	0.344	22.8
Unidentified small gull	76	0.001	46.0	177	0.003	43.1
Unidentified large gull	342	0.006	49.2	7,987	0.127	85.0
Manx shearwater	37,920	0.606	30.1	112	0.002	63.0
Petrel species	15,827	0.253	11.2	213	0.003	31.2
Auk species	8,188	0.131	40.4	29,510	0.471	22.1
Tern species	304	0.005	56.4	0	0	na
All species combined	**100,734**	**1.609**	**13.6**	**93,435**	**1.492**	**21.0**

Notes. Summer and winter abundance estimates utilise data from both years of surveys. All abundance estimates are design-based, and rounded to the nearest whole number; density values are rounded to 3 decimal places; CV (Coefficient of Variation) is rounded to 2 decimal places.
Great skua were observed in Stratum 4 in both summer and winter, but in insufficient numbers to estimate abundance.
Source: Rogan et al. (2018).

While the total abundance of seabirds was estimated to be similar in both summer and winter, the relative proportions of component species varied seasonally. Northern gannet were approximately twice as abundant in summer, while fulmar, black-legged kittiwake, most gull species and auks were considerably more abundant in winter. Petrel species and Manx shearwater were rarely recorded in winter, but were widespread and abundant in summer at 0.6 birds per km^2; the estimated summer density of Manx shearwater was the highest of any species/season. From interpreting maps of predicted density distributions based on these data, a qualitative summary can be made of the importance of the offshore Kinsale Area to each species relative to elsewhere in Irish waters, see **Table 3**.

The ObSERVE aerial survey data provide a greater level of quantification and seasonal information on seabirds than was previously available for offshore waters off the south coast, including the Kinsale Area.

However, the general pattern of species composition and relative abundance is unchanged from that which was previously described and assessed in the EIAR.

Table 3: The seasonal relative importance of the Kinsale area to different seabird species, based on results of the ObSERVE aerial surveys in 2015 and 2016

Species/species group	Relative importance[1]	
	Summer	Winter
Northern gannet	Moderate to high	Moderate
Fulmar	Low to moderate	Moderate to high
Herring/common gull	Moderate[2]	Moderate[2]
Greater/lesser black-backed gull	Moderate to high[2]	Moderate to high[2]
Black-legged kittiwake	Low	Moderate
Unidentified small gull	Low[2]	Low[2]
Unidentified large gull	Moderate[2]	Moderate[2]
Manx shearwater	Moderate to high	-
Petrel species	High	Low
Auk species	Low to moderate	Moderate to high

Notes. [1] A qualitative score, from low to high, indicating the relative importance of the offshore Kinsale area (i.e. >15-20km from the coast) to each species/species group compared to elsewhere in Irish waters; these scores are based on an interpretation of the seasonal predicted density distribution maps presented in Rogan et al. (2018). [2] For these species/species groups, due to limited data, a single predicted distribution was provided for summer and winter combined. For Manx shearwater, due to very low sightings in winter, a predicted distribution was provided for summer only.

3.5 Marine mammals

The 2018 CSHAS and the ObSERVE programme are also the two main sources of new data on marine mammals for the Kinsale Area.

In the 2018 CSHAS, 88 hours of visual survey effort by dedicated marine mammal observers recorded a similar diversity and relative abundance of marine mammals as was recorded in previous years (O'Donnell *et al*. 2018). Common dolphins were seen throughout coastal and offshore waters, and were by far the most frequently sighted and numerous species (66 sightings, 893 individuals). Fin whales were the second most numerous (14 sightings, 20 individuals), and also observed in offshore waters and off the coast of Co. Waterford. Single sightings were recorded for each of harbour porpoise, bottlenose dolphin, humpback and minke whale and grey seal.

Two strata surveyed for marine mammals as part of the ObSERVE programme are relevant to the Kinsale Area. These are Stratum 4 (as described above) and Stratum 8, which was only surveyed in summer and winter 2016, and covered 9,506km^2 of coastal waters off the south and south-west coasts. Cetacean sightings and abundance estimates in these two strata are summarised in **Table 4**.

For Stratum 4 (offshore), the abundance of bottlenose, common and unidentified dolphins was considerably higher in winter. The opposite was observed for harbour porpoise, which were by far the most abundant species recorded in Stratum 4 in summer. In Stratum 8 (coastal), both harbour porpoise and all species of dolphin

showed higher abundance in summer. Minke whale abundance was estimated to be similar across two summer and one winter surveys, although the number of sightings was low. Within Stratum 8, minke whales were not seen in the winter survey, but observed 20 times in summer, with sightings clustered off the south-west coast.

There were very few sightings of pinnipeds off the south coast of Ireland, with those few being clustered in the south-west and south-east, distant to the Kinsale Area.

For the general Kinsale Area, predicted distribution maps suggested the presence of higher densities of harbour porpoise in summer, bottlenose dolphin in winter, and common dolphin in winter (relative to other surveyed areas for each species). Predicted densities of minke whale in the Kinsale Area are higher in summer than winter, with waters off the south-west coast appearing to be of higher importance.

The ObSERVE aerial survey data provide a greater level of quantification and seasonal information on cetaceans than was previously available for waters off the south coast of Ireland. However, the general pattern of species composition and relative abundance is unchanged from that previously described and assessed in the EIAR. These new data confirm the high diversity of cetacean species off the south coast, along with the seasonal patterns for the area which previous data had suggested.

Table 4: Cetacean sighting numbers and abundance estimates for waters south of Ireland from the ObSERVE aerial surveys in 2015 and 2016

Species & season	Stratum 4 (offshore)		Stratum 8 (coastal)	
	N groups (mean group size)	Abundance; density (CV)	N groups (mean group size)	Abundance; density (CV)
Harbour porpoise				
Summer 2015	41 (1.2)	14,190; 0.227 (27.4)	-	-
Winter 2015-16	11 (1.3)	3,752; 0.060 (41.3)	-	-
Summer 2016	42 (1.3)	14,196; 0.227 (37.2)	8 (1.6)	1,977; 0.208 (62.6)
Winter 2016-17	0 (na)	na	3 (1)	568; 0.060 (73.2)
Bottlenose dolphin[1]				
Summer 2015	7 (6)	3,885; 0.062 (64.3)	-	-
Winter 2015-16	26 (2.9)	6,217; 0.098 (28.4)	-	-
Summer 2016	17 (4)	5,549; 0.088 (47.7)	39 (7.2)	11,266; 1.161 (59.9)
Winter 2016-17	91 (7.8)	58,647; 0.929 (22.3)	17 (3.8)	3,322; 0.342 (47.6)
Common dolphin and common/striped dolphin[2]				
Summer 2015	3 (4.5)	2,554; 0.041 (73.8)	-	-
Winter 2015-16	45 (8.9)	40,027; 0.639 (51.5)	-	-

Species & season	Stratum 4 (offshore)		Stratum 8 (coastal)	
	N groups (mean group size)	Abundance; density (CV)	N groups (mean group size)	Abundance; density (CV)
Summer 2016	0	na	5 (5.2)	1,319; 0.139 (45.5)
Winter 2016-17	0	na	2 (4.0)	779; 0.082 (76.0)
Risso's dolphin[1, 3]				
Summer 2015	0	na	-	-
Winter 2015-16	1 (1)	40; 0.001 (101.6)	-	-
Summer 2016	2 (10)	809; 0.013 (94.8)	3 (7.7)	549; 0.057 (50.9)
Winter 2016-17	0	na	0	na
Unidentified dolphin[1]				
Summer 2015	19 (4.9)	4,814; 0.076 (43.9)	-	-
Winter 2015-16	92	27,348; 0.433 (39.0)	-	-
Summer 2016	27 (3.3)	4,982; 0.079 (37.2)	57 (6.2)	10,047 (45.0); 1.035
Winter 2016-17	107 (7.1)	38,413; 0.608 (20.9)	28 (3.5)	4,142 (41.4); 0.427
Minke whale				
Summer 2015	4 (1.0)	836 (66.6); 0.013	-	-
Winter 2015-16	4 (1.0)	751 (64.8); 0.012	-	-
Summer 2016	4 (1.0)	761 (63.3); 0.012	20 (1.0)	2,242 (66.1); 0.236
Winter 2016-17	0	na	0	na
Fin whale[1, 3]				
Summer 2015	0	na	-	-
Winter 2015-16	0	na	-	-
Summer 2016	0	na	0	na
Winter 2016-17	0	na	1 (2.0)	33 (98.4); 0.003

Notes. [1] Abundance estimates for these species are uncorrected for detection probability and are therefore likely to be underestimates. [2.] Includes a small number of sightings where the two species could not be differentiated; as Strata 4 and 8 are restricted to shelf waters and striped dolphins favour deeper waters, the values presented here can be assumed to be almost exclusively common dolphins. [3.] The abundance estimates for Risso's dolphin and fin whale are based on very few sightings, are highly uncertain and should be interpreted with caution. Abundance estimates are rounded to the nearest whole number; CV rounded to 2 decimal places. Source: Rogan et al. (2018).

KINSALE ENERGY

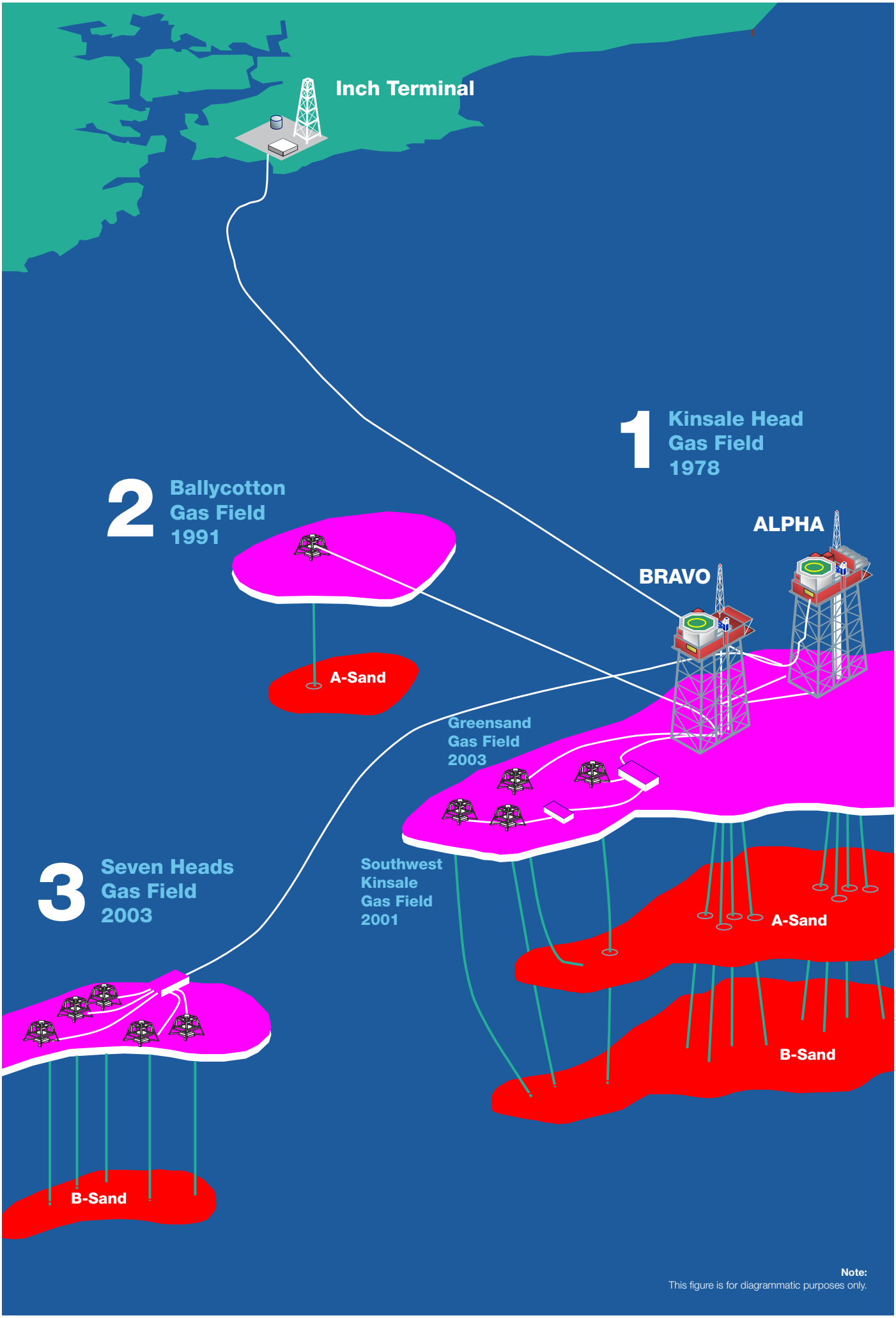
Kinsale Area Decommissioning Project

Section 4

Consideration of Potential Effects

Hartley Anderson

ARUP


Inch Terminal
1
Kinsale Head
Gas Field
1978
2
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
3
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

4 Consideration of Potential Effects

4.1 Introduction

The following section presents additional assessment undertaken for the EIAR as requested during the Consent Application No. 1 RFI process in relation to transboundary effects from the transportation of materials to a North Sea dismantling yard (**Section 4.2**). It also includes new information of relevance to the assessment of effects which has been published in the interim in relation to underwater noise (**Section 4.3**) and cumulative effects (**Section 4.4**).

4.2 Transboundary effects

Should the Kinsale facilities be dismantled in a yard outside of Ireland, relevant activities include those associated with their transport and offloading. Sources of potential transboundary effect relating to these activities are presented in **Table 5** below.

Overall, it is regarded that the main sources of potential effect are the physical presence, noise and visual intrusion of vessels during transit, and the presence and dismantling of the facilities at the disposal yard, noting that these yards would operate under their own licences (see below). Contracting has not commenced for the disposal contractor. While the exact location of the disposal yard is not known, **Section 3.5.7 of the EIAR** notes that, for the purposes of assessment it has been assumed that a yard within 700nm of the field would be used. Such a distance would include all of the existing facilities in the Irish Sea and North Sea region, including those in the UK, Netherlands and Norway. The following considers the sources and scale of potential effects from the transport of materials to the extent possible in advance of having a defined yard.

As noted in Section **7.12 of the EIAR**, should materials (i.e. part or all of the Kinsale facilities) be transported outside of Ireland this would be undertaken in compliance with the Waste Management (Shipment of Waste) Regulations 2007.

The handling of the Kinsale facilities at existing yards within the range noted above would represent an increment to their ongoing work associated with wider North Sea decommissioning. A new decommissioning yard will not be required to dismantle the Kinsale facilities. These yards will have been subject to their own assessments and/or be fully licensed for the activities required to dispose of the Kinsale facilities.

Kinsale Energy have made a number of commitments in relation to compliance assurance, contractor management and waste production in **Section 8 of the EIAR** (issues 1, 3 and 8) to ensure that the disposal contractor, when selected, conducts their operations under the appropriate consents and consistent with the draft Resource and Waste Management Plan which has been provided as part of Consent Application No. 2 (also refer to those environmental management commitments presented in **Section 6.2**).

Barge transport of topsides and jackets of both the Kinsale Alpha and Kinsale Bravo platforms are estimated to range between approximately 6 days each (or 7.5 days with a 25% contingency) for the single lift options, and 24 (30 with contingency) and 36 (45 with contingency) days for the topsides reverse installation and jacket multiple lift options respectively (see **Section 3.5.2 of the EIAR**). The single lift options require one barge, whereas the reverse installation and multiple lift require two and three barges respectively, which accounts for the greater number of cumulative days noted for each

option. Additionally, up to 24 (30 with contingency) days are required for the transit of subsea materials via a construction support vessel, including the protection materials, pipeline spools and umbilical jumpers, valve skids and manifolds.

Whichever yard is chosen for the dismantling of the Kinsale facilities, impacts from their transportation would be transient (the vessels and barges being in motion for the duration of the journey) and temporary.

Potential effects on shipping and fishing activity are restricted to temporary spatial conflict during transit of materials to any yard outside of Ireland. In the context of the current moderate to high shipping densities in these areas, established routes to ports, and relevant IMO routeing measures in the Irish Sea, Channel and North Sea, the addition of shipping at the scale associated with the transport of materials from the Kinsale area, is considered to represent a very minor increment. It is not regarded that the transportation of materials to the dismantling yard will result in any significant transboundary effects.

Similarly, interactions of the vessels in transit with sensitive species (e.g. birds, fish and marine mammals) both in terms of physical presence (including lighting) and noise are considered to be minor and not significant. The temporary presence of barges/vessels are anticipated to cause no more than short-term and localised low-level behavioural responses in sensitive species incremental to those from existing shipping operations in the Celtic Sea, Irish Sea, Channel and North Sea, such that significant effects are not predicted.

It is stated in **Section 7.12 of the EIAR** that greenhouse gas emissions contribute to global gas loading and are inherently transboundary irrespective of their source. In the context of transporting the materials to the onshore yard, air quality is of more relevance. Emissions produced during transport will be incremental to those from existing wider shipping activities (e.g. of SO_2) and be subject to MARPOL rules as to its sulphur content (the Channel and North Sea are emissions control areas as defined in MARPOL Annex VI). Additionally, wider controls on discharges and emissions would be in place, made mandatory under MARPOL or by the IMO (see **Appendix A and D of the EIAR**) for example in relation to oil, sewage and litter.

In view of existing controls and the scale and duration of activity associated with transporting materials, significant transboundary effects are not predicted.

4.3 Underwater noise

With regard to marine mammals, the EIAR assessment made reference to hearing injury thresholds published by NMFS (2016), widely referred to as the NOAA thresholds. While an update (NMFS 2018) provided additional discussion of the thresholds, the values and accompanying frequency weighting curves were unchanged. These NOAA thresholds were recently adopted in the peer-reviewed literature by Southall *et al*. (2019), with a small change in the terminology of functional hearing groups: those described as ‘mid-frequency’ and ‘high frequency’ in NMFS (2018) are categorised as ‘high frequency’ and very high frequency’, respectively in Southall *et al*. (2019) – see **Table 1**. This updated terminology does not change the outcome of the assessment presented in **Section 7.5 of the EIAR**, and significant effects from underwater noise generated by the KADP are not predicted.

Table 5: Marine mammal species relevant to the project area, their auditory capabilities and hearing injury thresholds as described in Southall *et al*. (2019)

Functional hearing group (species relevant to the project area)	Hearing range	Proposed injury (PTS) threshold criteria	
		Impulsive noise (SPL; SEL)	Non-impulsive noise (SEL)
Low frequency cetaceans Minke whale *Balaenoptera acutorostrata*	7Hz to 35kHz	219 dB re 1µPa; 183 dB re 1 µPa^{2}s	199 dB re 1 µPa^{2}s
High frequency cetaceans Bottlenose dolphin *Tursiops truncatus* White-beaked dolphin *Lagenorhynchus albirostris*	150Hz to 160kHz	230 dB re 1µPa; 185 dB re 1 µPa^{2}s	198 dB re 1 µPa^{2}s
Very high frequency cetaceans Harbour porpoise *Phocoena phocoena*	275Hz to 160kHz	202 dB re 1µPa; 155 dB re 1 µPa^{2}s	173 dB re 1 µPa^{2}s
Pinnipeds in water Harbour seal *Phoca vitulina* Grey seal *Halichoerus grypus*	50Hz to 86kHz	218 dB re 1µPa; 185 dB re 1 µPa^{2}s	201 dB re 1 µPa^{2}s

Notes: Injury is defined as the level at which a single exposure is likely to cause onset of permanent hearing loss[1]. SPL = Sound Pressure Level, unweighted. SEL = Sound exposure level, frequency-weighted.
Source: Southall et al. (2019).

4.4 Cumulative impacts

No new projects or activities have been proposed since the publication of the EIAR which are considered to be a source of potential in-combination effects either for the decommissioning of the offshore facilities or the Inch Terminal.

The Barryroe oil discovery and the potential for further exploration and development was acknowledged in the EIAR. Since that time, an application has been made to conduct a site survey within the Barryroe licence area (EL 1/11). The application was submitted in February 2019 and consent was granted in July 2019. The temporary nature of the survey (16 days), and the proposed survey schedule (within April to November 2019, or February to November 2020), are such that interactions are not considered likely, as KADP activities associated with relevant sources of effect are scheduled for 2021-2022.

As noted in Section **7.11.2.1 of the EIAR**, while there are a number of exploration licence areas in the vicinity of the Kinsale Area, project plans for additional exploration are not known or are uncertain, and therefore no cumulative effects are predicted at this time.

Some further definition of the Celtic Interconnector Project has also become available with shortlisted cable landings at Ballinwilling Strand, Redbarn Beach, and Claycastle Beach although as concluded in the EIAR, no in-combination effects with KADP activites are foreseen.

It is concluded that no further sources of in-combination effect are available to assess, such that the conclusion of the EIAR remains unchanged

Table 6: Criteria for the identification of potential effects from the Kinsale Area Decommissioning Project

Effect	Consequences
None Foreseen	No detectable effects
Positive	Activity may contribute to recovery of habitats Positive benefits to local, regional or national economy
Negligible	Change is within scope of existing variability but potentially detectable.
Moderate	Change in ecosystem leading to short term damage with likelihood for recovery within 2 years to an offshore area less than 100 hectares or less than 2 hectares of a benthic fish spawning ground Possible but unlikely effect on human health Possible transboundary effects Possible contribution to cumulative effects Issue of limited public concern May cause nuisance Possible short term minor loss to private users or public finance
Major	Change in ecosystem leading to medium term (2+ year) damage with recovery likely within 2 - 10 years to an offshore area 100 hectares or more or 2 hectares of a benthic fish spawning ground or coastal habitat, or to internationally or nationally protected populations, habitats or sites Transboundary effects expected Moderate contribution to cumulative effects Issue of public concern Possible effect on human health Possible medium term loss to private users or public finance
Severe	Change in ecosystem leading to long term (10+ year) damage with poor potential for recovery to an offshore area 100 hectares or more or 2 hectares of a benthic fish spawning ground or coastal habitat, or to internationally or nationally protected populations, habitats or sites Major transboundary effects expected Major contribution to cumulative effects Issue of acute public concern Likely effect on human health Long term, substantial loss to private users or public finance

Frequency with which Activity or Event Might Occur	Likelihood
Unlikely to occur	**Remote**
Once during decommissioning activity	**Unlikely**
Foreseeable possibly once a year	**Possible**
Once a month or regular short term events	**Likely**
Continuous or regular planned activity	**Definite**

	Likelihood				
Consequences	Definite	Likely	Possible	Unlikely	Remote
Severe	A5	A4	A3	A2	A1
Major	B5	B4	B3	B2	B1
Moderate	C5	C4	C3	C2	C1
Negligible	D5	D4	D3	D2	D1
Positive	E5	E4	E3	E2	E1
None foreseen					

	Potentially significant effects requiring assessment
	Potential positive or minor or negligible effects
	No likely effects

Notes:
1. The criteria to the left include consideration of issues of known public concern.
2. In addition to identification on the basis of these criteria, issues/interactions raised during stakeholder consultation are normally treated as requiring detailed consideration in the EIAR.

Table 7: Sources of potential effects, relevant environmental factors and related environmental receptors relevant to the transport of materials to the disposal yard

Environmental factor		Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC [5]								Land, soil, water, air, climate			Material assets, cultural heritage and landscape							
Activity/Source of Potential Effect	Population & Human Health [4]	Benthic Fauna	Plankton	Fish & Shellfish	Marine Reptiles	Marine Mammals	Waterbirds & Seabirds	Onshore habitats/species	Conservation sites/species	Soils & Seabed [A]	Water Quality	Air & climate	Fisheries/aquaculture	Other Uses & Resources [B]	Shipping	Waste Treatment & Landfill resource onshore	Cultural Heritage [C]	Landscape/seascape	Summary consideration
Vessels associated with the transport of the Kinsale facilities to the disposal yard																			
Transit of supply vessels, barge/ or heavy lift vessels, survey vessel and transport to shore	D4					C4	D4		C4				C4	C4	C4			D4	Vessels in transit have the potential to interact with other users and also generate temporary visual impacts. Vessels will follow established navigation routes. There is the potential for interaction with birds and marine mammals. See Sections 7.2 and 7.9 of the EIAR.
Underwater noise from vessels including DP				D4	D4	C4			C4										Vessels will contribute to wider ambient noise from shipping and other anthropogenic noise sources on route to any dismantling yard. The isolated and transitory nature of this noise source, when considered in relation to wider shipping levels in the Celtic Sea, Irish Sea, Channel and North Sea are regarded to represent a limited increment on impacts to noise sensitive species. See Sections 7.5 and 7.9 of the EIAR.
Vessel and ancillary equipment power generation	D4											C4							Contributes to atmospheric emissions, with the potential to impact local air quality and global greenhouse gas loading. See Section 7.8 of the EIAR.

[4] This topic is largely considered in the context of other environmental factors, for example effects on air quality, climate, other users, landscape/seascape.
[5] Note that interactions between individual components of the biodiversity environmental factor have also been considered, for example effects on supporting habitats of species, or on prey species of other animals.

Environmental factor	Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC [5]								Land, soil, water, air, climate			Material assets, cultural heritage and landscape						Summary consideration
Activity/Source of Potential Effect	Population & Human Health[4]	Benthic Fauna	Plankton	Fish & Shellfish	Marine Reptiles	Marine Mammals	Waterbirds & Seabirds	Onshore habitats/species	Conservation sites/species	Soils & Seabed[A]	Water Quality	Air & climate	Fisheries/aquaculture	Other Uses & Resources[B]	Shipping	Waste Treatment & Landfill resource onshore	Cultural Heritage[C]	Landscape/seascape	
Drainage, sewage & other discharges			D4	D4							D4								Discharges from vessels will be subject to controls under MARPOL. No significant discharges. See Appendix D of the EIAR.
Litter					D4	D4				D4	D4								
Airborne noise and lighting	D4						D4											D4	Incremental lighting will be temporary and will not significantly add to existing lighting levels along shipping routes and off existing ports. See Appendix D of the EIAR.
Potential for introduction of alien species in ballast, or as external fouling growth		C1	C1																Ballasting will be undertaken in keeping with Ballast Management Plans under the Ballast Water Management Convention. See Appendix D of the EIAR/
Onshore aspects of decommissioning offshore structures																			
Offloading of structures	C4													D4	D4			D4	Structures will be transported to established yards where dismantling will represent an increment to existing activity rather than a new type of activity. There is the potential for interaction with other users, and transient visual impacts, during transport to shore. See Sections 7.2 and 7.7 of the EIAR.
Storage/Dismantling of structures onshore	C3											C3		D3				D3	Potential for minor incremental air quality effects from noise, dust, odour and visual intrusion, though note above that this would be incremental to ongoing activity. See Sections 7.6 in relation to marine growth removal and 7.7 of the EIAR.
Refurbishment and reuse												E4		D4		E4			

Environmental factor	Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC [5]								Land, soil, water, air, climate			Material assets, cultural heritage and landscape						Summary consideration
Activity/Source of Potential Effect	Population & Human Health[4]	Benthic Fauna	Plankton	Fish & Shellfish	Marine Reptiles	Marine Mammals	Waterbirds & Seabirds	Onshore habitats/species	Conservation sites/species	Soils & Seabed[A]	Water Quality	Air & climate	Fisheries/aquaculture	Other Uses & Resources[B]	Shipping	Waste Treatment & Landfill resource onshore	Cultural Heritage[C]	Landscape/seascape	
Materials recycling												E4		C4		E4			Minor positive effect from material reuse, offsetting use of primary raw material and avoiding waste to landfill. See Section 7.7 and 7.8 of the EIAR.
Onshore waste treatment												C3				C3			All represent a minor increment to waste handling and disposal at existing licenced facilities, and to the transport of such material to these sites for which there may be minor visual intrusion. Disposal of certain wastes may take place outside Ireland. See Section 7.7 of the EIAR.
Landfill of residual waste																C3		C3	
Road transport of waste/materials	C4											D4						D4	
Hazardous materials	C4															C4			

*Notes. Potentially significant effects are highlighted dark green with potential positive or minor or negligible effects, light green. See **Table 6.1 of the EIAR** for the criteria used to identify the significance of potential effects from the KADP.*

KINSALE ENERGY

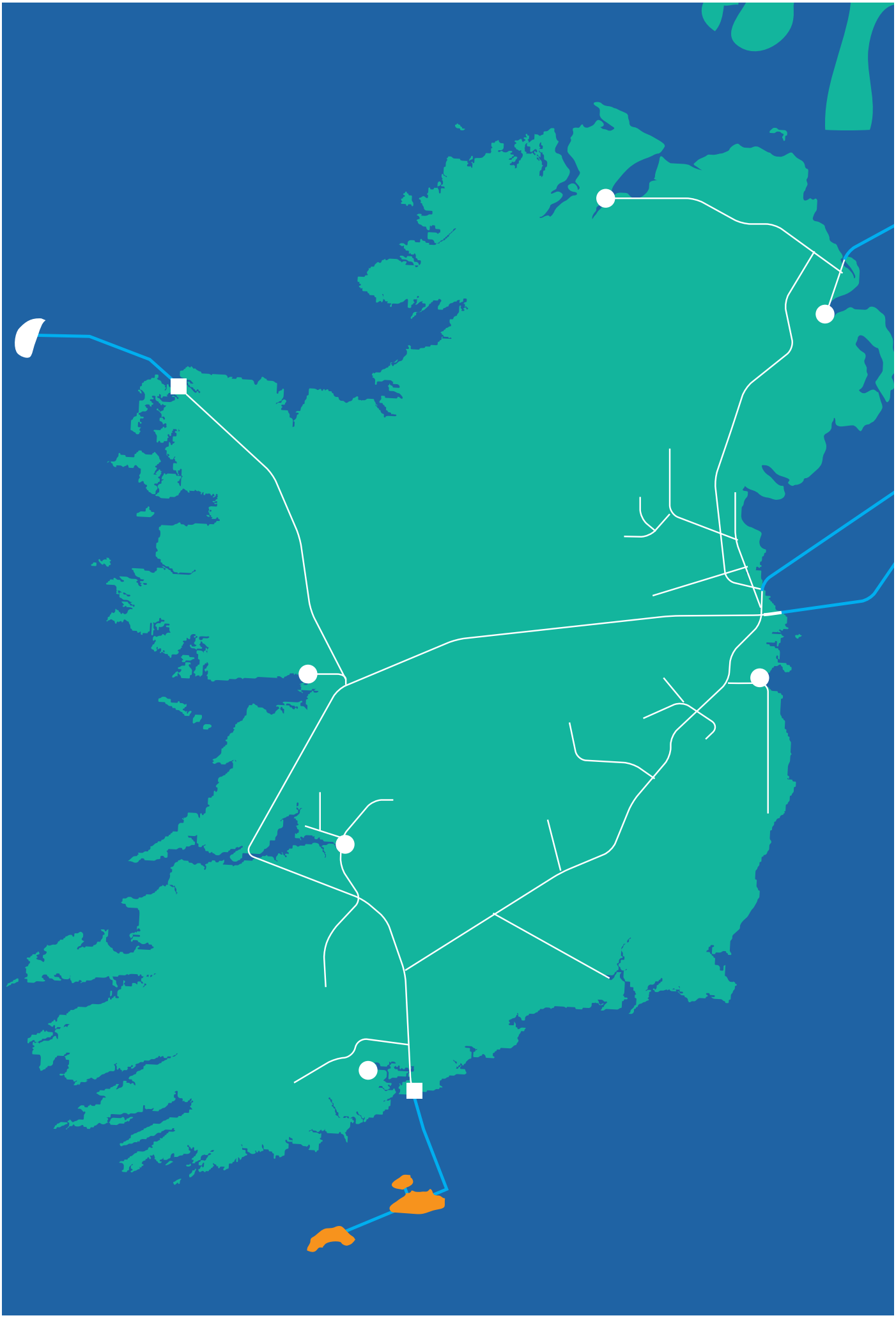
Kinsale Area Decommissioning Project

Section 5

Management of Residual Impacts and Conclusions

Hartley Anderson

ARUP



5 Management of Residual Impacts and Conclusions

5.1 Introduction

A number of mitigation measures and environmental management actions were identified in the consideration of potential effects (**Section 7 of the EIAR**) which were reflected in a series of environmental management commitments and mitigation measures (**Section 8.2 of EIAR**). These have informed the development of the KADP draft Environmental Management Plan (**Section 5.2.1** below) which formed part of the response to the Request for Additional Information in November 2018 and which, in association with other relevant conditions to the consent (**Section 5.2.2**), will ensure that potential residual impacts associated with the KADP are managed appropriately. In view of those conditions associated with the approval of Consent Application No. 1, it is anticipated that these would also be applied to any approval for Consent Application No. 2, and these are therefore reflected below where applicable to the EIAR.

5.2 Environmental Management Commitments and Mitigation Measures

The following section reflects those commitments already made in the EIAR (see **Section 8 of the EIAR**) and those environmental conditions applied in relation to Consent Application 1. These conditions are distinguished in the following text with reference to the numbering in the letters provided to Kinsale Energy by DCCAE on 26th April 2019 in which they are set out. The conditions relate to both the Kinsale Head and Seven Heads areas unless distinguished. Certain conditions are not directly relevant to the EIA (**Conditions 5-10**) and are therefore not reproduced here, but remain commitments of Kinsale Energy as part of the KADP. Kinsale Energy note that there may be additional conditions applied as part of Consent Application 2, and the KADP will be undertaken in accordance with these (**Condition 14**).

5.2.1 Environmental Management Plan

The KADP draft Environmental Management Plan (EMP, see Appendix D) was produced to ensure compliance with legislative requirements and commitments made in the EIAR for the project. It identifies the minimum requirements with regard to the appropriate mitigation, monitoring, inspection and reporting mechanisms that need to be implemented throughout the decommissioning works. The measures to be implemented to minimise likely significant negative effects, as far as practicable, during the decommissioning of the proposed development are described below.

A detailed EMP will be prepared by contractors based on the draft EMP, and will be provided to DCCAE for approval by the Minister before any works take place (**Condition 1**).

All sources of natural materials to be used in undertaking the KADP (e.g. topsoil, subsoil, rock armour/cover) will be sourced from suitably licenced facilities, and evidence of this will be provided to the Minister (**Condition 2**).

Physical Presence: Decommissioning Activities

To minimise potential physical presence effects associated with the decommissioning works, all activities will be undertaken in adherence to relevant legally required standards and controls, which include:

- Notices to Mariners will be issued to cover decommissioning work associated with each consent application to communicate the nature and timing of the activities to relevant other users of the sea. Before decommissioning work commences, Kinsale Energy will provide draft Marine Notices to the Minister for Transport Tourism & Sport highlighting the nature of the work involved and the approximate length of time the works will last (**Condition 13**);
- Guard vessels or standby vessels will be used during well abandonment to monitor statutory 500m zones and minimise the potential for interaction between decommissioning vessels and other users;
- All vessels used in the decommissioning operations will meet applicable national and international standards (e.g. in terms of signals and lighting); and
- Lighting and marking of the jackets if left in 'lighthouse mode' for a period will be agreed with the Commissioners for Irish Lights to establish new Aids to Navigation (AtoN) to be installed until their removal. An up to date Navigational Risk Assessment with traffic analysis will be undertaken to inform the Commissioners of Irish Lights to set the AtoN requirements. All lighting and marking will comply with IALA Recommendation 0-139 on the Marking of Man-Made Offshore Structures (2013), and Notices to Mariners will communicate the new lighting and marking arrangements.

Physical Presence: Legacy of Materials Left *In Situ*

There are a number of aspects of the proposed decommissioning works which will result in legacy materials being left *in situ* with the potential for longer term effects.

It is planned that rock cover remediation will be used to reduce the potential snagging risk associated with decommissioning pipelines and umbilicals left *in situ* or with any potential protruding jacket leg stumps. The following measures will be implemented as part of the rock placement programme:

- The remediation of all pipeline/umbilical end sections and freespans using overtrawlable rock berms, with the option to rock cover all exposed pipeline sections to further reduce risks to third parties;
- Accurate rock-placement will be assured by the use of a Remotely Operated Vehicle (ROV) guided fall pipe system on the rock-placement vessel;
- On-going consultation with fisheries representatives and maritime authorities;
- All infrastructure decommissioned *in situ* will be surveyed post-decommissioning to accurately record their location and status. This information will be included on navigational charts and also passed to representatives of the fishing community; and
- Standard overtrawling surveys will also be undertaken where wellheads, spoolpieces etc. are removed to confirm the area is clear of debris and snagging hazards.

Physical Disturbance

The decommissioning activities will result in some seabed disturbance (0.46-0.76km^2), the effects of which are considered to be minor and temporary. Mitigation is proposed to further reduce the significance of these effects and includes:

- the minimisation of rig and vessel movements which require anchoring where possible;
- the use of Dynamic Positioning (DP) on most vessels where practicable to reduce anchor deployment – note that sensitive features such as wrecks or Annex I habitats have not been detected in previous surveys; and
- For each option/activity involving rock placement, efforts will be made to minimise the volume of rock deployed, subject to achieving the required technical function.

Underwater Noise

The environmental assessment concluded that there is no likely significant effect on marine mammals from underwater noise as a result of the proposed decommissioning works and therefore it is not proposed to engage a Marine Mammal Observer (MMO) during the works, or that any specific mitigation is required in relation to underwater noise effects Despite this, wherever possible, through careful activity phasing, vessel synergies will be sought to minimise vessel days and associated noise emissions. Any post-decommissioning survey works will require appropriate consent applications which will detail the proposed survey methods and mitigation measures.

Discharges to Sea

To minimise potential effects from discharges to sea associated with the decommissioning works, all activities will be undertaken in accordance with regulatory and policy controls, including:

- Existing operational controls for the management of routine marine discharges from the decommissioning activities (e.g. adherence to MARPOL standards); and
- Chemicals selected for use and discharge for well abandonment will be subject to a Permit to Use or Discharge Added Chemicals (PUDAC).

All potential discharges associated with decommissioning the Kinsale Area facilities (e.g. from pipelines and well abandonment) are considered to be minor. Discharges from well abandonment will be minimal, subject to treatment/filtration, with chemicals being selected on the basis of the lowest hazard quotient for the required technical function.

Waste: Materials Recycling, Reuse and Disposal

The decommissioning works shall be undertaken in a manner which maximises the potential for reuse and recycling, including source segregating waste where appropriate. Management of all waste will be undertaken in accordance with the relevant waste legislation and only permitted and licensed waste facilities will be used.

A draft Resource and Waste Management Plan has been developed to establish the minimum standards that the contractor(s) must apply during the decommissioning works and accompanies Consent Application No. 2. A detailed Resource and Waste Plan will be prepared by the contractor(s) based on the draft RWMP, and will be provided to

DCCAE for approval by the Minister prior to commencement of the decommissioning works (**Condition 4**).

The draft Resource and Waste Management Plan indicates that:

- The KADP will comply with all relevant waste and resource management policy and legislation that applies (including International, European and Irish policy and legislation);
- All relevant obligations governing storage, transfer, treatment and disposal of all wastes arising from the Kinsale Area Decommissioning Project will be complied with and the contractor(s) will implement approved method statements and procedures for transporting and managing waste as part of their detailed Resource and Waste Management Plan;
- Resource and waste management objectives to be applied to the Kinsale Area Decommissioning Project to maximise the potential for reuse and recycling are:
  - Target 90% recycling rate by weight;
  - Minimise disposal of waste to landfill; and
  - Minimise environmental impacts of waste management.
- A fully detailed description of solid waste generation associated with each of the key elements of the Kinsale Area Decommissioning Project will be provided in the detailed Resource and Waste Management Plan; and
- The contractor(s) will put in place all relevant waste authorisations (detailing the name, address and authorisation details of proposed recovery and disposal facilities which will be used for all wastes generated from the decommissioning project) in advance of the removal of any waste and will maintain a register of resource and waste management information throughout the Kinsale Area Decommissioning Project.

Energy Use and Atmospheric Emissions

It is considered that there is limited scope for mitigation measures to reduce the residual effect on atmospheric Greenhouse Gas (GHG) loading, or any local effects on air quality. There is the potential to minimise time in the field and associated vessel days and related emissions by making use of vessel synergies and careful activity phasing which would form part of standard programme management, and there is the potential to make further emissions reductions during contractor selection (e.g. those using modern efficient vessels); however neither of these are considered to significantly alter the predicted effect.

Emissions from material flows will be minimised by using a waste hierarchy approach consistent with the Waste Framework Directive 2008/98/EC; establishing where there is scope for equipment and material re-use and recycling, with disposal only taking place where no feasible alternative is available.

Conservation Sites and Species

No specific mitigation measures have been identified that are relied upon to avoid adverse effects on any conservation site.

Accidental Events

To minimise potential effects from accidental events associated with the offshore decommissioning works, all activities will be undertaken in accordance with regulatory and policy controls, including:

- Other users of the Kinsale Area, which include fisheries, shipping and other sea users such as recreational sailing and those involved in maritime activities such as surveys, will be alerted to the decommissioning activities via publication of Notices to Mariners detailing rig and vessel positions, activities and timing and by full navigation lighting on the rig and vessels;
- A standby vessel will minimise the potential for interaction between the rig and other users, and much of the decommissioning activity will be within existing exclusion zones thereby further reducing the potential for interaction; and
- All vessels and the rig to be used during decommissioning will be subject to audit and expected to adhere to Kinsale Energy HES policy. They will have in place the relevant, current SOPEP in accordance with MARPOL and/or an oil spill contingency plan, which would be implemented in the event of an accidental event.

Kinsale Energy risk management measures and legislative compliance minimise the risk that an accidental event could occur (noting the already very low frequencies of such incidents relating to oil and gas activities), and therefore minimise the likelihood of any resultant significant effect. This includes measures which will be in place to avoid, as far as possible, spills from bunkering and supply operations, and general rig operations, including processes and procedures (e.g. bunkering procedures with reference to sea-state and daylight hours where practicable; procedure to be agreed with the Department of Transport, Tourism and Sport (DTTAS)), colour coding of hoses, storage of hoses in a safe area away from risk of physical damage, inspection of hose couplings, critical valves to be locked and controlled by permit, and general good housekeeping).

During the removal of topsides, jackets, wellheads, spool pieces and other associated infrastructure, every care will be taken to minimise dropped objects and the generation of debris. Any dropped objects will be recovered during decommissioning operations and an independent seabed debris clearance survey conducted once decommissioning operations have been completed to verify that debris clearance has been completed.

Accidental events/environmental emergencies at the onshore Inch Terminal site requiring intervention may include uncontained spillage, leak or loss of containment incident (contractor inventory only as Inch Terminal will be hydrocarbon free), fire, etc.

A list of site emergency contact numbers and the general emergency response actions will be compiled by the contractor(s) and posted at strategic locations throughout the site, such as the site entrance, safety stop-boards and contractor cabins. The emergency contact number list will be updated by each contractor to include their Safety Representative contact name and telephone number.

5.2.2 Other relevant conditions associated with Consent Application 1

5.2.2.1 Cultural Heritage

The services of a suitably qualified and suitably experienced maritime archaeologist shall be engaged to monitor subsea works for identified wreck sites that are less than 300m to proposed decommissioning infrastructure (see **Section 4.3** and **Appendix C**). The archaeologist shall be licensed by the Department of Culture, Heritage and the Gaeltacht. Kinsale Energy will provide specifications in advance of the proposed work to allow the archaeologist to determine any mitigation strategies that may need to be put in place to protect identified shipwreck remains. Kinsale Energy will follow the advice of the archaeologist, and provision shall be made to accommodate the monitoring archaeologist on board decommissioning vessels to enable them to successfully carry out their work (**Condition 3**).

5.2.2.2 Additional survey

A post-decommissioning survey was already a commitment made in the EIAR, however, in view of the consent conditions applied by the Minister for Consent Application No. 1, the following clarifications are provided as to certain aspects of the post-decommissioning survey that will be undertaken as part of the KADP:

- An additional survey will be carried out after the completion of the abandonment operations to confirm the integrity of the abandoned wells. The survey will be undertaken no earlier than 6 months, and no later than 24 months, after the completion of well abandonment operations, and the results shall be provided to the Minister (**Condition 11**).
- On completion of well abandonment and removal of subsea structures, an ROV survey of each relevant location will be undertaken to ensure that no debris remains in place. The results of these surveys shall be submitted to the minister in the form of Seabed Clearance Certificates prior to the relevant rig/vessel leaving the location (**Condition 12**).

5.2.2.3 Conditions specific to Seven Heads

In addition to the above noted conditions, the consent for the Seven Heads Decommissioning Plan associated with Consent Application No. 1 noted the following:

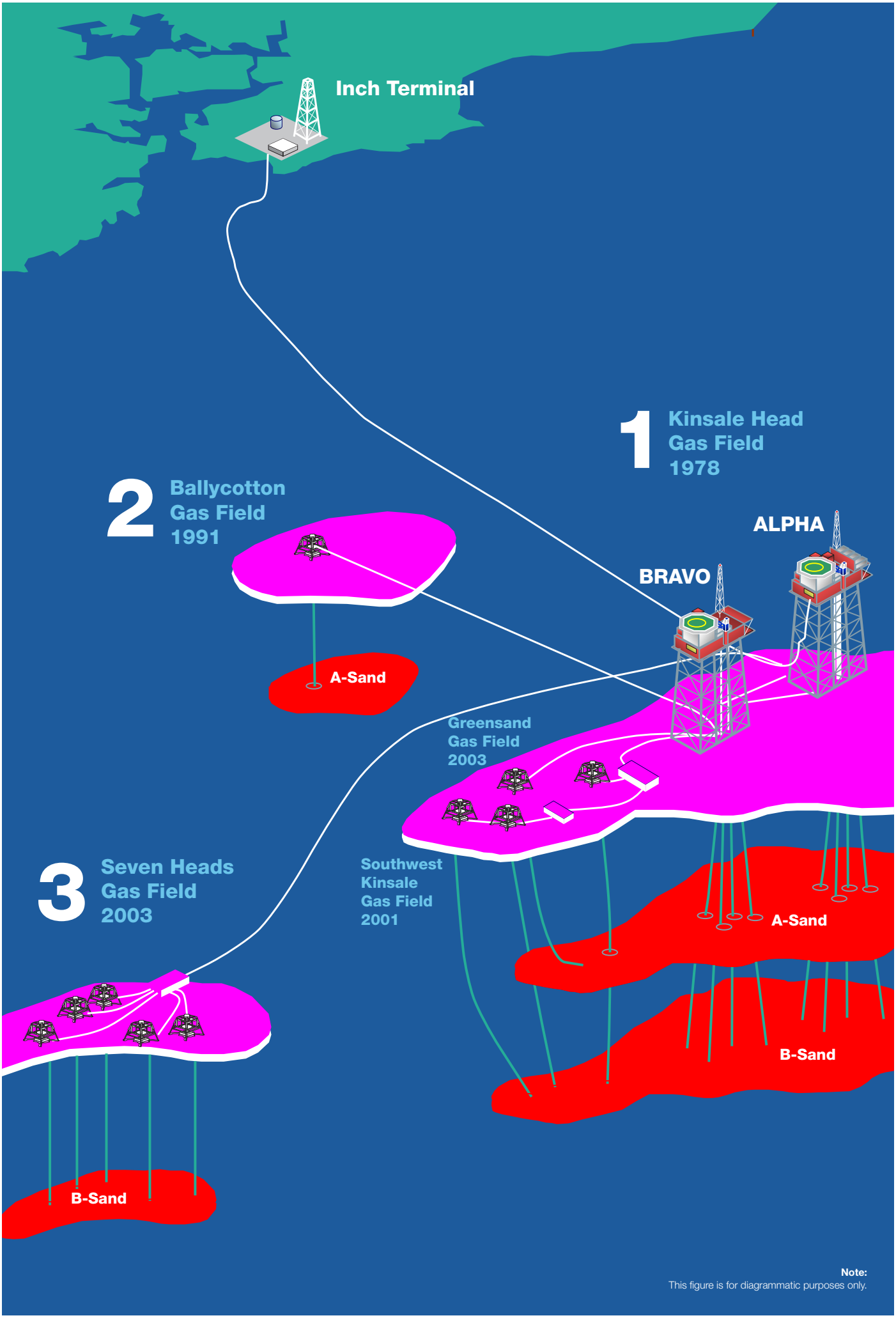
- That is should be assumed that LSA or NORM are possibly present in any risk assessment undertaken in advance of decommissioning operations at Seven Heads; and that it should be confirmed, and demonstrated, to DCCAE how their potential presence has been factored into decommissioning operations (**Condition 14**).
- Supporting evidence should be submitted to the satisfaction of the Minister why the suspension design for well 48/23-3 meets the technical requirement for permanent abandonment (**Condition 15**).

5.3 Conclusion

This EIAR addendum takes into account consideration of the following:

- Updates to the legal and policy framework (**Section 2**) and the characteristics of the marine environment (**Section 3**) which are not considered to represent significant changes to the regulatory context and environmental baseline provided as part of Consent Application No. 1,
- Additional information including in relation to underwater noise effects, in-combination effects with other plans and programmes, and transboundary effects (**Section 4**) which were not found to be a source of likely significant effect,
- Environmental management commitments and relevant expected consent conditions (**Section 5.2**).

The activities associated with the proposed KADP (Section 3 of the EIAR), when considered in the context of the EIAR, as updated by the information presented in this addendum, will not result, either directly or indirectly, in likely significant adverse effects on the environment, alone or cumulatively with other existing or approved projects.


Inch Terminal
1
Kinsale Head
Gas Field
1978
2
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
3
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

KINSALE ENERGY

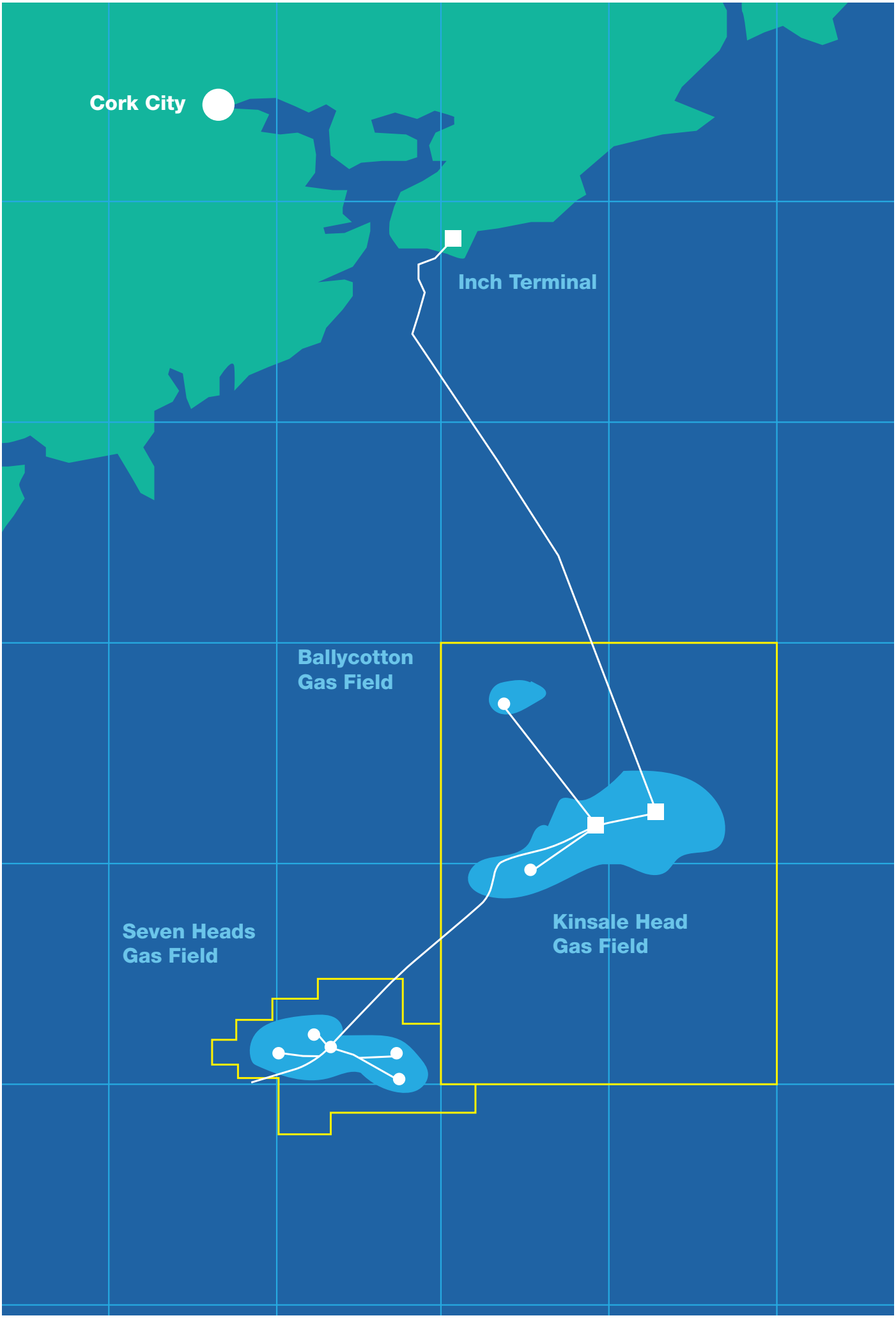
Kinsale Area Decommissioning Project

Section 6

References

Hartley Anderson

ARUP


Cork City
Inch Terminal
Ballycotton
Gas Field
Seven Heads
Gas Field
Kinsale Head
Gas Field

6 References

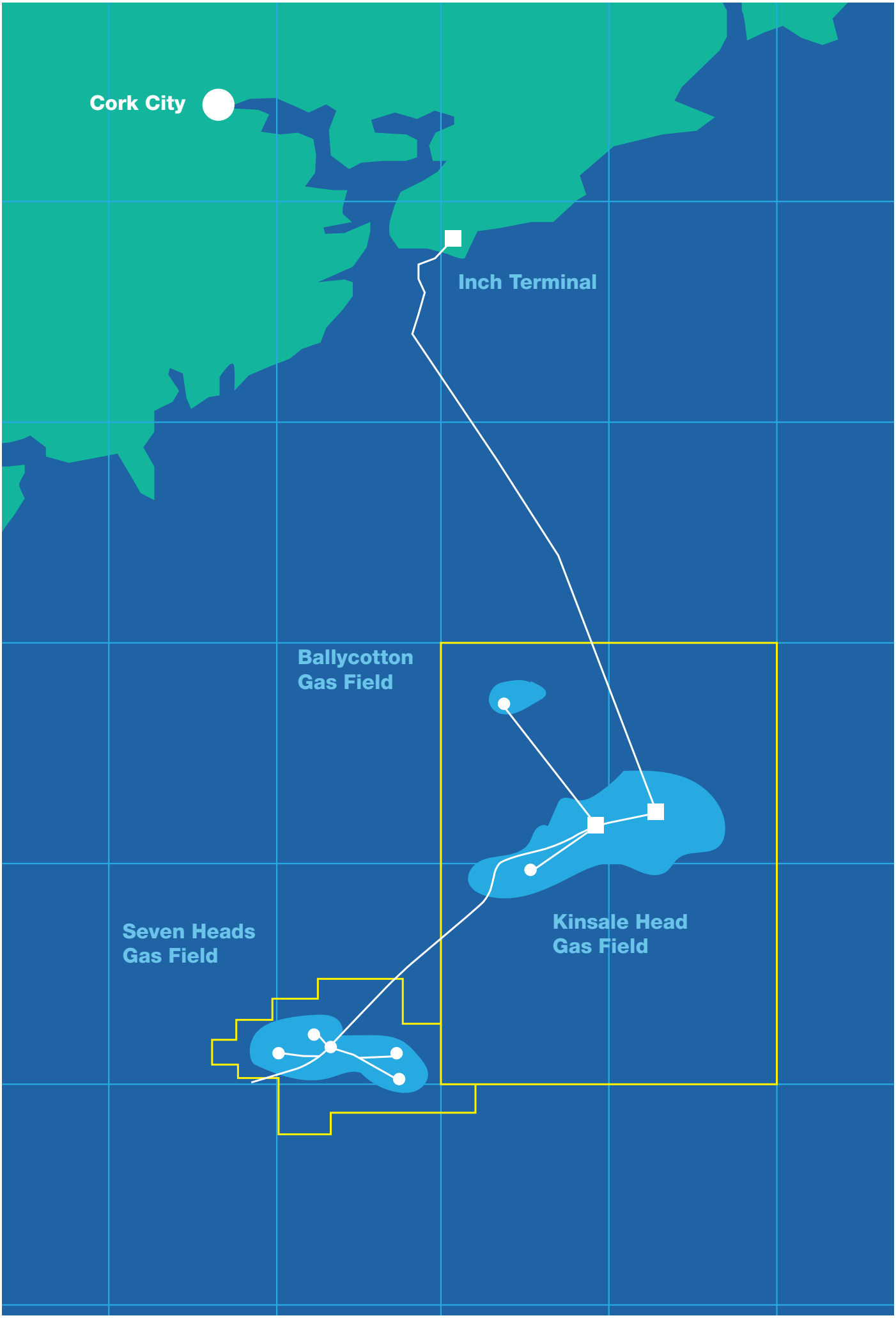
NMFS (2016). Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing: underwater acoustic thresholds for onset of permanent and temporary threshold shifts. National Marine Fisheries Service, U.S. Department of Commerce, NOAA. NOAA Technical Memorandum NMFSOPR- 55, 178pp.

NMFS (2018). 2018 Revision to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0). Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. National Marine Fisheries Service, U.S. Department of Commerce, NOAA. NOAA Technical Memorandum NMFSOPR-59, 167pp.

O'Donnell C, Mullins E, Lynch D, Lyons K, Keogh N & O'Callaghan S (2018). Celtic Sea Herring Acoustic Survey cruise report 2018. FSS Survey Series 2018/04, 44pp.

Rogan E, Breen P, Mackey M, Cañadas A, Scheidat M, Geelhoed S & Jessopp M (2018). Aerial surveys of cetaceans and seabirds in Irish waters: Occurrence, distribution and abundance in 2015-2017. Department of Communications, Climate Action & Environment and National Parks and Wildlife Service (NPWS), Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland. 297pp.

Southall B, Finneran JJ, Reichmuth C, Nachtigall PE, Ketten DR, Bowles AE, Ellison WT, Nowacek DP & Tyack PL (2019). Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals* **45**: 125-232.


Cork City
Inch Terminal
Ballycotton
Gas Field
Seven Heads
Gas Field
Kinsale Head
Gas Field

KINSALE ENERGY

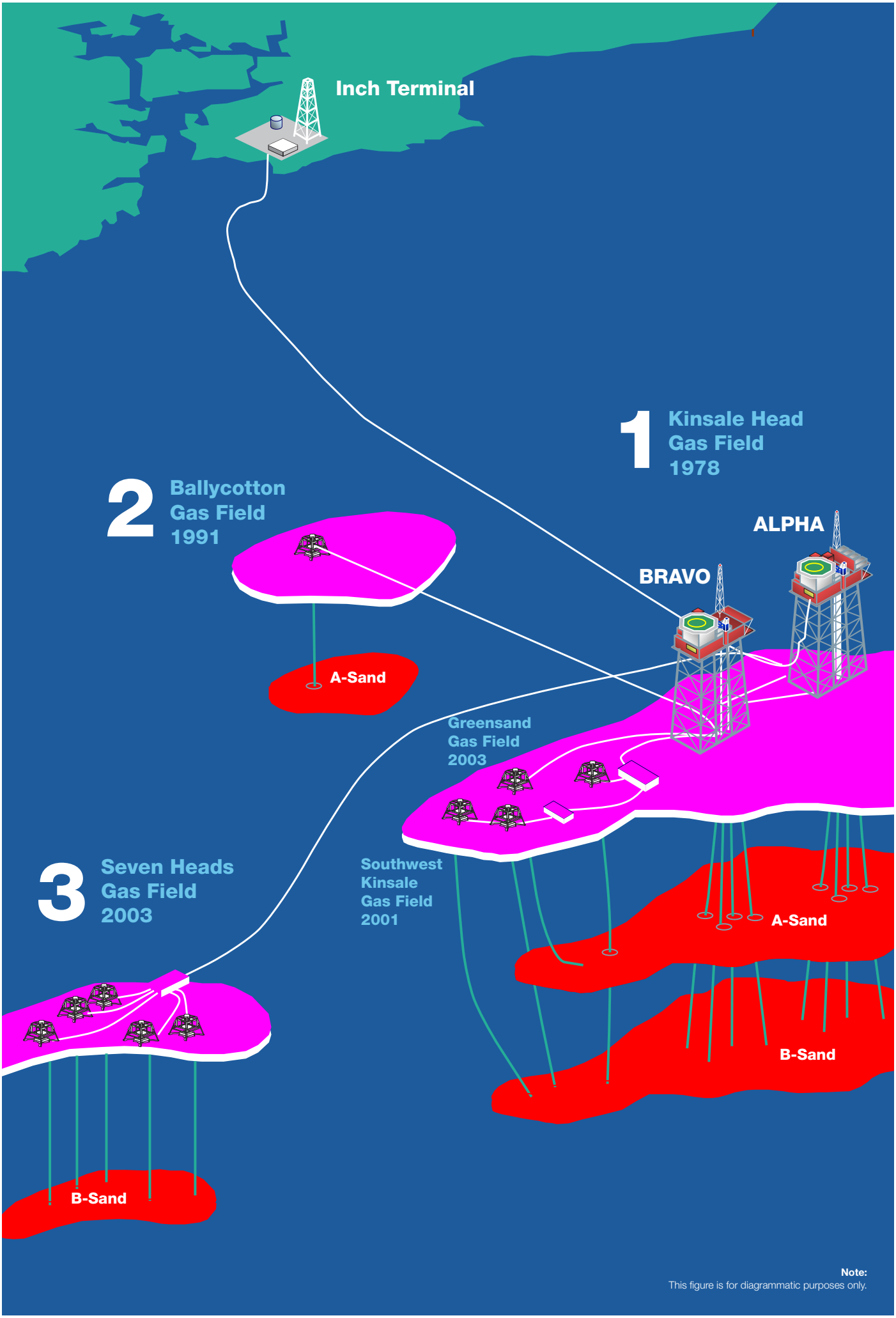
Kinsale Area Decommissioning Project

Appendix A

Summary of Consultations

Hartley Anderson

ARUP


Inch Terminal
1
Kinsale Head
Gas Field
1978
2
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
3
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

Kinsale Energy Decommissioniong Project
Consultations - Summary Table

Stakeholder	Type of Consultation	Comments/Views and Feedback	How was this used to scope and inform the EIAR.
Commission for Regulation of Utilities (CRU)	Meeting	No observation on consent application	n/a
Marine Planning and Foreshore Unit - DHPLG	Telephone and Email	No feedback received	n/a
Cork County Council - Director of Services / Chief Executive	Meeting	General supppрt for project	n/a
Cork County Council - Planning Department	Meeting	Discussed exisiting planning consent for Inch Terminal. No comments on overall project.	n/a
TFS Office, Dublin City Council	Meeting	Confirmed TFS requirements for transfrontier shipping.	n/a
National Parks and Wildlife - DAU - DAHRRG	Meeting	NPWS requested that the following was also considered: • To consult with the IWDG for data on cetaceans. • To consider the Marine Institute's Fisheries Ecosystems Advisory Services (FEAS) survey data, in particular marine mammal and seabird observations made during the Celtic Sea herring and ground fish surveys.	Subsequent to the meeting, useful information was obtained from both the IWDG and FEAS publications which has been reflected in the KADP EIAR. See Section 4.4.7 of the EIAR for reference to IWDG data. FEAS data was used in a number of places in the EIAR including sightings data from the Celtic Sea Herring Acoustic Surveys (including reference to Cronin & Barton 2014, Nolan et al. 2014, O'Donnell et al. 2008, 2011, 2012, 2013, 2015, 2016, 2017) in the elasmobranchs (4.4.4), marine reptiles (4.4.5), birds (4.4.6) and marine mammals (4.4.7) sections. Groundfish trawl survey data (Marine Institute 2012) was used to inform the fish and shellfish section (4.4.4) and additionally, the stock book produced by FEAS (Marine Institute 2016, 2017) was used to inform the fisheries section.
Department of Culture, Heritage and the Gaeltacht - Underwater Archaeology Unit - National Monuments Service	Emails	The following was received from National Monuments: We note that it is your intention to carry out an EIAR, and our recommendations for that would be that it would contain a dedicated section on the underwater cultural heritage (UCH) and terrestrial heritage (to address any land-based archaeology that could be affected by the proposed decommissioning of the landward facility). The Cultural Heritage section of the EIAR should contain the results of a dedicated Underwater Archaeological Impact Assessment (UAIA) as laid out below. It is advised that this should cover all proposed gas and oil field areas that will be the subject of planned or potential decommissioning in the future. All areas of the seabed, foreshore and landward side that will be the focus of clearance or where impacts could occur should be assessed by way of UAIA. • The UAIA shall be carried out by a suitably qualified underwater archaeologist, who shall have suitable experience and a track record in the undertaking of such UAIA for inshore and offshore projects. • The UAIA to comprise desktop study that consults with all the relevant sources, including the National Monuments Service Wreck Viewer and Wreck Inventory of Ireland Database (WIID). • Terrestrial, foreshore/intertidal inspection should be undertaken along any routes that will have the potential of being impacted by decommissioning works (including actual works or indirect impact from works traffic). • All results from other surveys, etc. such as ROV results, geophysical survey results, if carried out shall be made available to the archaeologist for consideration, with results included in their UAIA report. The UAIA shall be licenced by this Department and a detailed method statement shall accompany the licence application. Once completed, the archaeologist shall write the UAIA report, with detailed results and shall submit same to the Underwater Archaeology Unit for further consideration and comment.	The environmental assessment has had due regard to underwater archaeology. A UAIA was carried as part of the RFI.
The Irish Coast Guard (IRCG)	Email and meeting	No feedback received	n/a
Irish Maritime Operations Centre (NMOC) of the Irish Coast Guard - (Marine Rescue Co-Ordination Centre (MRCC) of the Irish Coast Guard)	Covered by IRCG meeting	No feedback received	n/a
Sea Fisheries Protection Authority	Email/Telephone	No observations	n/a
Marine Institute (Galway) - DCCAE Environmental Adviser	Telephone	Marine Institute are aware of decomm plans through vessel operations group; no specific comments received	n/a
Commissioners of Irish Lights (CIL)	Meeting	CIL advised requirements for marking etc. during decommisioning and any scenario where jackets left in-situ	n/a
Ervia	Meeting	Ervia wish to retain some of the KEL facilities for a possible future CCUS project.	The possible future use of the facilities for CCUS was included in Section 3.3 of the EIAR.
Gas Networks Ireland	Meeting	The final reinstatment of Inch Terminal was discussed. KELs current plans are to return it to agricultural use.	n/a
Naval Operations (Cork)	Email and telephone	No feedback received	n/a
Cork Port Operations	Meeting	No feedback received	n/a
Cork Chamber of Commerce	Meeting	No feedback received	n/a
DAA	Letter	A written response was also received from Dublin Airport Authority (DAA) stating that DAA has no observations to make on the KADP.	n/a
Cork City Council	Meeting	No feedback received	n/a
Irish South & West Fish Producer Organisation (IS&WFPO)	Telephone	No feeback received	n/a
Irish South & East Fish Producer Organisation (IS&EFPO)	Telephone	No observations.	n/a
South West Regional Fisheries Forum / (Regional Inshore Fisheries Forum)	Telephone	Concern regarding the possible increase in vessel traffic during the project. SWRFF suggested a pre-agreed corridor could be used.	No update to the EIAR but ongoing liaison will continue with the fishing bodies up to and during the decommissioning operations.
South Eest Regional Fisheries Forum / (Regional Inshore Fisheries Forum)	Telephone	No observations.	n/a
Irish Fish Producers Organisation (IFPO)	Telephone	No observations. IFPO to be kept informed about the project.	n/a
Killybegs Fishermen Organisation (KFO)	Telephone	No observations.	n/a
Bord Iascaigh Mhara	Telephone	No observations. To be kept informed of the project especially in the run up to the works.	n/a
RNLI Ballycotton & Cortmacsherry	Telephone	Requested to be advised of marine ops at time of actual offshore works taking place	n/a
Eirgrid	Possible route of subsea cable landing discussed.	No onservations on project.	n/a
ESB	Possible future use of facilities for CCUS discussed.	Requested some facilities to be retained for future CCUS project.	The possible future use of the facilities for CCUS was included in Section 3.3 of the EIAR.
SEAI	Email	No feedback received	n/a
Cork Energy Hub / Energy Cork	Email	No feedback received	n/a
Irish Refining	Email	No feedback received	n/a
BGE (Bord Gais Energy)	Email	No feedback received	n/a
Providence Resources	Email	No feedback received	n/a
Landsdowne Oil & Gas	Email	No feedback received	n/a
San Leon Energy	Email	No feedback received	n/a
Irish Offshore Operators Association	Email	No feedback received	n/a
Sunningdale Oil & Gas	Email	No feedback received	n/a
Landowner - Pipeline	Meeting	No Feedback received	n/a

Kinsale Energy Decommissioniong Project
Consultations - Summary Table

Stakeholder	Type of Consultation	Comments/Views and Feedback	How was this used to scope and inform the EIAR.
General Public	Two Public Information meetings were held. These were advertised in the local newspaper and on local radio. A letter drop and call to houses was also carried out by the KEL team to the houses surrounding Inch Terminal.	**First Information Evening:** Location - Clayton Hotel Cork City, 18th April Time: 4pm to 8pm. Approximately 18 people attended. The feedback was generally positive among those who attended and most people took copies of the project information leaflet with them when they left. **Second Information Evening:** Location: Aghada Community Centre , 19th April Time: 6pm to 8pm Approximately 27 people attended.. • The feedback was generally positive and there was plenty of engagement and good conversations throughout. No feedback forms completed.	Details of the consultation was included in section 1.8 and Appendix F of the EIAR. No changes to the EIAR required.
Irish Whale and Dolphin Group	Letter	A consultation response was received from the Irish Whale and Dolphin Group (IWDG) noting the need to ensure that the decommissioning works will not disturb or degrade the marine habitat for cetaceans.	The proposed decommissioning scope of work and the environmental assessment has had due regard to the concerns regarding the protection of cetaceans and ensures that potential adverse effects are minimised. See Section 4.4.7 of the EIAR , Marine Mammals.
Birdwatch Ireland	Email	No feedback received	n/a
Coastwatch	Email	No feedback received	n/a
Local TDs and Councillors	Various: Telephone/email/meeting	Local TDs and councillors were informed of the project. No observations made.	n/a

KINSALE ENERGY

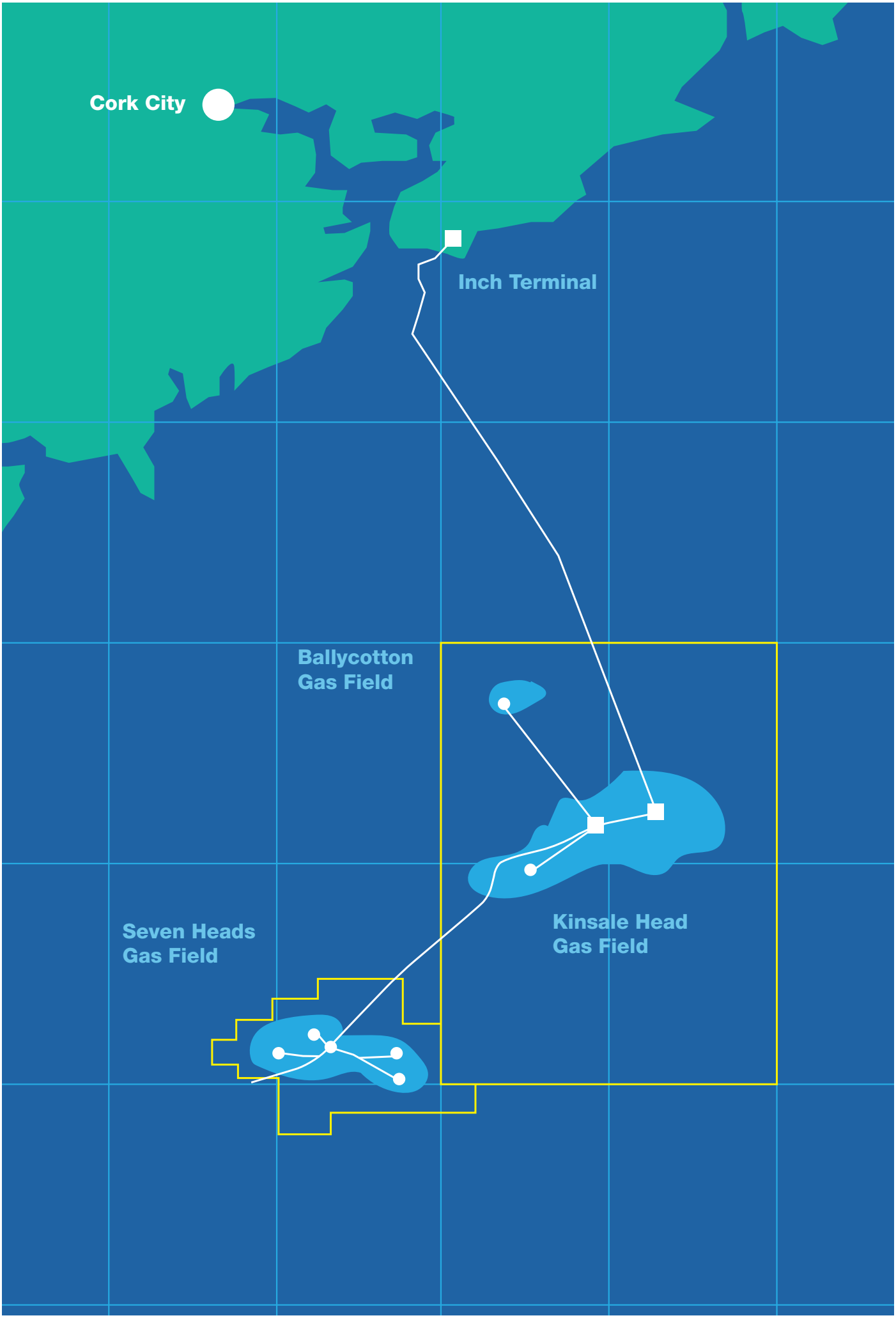
Kinsale Area Decommissioning Project

Appendix B

Kinsale Area Seabed Surveys (2002-2017)

Hartley Anderson

ARUP


Cork City
Inch Terminal
Ballycotton
Gas Field
Seven Heads
Gas Field
Kinsale Head
Gas Field

B1.1 Pre-decommissioning baseline survey: Marine Institute (2017)

B1.1.1 Overview

The survey was undertaken by the Marine Institute using the RV Celtic Voyager in April 2017. The purpose of the survey was to establish a pre-decommissioning baseline covering the relevant Kinsale Area facilities including Seven Heads, South West Kinsale and Greensand, Ballycotton and Kinsale Head. Samples were taken to characterise the sediment type, contamination status and faunal communities, including the identification of habitats or species of conservation interest. Multibeam survey data was also collected around each of the facilities to characterise the topography at these locations. A number of the sampling stations had previously been investigated in earlier surveys and allowed a temporal comparison.

B1.1.2 Methodology

Grab samples were collected from 31 stations using a 0.1m^2 Day grab. A video transect of *ca.* 25m was taken at each station and still photographs taken every few metres, with a minimum of six being taken along the transect. Two grab samples were collected at each station; one for faunal analysis, and the other for sediment granulometry (wet and dry sieve, >63µm, laser diffraction, <63µm), hydrocarbon (Gas Chromatography Flame Ionisation Detection, GC-FID) and metals (Inductively Coupled Plasma-Mass Spectrometry, ICP-MS and ICP-Optical Emission Spectrometry, ICP-OES) analyses.

Subsamples taken for metals, hydrocarbons and granulometric analyses were stored at -18ºC. Fauna samples were screened on a 1mm sieve and fixed in a 4% formaldehyde solution. All samples were sent to laboratories for processing which met the requirements stipulated by the Marine Institute.

Multibeam echosounder (MBES) data was collected around subsea infrastructure (Seven Heads, South West Kinsale and Greensand, Ballycotton) and the Kinsale Alpha and Kinsale Bravo platforms, each with an approximate coverage of 400m x 400m.

B1.1.3 Summary

Sediment granulometry

Across all samples collected across the survey area, most were characterised on the Folk sediment classification as coarse sand (43%), with the remaining samples being medium sand (27%), coarse sand (20%) and very fine gravel (10%).

Hydrocarbons and metals

Total hydrocarbon concentrations ranged from 0.5-15µg/g^{-1} and n-alkane concentrations were also low ranging from 0.05-0.51µg/g^{-1}. These values were broadly in keeping with other surveys in the area including those for Midleton (Gardline 2015) and Barryroe (Marine Institute 2011). The n-alkanes recorded were generally associated with terrestrial inputs. The Carbon Preference Index (CPI) indicated a predominantly plant-based origin for the alkanes, with slight petrogenic influence in samples with a lower CPI. Similarly, pristane (Pr) phytane (Ph) ratios reflected a largely

biogenic source, with two stations in the South West Kinsale area indicating some anthropogenic origin.

Most samples exhibited concentrations of trace metals well within normal ranges for background sediments in Irish waters, with up to 25% of samples having concentrations above background levels for zinc, and to a lesser extent, copper.

Elevated concentrations of zinc, copper and lead were noted in samples close to South West Kinsale and Kinsale Bravo, possibly related to use of pipe dopes during drilling.

Fauna

Multivariate analyses of the faunal data indicated three relatively weak clusters of stations which were geographically spread across the survey area and with some overlapping characteristic species. The characteristic species from the clusters included the polychaetes *Spiophanes kroyeri, Lumbrineris aniara, Mediomastus fragilis, Goniadella gracilis, Glycera lapidum*, and *Amphitrite cirrata*, the anemone *Edwardsia* sp., unidentified Nematoda and Nemertea, and the echinoderms *Amphiura filiformis* and *Echinocyamus pusillus*. No species indicative of contamination or organic enrichment were recorded and there was no indication of sensitive species or habitats which would be subject to protection under the EU Habitats Directive (92/43/EEC).

B1.2 Midleton well baseline survey: Gardline (2015)

B1.2.1 Overview

An environmental baseline survey was conducted around the Midleton A exploration well and proposed Midleton B appraisal well (subsequently not drilled) in Block 49/11 of the Celtic Sea. The objective of the survey was to obtain baseline physico-chemical data within the site, to allow the monitoring of any potential impacts to be undertaken in the future.

Sediment was collected and samples taken to characterise hydrocarbons, metals and organic matter, and sediment particle size. A separate geophysical survey was undertaken to identify obstructions, hazards and shallow geological conditions affecting semi-submersible rig anchoring, and to establish water depths.

B1.2.2 Methodology

Grab samples were collected from 11 stations using a 0.1m^2 Day grab, arranged in a cruciform pattern around the well sites accounting for the dominant ENE-WSW tidal current, with one station 5.5km to the SSW of Midleton A to act as a control. Side scan sonar (SSS) data was used to help target the grabs in the event of failed attempts to collect sediment due to the coarse nature of the seabed. The data helped to target areas of lower reflectivity in the event that five consecutive grab sampling attempts failed. Each grab sample was sub-sampled for: particle size analysis by sieving using mesh apertures from 63mm down to 63µm; analysis of total hydrocarbons and n-alkanes by GC-FID with Polycyclic Aromatic Hydrocarbons (PAHs) analysed by GC-MS; analysis of metals using ICP-OES and ICP-MS, and organic matter analyses (by ignition). Photographs were taken of each of the samples within the grab.

A 2.4km x 1km bathymetry and sub-bottom profiler survey was undertaken at the Midleton A well location, in addition to a wider shallow geological survey covering 5.8km x 4.1km. Survey equipment included a multibeam echosounder (MBES), side scan sonar (SSS), magnetometer, pinger and sparker.

B1.2.3 Summary

Sediment granulometry

Mean grain size was variable, ranging from 152 to 2,289µm, with a mean of 948µm, ranging from poorly to very poorly sorted coarse or very coarse sand with the exception of three stations, at which fine to medium sand was recorded (after Wentworth 1922). Following sampling failure Station ENV2 and ENV11 due to the coarse nature of the sediment, the sampling locations at these stations were slightly altered, which likely resulted in the coarser sediment fraction in this survey being slightly underrepresented.

Organic matter, hydrocarbons and metals

Total Organic Matter (TOM) and Total Organic Carbon (TOC) analyses ranged from 1.9% to 3.8%, and 0.21% to 0.66% respectively. A statistically significant positive correlation between both TOM and TOC with percentage fines was indicated by Spearman's rank correlation, which were highest in samples with a greater proportion of fines.

Total Hydrocarbon Concentrations (THC) ranged between 3.1µg/g^{-1} to 14.8µg/g^{-1}, which were within the range recorded in the previous Aquafact (2004) survey, and representative of background concentrations found in similar sediments in the central North Sea. Additionally, n-alkanes did not indicate the presence of any notable source of petrogenic hydrocarbons, and Carbon Preference Index (CPI) and pristane (Pr) phytane (Ph) ratio values were indicative of the presence of biogenically derived aliphatic hydrocarbons.

PAHs indicated a predominance of pyrogenic hydrocarbons likely to have originated from atmospheric fallout and river discharges, and a low level of petrogenic input.

Concentrations of barium were low across all stations (4.4µg/g^{-1} to 23.7µg/g^{-1}) and did not indicate any notable contamination. Spearman's correlation test illustrated all metals other than aluminium, chromium and copper had a positive correlation with sediment particle size, while others showed an increase with depth (Cd, Cr, Ni), TOM and hydrocarbon indicators (Al, Ba, Cr, Cu, Zn) or just hydrocarbons (Ni). The patterns reflect natural variation in sediment characteristics across the survey area.

Seabed topography

Within the survey area water depths varied from 80m on a raised bedform structure in the NE to 84.3m in a gentle depression to the SSE of the Midleton A well. The seabed was generally found to gently deepen from the N and NE to the S, with a WSW-ENE orientated, broad, shallow channel in the southern half of the survey area. Seabed gradients were found to be generally <0.5°, apart from some irregular N-S orientated bedforms (<0.5m high) identified across the survey area, particularly in the channel, which had gradients of approximately 7° at their edges.

The seabed was characterised as gravelly sand with shell fragments, with numerous boulders in the centre and north of the survey area, but largely absent elsewhere. Trawl scars were present, as was a wreck immediately to the SW of the survey area.

B1.3 Barryroe well 48/24-10 post-drilling ROV sampling and video: Fugro ERT (2012)

B1.3.1 Overview

A post-drilling ROV survey was carried out around the Barryroe Well 48/24-10 in March 2012. The main objective of the survey was to determine the initial impact of cuttings, drilling fluids and cement discharged directly to the seabed during the drilling of the tophole sections of the well by sediment sampling and analysis.

B1.3.2 Methodology

The ROV was deployed from the GSF Arctic III semi-submersible drilling rig and samples were collected from 17 stations: at the well head centre and at 20m, 50m, 100m and 150m north, south, east and west of the well location.

The sediment samples were collected in plastic bottles, used as scoops by the ROV to scrape up surface sediments (0 cm to 5 cm) at each station. Samples were analysed to characterise hydrocarbons (by GC and GC-MS), metals (by aqua-regia acid digestion and analysis using ICP-OES, ICP-MS, Cold Vapour Atomic Fluorescence (CVAF) Spectroscopy for mercury and Atomic Absorption Spectroscopy (AAS) for barium) and organic matter (by ignition), and sediment particle size (using a combination of sieve analysis and laser diffraction analysis). The ROV system was used both in the collection of samples and in recording video footage of the area out to 150m (the limitation of the ROV tether).

B1.3.3 Summary

Video assessment

The seabed sediments of the area consisted of coarse to fine sands interspersed with pebbles, shell fragments and occasional bedrock and boulders. Faunal species identified were consistent with those found in previous surveys and included the common starfish (*Asterias rubens*), edible crab (*Cancer pagurus*), hermit crabs (*Paguridae* spp.), and common octopus (Octopus *vulgaris*). Several fish species were observed including gurnard, John Dory, gadoid species and pleuronectiformes (flatfish) species. The transects surveyed did not indicate any sensitive species or habitats in the area and no species or habitats which would be subject to legal protection under the EU Habitats Directive.

Sediment granulometry

The sediment samples were classified as ranging from very coarse sand to medium silt with the stations 20m east and 20m west of the well head containing a significant portion of material as silt/clay (78.8% and 63.8% respectively), indicative of the deposition of drill cuttings at these locations. Sediments were dominated by medium sands at the remaining stations, varying to coarse or fine at some stations.

Hydrocarbons and metals

Total hydrocarbon levels for the sediment samples ranged from 1.7 $\mu g/g^{-1}$ at station 14 to 351 $\mu g/g^{-1}$ at station 13 (mean 61.5 $\mu g/g^{-1}$), variation across the stations was high (RSD 174%). Total n-alkanes (nC12 to nC36) ranged from 0.11 $\mu g/g^{-1}$ at station 14 to

56.3 µg/g^{-1} at station 13 (mean 7.25 µg/g^{-1}). Once again, the variation across stations was high (RSD 208%). Total hydrocarbon concentration at station 1 (well head centre) was 217 µg/g^{-1} and total n-alkanes (nC12 to nC36) were 37.1 µg/g^{-1}.

The ratio of odd to even carbon numbered normal alkanes (Carbon Preference Index, CPI), and was calculated over various chain length ranges. The CPI (nC12 to nC36) in the sediment samples ranged from 0.85 to 1.64 (mean 1.31) while the pristane/phytane ratios ranged from 0.76 to 3.38 (mean 2.26); the indices had both low variation (19% and 33% RSD, respectively) across the stations. The CPI (nC12 to nC36) at station 1 (well head centre) was 1.15 while the pristane/phytane ratios was 2.5. The low CPI values calculated corroborate the input of drilling-related petroleum hydrocarbons in the Well 48/24-10 sediments.

Similarly, the isoprenoidal alkanes pristane (Pr) and phytane (Ph) were found in each of the sediment samples analysed. The Pr/Ph ratios measured at several of the stations (e.g. stations 10, 4, 8, 9, and 15) suggested that a greater proportion of the phytane present in these sediments was predominantly derived from petrogenic sources.

Aromatic hydrocarbon concentrations in the samples ranged from 0.042 µg/g^{-1} at station 14 to 0.467 µg/g^{-1} at station 13 (mean 0.210 µg/g^{-1}). The proportion of petrogenically derived naphthalenes, phenanthrenes and dibenzothiophenes (or NPD) to total aromatic material present in the sediments ranged from 44% at station 15 to 80% at station 11 (mean 59%). The aromatic hydrocarbon concentration for the well head centre sample (station 1) was 0.294 µg/g^{-1} while the NPD proportion was 75%.

Total barium levels for the sediment samples ranged from <500 µg/g^{-1} at several stations to 56,000 µg/g^{-1} at station 13 (mean 7,490 µg/g^{-1}). The variation across the stations was high (RSD 236%). At station 1 (well head centre), the total barium level was 2,000 µg/g^{-1}. High levels of total barium were recorded at stations 11 and 13, presumably due to the deposition of barites (weighting agent in drilling muds) on the seabed during drilling operations. Increased concentrations of other metals e.g. cadmium, copper, lead and zinc were typically recorded where sediment barium content was elevated. It is known that barites often contain significant quantities of other trace metals and it is therefore likely that most of these metals would also be associated with drilling mud deposition. Note that detailed comparisons between the metals results from this survey and the pre-well survey (Marine Institute 2011) cannot be made due to the use of different acid digests.

Overall, the information from the physical and chemical analyses of the seabed sediments indicated the presence of drill cuttings derived material on the seabed surface, primarily restricted to an area in the immediate vicinity west, south and east of the well head within a 50m radius.

B1.4 Barryroe drill site environmental baseline survey: Marine Institute (2011)

B1.4.1 Overview

The Marine Institute carried out a geophysical site survey and environmental baseline survey (EBS) over a 4x4km survey grid at the Barryroe well location in block 48/24. The object of the survey was to assess potential hazards for the emplacement of a semi-submersible rig. A habitat assessment survey was also carried out using the data from the geophysical survey together with an investigation of the seabed using a digital stills

and video camera system to identify the presence of potentially sensitive habitats, such as those protected under the EU Habitats Directive.

B1.4.2 Methodology

Twelve stations for environmental sampling were selected based on the geophysical interpretation of the multi-beam backscatter data.

Stations covered the range of acoustic reflectance classes (e.g. low, medium and high reflectivity), to ensure samples were acquired on each of the seabed types identified at the survey site. Sampling was also undertaken at locations certain distances from the well head and along the axis of the residual current flow (south-west and north-east), and at one control site.

For operational reasons (weather and time constraints) grab samples were acquired at eleven stations. A total of four valid samples were acquired from each station using a 0.1m^2 Day grab. Three grab samples were acquired for the analysis of benthic fauna and the fourth grab was used for sub-samples for sediment granulometry (by sieve analysis and laser diffraction), sediment hydrocarbons (by GC and GC-MS), sediment metals (by ICP-MS and ICP-Atomic Emission Spectrometry, AES) and organics (by ignition).

B1.4.3 Summary

Seabed topography

The seafloor in the survey area was generally flat with water depths ranging from 97.7–102.8m across the site with no appreciable slope, scarps, depressions or mounds.

The seabed within the survey area was characterised with chalk bedrock intermittently exposed with a variable covering of clayey sands. Ribbons of mobile sands crossed the site in a south-west to north-east orientation.

Sediment granulometry

The particle size analysis confirmed that samples were predominantly coarse / medium sand, with two stations demonstrating the highest silt content at 12% and 11% respectively. The samples showed a very good correlation with the results of the acoustic survey, which identified a variably-thick blanket of sand, with patches of coarser or finer sands.

Organic matter, hydrocarbons and metals

Total organic carbon (TOC) concentrations were considered representative of unpolluted sediments of this type and showed ranges between <0.4 and 0.7%. Carbonate content ranged from 3.1% to 5.8%.

Total hydrocarbon concentrations (THC) ranged from 0.6 to 2.9 µg/g^{-1}. Unresolved complex mixture (UCM) concentrations were all less than 2.2 µg/g^{-1}. There appeared to be little evidence of a petrogenic influence in any of the samples The Carbon Preference Index (CPI, nC12 -36) indicated a typically biogenic source. The pristine/phytane ratios ranged from 1.0 to 3.4, indicating a chiefly biogenic source material. Polycyclic aromatic hydrocarbon (PAH) concentrations were all indicative of background values.

Heavy metal analysis indicated low levels of all trace metals analysed and, for the most part, results were in agreement with background data from non-impacted sites around the Irish coast Barium concentrations indicative of past drilling were found at one station (1,002mg/kg^{-1}); concentrations at remaining stations were indicative of background coarse sediments (500mg/kg^{-1}).

Fauna

The macrofaunal analysis indicated that the area could be classed as relatively impoverished. A total of 92 taxa were identified from 22 x 0.1m^2 grabs collected from the eleven stations within the survey area. The maximum number of taxa identified from the stations was twenty-nine while the minimum was ten, with an average over the entire sampling area of eighteen.

The variation in faunal constituents at the sites sampled could be attributed to natural processes which reflect the patchy sedimentary habitats encountered. The presence of mobile medium to coarse grained sands from discrete bedforms indicate the area is subject to physical stress, a likely product of dynamic processes, including storm activity, found in the area. The composition of species from the entire sampling area was dominated almost exclusively by polychaete worms. In addition, generalist species with no particular habitat preference were also found, e.g. *Scoloplos armiger*. The communities were as expected in such habitats and there was no evidence of any anthropogenic influence based upon the information generated for the surveys. None of the species or habitats observed were considered especially sensitive or of a particular conservation interest.

B1.5 Kinsale Head Gas Storage Project environmental baseline survey: Ecoserve (2011)

B1.5.1 Overview

Ecological Consultancy services were contracted by the Marine Institute to carry out an environmental baseline survey (EBS) to support installation of a gas pipeline and associated umbilical between a landfall at Inch (on the coast to the south east of Cork Harbour) and the gas fields of Ballycotton and South West Kinsale.

The aim of the survey was to provide a baseline description of the seabed environment along the proposed pipeline. The EBS included a habitat survey to identify the presence of potentially sensitive habitats, such as protected under the Habitats Directive. The survey was carried out in conjunction with a geophysical survey.

B1.5.2 Methodology

Fifteen stations were picked for the survey across a range of acoustic reflectance classes e.g. low, medium and high reflectivity, to ensure samples were acquired on each of the seabed types at the survey site. Thirteen stations were sampled along the proposed pipeline and two were only investigated using a drop-down camera where the sediment was determined to be too hard for the benthic gear to penetrate or for a trawl to be towed. At each station three replicates were collected by 0.1 m^2 Day grab for the analysis of benthic fauna and the fourth was used to acquire sub-samples for sediment granulometry (by sieve analysis and laser diffraction), hydrocarbons (Ultra Violet

Fluorescence (UVF) spectroscopy and GC-MS), metals (by ICP-OES) and organics (by ignition).

B1.5.3 Summary

Sediment granulometry

The particle size analysis indicated a variety of sediment types along the proposed pipeline route ranging from gravelly sand through to silty sand. The statistical analysis and particle size results from the grabs identified eight main sediment population types according to the Folk classification: (a) Sand, (b) Clayey sand, (c) muddy sand, (d) silty sand, (e) sandy silt, (f) sandy gravel, (g) gravelly sand and (h) gravelly muddy sand.

The samples showed a very good correlation with the findings of the associated acoustic survey. No organic carbon was recorded above the limit of detection (0.8%).

Hydrocarbons and metals

Heavy metal analysis indicated low concentrations of all trace metals analysed for and were in agreement with background data from non-impacted sites around the Irish coast.

Total hydrocarbon concentrations (THC) were low and ranged from 1.61 to 13.9µg/g^{-1}. While there was no obvious geographic pattern, there appeared to be a relationship between increasing number of fines and increasing THC. All concentrations recorded were below the background limits for uncontaminated marine surface sediments.

PAH concentrations were all indicative of background values. Bulk hydrocarbon concentrations as well as the distribution of Equivalent Carbon fractions were within characteristics expected in uncontaminated marine sediments. No measurable input of petroleum hydrocarbons were recorded within the study area.

Fauna

The macrofaunal analysis indicated that the area could be classed as relatively diverse. A total of 280 taxa and over 5,200 individuals were identified from 26 x 0.1m^2 grabs collected from 13 stations within the survey area. The maximum number of taxa recorded from a station was 68 while the minimum was 42 with an average over the sampling area of 53 taxa per station. In total 7 subtidal biotopes were identified with overlapping biotopes identified in some areas.

The communities both intertidal and subtidal were as expected in such habitats and there was no evidence of any anthropogenic influence. There did not appear to be any species or habitats observed that would be considered especially sensitive or of a particular conservation interest in the subtidal survey.

The intertidal survey identified *Sabellaria alveolata* reefs which are biogenic reefs and an Annex I habitat of the Habitats Directive.

B1.6 Kinsale Head Gas Storage Project geophysical survey: Marine Institute (2010)

B1.6.1 Overview

The Marine Institute were commissioned to carry out a geophysical survey to support installation of a gas pipeline and associated umbilical between a landfall at Inch (on the coast to the south east of Cork Harbour) and the gas fields of Ballycotton and South West Kinsale. The aim of the survey was to provide a baseline description of the geotechnical properties and location of hazards along the proposed pipeline, including archaeological remains (wrecks). The survey was carried out in conjunction with an environmental baseline survey (EBS), described above (Ecoserve 2011).

B1.6.2 Methodology

Multibeam echo sounds and sidescan sonar data were collected to characterise the topography of the seabed and any hazards, for example wrecks, along the corridor of the proposed pipeline route. Pinger, sparker and boomer profiler systems were also used to interpret the shallow geology of the pipeline route. Attempts to collect box core samples were made at 77 locations, with vibrocore and cone penetration test (CPT) samples taken at alternate box core stations. Full sample recovery was not possible at all stations due to the nature of the seabed. 25 of the box cores were chosen as representative of the wider seabed encountered during the survey and were sent for particle size analysis. A further 9 were sent for Atterburg and clay particle analysis.

B1.6.3 Summary

Sediment granulometry and shallow geology

Field descriptions of sediment collected in the box cores closely matched that with those from laboratory analysis, with sediments ranging from sandy clay to sandy gravel. The CPT analysis showed penetration depths of between 0.19m and 3.05m, with an average of 1.08m, with up to 3 attempts made to reach the target depth of 3m. The tests indicated a predominantly dense to very dense granular soils overlying a hard/dense layer on which most tests refused to go any deeper. Cohesive soils were proven to underlie the granular deposits in some areas.

Offshore, seabed sediment are thin, with underlying chalk bedrock occasionally exposed. This chalk bedrock underlies the seabed, with occasional outcrops, for some distance along the route (~16km) before surficial sediments thicken and the bedrock deepens moving onshore. From approximately 30km along the route, bedrock is once again shallowly subcropping the seabed sediments, and closer onshore bedrock intermittently outcrops at the seabed.

Bathymetry

The seabed was generally flat along the proposed pipeline route with no significant topographic features, though there are some minor slopes associated with rock outcrop areas (less than 2m relief), most likely of slightly metamorphosed chalk further offshore, and Carboniferous aged Sandstones and Mudstones that closer to shore which also make up the coastal cliffs. Some mobile sediment bands and ripples were noted but these appear to be in flux above a consolidated seabed.

The wave geometry showed asymmetric shapes with a low slope angle and wave height controlled by the prevailing current direction. Depths ranged from a maximum of 93.6m offshore to 0m at Inch beach, with seabed gradients ranging between 0.004° and 0.13°.

Underwater archaeology

Moore Marine Services Ltd. was commissioned by Arup Consulting Engineers on behalf of Kinsale Energy to carry out a programme of archaeological assessment and real time interpretation of geophysical data acquired during the survey. One confirmed feature of archaeological significance, the U 58, was noted along the proposed pipeline corridor, and the World War I U Boat, UC-42 was noted near the existing export pipeline. The wreck of the Star Immaculate is located 400m to the north of the near-shore alternative route. A survey of this trawler, which sank in 1993, was carried out to successfully identify the location of the wreck in relation to the proposed works. The investigation recorded the location of the wreck in the charted position and also noted that the wreck was in poor condition, with much of the superstructure missing.

B1.7 Celtic Sea Drilling Programme Seabed Monitoring results – summary report: Hartley Anderson (2006)

B1.7.1 Overview

Island Oil and Gas plc drilled 2 wells 48/23-3 and 49/23-1 in the Celtic Sea during 2006. At each well location seabed samples were taken by rig ROV prior to spudding and again at the end of the well operations.

The samples were taken by corer from within 100m of the rig (dictated by the ROV umbilical) and stored deep frozen before analysis. In addition, the results from 5 stations sampled in the vicinity of the 49/23-1 well (made available by the Marine Institute) were used to provide a wider perspective on baseline conditions. The report provides a summary of the monitoring results rather than detailed survey data.

B1.7.2 Methodology

Three samples were taken at each well pre- and post-drilling. Sediment particle size composition was analysed using sieve and laser particle sizing techniques. Trace and heavy metals (As, Ba, Cr, Cu, Cd, Hg, Pb, Ni, V and Zn) were analysed by inductively coupled plasma emission spectrometry, graphite furnace atomic absorption spectrometry, hydride generation AAS and cold vapour atomic fluorescence (CVAF) as appropriate. Gas chromatography was used to determine total hydrocarbons and gas chromatography mass spectrometry (GC-MS) was used for two to six ring aromatic hydrocarbons.

B1.7.3 Summary

Sediment granulometry

The sediments around well 48/23-3 were sands with some gravel and silt/clay with no major variation between samples in either the pre- or post-drilling samples. In contrast the sediments around the 49/23-1 well were naturally very variable in grain size

composition as evidenced by the Marine Institute sample data, with the differences attributed to the presence of sand waves in the area. The post-drilling samples at the 49/23-1 well had significantly greater proportions of silt/clay suggesting the presence of discharged mud and/or cuttings. However, in view of the coarse and current influenced nature of the normal seabed in the area, the increase in silt/clay content is expected to be short lived, with the material winnowed by currents and widely distributed.

Hydrocarbons and metals

The total hydrocarbon concentrations in sediments were typically low and at background in the pre-drilling and Marine Institute samples. At both wells the total hydrocarbon concentrations found in the post-drilling samples had slightly increased, although not to levels that would be expected to result in organic enrichment or biological impacts. The aromatic hydrocarbons investigated in more detail by GCMS did not show significant increases between pre- and post-drilling samples.

Concentrations of heavy and trace metals were fairly uniform in pre-drilling samples. For most metals there was little change in concentrations between pre- and post-drilling samples but this was not the case for barium and perhaps zinc. Barium concentrations increased by 2 to 3 orders of magnitude in the post drilling samples from both wells; this increase was expected since large quantities of the naturally occurring dense mineral barite (barium sulphate) was used in the wells as a weighting material to maintain well control.

The nature and concentrations of hydrocarbons and metals recorded in the post-drilling samples from both wells were consistent with those found at other wells and fields in the Celtic and Irish Sea (and elsewhere) where water based muds have been used and discharged.

B1.8 Environmental monitoring of the seabed at Greensand Well (48/25): AquaFact (2004)

B1.8.1 Overview

Aqua-Fact on behalf of Marathon Oil carried out a seabed monitoring survey in the vicinity of the Greensand well in Block 48/25 between 19-20th June 2004. Seven stations were sampled in the vicinity of the well to assess the accumulation of mud and cuttings discharged from the rig.

B1.8.2 Methodology

Five sampling stations were chosen along a transect aligned NE-SW from the Greensand well. The sampling stations were positioned approximately 100m, 200m, 400m, 800m, and 1,600m from the well. A sixth station was positioned 800m NW of the well, and a seventh control site was located 5km SE of the well. Three replicate samples were taken at each station with a 0.1m^2 Day Grab. Four sub samples were collected from each replicate, for hydrocarbons (by GC analysis), solids (by freeze drying), metals (by inductively coupled plasma emission spectrometry, graphite furnace atomic absorption spectrometry, hydride generation AAS and cold vapour atomic fluorescence (CVAF) as appropriate), and granulometric analysis (by sieve and laser particle sizing techniques). No faunal samples were taken as part of the survey.

B1.8.3 Summary

Sediment granulometry

The sediments were dominated by very coarse to medium sand, with variable proportions of fines or gravel present. Sediment variability was anticipated based on side scan sonar data for the area and results of the baseline survey. In the baseline survey (Aqua-Fact 2003), the sediments in the locality were reported as ranging from medium to coarse sand, with silt-clay dominating in only two areas. The results from the post-drilling survey indicated a higher proportion of coarser material, not evident in the baseline survey. The variation in grain size distribution seen between the two surveys was possibly due to small-scale variations in the local topography rather than the result of drilling activity.

Hydrocarbons and metals

Barium concentrations were highest at station 2 (200m from the well) at a value of 880 $\mu g/g^{-1}$ and lowest at station 7 (control, 5km southeast from the well) at a value of 247 $\mu g/g^{-1}$. The overall barium levels from the baseline survey ranged from 5.1 to 245 $\mu g/g^{-1}$. Only the levels recorded from station 2 were above typical background level, suggesting a subtle chemical footprint in the vicinity of the well, but the remaining concentrations were typically within background levels. The levels of barium recorded at the stations did not seem to reflect distance or direction from the well and it was also noted that barium did not correlate with hydrocarbons or silt-clay.

The survey report concluded that while a subtle chemical impact from the drilling operations was possibly evident throughout the locality with respect to barium levels, PAH and metal values had changed very little since the baseline survey. The lead and zinc concentrations along with mercury, cadmium, copper, chromium and nickel were all within estimated background levels. A high correlation was evident between silt-clay and hydrocarbons at stations 1 to 4. This correlation was to be expected as organics typically adsorb to fine particles. The lack of change in hydrocarbon concentrations from the baseline to the post-drilling survey, suggested that the drilling operation had not increased hydrocarbon concentrations in the area. Variations between the baseline and post-drilling survey were attributed to small-scale local variability within the sedimentary environment.

B1.9 Ecological review of ROV video and other seabed survey information for the Seven Heads Gas Field Development: Hartley Anderson (2003)

B1.9.1 Overview and methodology

Provides an ecological review of the ROV inspection video of various targets along the Seven Heads pipeline route carried out 19th to 21st August 2002. The ROV inspection targets were identified from sidescan sonar and other information collected during the pipeline route survey. The videos were reviewed for seabed features or species of potential conservation interest, in particular habitats or species listed in the Habitats Directive.

B1.9.2 Summary

The seabed fauna observed consisted of common and widely distributed species and was consistent with previous surveys in the region. None of the species were regarded as particularly vulnerable or sensitive to the proposed activities associated with field development and operation. Similarly, the sandy seabed habitats and species were not of particular conservation interest under the Habitats Directive. Potential exceptions were the larger rock outcrops and groups of cobbles and boulders, which had well developed sessile and mobile epifauna. Rock outcrops ranged from fully emergent from the seabed to those which were episodically covered by shifting sediments. Development of epifauna on the rock outcrops was variable and believed to reflect the effects of both natural and manmade physical disturbance (e.g. trawling). The review recommended that two rock outcrops with moderately well-developed epifauna be avoided if feasible in pipeline routeing and that anchoring in the vicinity of outcrops was controlled so as to minimise interaction and potential damage.

B1.10 Seven Heads and Kinsale Head benthic studies 2002/2003: Aquafact (2003)

B1.10.1 Overview

Ramco Seven Heads Ltd developed the Seven Heads field, centred on block 48/24 as a subsea tieback to the Kinsale Head gas field. As part of this development, seabed investigations in the Seven Heads field and along the pipeline route to Kinsale Head were required to inform environmental management of the project. Similarly, seabed investigations were required in the vicinity of the Kinsale Head field for the proposed development of the Greensand well. Aqua-Fact was commissioned by Hartley Anderson to carry out the seabed investigations, the main focus of which was to be photographic, with some seabed sampling.

B1.10.2 Methodology

The sampling locations for this survey were chosen based on geophysical data. Fifteen samples were taken around the South West Kinsale field and Greensand well area, 5 along the pipeline route, 15 in the Seven Heads field and a further 10 were selected on the basis of seabed textural and topographical information during the survey. A 0.1 m^2 Day grab was used to collect seabed samples. Samples that were not regarded as being adequate for biological analyses (i.e. had less than 5 cm sediment depth in the grab) were used for granulometric and chemical analyses (same methods as Aquafact 2004). Once the grab sampling had been completed, the sediment profile imagery apparatus, including the surface camera, was deployed with 5 replicate images taken at each location.

B1.10.3 Summary

Sediment granulometry

Of the 22 samples analysed, only one was dominated by silt and very fine sands (56.5%). The remaining samples were characterised by fine, medium and coarse sands, or coarse/very coarse sands.

Organic matter, hydrocarbons and metals

With regard to the organic carbon of the sediments, results from all stations were low with only three stations returning higher than 3% organic carbon content.

Analysis of the heavy metals in the sediment samples indicated that no elevated levels were found with values corresponding to naturally occurring concentrations found in offshore sediments.

The results of the chemical analyses on sediment collected at the Seven Heads and Kinsale Head fields show little evidence of impact from drilling activities to date.

Fauna

The dominant species throughout the area was *Spiophanes kroyeri* and other characteristic species were *Magelona alleni, Ophelia rathkei* and *Echinocyamus pusillus*. The faunal assemblage can be considered as an *Ophelia*-type grouping.

Compared to other areas of the Irish coast e.g. Dublin Bay, Carnsore Point, Kinsale Harbour, Galway Bay, numbers of species and number of individuals in this part of the Celtic Sea were low. The reason for this probably relates to the sediment type present and the low levels of organic carbon present.

KINSALE ENERGY

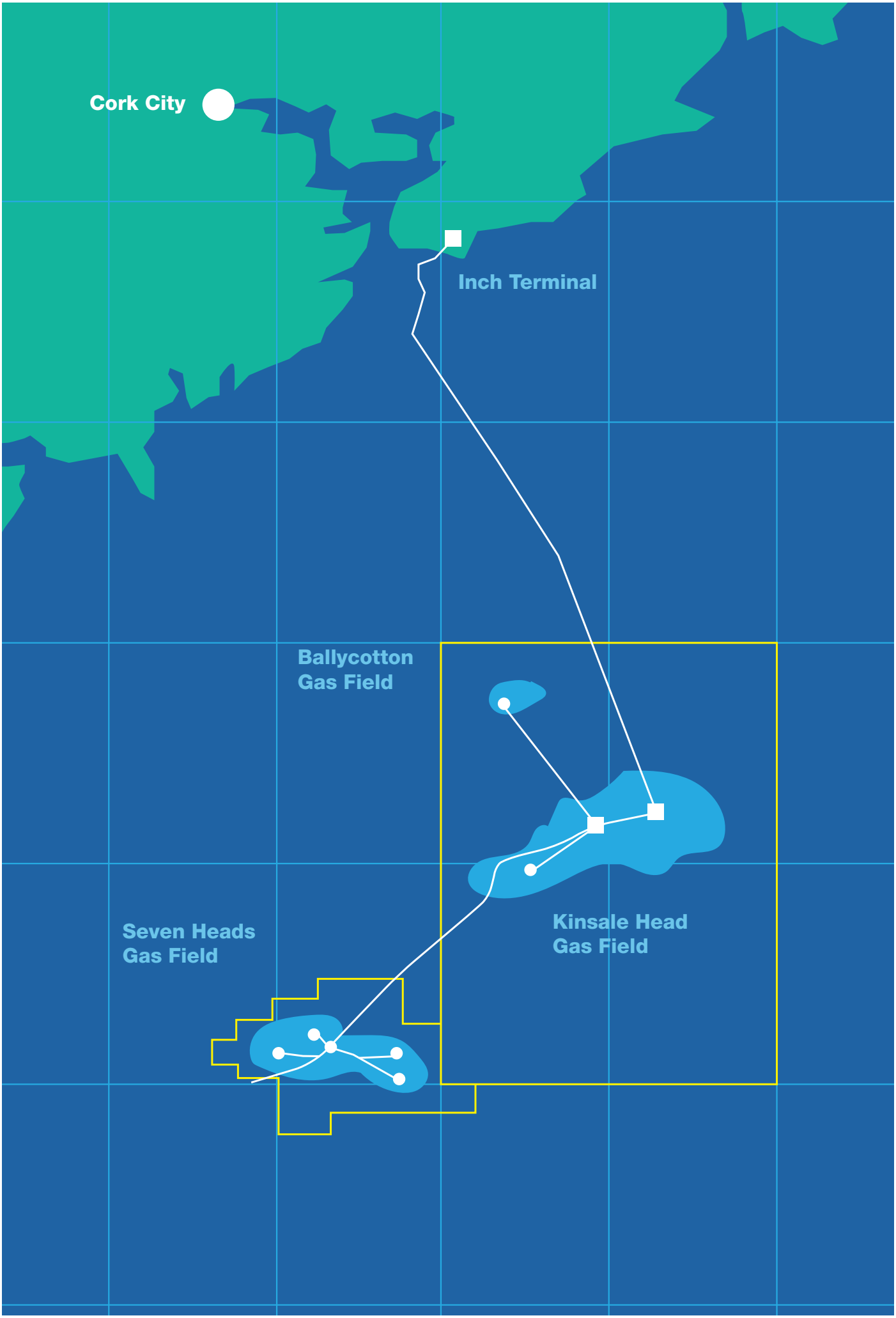
Kinsale Area Decommissioning Project

Appendix C

Cultural Heritage

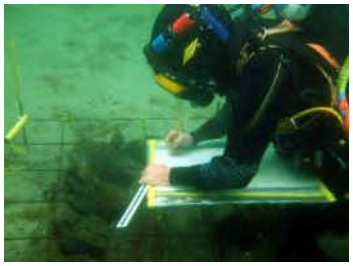
Hartley Anderson

ARUP

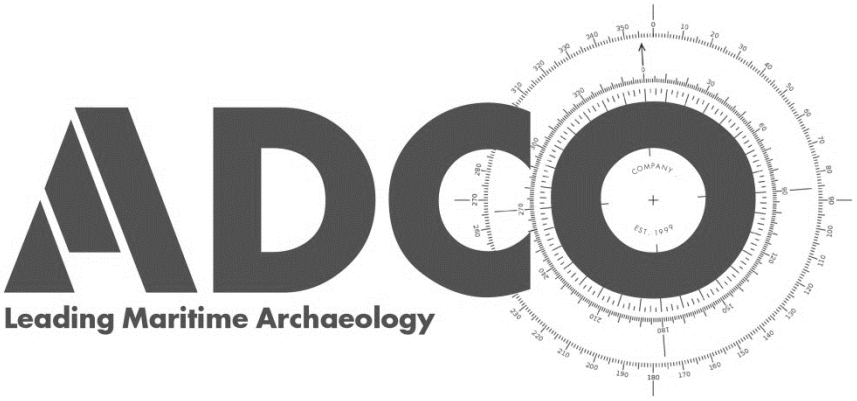

Cork City
Inch Terminal
Ballycotton
Gas Field
Seven Heads
Gas Field
Kinsale Head
Gas Field

ADCO
Leading Maritime Archaeology

Cultural Heritage Assessment
Kinsale Field Decommissioning



.



Cultural Heritage Assessment
Kinsale Field Decommissioning

Report 09 November 2018

Project Director **Niall Brady**

Beverley Studios, Church Terrace, Bray, Co. Wicklow www.adco-ie.com

.

CONTENTS

Abbreviations

LIST OF FIGURES 1

1.0 SUMMARY 2

2.0 INTRODUCTION 3

3.0 CULTURAL BACKGROUND 3

4.0 METHOD STATEMENT 4

5.0 RESULTS 5

6.0 IMPACTS AND IMPACT ASSESSMENT 6

7.0 RECOMMENDATIONS 8

8.0 ACKNOWLEDGEMENTS 8

FIGURES

.

Abbreviations

ADCO	The Archaeological Diving Company Ltd
DAHG	Department of Arts, Heritage and the Gaeltacht
DCCAE	Department of Communications, Climate Action and Environment
DCHG	Department of Culture, Heritage and the Gaeltacht
E	Easting
EIS	Environmental Impact Statement
IAC	Irish Archaeological Consultancy Ltd
N	Northing
NGR	National Grid Reference
NIAH	National Inventory of Architectural Heritage
NMI	National Museum of Ireland
NPS	Navan Protected Structure
OPW	Office of Public Works
RMP	Record of Monuments and Places
RPS	Record of Protected Structures

LIST OF FIGURES

Figure 1: Location map showing the extent of the Kinsale Field.

Figure 2: Distribution of known wrecksites in the vicinity of the Kinsale Field.

Figure 3: Distribution of known wrecksites in the vicinity of the Seven Heads installation.

Figure 4: Distribution of known wrecksites in the vicinity of the Kinsale installation.

Figure 5: Distribution of known wrecksites in the vicinity of the Grensand installation.

Figure 6: Distribution of known wrecksites in the vicinity of the Ballycotton installation.

Figure 7: Detail view of known wrecksites in the vicinity of the Ballycotton installation.

Figure 8: Distribution of known wrecksites in the vicinity of the pipeline heading inshore.

Figure 9: Distribution of known wrecksites in the vicinity of the pipeline close inshore.

1.0 Summary

The Archaeological Diving Company Ltd. (ADCO) was appointed by ARUP on behalf of Kinsale Energy to carry out a Cultural Heritage Assessment based on desk-top review, to inform a Request for Further Information made by the Department of Communications, Climate Action and Environment (DCCAE) on a submission in relation to the decommissioning of certain facilities associated with the Kinsale Field.

The recognition of archaeological risk within the offshore and nearshore environments is cognizant of the diverse range of sources that can enhance the basic Admiralty Chart data sets. It remains to acknowledge the impact of subsea works on the seabed over time, and how activities such as decommissioning can impact on cultural heritage and pose a constraint that needs to be taken into account.

The present report is based on a desk-top review. The distribution of known shipwreck locations highlights the seabed across the Kinsale field as retaining high archaeological potential. When considering particular installations, a clearer picture of the archaeological risk becomes apparent. Four known wrecksites lie within 600m of the existing pipeline and installation facilities: wrecksites W11064, W11077, W08211 and W5519.

Impacts

The decommissioning project will affect all structures associated with the Kinsale Field. The two platforms and all subsea structures will be removed, all wells are to be plugged and abandoned and the onshore terminal will be returned to agricultural use. The pipelines and umbilicals will be decommissioned in place with rock being placed over them where required.

Recommendations

- There is no reason why the works should not proceed.
- Known cultural heritage features should be avoided during all ground and seabed disturbance activities.
- Given that the decommissioning works are restricted to ground that has already been disturbed, there should be no requirement for archaeological monitoring .
- Recommendations are subject to the approval of the National Monuments Service at the Department of Culture, Heritage and the Gaeltacht.

2.0 Introduction

The Archaeological Diving Company Ltd. (ADCO) was appointed by ARUP on behalf of Kinsale Energy to carry out a Cultural Heritage Assessment based on desk-top review, to inform a Request for Further Information made by the Department of Communications, Climate Action and Environment (DCCAE) on a submission in relation to the decommissioning of certain facilities associated with the Kinsale Field.[1] The area of interest is presented on Figure 1, and is concerned with the decommissioning of two offshore platforms, approximately 150km of subsea pipelines and a number of subsea structures. The area includes Seven Heads, Southwest Kinsale and Greensand, Kinsale Head, Ballycotton, and Inch Terminal.

3.0 Cultural heritage background

The consideration of archaeological risk in this offshore environment extends back to 1989, when an environmental report for the Ballycotton Field included an assessment of archaeological sites based on observations recorded on Admiralty Chart data sets.[2] The impact assessment and mitigation sections included no reference to archaeological or cultural heritage matters and were focused on constraints associated with existing fishing grounds and related biological and ecological matters.

By 2002, more detailed assessment was included, and a report for the Seven Heads Gas development committed to including marine geophysical survey data sets as a resource for archaeological assessment.[3] The most recent survey information and any new seabed mapping data would be reviewed by an archaeo-geophysicist and the observations would be taken in account during detailed planning for the development.

In 2011, comprehensive marine geophysical survey was conducted of an offshore pipeline route for the then proposed Kinsale Gas Storage pipeline and associated umbilical, and that work corrected the recorded location of U-boat U58, placing it 200m to the west of the survey centreline.[4]

[1] Correspondence from DCCAE to PSE Kinsale Energy dated 24/09/2018, Item 4.
[2] Anonymous, 'Environmental report of the Ballycotton development', Marathon Petroleum Ireland, 1989, p. 38.
[3] Anonymous, 'Seven Heads gas development, environmental impact statement', RAMCO, 2002, p. 82.
[4] Eoghan Kieran and Benen Hayden, 'Archaeological assessment of offshore pipeline route survey for ARUP on behalf of PSE Kinsale Energy Ltd', Moore Marine, 2011.

As recently as 2015, an EIA for the Midleton Prospect application was able to map the existing known historic shipwreck data in relation to the development and to include a series of mitigation measures to ensure that any cultural heritage features observed during site surveys would be avoided.[5] This is in accordance with section 4.9.3 of the Petroleum Affairs Division (PAD) Rules and Procedures, which notes that the operation will take such steps as are necessary to ensure that such objects are not disturbed or damaged.

Similar assessment of well heads off the west coast of Ireland has begun to identify the additional recommendation that in the event of material of archaeological potential being recovered in the course of operations, the reporting requirements will be as per Section 7 of ISO3/24. Notification will be made to the Department of Culture, Heritage and the Gaeltacht (DCHG), through the Underwater Archaeology Unit of the National Monuments Service, and the Operator will facilitate the statutory authorities in any investigation that they may need to carry out, in accordance with the terms of the National Monuments Acts (1930-1994).[6]

The recognition of archaeological risk within the offshore and nearshore environments has developed since the late 1980s, and while more recent work is cognizant of the diverse range of sources that can enhance the basic Admiralty Chart data sets, it remains to acknowledge the impact of subsea works on the seabed over time, and how activities such as decommissioning can impact on cultural heritage and pose a constraint that needs to be taken into account. The present report should help to address this area.

4.0 Method statement

The present report is based on a desk-top review. The national seabed mapping project, INFOMAR, has been developed over the last number of years and has presented a clear record of known shipwreck locations. This has most recently been absorbed by the National Monuments Service, which has produced an online map of known and recorded shipwrecking events around Ireland.[7] The NMS map will absorb observations made from marine geophysical surveys and diver-truthing and related third-party records, and represents the most robust data set to hand for assessing the archaeological risk of offshore and nearshore environments around the Irish coast.

[5] J. Massey, 'Midleton prospect exploration activities – Environmental Impact Assessment screening report and environmental risk assessment', RPS Document number MGE 050 2RP0 002, 2015, pp 71–73.
[6] Niall Brady, '13D018 Underwater archaeological assessment of 35/8–C Appraisal well drilling, offshore Ireland', ADCO, 2013, p. 12.
[7] Accessible online via: https://dahg.maps.arcgis.com/apps/webappviewer

5.0 Results

5.1 Overview

The distribution of known shipwreck locations is presented on Figure 2 along with the Kinsale Offshore Installations, the Kinsale Wells and the associated subsea pipelines. The present report is concerned with the decommissioning of two offshore platforms, approximately 150km of subsea pipelines and a number of subsea structures.

As highlighted in the 2011 marine geophysical survey report, the seabed across the Kinsale field is regarded as retaining high archaeological potential, and this is indicated by the sheer volume of recorded wrecksites plotted in the direct vicinity of the Field's structures and in the wider area.

5.2 Seven Heads

When focussing in on particular installations, a clearer picture of the archaeological risk becomes apparent. The Seven Heads installation comprises a manifold and a series of five well heads connected to it by a network of some 22km of pipeline (Figure 3). There is a small series of four known wrecksites in the wider vicinity, the closest of which, Wreck W11050, lies 2.7km north of the wells. The name and details of the wreck are not known, as are those of the other wrecks that lie at a further remove.

5.3 Kinsale

The Kinsale installation is larger and more complex and has a series of five known wrecksites in proximity to the installations and wells, and a further wreck site that is closer (Figures 4–5). Wreck W10722 is that of an unknown vessel which lies 1.7km south. Two of the other wrecks are named; W05156 is that of the steamship *San Andreas*, which was lost in 1918 and lies 6.2km northeast, while W10143 is the site of U-boat U-772, which was lost in 1944 and lies 7km south of the westernmost subsea installation.

The wreck W11064 lies closer to the installations, and is located at a distance of 700m from them, and some 190m north of the pipeline that connects the two manifolds (Figure 5). This must be regarded as being very close to the installations. All decommissioning works must be mindful to avoid all impacts with the charted position and in proximity to the charted position. Unfortunately, the wrecksite is unnamed and no details are available online about the nature of the vessel.

5.4 Ballycotton

The Ballycotton installation lies northwest of the Kinsale Head installations and is connected to it by some 12km of pipeline (Figures 4, 6). There are several wrecksites to the north and west of the installation but all are located 5km and further from it, with the exception of one site, W11077, which is located 268m southeast of a wellhead (Figure 7). The charted location of the wrecksite is also 30m east of the pipeline. The wrecksite is unnamed and further information is not readily available on it. All decommissioning works must be mindful to avoid all impacts with the charted position.

5.5 Pipeline to shore

There are several charted wrecksite locations that lie close to the export pipeline as it runs northwards from the Kinsale Field inshore (Figures 4, 8). Wreck W1076, close to the Kinsale Field, lies 700m east of the pipeline. It is an unnamed wreck. Wreck W08054, lies closer inshore. It is the *Carrabin*, which is a wrecked sailing ship that was lost in 1917, and its charted located is 680m east of the pipeline. The site of U-boat U058 (Wreck W10138) lies 4.2km west of the pipeline.

There are two wrecksites inshore that lie close to the pipeline (Figure 9). Wreck W08211 is the wreck of a ketch, the *Elizabeth Jane*, which was lost in 1916. It lies within 600m of the pipeline to its east. Wreck W5519 lies only 30m east of the pipeline and is the site of a German submarine, UC-42, which was lost in September 1917 while attempting to lay mines across the mouth of Cork harbour. The submarine measures 5m wide, 45m long, 3.7m in maximum height and lies on its port side, orientated NW-SE, at a depth of 27m.[8] All decommissioning works must avoid all impacts with the charted position.

At the shoreline itself, there are no known archaeological sites at Inch terminal. The closest site is that of a house in Ballintra East townland, located 200m West (Sites and Monuments Record number CO100-036). A prehistoric lithics scatter is also identified in Inch townland, located 250m east of the terminal (CO100-043).

6.0 Impacts and Impact Assessment

The decommissioning project will affect all structures associated with the Kinsale Field. The two platforms and all subsea structures will be removed, all wells are to be plugged and abandoned and the onshore terminal will be returned to agricultural use. The pipelines and umbilicals will be decommissioned in place with rock being placed

[8] See: https://jetstream.gsi.ie/iwdds/delivery/Shipwrecks/PDF/UC42_Final.pdf

over them where required. The impacts and the impact assessment are summarised in Table 1.

Impact	Impact Assessment	Archaeological Mitigation
The demolition of Inch terminal will take place within the confines of the existing terminal facility.	Demolition works can provide the opportunity to record sub-surface levels and record any features of cultural heritage interest that may be exposed at depth. However, it is likely that the construction works have already removed any archaeological levels. The potential to expose new material would only occur if the demolition works extended to unexcavated ground.	• Assuming the demolition works are restricted to ground that is already disturbed, there should be no further archaeological requirement.
The preferred decommissioning alternative for the pipelines and control cables involves leaving the facilities *in situ* and applying rock cover to the ends, any remaining protection materials, and any pipeline freespans.	It is unlikely that these works will incur any necessity for archaeological intervention, assuming they leave installation materials *in situ.*	• None.
The platform jacket legs will be cut from their pile foundations at seabed level using either an internal or external pile cutting tool.	It is unlikely that these works will incur any necessity for archaeological intervention, assuming they leave installation materials *in situ.*	• None.
All other subsea infrastructure, including manifolds associated with satellite fields, wellhead protection structures and the upper portions of the wells (to 3m below seabed) will be entirely removed with no materials left *in situ*.	These works will impact with the seabed but are restricted to ground that has already been disturbed.	• None.
Physical disturbance of the seabed will be generated by any anchoring of vessels (including a rig and heavy lift vessels), the removal of protection materials (concrete mattresses), connecting spool pieces and control cables around platforms and subsea structures, the removal of subsea	To reduce the impact potential with known cultural heritage sites, decommissioning works are to take place largely within the original footprint of disturbance of the wider Kinsale area field developments	• None.

Impact	Impact Assessment	Archaeological Mitigation
structures and platform jackets (including excavation of jacket piles and recovery of large items of debris post removal), remedial rock placement and the removal of onshore terminal foundations.		

Table 1: Impact, Impact Assessment and Archaeological Mitigations for the decommissioning works associated with the Kinsale Field.

7.0 Recommendations

There is no reason why the works should not proceed.

Known cultural heritage features should be avoided during all ground and seabed disturbance activities. This is in accordance with section 4.9.3 of the Petroleum Affairs Division (PAD) Rules and Procedures, which notes that the operation will take such steps as are necessary to ensure that such objects are not disturbed or damaged.

Given that the decommissioning works are restricted to ground that has already been disturbed, there should be no requirement for archaeological monitoring.

PLEASE NOTE: the above observations and conclusions are based on the archaeological information and information supplied for the Kinsale Field decommissioning project. Should any alteration occur, further assessment may be required.

PLEASE NOTE: These recommendations are subject to the approval of the National Monuments Service at the Department of Culture, Heritage and the Gaeltacht.

8.0 Acknowledgements

ADCO thanks Paul Brady of ARUP for providing background information and project mapping data. The report has been written and edited by Dr Niall Brady.

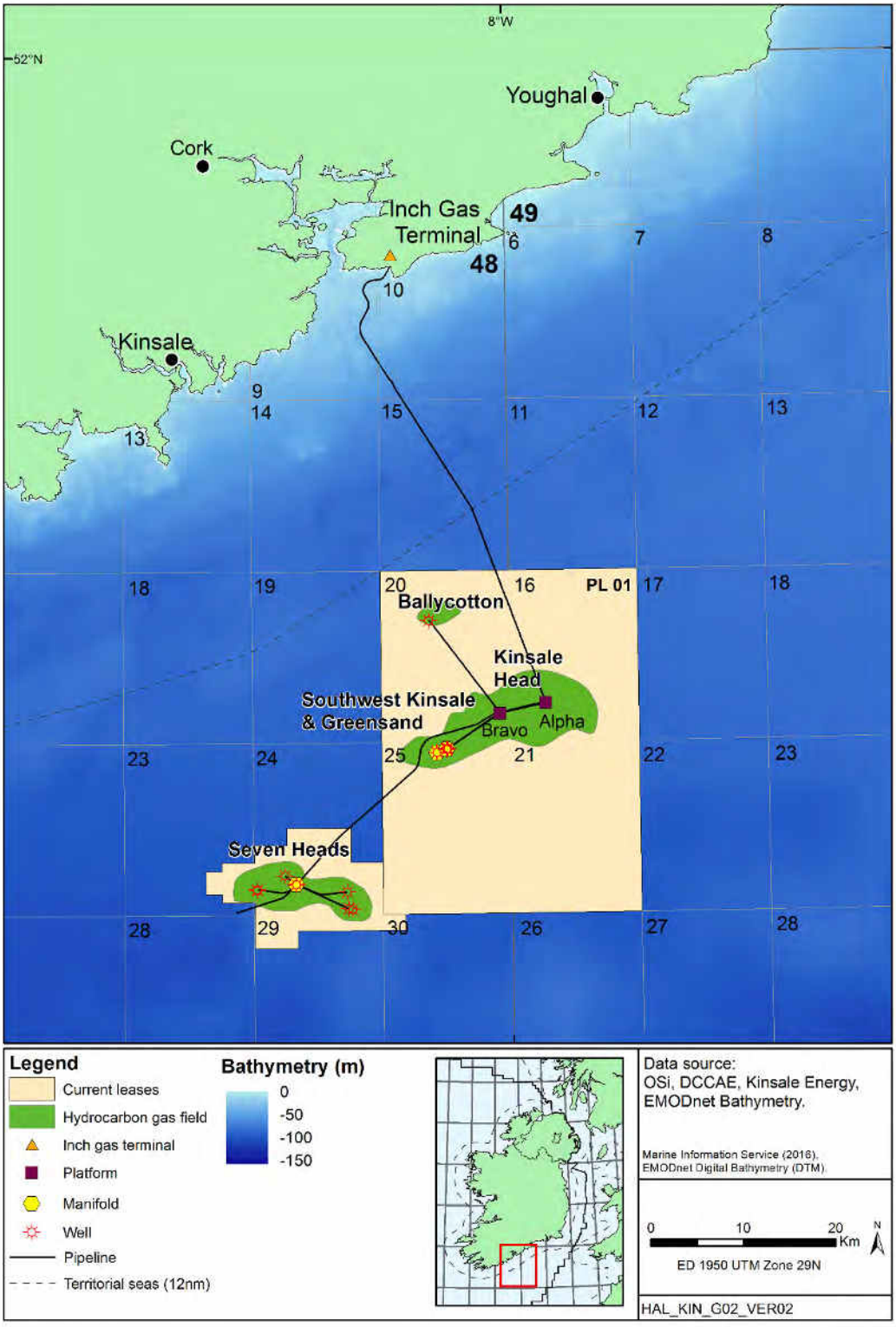


Figure 1: Location map showing the extent of the Kinsale Field.

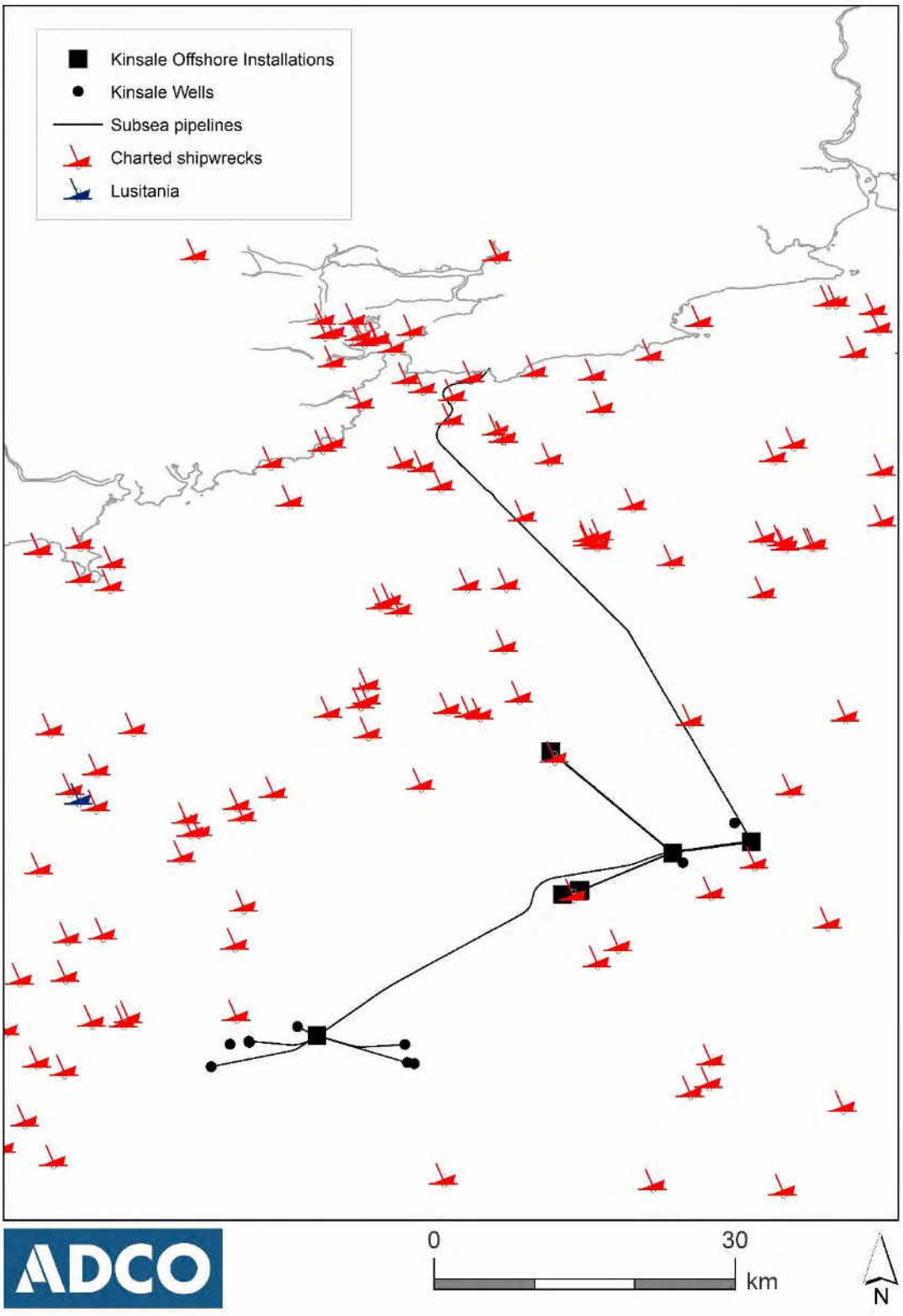


Figure 2: Distribution of known wrecksites in the vicinity of the Kinsale Field.

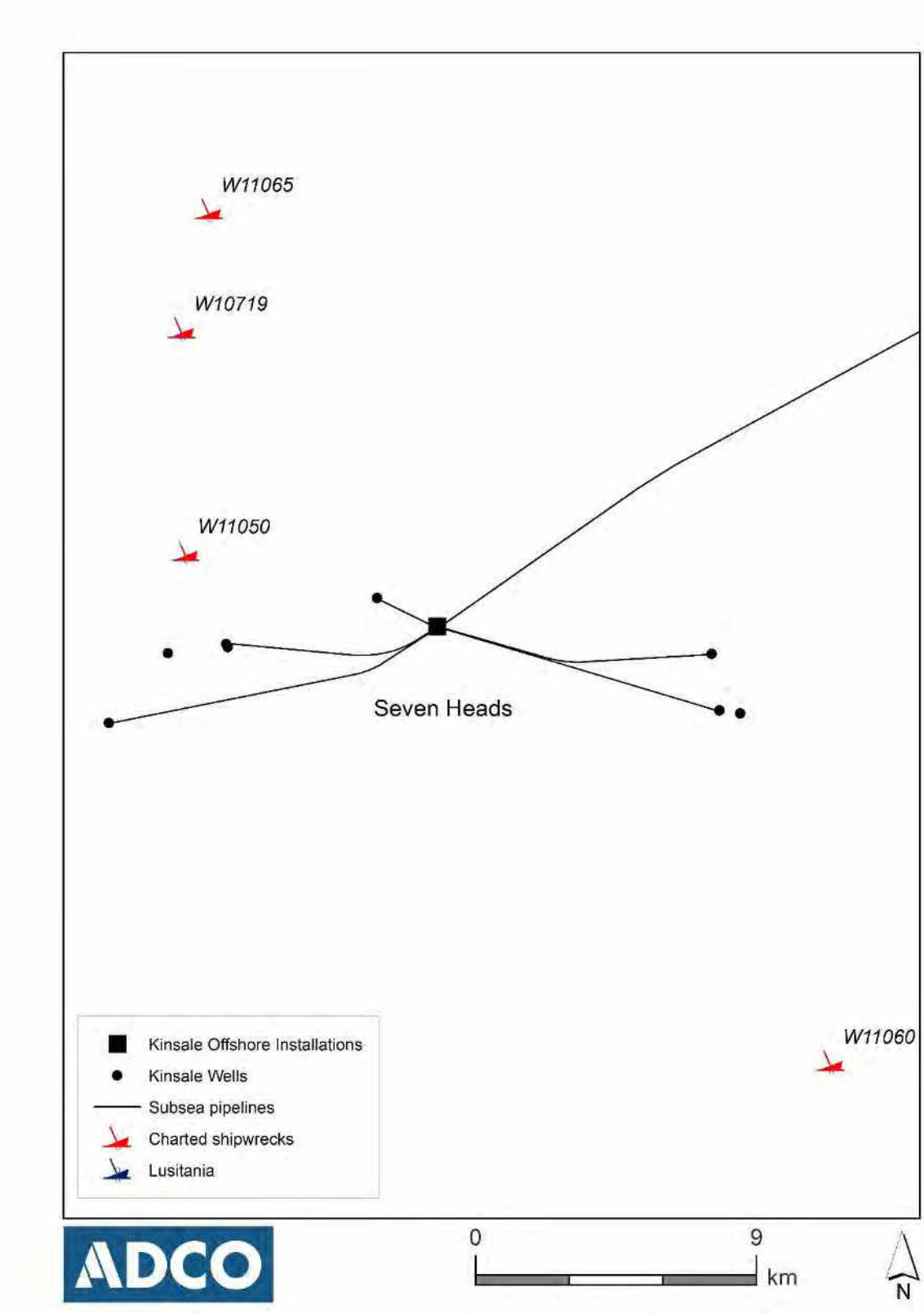


Figure 3: Distribution of known wrecksites in the vicinity of the Seven Heads installation.

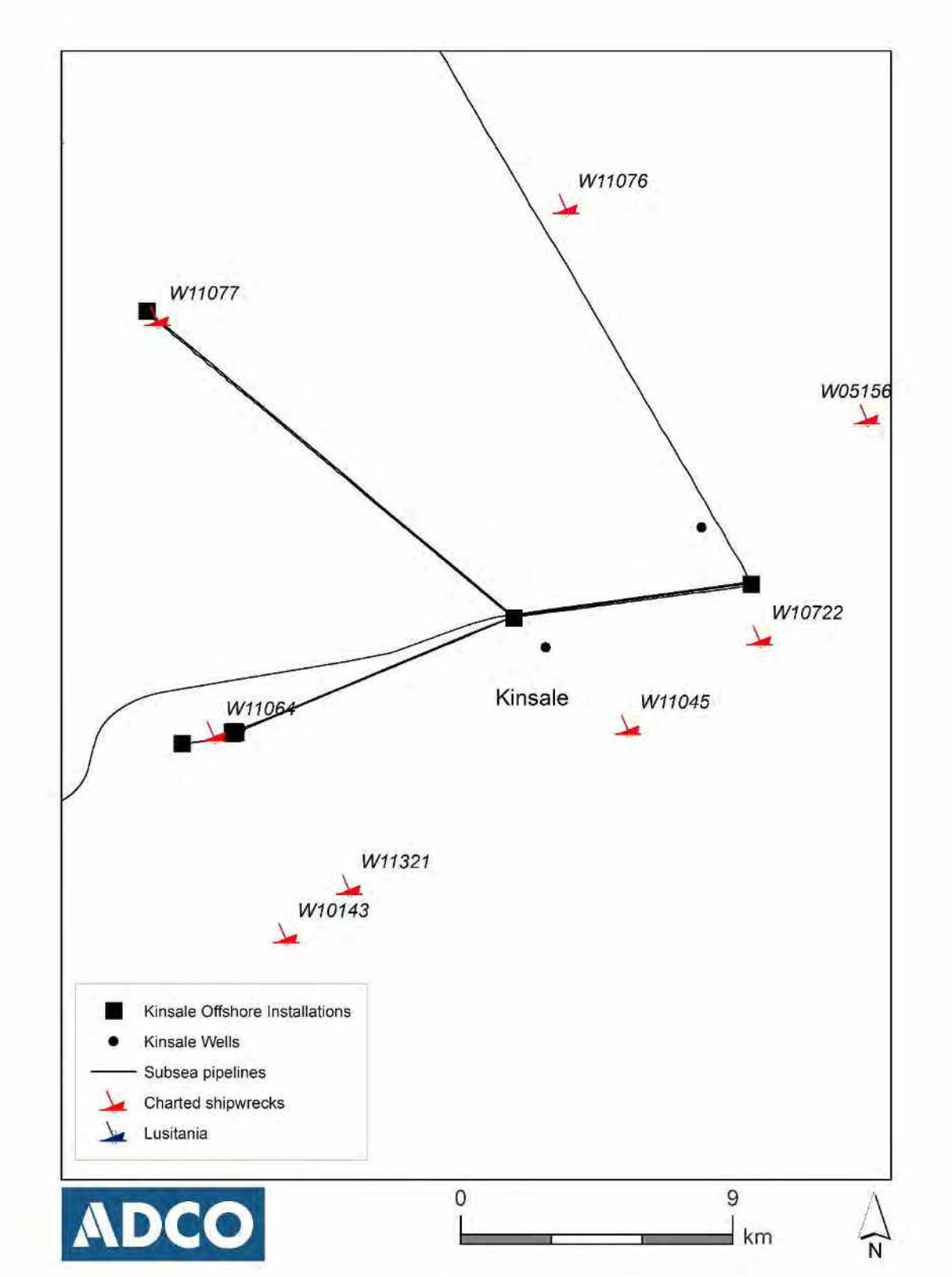


Figure 4: Distribution of known wrecksites in the vicinity of the Kinsale installation.

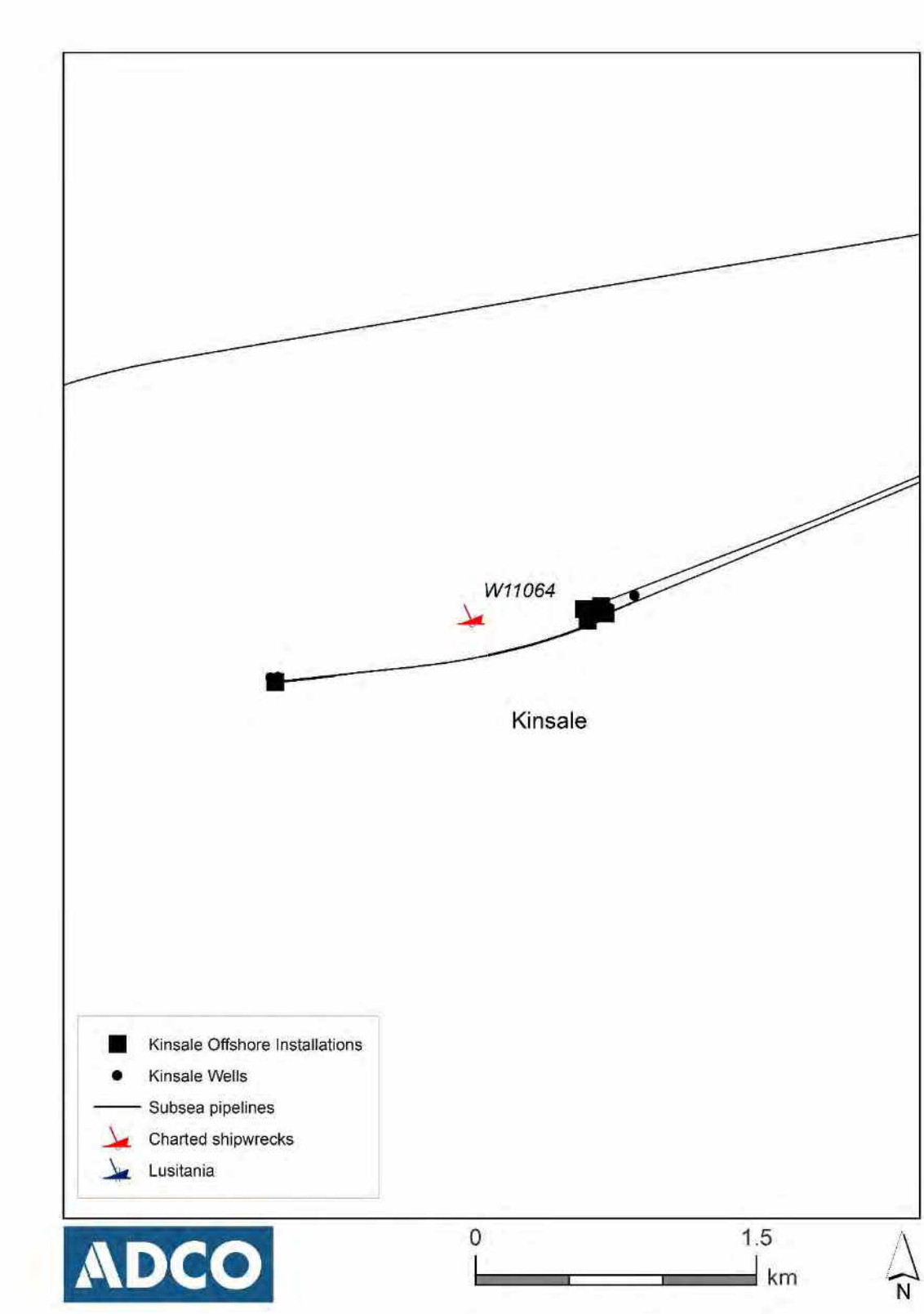


Figure 5: Distribution of known wrecksites in the vicinity of the Greensand installation

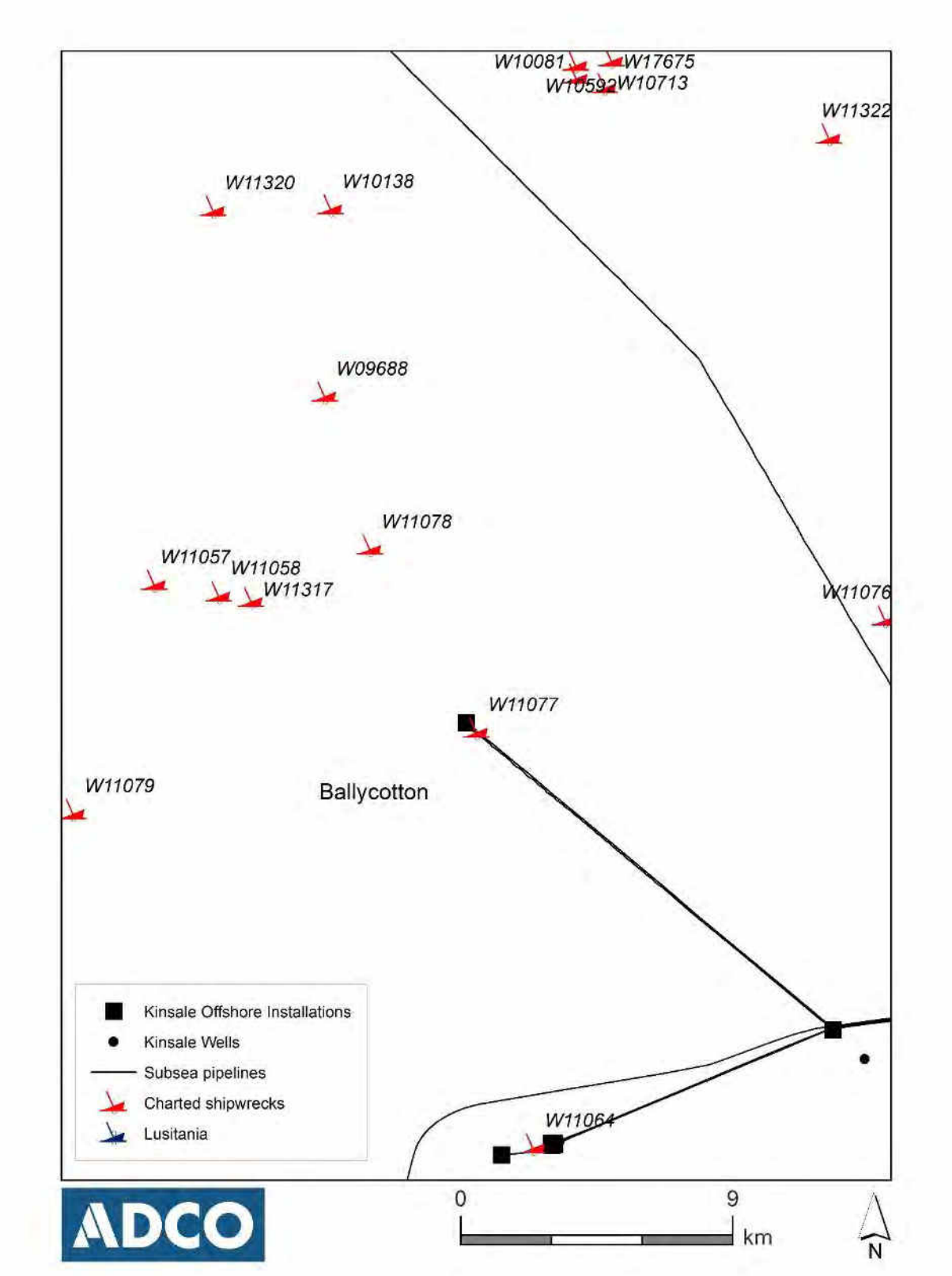


Figure 6: Distribution of known wrecksites in the vicinity of the Greensand installation

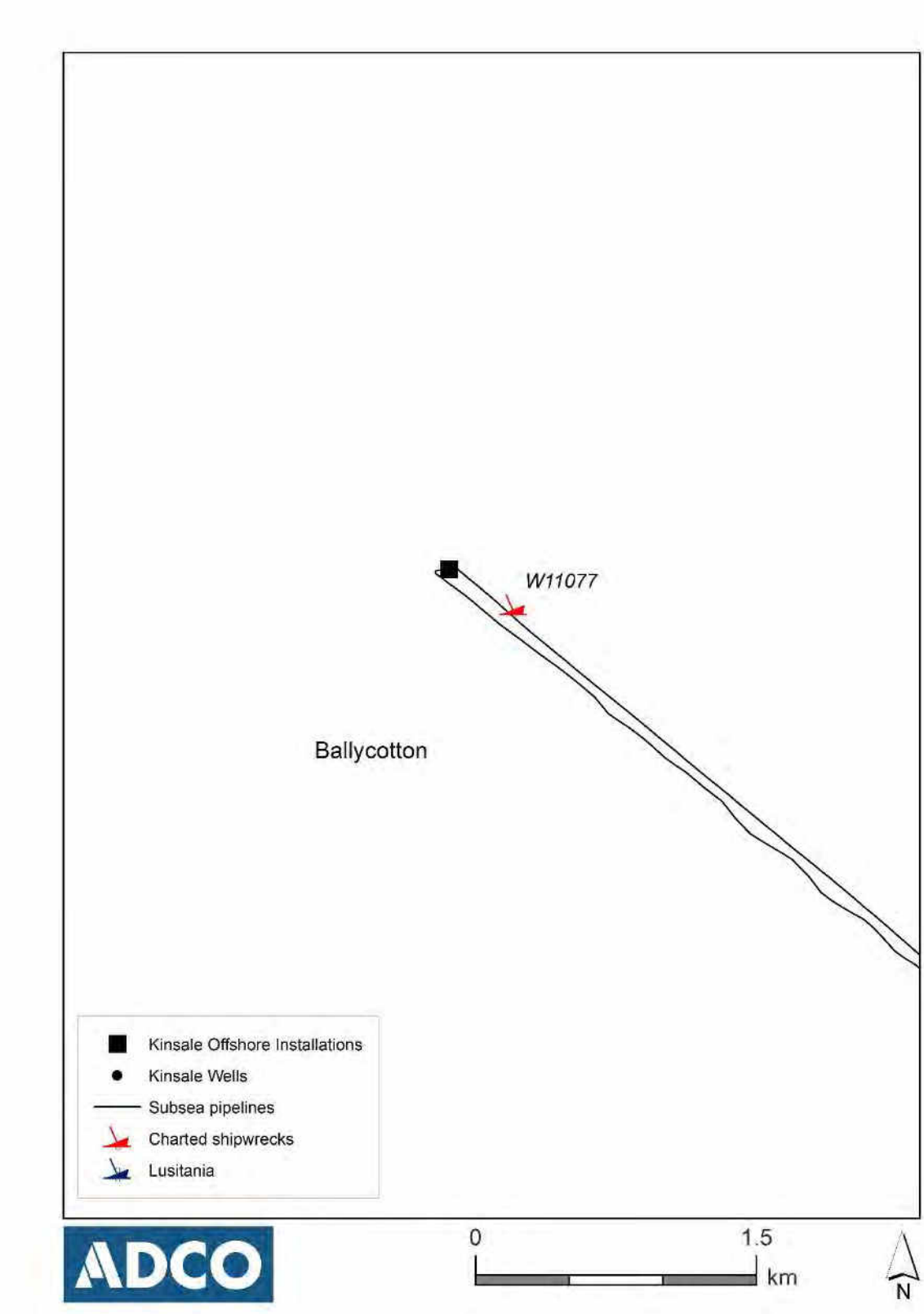


Figure 7: Detail view of known wrecksites in the vicinity of the Ballycotton installation

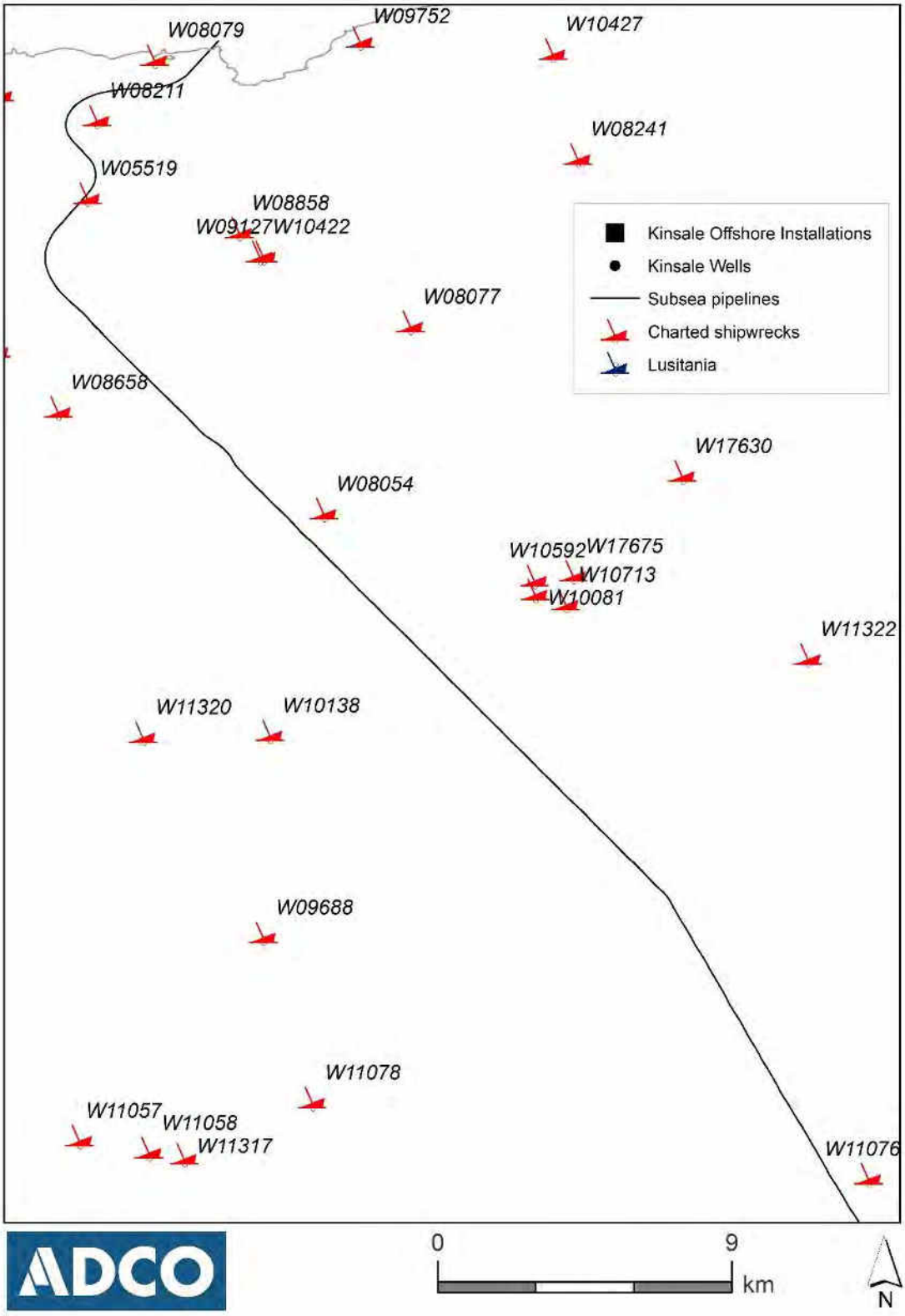


Figure 8: Distribution of known wrecksites in the vicinity of the pipeline heading inshore.

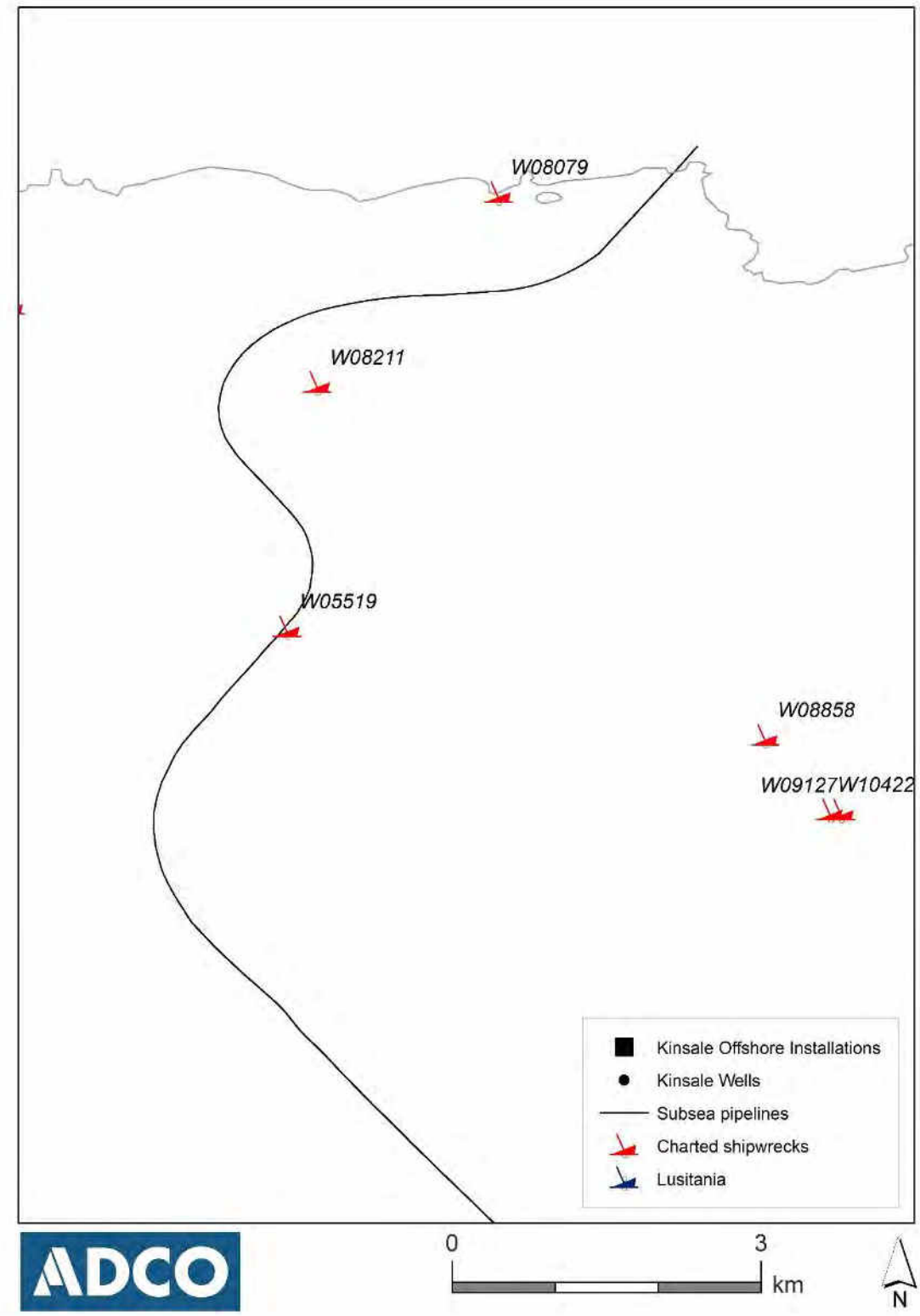
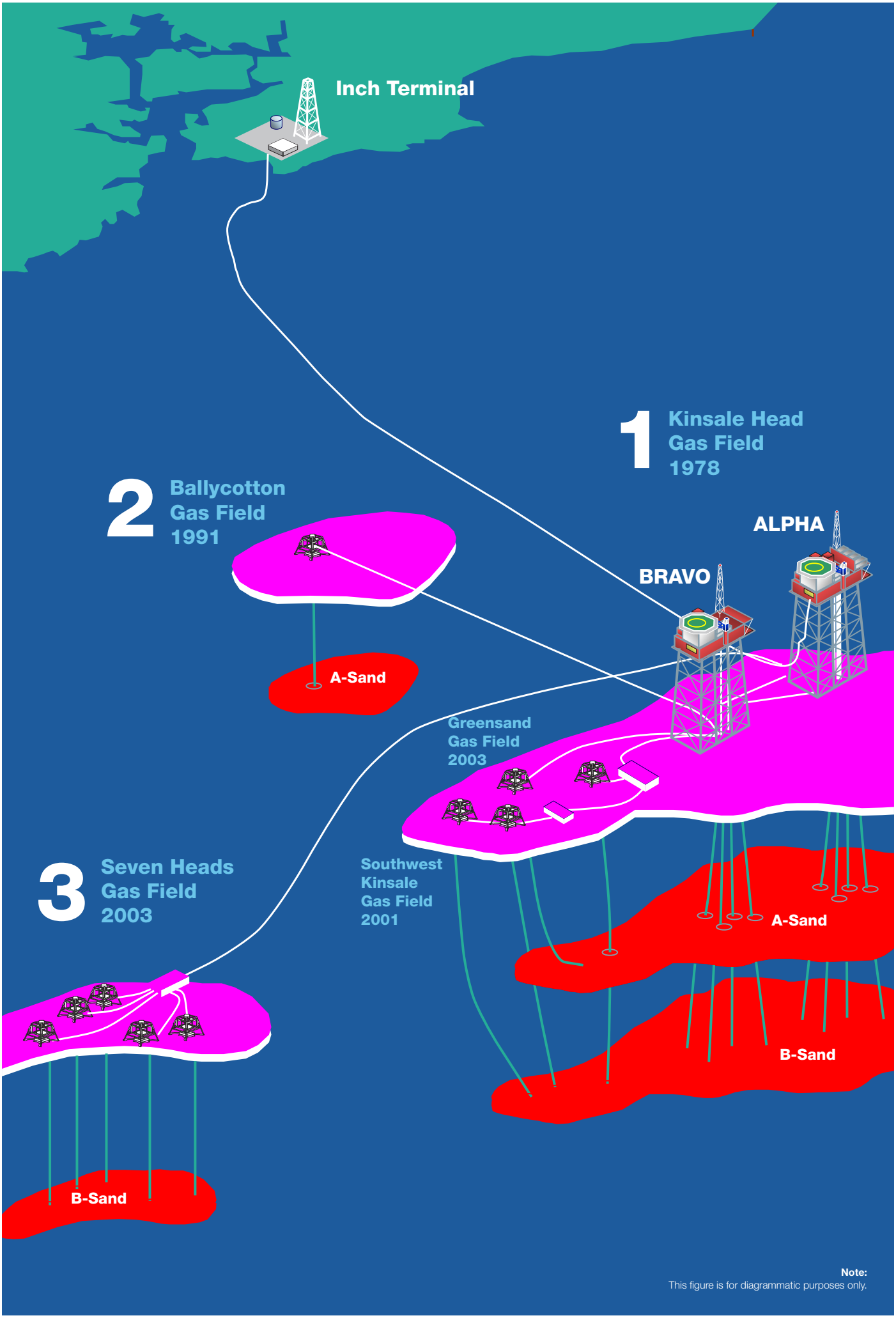


Figure 9: Distribution of known wrecksites in the vicinity of the pipeline close inshore.


Inch Terminal
1
Kinsale Head
Gas Field
1978
2
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
3
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

KINSALE ENERGY

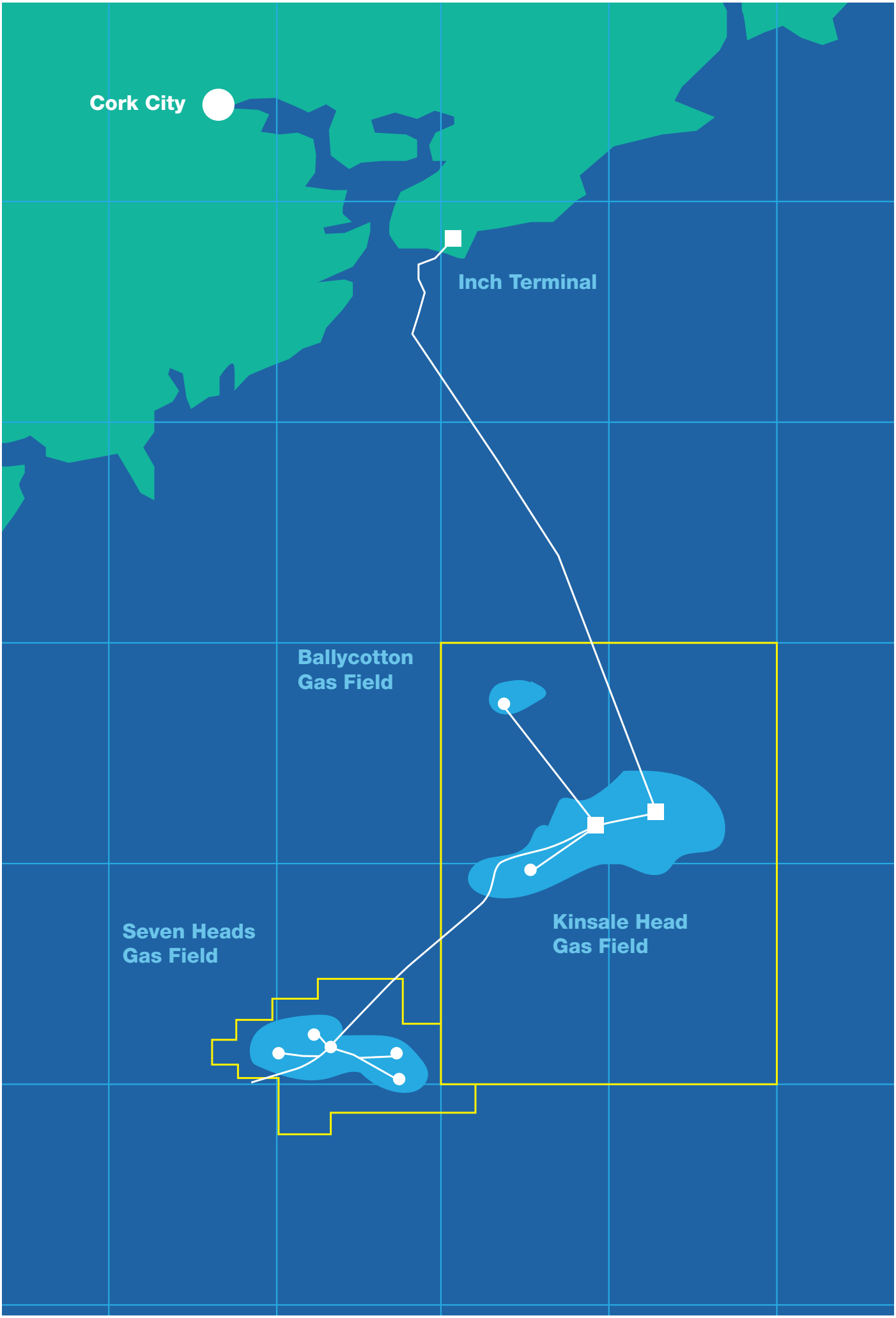
Kinsale Area Decommissioning Project

Appendix D

Environmental Management Plan

Hartley Anderson

ARUP


Cork City
Inch Terminal
Ballycotton
Gas Field
Seven Heads
Gas Field
Kinsale Head
Gas Field

PSE Kinsale Energy Limited

Kinsale Area Decommissioning Project

Draft Environmental Management Plan

Issue 2 | 12 November 2018

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 253993-00

Ove Arup & Partners Ireland Ltd

Arup
50 Ringsend Road
Dublin 4
D04 T6X0
Ireland
www.arup.com

ARUP

Document Verification

ARUP

Job title		Kinsale Area Decommissioning Project			**Job number** 253993-00
Document title		Draft Environmental Management Plan			**File reference**
Document ref					
Revision	**Date**	**Filename**	253993-00_Outline EMP_Draft1.docx		
Draft 1	15 Oct 2018	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Simon Grennan	Janet Lynch Clodagh O'Donovan	Paul Brady
		Signature			
Issue 1	23 Oct 18	**Filename**	253993-00_Outline EMP_Issue1.docx		
		Description	Issue for Client Review		
			Prepared by	Checked by	Approved by
		Name	Simon Grennan	Janet Lynch Clodagh O'Donovan	Paul Brady
		Signature			
Issue 2	12 Nov 2018	**Filename**	253993-00_Outline EMP_Issue2.docx		
		Description	Second issue		
			Prepared by	Checked by	Approved by
		Name	Simon Grennan	Janet Lynch Clodagh O'Donovan	Paul Brady
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
				Issue Document Verification with Document	✓

Contents

1 Introduction 1
1.1 Overview 1
1.2 Purpose 1
1.3 Approach 1
1.4 Structure 2
1.5 Detailed EMP 2

2 Proposed Decommissioning Works 4
2.1 Existing Operations 4
2.2 Scope of Proposed Decommissioning Works 6

3 Decommissioning Activities 8
3.1 Introduction 8
3.2 Pre-Cessation of Production Activities 8
3.3 Post CoP Activities/Pre-Decommissioning Activities 8
3.4 Decommissioning Activities 9
3.5 Decommissioning Schedule 12
3.6 Decommissioning Employment 15
3.7 Materials Management 15
3.8 Health and Safety 18

4 Environmental Management Framework 21
4.1 Overview 21
4.2 Responsibilities 21
4.3 Communication Procedures 23

5 Environmental Management Procedures 25
5.1 Training, Awareness and Competence 25
5.2 Meetings 26
5.3 Monitoring, Inspections and Audits 26
5.4 Incident Response 28
5.5 Reporting 32
5.6 Environmental Records 32

6 General Requirements 34
6.1 Overview 34
6.2 Offshore Sites 34
6.3 Inch Terminal 35
6.4 Health and Safety 38

7 Environmental Management 39

7.1 Introduction 39
7.2 Physical Presence: Decommissioning Activities 39
7.3 Physical Presence: Legacy of Materials Left In Situ 39
7.4 Physical Disturbance 40
7.5 Underwater Noise 40
7.6 Discharges to Sea 41
7.7 Waste: Materials Recycling, Reuse and Disposal 41
7.8 Energy Use and Atmospheric Emissions 45
7.9 Conservation Sites and Species 45
7.10 Accidental Events 45
7.11 Monitoring Programme 47

8 References 48

Appendices

Appendix A

Draft Dust Minimisation Plan

Appendix B

Draft Monitoring Programme

1 Introduction

1.1 Overview

This draft Environmental Management Plan (EMP) has been prepared by Arup on behalf of PSE Kinsale Energy Limited (Kinsale Energy) for the proposed decommissioning of the Kinsale Area gas fields and facilities, which are coming to the end of their productive life ('the proposed decommissioning works').

1.2 Purpose

The purpose of this draft EMP is to provide a framework that outlines how Kinsale Energy and any contractor(s) appointed will manage, and where practicable, minimise negative environmental effects during the decommissioning works.

This draft EMP identifies the minimum requirements with regard to the appropriate mitigation, monitoring, inspection and reporting mechanisms that need to be implemented throughout the decommissioning works. In addition to compliance with this draft EMP, the contractor(s) and sub-contractors will also need to comply with all legislation and bylaws relating to their activities.

This draft EMP has been produced and accompanies the application for consent, to ensure compliance with legislative requirements and the Environmental Impact Assessment Report (EIAR) that has been prepared for the proposed decommissioning works.

1.3 Approach

This draft EMP will form the basis of all method statements to be developed by the contractor(s) and any method statement will need to incorporate at a minimum, all methods and measures outlined herein. The draft EMP provides a framework to:

- Describe the programme for environmental management during the decommissioning works;
- Implement those monitoring and mitigation measures identified in the EIAR;
- Outline the principles and minimum standards required of the contractor(s) during the development of the detailed EMP (and associated Method Statements) and throughout the decommissioning works;
- Identify the relevant roles and responsibilities for developing, implementing, maintaining and monitoring environmental management; and
- Outline the procedures for communicating and reporting on environmental aspects of the proposed development throughout the decommissioning works.

This draft EMP will be expanded and updated prior to the commencement of any activities on site. Following appointment, the contractor(s) will be required to develop more specific Method Statements and submit a more detailed (bespoke, contract-specific) EMP that is cognisant of the proposed activities, vessels, equipment and plant usage and monitoring requirements for the proposed development. This draft EMP should not be considered a detailed Method Statement which will be the responsibility of the contractor(s) appointed to undertake the individual works. The appointed contractor(s) will implement appropriate procedures and progress this documentation prior to commencement of the decommissioning works, but will, as a minimum, include the measures outlined herein.

This draft EMP includes typical types of methods, plant and equipment which are likely to be used by any contractor(s) appointed. This allows the potential impacts to be appropriately assessed for the purposes of both Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) prior to determining whether to grant the relevant statutory consent for the decommissioning works.

1.4 Structure

This draft EMP has been structured as follows:

- Section 1 introduces the proposed decommissioning works and outlines the purpose of the draft EMP;
- Section 2 describes in detail the proposed decommissioning works;
- Section 3 describes inter alia, indicative decommissioning phasing, typical methods and general activities required for the proposed decommissioning works;
- Section 4 sets outs the framework and mechanisms through which environmental requirements would be managed;
- Section 5 outlines the procedures to be employed during the decommissioning works to manage environmental aspects;
- Section 6 describes the general measures to be implemented, as far as practicable, during the proposed decommissioning works; and
- Section 7 details specific environmental requirements identified in the EIAR.

1.5 Detailed EMP

The contractor(s) appointed for the decommissioning works will be required to prepare a more detailed EMP. The detailed EMP will be provided to relevant statutory authorities, including the Department of Communications, Climate Action and Environment (DCCAE) and Cork County Council (CCC), for consultation and approval in advance of any works on site.

The contractor(s) will be required to develop a detailed EMP that:

- incorporates all mitigation measures specified in the EIAR and this draft EMP;
- incorporates any conditions that are prescribed as part of the consent(s) for the proposed decommissioning works;
- incorporates design and decommissioning details described in the EIAR and ensures there is no material change in terms of significant effects on the environment; and
- Where practicable the contractor(s) should seek to identify opportunities for further reducing significant negative environmental effects and to implement best practice in as far as reasonably practicable, i.e. take every reasonable effort to reduce and prevent negative effects, while enhancing benefits.

Further, the contractor(s) will be required to develop the following plans, and any others considered relevant, and incorporate accordingly into the detailed EMP:

- Marine Archaeology Management Plan;
- Noise and Vibration Management Plan;
- Water Quality Management Plan;
- Site Waste Management Plan;
- Traffic Management Plan (onshore only);
- Dust Minimisation Plan (onshore only – refer to **Appendix A**); and
- Emergency Incident Response Plan.

The above plans are considered 'live' documents that will be reviewed and revised regularly as decommissioning works progress, notwithstanding that the draft EMP sets out the baseline core requirements with regard to environmental management. The process for update, review, and approval of the above plans must be documented in the detailed EMP to ensure that all revisions can be easily understood, applied and updated by the contractor(s) throughout the decommissioning works.

It is expected that amendments to the EMP are likely to be necessary to reflect inter alia contract scheduling, contractor appointments, environmental management policies, practices or regulations, and developments on the site. These reviews and updates are necessary to ensure that environmental performance is subject to continual improvement and that best practice is implemented throughout the decommissioning works.

2 Proposed Decommissioning Works

2.1 Existing Operations

The Kinsale Area gas fields and facilities are located in the Celtic Sea, between approximately 40 and 70km off the County Cork coast as well as onshore gas metering facilities at Inch, Co. Cork (refer to **Figure 1**).

The original gas fields (Kinsale Head) were developed with two fixed steel platforms (Kinsale Alpha and Kinsale Bravo) with gas exported by pipeline from Kinsale Alpha to the onshore Inch Terminal. The development of smaller satellite gas fields and technical modifications to the facilities have prolonged the life of operations in the Kinsale Area.

The facilities were installed between 1977 and 2003 with gas production commencing in 1978 and seasonal gas storage operations taking place between 2001 and 2017. However, it is expected that the extraction of gas from the Kinsale Area gas fields will no longer be economically viable by approximately 2020/2021, whereupon the wells will be plugged and the associated facilities decommissioned.

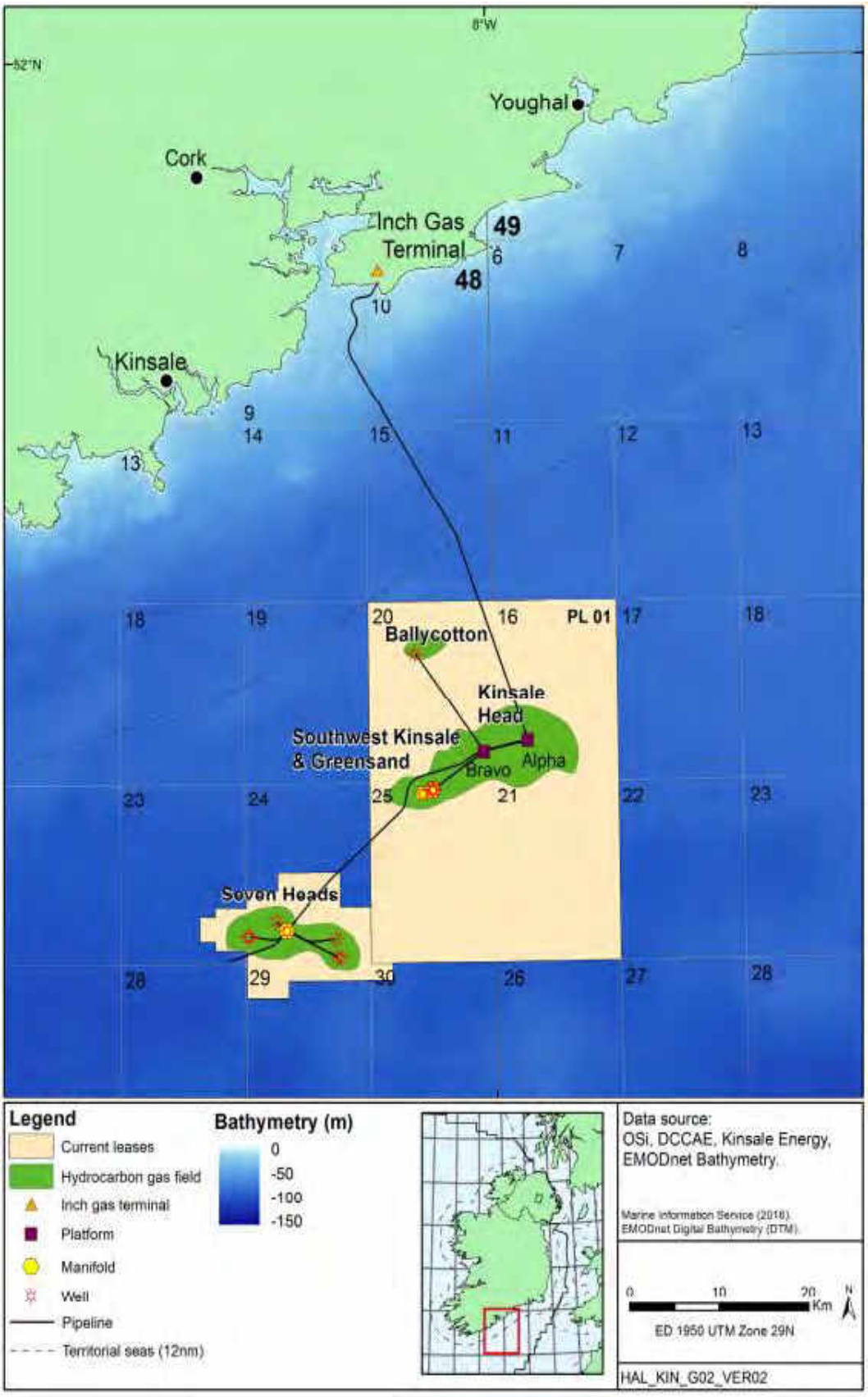


Figure 1: Site Location

2.2 Scope of Proposed Decommissioning Works

The scope of the Kinsale Area Decommissioning Project ('the proposed decommissioning works') includes the decommissioning of all physical assets within Kinsale Energy's two leasehold areas, pipelines and umbilicals (control cables) outside the leasehold areas, as well as the onshore gas metering terminal at Inch, Co. Cork. These are summarised below and illustrated in **Figure 2**.

- Two fixed steel platforms, the Kinsale Alpha (KA) and Kinsale Bravo (KB) platforms;
- All subsea and platform wells;
- All infield subsea infrastructure associated with the wider Kinsale Area fields (Kinsale Head, South West Kinsale, Greensand, Ballycotton and Seven Heads) including manifolds and wellhead protection structures;
- All subsea pipelines, umbilicals and protection materials (graded rock, concrete mattresses etc.);
- The 24 inch diameter export pipeline between KA and the Inch Terminal on the Co. Cork coastline; and
- The onshore Inch Terminal.

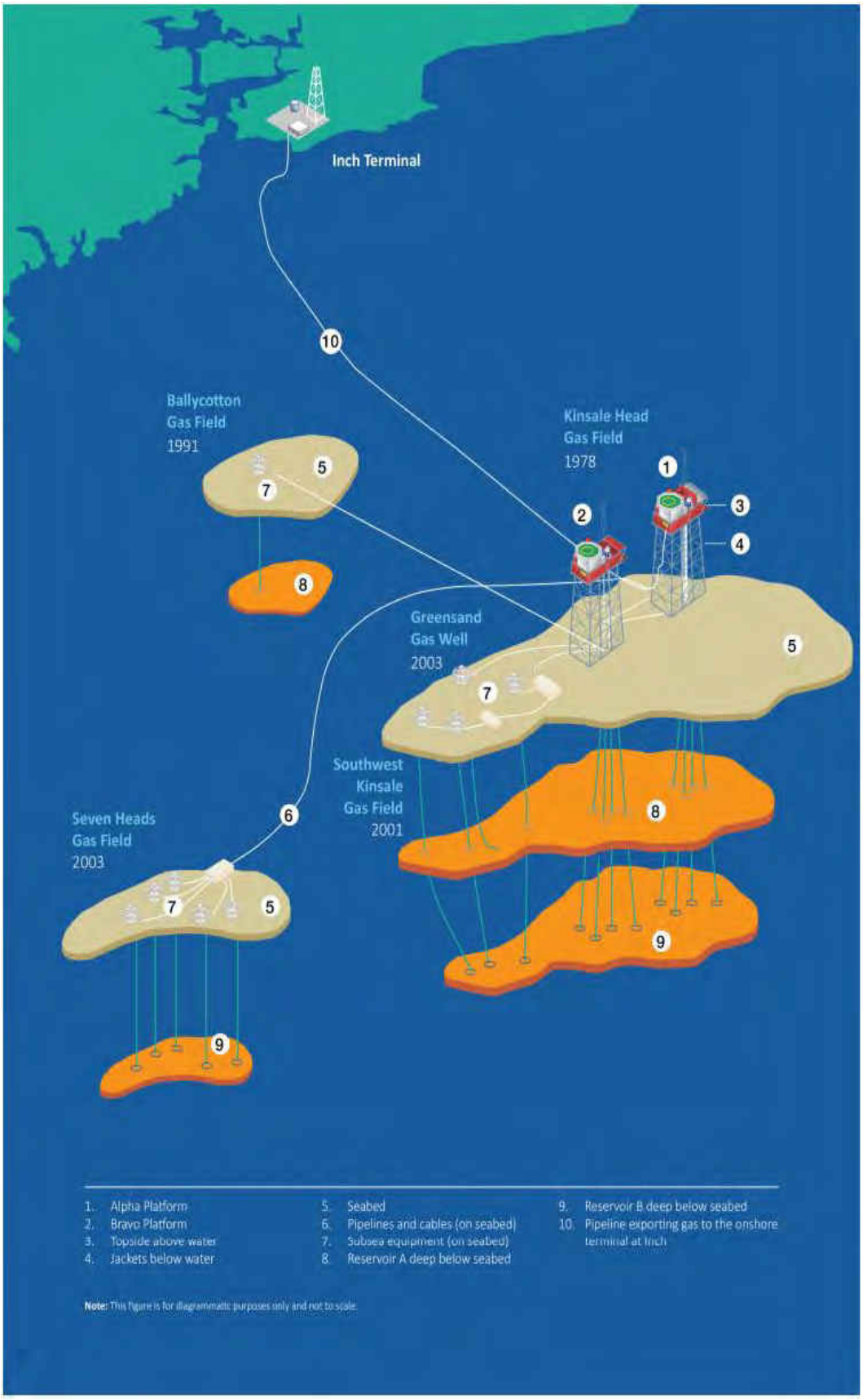


Figure 2: Kinsale Area Decommissioning Project – Physical Assets

3 Decommissioning Activities

3.1 Introduction

This section describes inter alia, decommissioning activities, typical decommissioning methods and an indicative decommissioning schedule.

3.2 Pre-Cessation of Production Activities

During the period leading up to Cessation of Production (CoP) a number of preparatory activities are likely to be undertaken on the Alpha and Bravo platforms to ensure that the facilities are ready to start decommissioning activities immediately following CoP. These preparatory activities may include:

- Removal of redundant equipment;
- Installation of additional/replacement utilities e.g. temporary power generation & distribution;
- Preparation of lay-down areas for well servicing equipment;
- Local structural modifications for decommissioning equipment; and
- Installation of temporary accommodation units (Bravo).

All activities or modifications required pre-CoP will be planned and carried out in accordance with current operational procedures and in compliance with the Production Safety Case.

3.3 Post CoP Activities/Pre-Decommissioning Activities

Following Cessation of Production it is intended to immediately commence the process of making the facilities 'hydrocarbon-free' – this includes a number of activities including:

- Pipeline Contents Displacement, including 24" export line, interplatform line, satellite well pipelines and interfield pipelines; and
- Topsides Disconnection and Gas-freeing.

All of the offshore project activities up to the point where the platforms are 'hydrocarbon free' will be carried out within the existing operations framework and will be covered in a Decommissioning Safety Case to be submitted to the Commission for Regulation of Utilities (CRU).

3.3.1 Pipeline Displacement

Pipeline displacement will take place for the 24" export line, the interplatform line, the satellite well pipelines and the interfield pipelines.

The pipelines connecting each of the subsea well installations to their respective platforms (Alpha or Bravo) will be displaced with seawater by means of pumping spreads located on the platforms – water will be pumped from the platform and into the connected wells, which will all be at low pressure (sub-hydrostatic). Subsequently, the pipelines will be disconnected at the subsea well locations.

For the Kinsale Head lines, the main 24" trunk line, which is likely to be retained for possible future use, will be filled with inhibited sea-water to limit corrosion.

For the Seven Heads lines, the contents of all well flowlines will initially be displaced into their respective wells by pumping through the 18" trunkline and the subsea manifold. After this, the main 18" trunk line, which is likely to be retained for possible future use, will be filled with inhibited sea-water to limit corrosion. The line will subsequently be fitted with a blank flange when it is disconnected from the subsea manifold, which is to be removed.

3.3.2 Topsides Disconnection and Gas-Freeing

In parallel with the pipeline displacement campaign, the platform topsides facilities will be made safe, all pressure vessels and piping will be vented and purged and non-essential electrical supplies will be disconnected.

Volumes of waste (fluids and associated debris) from the topsides are expected to be small as the hydrocarbons produced are dry natural gas (e.g. no sludges or solid Naturally Occurring Radioactive Material (NORM) material are present). These wastes, along with any residual inventories of diesel, chemicals, condensate or aviation fuel, will be collected for onshore disposal under Kinsale Energy's existing waste management procedures following CoP.

3.4 Decommissioning Activities

The broad scope of work involved in decommissioning the facilities, using each chosen decommissioning alternative noted above, is outlined as follows and illustrated in **Figure 3**:

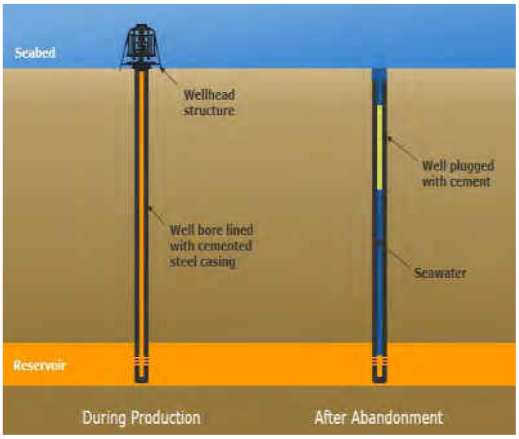
- The plugging of all wells, including removal of above seabed components such as wellhead protection structures;
- The disconnection and degassing of the platform topsides and all pipelines followed by the removal of the platform topsides (including any special wastes which require further onshore treatment), and the recycling/disposal of topside structures;
- The removal of jacket structures to shore for recycling/disposal;
- The removal of all subsea structures including the removal of connecting pipe spool pieces and control cables, and associated protection measures, with all recovered materials returned to shore for recycling/disposal;
- The decommissioning of all pipelines, control cables and their protection materials involving rock placement of freespans and/or remaining exposed sections of pipe and all remaining in situ protection materials;

- The filling of the export pipeline onshore section with grout (if a viable re-use option is not identified before decommissioning);
- The recovery of large items of debris and completion of a post-decommissioning survey to confirm success of the decommissioning operations; and
- The decommissioning of the Inch Terminal and the return of the site to the original contours and agricultural use, in accordance with the planning consent.

The final decommissioning methodology for each facility will be determined in conjunction with the selected removal contractor.

All wastes returned to shore will be handled, recycled and disposed of in accordance with relevant waste legislation and the waste hierarchy such that the reuse and recycling of materials will be considered before disposal (e.g. to landfill). The final destinations and disposal routes for material removed from the fields, whether for recycling or disposal, is yet to be decided.

The final destinations have been assumed to be sites within Europe up to 700 nautical miles from the Kinsale Area.



Typical Well Plugging

Removal of platform topsides using multiple lifts (option using conventional heavy lift vessel (HLV) – courtesy of Saipem)

Removal of platform topsides in single lift (option using specialist HLV – courtesy of Allseas)

Removal of platform jacket onto barge for transport to shore

Rock placement along exposed pipeline

Return of the onshore terminal site to the original contours and agricultural use

Figure 3: Decommissioning Scope and Alternative Methodologies

3.5 Decommissioning Schedule

An indicative project programme for the entire Kinsale Area Decommissioning Plan is shown in **Figure 4**. The final decommissioning project schedule will be completed once all decommissioning contracts have been awarded; the timing of platform removal and subsea well abandonments are likely to vary depending on availability of specialised marine construction and drilling vessels (crane barges, MODU's etc.).

The timing of cessation of production is anticipated between 2020 and 2021. It is estimated that the decommissioning works will take between 12 and 18 months, with the following project phasing:

- After production has ceased, the subsea pipelines, which connect the subsea wells to the platforms and the platforms to the Inch terminal onshore, will be filled with seawater, and inhibited seawater in the case of the 24" export pipeline and 18" Seven Heads pipeline, with any contents being displaced into the wells (that is into the reservoirs below the seabed which had contained natural gas);
- Following this, the platform wells will be made safe (by setting a cement plug or plugs to seal the well bore and then recovering the top section of the well steel tubing) and the Kinsale Alpha and Bravo platforms topsides facilities and pipework will be degassed to achieve hydrocarbon free status;
- Upon completion of platform well decommissioning and the degassing of the platform topsides and pipework, both Alpha and Bravo platforms topsides can then be removed. A programme of works to remove the subsea structures and their protection materials, and disconnect the spool pieces and control cable connections, will be completed in advance of the subsea well plug and abandonment activities;
- The pipeline, control cables and protective material rock placement works will be undertaken following the removal of the subsea structures;
- The onshore terminal decommissioning will be carried out at a suitable time within the overall project schedule. The onshore pipeline section will be grout filled at this stage, if no further use of the pipeline is anticipated; and
- The platform jackets will be removed at a later date, which may take place up to 10 years after topsides removal. During this period the structures would be fitted with navigational aids (the precise details of which will be agreed with the Commissioners of Irish Lights and clearly marked on navigation charts).

There are other uncertainties which are likely to affect the decommissioning schedule, including:

- Marine vessel availability: the specialised vessels required, e.g Construction Support Vessels (CSVs)/Diving Support Vessels (DSVs), may not be

available in the time windows planned, due to market conditions or over-runs on other projects; the contracting strategy will be flexible to allow for re-scheduling if required; and

- Weather: many of the key operations are weather sensitive, e.g. topsides lift, and the program may be delayed due to extreme weather conditions. The time estimates and durations used for planning purposes are based on historical performance data, and include some allowance for weather downtime, based on previous experience.

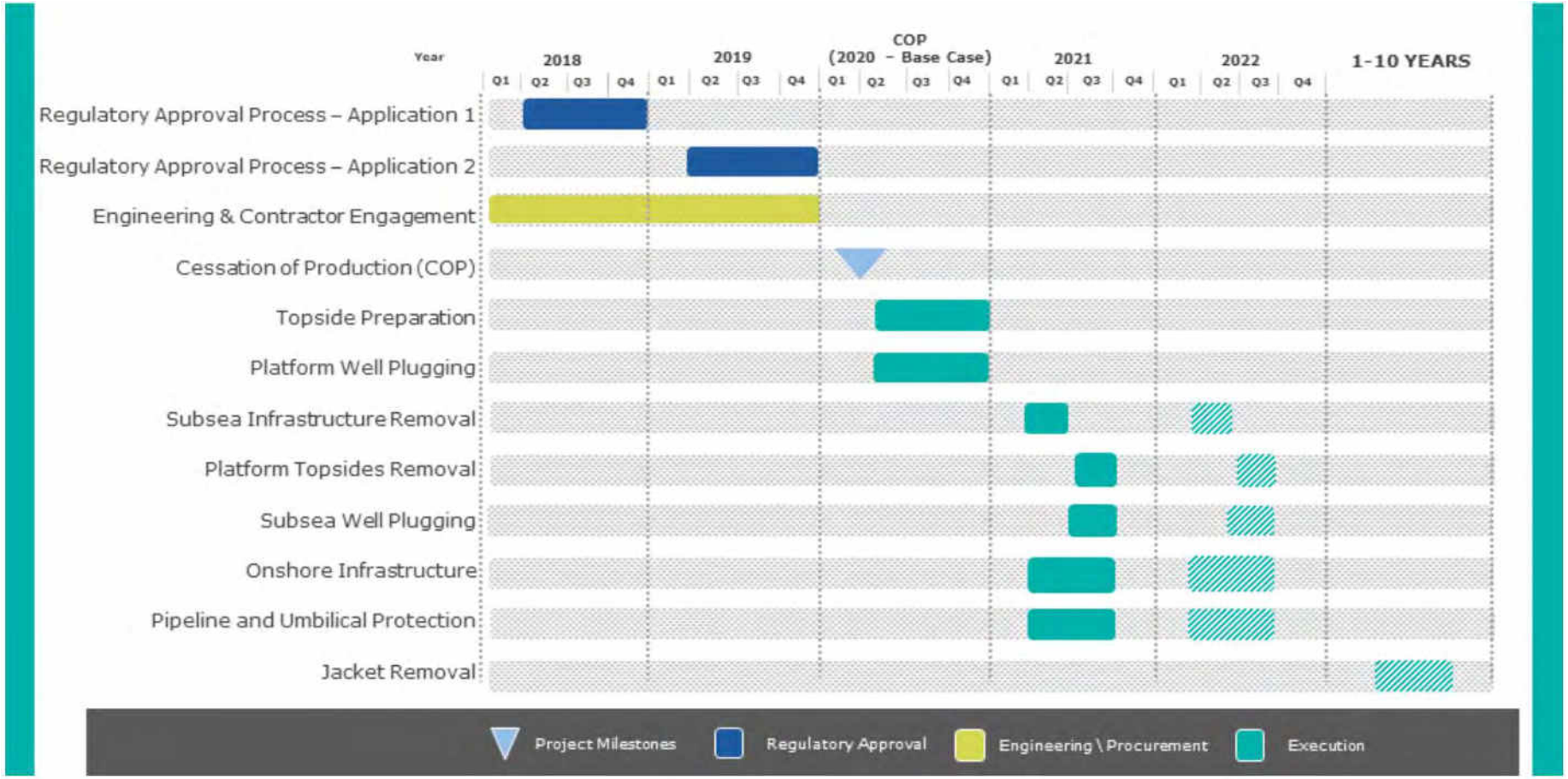


Figure 4: Indicative Decommissioning Schedule

Note: The actual timing of Cessation of Production will depend on field economics (gas prices) and facilities performance, currently anticipated between 2020 and 2021. The timing of activities may also vary depending on company strategy and availability of specialised marine vessels.

3.6 Decommissioning Employment

Employment numbers for the decommissioning activities will vary depending on the stage of the project and the actual approach adopted by the contractor, but will be relatively small throughout.

3.7 Materials Management

Table 1 summarises the approximate quantity of materials that will be generated from the proposed decommissioning works.

Details on the management of the materials generated from the decommissioning activities is presented in Section 3.7.1 to Section 3.7.5. Further information on waste management associated with the proposed decommissioning works is presented in **Section 7.7**.

Table 1: Materials Generated – Kinsale Area Decommissioning Activities

Waste Type	Total Weight	Source
Steel	19,269Te	Platforms (contributing 88% of the total) Subsea Structures (including connecting spool pieces, control cables and protection materials) Inch Terminal
Concrete	14,193Te	Subsea Structures (including connecting spool pieces, control cables and protection materials) Inch Terminal (contributing 38% of the total)
Non-ferrous Metals in Anodes	216Te	Platforms Subsea Structures
Asbestos Containing Materials	316Te	Platforms
Other Hazardous Waste	Small quantities	Platforms Inch Terminal
Other Non-hazardous Wastes: copper and plastics from cabling	398Te	Platforms Subsea Structures (including connecting spool pieces, control cables and protection materials)
Other Non-hazardous Wastes: marine growth	2,900Te	Platforms
Total	37,283Te	

3.7.1 Topsides Waste Management (Kinsale Head)

Following CoP, the topsides of the KA and KB platforms will be cleaned prior to removal. Volumes of waste (fluids and associated debris) from the topsides are expected to be small as the hydrocarbons produced are dry natural gas (e.g. no sludges or solid naturally occurring radioactive material (NORM) are present). These wastes, along with any residual inventories of diesel, chemicals, condensate or aviation fuel, will be collected for onshore disposal under Kinsale Energy's existing waste management procedures.

The topsides structure that is removed will be recycled. Only a small proportion is unsuitable for recycling and will be sent to landfill. Asbestos containing material identified on the existing platforms (mainly building cladding material) and other hazardous waste will be handled and disposed of at appropriately licensed facilities in accordance with all relevant legislation. Contractors will be required to strictly adhere to all relevant legislation and guidelines in this regard.

3.7.2 Pipeline Spools & Umbilical Jumpers

Pipeline spools, umbilicals and protective concrete mattress and grout bag materials will be removed for recycling or disposal where necessary to allow access to the subsea structures.

Rock cover remediation will be used to mitigate the potential snagging risk associated with decommissioning pipelines and umbilicals *in situ*, and the rock will be designed to be overtrawlable.

Up to 229,175 tonnes of rock cover will be used for all lines for the above remediation works. The rock will be sourced onshore, most likely from a UK or Norwegian quarry, because currently there are no Irish quarries with high capacity facilities for loading ships. The environmental impacts associated with the quarry will have already been assessed in accordance with the legislation relevant in the country of origin.

Due to the high recyclability of steel, which is the dominant pipeline material, any pipeline spools which are removed will be recycled. It is anticipated that concrete could also have a high recyclability rate, with the protection materials to be recycled where possible and minimal disposal.

3.7.3 Subsea Structures

The subsea structures, including any concrete mattresses or grout bags surrounding each structure, will be removed and recycled or disposed. Due to the high recyclability of steel, which is the dominant subsea structure material (excluding protection blocks), the subsea structures will be recycled. It is anticipated that concrete should also have a high recyclability rate.

3.7.4 Wells

Wellhead and casing material and Subsea Xmas Trees will be removed and recycled or disposed.

3.7.5 Inch Terminal

On completion of the demolition works at the onshore Inch Terminal site, it is likely that subsoil and topsoil will need to be imported to the site (estimated at approximately 12,000 tonnes).

All subsoil and topsoil required will be sourced locally where possible. Materials required from quarries will only be sourced from quarries which are listed on the register maintained by the local authority. The environmental impacts associated with the registered quarry have already been assessed by the local authority under Section 261 of the Planning and Development Act 2000, as amended.

3.8 Health and Safety

3.8.1 Overview

Safety on site will be of paramount importance. During the selection of the relevant contractor(s) and the respective subcontractors their safety records will be investigated. Only contractors with the highest safety standards will be selected.

Prior to working on site, each individual will receive a full safety briefing and will be provided with all of the safety equipment relevant to the tasks the individual will be required to perform during employment on site.

Safety briefings will be held regularly and prior to any onerous or special task. 'Toolbox talks' will be held to ensure all workers are fully aware of the tasks to be undertaken and the parameters required to ensure that the task will be successfully and safely completed.

All visitors will be required to wear appropriate personal protective equipment prior to going on to the site and will undergo a safety briefing by a member of the site safety team.

Site safety audits will be carried out during the decommissioning programme to ensure that the rules and regulations established for the site are complied with at all times.

At any time that a potentially unsafe practice is observed, the site safety manager will have the right as well as the responsibility to halt the work in question, until a safe system of working is again put in place.

3.8.2 Health, Safety and Environment Risk Management System

In addition to the legislative basis and adhering to the OSPAR Convention requirement to protect the maritime area against the adverse effects of human

activities, Kinsale Energy operates a Health, Safety and Environment Management System (HSEMS) based on the requirements of internationally accepted standards for Environmental Management (ISO14001) and for Occupational Health and Safety (OHSAS18001).

Kinsale Energy's Health, Environment and Safety (HES) policy commits the company to take all reasonable and practical steps to prevent and eliminate risks of injuries, occupational illness, damage to property and the conservation of the environment. This policy is applicable to Kinsale Energy's activities and those of its contractors. All contractors must adhere to the principles of the Kinsale Energy HES policy.

The Kinsale Energy HSEMS is structured around 8 elements which are summarised below:

- Leadership and Commitment: addresses top-down commitment and company culture necessary for success in the systematic management of HES;
- Policy & Strategic Objectives: a written HES Policy is required as a minimum. In setting strategic objectives and developing a HES Plan, management is required to consider the overall risk levels of its business activities taking into consideration the legal requirements, technological change, emerging issues and key stakeholders expectations;
- Organisation, Responsibilities, Resources, Standards & Documents: addresses the organisation of people within Kinsale Energy, and the resources and documentation for sound and sustainable HES performance. Requires that the organisation and resources are adequate for its purpose, and that responsibilities for safety critical positions at all levels are clearly described, communicated and understood. It requires that staff based offshore are developed following structured competency assessment and training systems;
- Hazards and Effects Management Process (HEMP): describes the identification of hazards and evaluation of HES risks for all activities, products and services, and the development of control and recovery measures to reduce HES risks to as low as reasonably practicable (ALARP);
- Planning and Procedures: addresses asset integrity, procedures and work instructions, work permit system, management of change, contingency and emergency planning expectations, legislation compliance, process safety management, purchasing and procurement;
- Implementation and Monitoring: addresses how activities are performed and monitored, and how corrective action is taken when necessary;
- Audits: puts in place a programme to review and verify the effectiveness of the management system. It includes audits by independent auditors of processes or facilities; and
- Management Review: a formal process for management to review the effectiveness and suitability of the Management System in managing HES risks and ensuring continual improvements in HES performance. A management review occurs every 2 months at the HES Management Committee meeting.

Kinsale Energy also has Emergency Response procedures in place that cover accidental releases offshore and onshore. The plan provides Kinsale Energy response personnel with the processes and information resources needed to implement an appropriate response to a pollution event from the Kinsale Area facilities. Emergency Response exercises are periodically carried out to assess the effectiveness of plans and to ensure team familiarity with expected actions.

3.8.3 Safety Case

In accordance with the requirements of the Petroleum Safety Framework, as established under the Petroleum (Exploration and Extraction) Safety Act 2010, and as amended by the Petroleum (Exploration and Extraction) Safety Act 2015, Kinsale Energy will develop a number of Safety Cases, as follows:

- Decommissioning Safety Case – covers platform based activities up to 'hydrocarbon-free' status;
- Well Work Safety Cases – covers all well abandonments; and
- Non-Production Installation Safety Case – covers well intervention vessels/drilling rigs (prepared by NPI Owner).

These Safety Cases will be submitted to the Commission for Regulation of Utilities (CRU) for approval. The CRU will issue a safety permit in respect of the designated petroleum activity, on acceptance of each of the Safety Cases. Safety Cases submitted to the CRU will be prepared in accordance with the Safety Case Guidelines, including CER/16/023 'Requirements of the Petroleum Safety Framework', CRU18183'Safety Case Requirements', CER/16/106 'ALARP Guidance' and CER/16/016 'Compliance Assurance System'.

Each Safety Case shall demonstrate that Kinsale Energy has carefully considered all available data in the planning of the proposed activities and that the risks associated with the design and execution of the activity have been reduced to ALARP.

4 Environmental Management Framework

4.1 Overview

It will be a requirement that the contract(s) awarded for the proposed decommissioning works will comply with relevant documentation including the EIAR, Decommissioning Plan(s), any statutory consent conditions received, this draft EMP and any subsequent detailed EMP.

As part of the environmental management framework contractors will need to comply with all relevant environmental legislation and take account of published standards, accepted industry practice, national guidelines and codes of practice appropriate to the proposed decommissioning works.

The contractor(s) will be required to develop and implement an Environmental Management System (EMS) that follows the principles of ISO14001. Further, the contractor's EMS should include an environmental policy, operational, monitoring and auditing procedures to ensure compliance with all environmental requirements and to monitor compliance with environmental legislation and the environmental management provisions outlined in the relevant documentation.

4.2 Responsibilities

4.2.1 Employer

Kinsale Energy will be the employer responsible for ensuring that competent parties are appointed to undertake the decommissioning works and that sufficient resources are made available to facilitate the appropriate management of risks to the environment.

4.2.2 The Contractor

The contractor(s) appointed will be responsible for the organisation, direction and execution of environmental related activities during the decommissioning of the proposed decommissioning works. The contractor(s) will be required to undertake all activities in accordance with the relevant environmental requirements including the consent documentation and other regulatory and contractual requirements.

4.2.3 Site Manager

A Site Manager will be appointed by the contractor(s) to oversee the day-to-day management of working areas within the site and ensure that effective, safe, planned decommissioning activities are delivered on an ongoing basis to the highest standards. The Site Manager will be a suitably qualified, competent and experienced professional that will oversee site logistics, communicate regularly with staff, accommodate project-specific inductions for staff on site and ensure

that all work is compliant with the relevant design standards and health and safety legislation.

4.2.4 Environmental Manager

An Environmental Manager will be appointed by the contractor(s) to ensure that the EMP is effectively implemented. The Environmental Manager will be a suitably qualified, competent and experienced professional that would perform the necessary tasks, review environmental procedures and consult with the members of the decommissioning team and stakeholders as requited. The Environmental Manager would be responsible for:

- Preparing, maintaining and implementing the EMP;
- Establishing, implementing, and maintaining the EMS in line with ISO 14001;
- Conducting regular environmental inspections and audits as specified in the contract and checking adherence to the EMP and compiling an environmental compliance report on a monthly basis;
- Ensuring that decommissioning occurs in accordance with the relevant environmental requirements and that such compliance is adequately recorded and documented;
- Attending site and stakeholder meetings as required;
- Keeping up-to-date with relevant environmental best practice and legislative changes;
- Liaising with the relevant staff to prepare Method Statements and relevant plans for all activities where there is a risk of environmental damage;
- Having a detailed level of knowledge on all aspects of environmental information associated with the proposed decommissioning works;
- Ensuring all personnel have undertaken adequate environmental inductions, awareness briefings and training (including subcontractors);
- Dealing with environmental complaints; and
- Managing and responding to environmental incidents and ensuring that all incidents are recorded and reported in an appropriate manner.

4.2.5 Environmental Specialists engaged by the Contractor

To fulfil its obligations under the EMP and to support its Environmental Manager, the contractor(s) will be responsible for engaging suitably qualified and experienced professionals where necessary.

4.3 Communication Procedures

4.3.1 Community and Stakeholder Engagement

The contractor(s) will take all reasonable steps to engage with stakeholders in the local community (onshore and offshore), focusing on those who are likely to be affected by the decommissioning works including residents, businesses, community resources, fishing industry groups, other sea users and specific vulnerable groups.

Communication with the local community, CCC and other relevant stakeholders shall be undertaken at an appropriate level and frequency throughout the decommissioning works. Kinsale Energy will establish a Communications Management Plan that will specify obligations in relation to community and stakeholder engagement that the contractor must adhere to. Where communications are related to environmental issues the Environmental Manager will be informed and engaged with, as appropriate.

4.3.2 Regular Consultation and Public Communications

The Communications Management Plan will also specify obligations in relation to regular consultation and public communications activities required during the decommissioning works. The contractor(s) will facilitate regular consultation in accordance with the specifications and cooperate with this plan. Where communications are related to environmental issues the Environmental Manager would be informed and engaged with, as appropriate.

Details of the available communication channels/points of contact for members of the public to contact the project team during the decommissioning works will be established in advance of the commencement of the works and displayed around working areas.

4.3.3 Advance Notice of Works

The contractor(s) will ensure that local residents, businesses, occupiers, general users of the area and stakeholders are informed in advance of decommissioning activities that are likely to affect them. Relevant obligations and procedures in relation to advance notice of works will be identified in the detailed EMP and in the Communications Management Plan. Marine operations will be planned appropriately, with marine notices utilised to inform sea users and consultation with relevant stakeholders in advance.

All notifications will detail the nature, estimated duration and working hours. All notifications will include a project-specific contact number to which any enquiries can be directed. The contractor(s) will be responsible for preparing and issuing the notifications subject to the relevant approval and consents.

Kinsale Energy and the contractor(s) in consultation with DCCAE, CCC and other statutory stakeholders will decide whether to arrange any further targeted

consultation with the public or relevant stakeholders in advance of specific decommissioning activities on a local basis.

4.3.4 Contacts

An emergency contact list will be established and made available to all staff employed. The contact list shall be displayed prominently on site as well as at suitable locations where decommissioning activity is being carried out around working areas. The contact list will include key environmental representatives that are likely to need to be contacted in the event of an incident.

4.3.5 Enquiries and Complaints

The contractor(s) will establish a process for handling all enquires including complaints. All enquires will be recorded and a log would be maintained to include details of the response and action taken. This will be available upon request for inspection to DCCAE and CCC, as appropriate. All enquiries, whether a query or a complaint, will be dealt with in a timely manner.

The Environmental Manager will be immediately informed of any environmental-related issues that have been raised. Where appropriate, the Environmental Manager would be responsible for informing DCCAE, CCC, relevant stakeholders and statutory bodies.

5 Environmental Management Procedures

5.1 Training, Awareness and Competence

The contractor(s) and their subcontractors would be selected with due consideration of relevant qualifications and experience. The contractor(s) will be required to employ staff with appropriate skills, qualifications and experience appropriate to the needs of the works to be carried out during the decommissioning works.

A site induction will be provided to all staff before they commence work on site. Where appropriate, the contractor(s) will identify specific training needs for the workforce and will ensure that appropriate training requirements are fulfilled. Due to the specialist nature of the offshore works required, the contractor(s) will be required to ensure that all personnel involved in these works have appropriate experience and training.

The contractor(s) must establish an Environmental Training and Awareness Programme and ensure that all personnel receive adequate training prior to the commencement of the decommissioning activities. A baseline level of environmental awareness will be established through the site induction programme. Key environmental considerations and objectives will be incorporated into this induction. Specifically, site inductions will cover the following as a minimum:

- Introduction to the Environmental Manager;
- Description of the EMP and consequences of non-compliance;
- The requirements of due diligence and duty of care;
- Overview of conditions of consents, permits and licences;
- Requirements associated with community engagement and stakeholder consultation;
- Identification of environmental constraints and notable features within the site; and
- Procedures associated with incident notification and reporting including procedures for dealing with damage to the environment.

Nobody will work on site without first receiving environmental induction. Signed records of environmental training will be established, maintained and made available to the Employers Representative.

Site talks would be carried out on a regular basis to ensure that staff have an adequate level of knowledge on environmental topics and community relations (for the onshore elements at the Inch Terminal), and can effectively follow environmental control procedures throughout the decommissioning works.

5.2 Meetings

Kinsale Energy and/or the Employer's Representative will arrange regular meetings (every three months) to discuss environmental matters and ensure effective coordination to be attended by:

- Kinsale Energy;
- The Employer's Representative;
- Contractor(s); and
- Environmental Manager.

The Environmental Manager will be responsible for arranging and holding monthly meetings and site walk overs with the Employer's Representative. The Environmental Manager would develop and distribute minutes of the monthly meetings and distribute them accordingly.

5.3 Monitoring, Inspections and Audits

For the duration of the contract(s), the environmental performance of the contractor(s) will be monitored through site inspections and audits. The programme for monitoring, inspections and audits shall be specified in the contract(s) and is likely to be a combination of internal inspections and independent external audits that may be either random or routine.

Records of all inspections carried out should be recorded on standard forms and all actions should be closed out in a reasonable time. The detailed EMP will include further details of inspection procedures.

5.3.1 Monitoring

Mitigation and monitoring will be carried out in accordance with the requirements of the EIAR so that decommissioning activities are undertaken in a manner that does not give rise to significant negative environmental effects. Suitable monitoring programmes will be developed, implemented, documented, and assessed (with potential follow up) in accordance with the specification outlined in the detailed EMP.

The results of all environmental monitoring activities will be reviewed by the Environmental Manager on an ongoing basis to enable trends or exceedance of criteria to be identified and corrective actions to be implemented as necessary. The contractor(s) will be required to inform the Employer's Representative of any continuous exceedances of criteria.

5.3.2 Inspections

Routine inspections of decommissioning activities will be carried out by the Environmental Manager on a daily basis to ensure all necessary environmental measures relevant to the decommissioning activities are being effectively implemented by staff, ensuring legal and contractual conformity.

More detailed inspections would be undertaken by the Environmental Manager on a weekly basis.

The weekly inspections would be appropriately documented by the Environmental Manager and copies of these records and any action required to be undertaken should be made available to the Employers Representative.

Each month one of the weekly inspections will include a review of environmental documentation and records. The monthly inspection will be recorded on a standard form and reported to the Employers Representative within five days of the inspection taking place. This standard form will address the following as a minimum:

- Summary of compliance/non-compliance with the EMP;
- Results and interpretation of the monitoring programme;
- Key issues noted in inspections and/or audits;
- Summary record of non-conformities, incidents and corrective actions;
- Summary of environmental complaints and queries received in relation to environmental matters; and
- Summary record of environmental training undertaken by staff.

5.3.3 Audits

Kinsale Energy will arrange for independent environmental audits to be carried out by a third party during the decommissioning works. External audits provide the opportunity for an independent auditor to advise on compliance with applicable environmental regulatory requirements, the efficacy of the environmental management approaches used, and recommendations for reducing identified environmental risks (if considered appropriate).

Further, regulatory and statutory bodies may undertake site visits to monitor compliance with legislative and regulatory requirements. These site visits may occur randomly throughout the decommissioning works. The contractor(s) will facilitate these visits and the Environmental Manager will be available to provide information as required and deal with any issues that are likely to arise during, or as a result of, these visits.

Planned and documented audits aimed at evaluating the conformance of the EMS would also be carried out by the Environmental Manager. As part of the detailed EMP, the Environmental Manager will establish a schedule for internal audits and this inspection calendar will be made available to the Employer's Representative. These environmental system audits will be scheduled at least once for every major contract.

The contractor(s) will be required to prepare standard forms for reporting and audit items shall include but not be limited to the following activities:

- Review of environmental documentation to establish if relevant requirements are being achieved and if continual improvement is occurring;

- Site inspection and interviews with onsite personnel; and
- Reporting with recommendations.

For any environmental non-conformities found, the auditor will prepare a Corrective Actions Report to describe and record the findings of the non-conformance. The verification of previous Corrective Actions Reports should be also recorded.

Upon completion of an audit, the auditor will review all Corrective Actions Reports and prepares an Audit Report to summarise:

- Corrective action requests raised;
- Previous corrective action requests closed; and
- Observations made during the audit.

The Environmental Manager will be entitled to participate in all audits. Notwithstanding this, the Employers Representative shall produce and provide the contractor with a copy of each audit report within five working days of the audit. Each audit report will detail the findings from the auditor, specify non-conformances identified and outline the proposed corrective action.

5.4 Incident Response

5.4.1 Corrective Actions

5.4.1.1 Overview

Corrective actions are measures to be implemented to rectify any non-conformances (i.e. exceedance of criteria or targets) identified during monitoring, inspections and/or audits.

In the first instance, an investigation should be undertaken by the Environmental Manager to identify the cause of any non-conformances. Appropriate remedial measures shall be identified and implemented as soon as practicable to prevent further exceedances. If necessary, the appropriate statutory authority and stakeholders will be notified.

Where new or amended measures are proposed, the EMP will be updated accordingly by the Environmental Manager and the Employer's Representative should be informed at the earliest opportunity.

5.4.1.2 Corrective Action Reports

A Corrective Actions Report is prepared on foot of any non-conformances identified during environmental monitoring, inspections and/or audits on site. The Corrective Actions Report will describe in detail the cause and effect of a non-conformance on site and describe the recommended corrective action that is required to remedy it.

An appropriate timeline for closing out the corrective actions will be identified by the contractor(s) in their detailed EMP as well as arrangements for the Environmental Manager verifying the Corrective Actions Report.

5.4.2 Environmental Emergency Incidents

5.4.2.1 Overview

Emergency incidents are those occurrences that give rise to significant negative environmental effects including but not limited to the following:

- Any emission that does not comply with the requirements of the contract and relevant licences;
- Any circumstance with the potential for environmental pollution; or
- Any emergency that is likely to give rise to significant environmental effects (e.g. significant spillages or fire outbreak).

5.4.2.2 Spill Control Measures

Every effort will be made to prevent pollution incidents associated with spills during the decommissioning works. The risk of oil/fuel spillages will exist at both the offshore sites and at the onshore Inch Terminal site and any such incidents will require an emergency response procedure.

The following steps provide the procedure to be followed in the event of an oil/fuel spill occurring at an offshore site:

- Identify and stop the source of the spill and alert people working in the vicinity;
- Notify the Environmental Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action;
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident;
- All vessels and the rig to be used during decommissioning will be subject to audit and expected to adhere to Kinsale Energy HES policy. They will have in place the relevant, current Shipboard Oil Pollution Emergency Plan (SOPEP) in accordance with MARPOL and/or an oil spill contingency plan, which will be implemented in the event of an accidental event.
- Spills on platform and vessel decks will be contained and controlled using absorbing materials;
- The Environmental Manager shall inspect the site as soon as practicable and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring; and
- The appropriate stakeholders will be notified, including DCCAE (PAD), Irish Coast Guard (IRCG), CRU, CCC and/or the EPA.

The following steps provide the procedure to be followed in the event of an oil/fuel spill occurring at the onshore Inch Terminal Site:

- Contain the spill using the spill control materials or other material as required. Do not spread or flush away the spill;
- Identify and stop the source of the spill and alert people working in the vicinity;
- Notify the Environmental Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action;
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident;
- If possible, cover or bund off any vulnerable areas where appropriate;
- If possible, clean up as much as possible using the spill control materials;
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited;
- The Environmental Manager shall inspect the site as soon as practicable and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring; and
- The appropriate stakeholders will be notified, such as DCCAE (PAD), CCC and/or the EPA.

Environmental incidents are not limited to just fuel spillages. Therefore, any environmental incident must be reported, recorded and investigated appropriately.

5.4.2.3 Emergency Incident Response Plan

A set of standardised emergency response procedures will govern the management of emergency incidents at both the offshore sites and at the onshore Inch Terminal site. The contractor(s) will be required to detail emergency incident response procedures in the detailed EMP and to develop an Emergency Incident Response Plan.

The Emergency Incident Response Plan will contain emergency phone numbers and the method of notifying local authorities, statutory authorities and stakeholders. Contact numbers for key personnel will also be included therein. Contractors will be required to adhere to and implement these procedures and ensure that all staff and personnel on site are familiar with the emergency arrangements.

In the case of work required in an emergency, or which if not completed would be unsafe or harmful to workers, the public or local environment, DCCAE , CCC (onshore incident) and any other relevant stakeholders will be informed as soon as reasonably practicable of the reasons and likely duration. Examples are likely to include delayed deliveries or equipment failure.

In the event of an emergency incident occurring, the contractor(s) will be required to investigate and provide a report including the following, as a minimum:

- A description of the incident, including location, the type and quantity of contaminant and the likely receptor(s);
- Contributory causes;
- Negative effects;
- Measures implemented to mitigate adverse effects; and
- Any recommendations to reduce the risk of similar incidents occurring.

The contractor(s) will consult with the relevant statutory authorities, stakeholders and relevant parties when preparing and developing response measures. Further, if any sensitive receptor is impacted, the appropriate environmental specialists will be informed and consulted with accordingly.

Any response measures will be incorporated into an updated Emergency Incident Response Plan that should be disseminated accordingly to staff, Kinsale Energy and the Employer's Representative.

5.4.2.4 Emergency Access

For the onshore decommissioning works, the contractor(s) will be required to maintain emergency access routes throughout and identify site access points for the onshore Inch Terminal site.

This should be documented as part of the detailed EMP and Emergency Incident Response Plan.

5.4.3 Extreme Weather Events

The contractor(s) will consider the impacts of extreme weather events and related conditions during the decommissioning works. The contractor(s) will use a short to medium range weather forecasting service from Met Eireann or other approved meteorological data and weather forecast provider to inform short to medium term programme management, environmental control and mitigation measures.

The detailed EMP should consider all measures deemed necessary and appropriate to manage extreme weather events and should specifically cover training of personnel and prevention and monitoring arrangements for staff. As appropriate, method statements should also consider extreme weather events where risks have been identified.

5.4.4 Unexpected Discoveries

The contractor(s) will be obliged to put in place appropriate procedures to be employed in the event of encountering unexpected discoveries, such as unexpected contamination or archaeological discoveries (in the case of the onshore Inch Terminal site) during the decommissioning works.

The contractor(s) will be required to develop appropriate procedures as part of their detailed EMP and the Environmental Manager will ensure that appropriate specialists are facilitated to ensure management in accordance with industry best practice and effective compliance with the relevant legislation. All unexpected discoveries will be reported to the appropriate authorities and will be documented in an appropriate manner.

5.5 Reporting

5.5.1 Environmental Compliance Report

The contractor(s) will be required to submit a monthly report to the Employer's Representative for review and approval. The report shall address the following as a minimum:

- Summary of compliance with the EMP including identification of any non-conformances;
- Interpretation of the results of ongoing monitoring;
- Detailed description of any issues and/or non-conformances identified during inspections and/or audits;
- Record of incidents and corrective actions (including Corrective Actions Reports as appropriate);
- Synopsis of environmental complaints received/queries raised by stakeholders; and
- Records of environmental training undertaken (as appropriate).

5.5.2 Incident Investigation Reports

The contractor(s) will inform the Employer's Representative of all emergency incidents immediately and prepare an initial report within 24 hours setting out the details of the incident and cause(s) if known. The contractor(s) will be required to complete the Environmental Incident Report and any further documentation requested by the Employer's Representative in relation to the incident within 7 days of the incident occurring. The contractor(s) will respond to all comments made by the ER on any incident.

The Environmental Incident Report will contain details of the incident including the location, known and suspected causes and weather conditions. It will define the scale and effects (short, medium, long term, temporary/permanent) as well as required corrective actions and mitigation/ remediation/compensation measures (as appropriate).

5.6 Environmental Records

The contractor(s) shall maintain records of all environmental documentation including monitoring, test results, method statements and plans. All records will be kept up to date and be made available for audits, inspections and periodical

reporting. The contractor(s) will maintain the following environmental records (as a minimum) that will be made available for inspection to the Employer's Representative and the relevant authorities, if required:

- Management Plans;
- Records of environmental incidents;
- Monthly environmental reports;
- Records of environmental training;
- Register of environmental complaints;
- Corrective Action Reports;
- Environmental inspection and audit reports;
- All monitoring data;
- Waste and chemical inventories; and
- Health and Safety records.

6 General Requirements

6.1 Overview

The contractor(s) and any subcontractors will be required to comply with all of the performance requirements set out in the tender documentation including the statutory consent approvals which are likely to be granted by the DCCAE, CCC, Department of Housing, Planning and Local Government (DHPLG), CRU and other relevant statutory consent authorities.

It is the responsibility of the contractor(s) to ensure compliance and to avoid and/or reduce significant adverse effects that have been identified where practicable.

Sections 6.2 and **6.3** outline general requirements that the contractor(s) and any subcontractors will be required to comply with at the offshore sites and at the onshore Inch Terminal site, respectively.

6.2 Offshore Sites

6.2.1 Good Housekeeping

The contractor(s) will employ a 'good housekeeping' policy at all times at the offshore sites. This will include, but not necessarily be limited to, the following requirements:

- General maintenance of working areas and cleanliness of welfare facilities and storage areas;
- The provision of key requirements such as first aid posts, material storage, spill kits, material and waste storage, welfare facilities etc.;
- Maintain all plant, material and equipment required to complete the decommissioning works in good order, clean, and tidy;
- Provision of adequate welfare facilities for site personnel;
- Effective prevention of oil, grease or other objectionable matter being discharged from any working area;
- Provision of appropriate waste management at each working area; and
- Maintenance of contaminant measures as required in each working area.

6.2.2 Security

The offshore working areas are secured by the existing exclusion zones in operation. These include a 500m subsea exclusion zone around wells and the exclusion zone (ref S.I. No. 285/1977) for other sea users, bounded by a line which is 500m at all points from a straight line joining the KA and KB platforms.

This results in an elongated 500m exclusion zone around the KA and KB platforms and the entire stretch between them.

6.2.3 Site Boundary

The site boundary at the offshore working areas will be provided by the aforementioned exclusion zones surrounding these areas. Notices to Mariners will also be issued to cover decommissioning work to communicate the nature and timing of the activities to relevant other users of the sea. Guard vessels or standby vessels will be used during well abandonment to monitor statutory 500m zones and minimise the potential for interaction between decommissioning vessels and other users.

6.3 Inch Terminal

6.3.1 Good Housekeeping

The contractor will employ a 'good housekeeping' policy at all times at the Inch Terminal site. This will include, but not necessarily be limited to, the following requirements:

- General maintenance of working areas and cleanliness of welfare facilities and storage areas;
- Provision of key requirements such as first aid posts, material storage, spill kits, material and waste storage, welfare facilities etc.;
- Maintain all plant, material and equipment required to complete the decommissioning works in good order, clean, and tidy;
- Provision of adequate welfare facilities for site personnel;
- Installation of appropriate security and lighting;
- Effective prevention of oil, grease or other objectionable matter being discharged from any working area;
- Provision of appropriate waste management;
- Maintenance of contaminant measures as required;
- No discharge of site runoff or water discharge without agreement of the relevant authorities;
- Open fires will be prohibited at all times; and
- Material handling and/or stockpiling of materials, where permitted, will be appropriately located to minimise exposure to wind. Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods (refer to **Appendix A**).

6.3.2 Hours of Working

6.3.2.1 Core Working Hours

The timing of the decommissioning activities, working hours and the rate of progress of the decommissioning works are a balance between efficiency of the decommissioning and minimising the impact on the local community and road users. Constraints will be specified in the contract documents, generally restricting working hours on the proposed decommissioning works, particularly onshore. Offshore operations may be continuous for specific periods, on a 24 hour, 7 day a week basis.

Typically, the decommissioning working hours at the onshore Inch Terminal site will be limited to:

- 7am – 7pm, Monday to Friday; and
- 7am – 2pm, Saturday.

6.3.2.2 Additional Working Hours

It is anticipated that some work may be required outside of the decommissioning core working hours at the onshore Inch Terminal site.

Any such working hours outside the normal decommissioning working hours will be agreed with DCCAE and CCC, as appropriate. For such works, the planning of these works will take consideration of nearby sensitive receptors, such as local residents.

In the case of work required in an emergency or which if not completed would be unsafe or harmful to workers, the public or local environment, DCCAE and CCC will be informed as soon as reasonably practicable of the reasons and likely duration and timing (outside of the core working hours).

6.3.3 Security

Security at the Inch Terminal site will be the responsibility of the contractor(s) who will provide adequate security to prevent unauthorised entry to or exit from any working areas. The following measures are likely to be used to prevent unauthorised access:

- Install CCTV and alarm systems, where required;
- Provide adequate security guards and patrols, where required;
- When there is no site activity, set appropriate site security provisions in motion; and
- Prevent access to restricted areas by securing equipment on site such as scaffolding and ladders.

6.3.4 Site Boundary

It is proposed to utilise the existing site boundary fencing to delineate and secure the site. The existing fencing will be checked to ensure it is appropriate (at least 2.4 m hight) and will provide a secure boundary to what can be a dangerous environment for those that have not received the proper training and are unfamiliar with decommissioning operations.

The following measures will be applied in relation to fencing:

- Maintenance of adequate fencing to an acceptable condition to prevent unwanted access to working areas and provide site security where required;
- Temporary fences are likely to be used in certain areas, such as for short term occupation of working areas;
- Display information boards with out of hours contact details, telephone helpline number (for comments) and information on the works;
- Erect notices on platform boundaries to warn of hazards on site such as works access, etc.; and
- Keep fencing free of graffiti or posters.

6.3.5 Services and Lighting

6.3.5.1 Services and Utilities

Working areas at the Inch Terminal site will be powered by mains supplies or diesel generators where an electrical supply is not available.

The contractor(s) will be responsible for undertaking their own surveys to establish the full extent of underground services at the Inch Terminal site prior to the commencement of the decommissioning works to support any surveys already undertaken as part of early design work and statutory consent applications.

6.3.5.2 Lighting

All floodlights used for site lighting will be cowled and angled downwards to minimise spillage to surrounding areas. The following measures will be applied in relation to site lighting:

- Lighting will be provided with the minimum luminosity sufficient for safety and security purposes. Where practicable, precautions will be taken to avoid shadows cast by the site hoarding on surrounding areas;
- Motion sensor lighting and low energy consumption fittings will be installed to reduce usage and energy consumption; and
- Lighting will be positioned and directed so as not to unnecessarily intrude on adjacent areas and ecological receptors, nor to cause distraction or confusion to passing navigation lights for water traffic.

6.3.6 Welfare Facilities

Welfare facilities will be provided, as appropriate, for staff and site personnel such as locker rooms, toilets etc. The location of these will be identified as part of the detailed EMP.

6.3.7 Reinstatement of Working Areas on Completion

At the Inch Terminal site, the contractor(s) will reinstate all working areas and access routes as work proceeds during the decommissioning works. All plant, equipment, materials and temporary infrastructure will be removed at the earliest opportunity.

6.4 Health and Safety

The contractor(s) will be required to ensure all relevant health and safety, fire safety and security requirements are in place prior to the commencement of the decommissioning works and in accordance with relevant legislative requirements in addition to the specifications of DCCAE, CCC, CRU and relevant offshore requirements (e.g. adherence to MARPOL (The International Convention for the Prevention of Pollution from Ships) standards).

Relevant Irish and EU health and safety legislation would be complied with at all times by all staff and personnel during the decommissioning works. Further, contractors will also have to ensure that all aspects of their works comply with good industry practice and all necessary consents, licences and authorisations that have been put in place for the decommissioning works.

Refer to **Section 3.8** for further details on health and safety.

7 Environmental Management

7.1 Introduction

This section describes the specific environmental requirements identified as part of the EIAR that will need to be adhered to by the contractor(s).

It should be noted that **Sections 7.2** to **7.11** provide a summary of minimum requirements to be complied with and which provide the required certainty with regard to the assessment of impacts presented in the EIAR. It is expected that the contractor(s) will develop these further in the detailed EMP. It is intended that the measures set out herein will be discussed in more detail with relevant stakeholders as required in order to support the identification of any additional measures to be taken account of during the decommissioning works.

7.2 Physical Presence: Decommissioning Activities

To minimise potential physical presence effects associated with the decommissioning works, all activities will be undertaken in adherence to relevant legally required standards and controls, which include:

- Notices to Mariners will be issued to cover decommissioning work associated with each consent application to communicate the nature and timing of the activities to relevant other users of the sea. Guard vessels or standby vessels will be used during well abandonment to monitor statutory 500m zones and minimise the potential for interaction between decommissioning vessels and other users;
- All vessels used in the decommissioning operations will meet applicable national and international standards (e.g. in terms of signals and lighting); and
- Lighting and marking of the jackets if left in 'lighthouse mode' for a period will be agreed with the Commissioners for Irish Lights to establish new Aids to Navigation (AtoN) to be installed until their removal. An up to date Navigational Risk Assessment with traffic analysis will be undertaken to inform the Commissioners of Irish Lights to set the AtoN requirements. All lighting and marking will comply with IALA Recommendation 0-139 on the Marking of Man-Made Offshore Structures (2013), and Notices to Mariners will communicate the new lighting and marking arrangements.

7.3 Physical Presence: Legacy of Materials Left *In Situ*

There are a number of aspects of the proposed decommissioning works which will result in legacy materials being left *in situ* with the potential for longer term effects.

It is planned that rock cover remediation will be used to reduce the potential snagging risk associated with decommissioning pipelines and umbilicals left *in*

situ or with any potential protruding jacket leg stumps. The following measures will be implemented as part of the rock placement programme:

- The remediation of all pipeline/umbilical end sections and freespans using overtrawlable rock berms, with the option to rock cover all exposed pipeline sections to further reduce risks to third parties;
- Accurate rock-placement will be assured by the use of a Remotely Operated Vehicle (ROV) guided fall pipe system on the rock-placement vessel;
- On-going consultation with fisheries representatives and maritime authorities;
- All infrastructure decommissioned *in situ* will be surveyed post-decommissioning to accurately record their location and status. This information will be included on navigational charts and also passed to representatives of the fishing community; and
- Standard overtrawling surveys will also be undertaken where wellheads, spoolpieces etc. are removed to confirm the area is clear of debris and snagging hazards.

7.4 Physical Disturbance

The decommissioning activities will result in some seabed disturbance (0.46-0.76km^2), the effects of which are considered to be minor and temporary. Mitigation is proposed to further reduce the significance of these effects and includes:

- the minimisation of rig and vessel movements which require anchoring where possible;
- the use of Dynamic Positioning (DP) on most vessels where practicable to reduce anchor deployment – note that sensitive features such as wrecks or Annex I habitats have not been detected in previous surveys; and
- For each option/activity involving rock placement, efforts will be made to minimise the volume of rock deployed, subject to achieving the required technical function.

7.5 Underwater Noise

Wherever possible, through careful activity phasing, vessel synergies will be sought to minimise vessel days and associated noise emissions. The environmental assessment concludes that there is no likely significant effect on marine mammals from underwater noise as a result of the proposed decommissioning works and therefore it is not proposed to engage a Marine Mammal Observer (MMO) during the works. Any post-decommissioning survey works will require appropriate consent applications which will detail the proposed survey methods and mitigation measures.

7.6 Discharges to Sea

To minimise potential effects from discharges to sea associated with the decommissioning works, all activities will be undertaken in accordance with regulatory and policy controls, including:

- Existing operational controls for the management of routine marine discharges from the decommissioning activities (e.g. adherence to MARPOL standards); and
- Chemicals selected for use and discharge for well abandonment will be subject to a Permit to Use or Discharge Added Chemicals (PUDAC).

All potential discharges associated with decommissioning the Kinsale Area facilities (e.g. from pipelines and well abandonment) are considered to be minor. Discharges from well abandonment will be minimal, subject to treatment/filtration, with chemicals being selected on the basis of the lowest hazard quotient for the required technical function.

7.7 Waste: Materials Recycling, Reuse and Disposal

The decommissioning works shall be undertaken in a manner which maximises the potential for reuse and recycling, including source segregating waste where appropriate. Management of all waste will be undertaken in accordance with the relevant waste legislation and only permitted and licensed waste facilities will be used.

7.7.1 Draft Resource and Waste Management Plan

A draft Resource and Waste Management Plan has been developed to establish the minimum standards that the contractor(s) must apply during the decommissioning works. A detailed Resource and Waste Plan will be prepared by the contractor(s) which will be submitted to Kinsale Energy for approval prior to commencement of the decommissioning works.

The draft Resource and Waste Management Plan states the following:

- The Kinsale Area Decommissioning Project will comply with all relevant waste and resource management policy and legislation that applies (including International, European and Irish policy and legislation);
- All relevant obligations governing storage, transfer, treatment and disposal of all wastes arising from the Kinsale Area Decommissioning Project will be complied with and the contractor(s) will implement approved method statements and procedures for transporting and managing waste as part of their detailed Resource and Waste Management Plan;
- Resource and waste management objectives to be applied to the Kinsale Area Decommissioning Project to maximise the potential for reuse and recycling are:
    - Target 90% recycling rate by weight;

  - Minimise disposal of waste to landfill; and
  - Minimise environmental impacts of waste management.

- A fully detailed description of solid waste generation associated with each of the key elements of the Kinsale Area Decommissioning Project will be provided in the detailed Resource and Waste Management Plan (estimated waste quantities have been calculated from detailed analysis of the waste arisings/material surpluses as outlined in **Section 3.7**); and
- The contractor(s) will put in place all relevant waste authorisations (detailing the name, address and authorisation details of proposed recovery and disposal facilities which will be used for all wastes generated from the decommissioning project) in advance of the removal of any waste and will maintain a register of resource and waste management information throughout the Kinsale Area Decommissioning Project.

Waste recovery and disposal will be undertaken at authorised waste facilities and the typical management methods for different waste streams associated with the Kinsale Area Decommissioning Project are summarised in **Table 2**.

Table 2: Waste Management Methods

Waste stream	Removal method	Waste management method
Platforms	Platform jacket legs will be cut at the top of footings at the seabed before removal. Topsides will be disconnected from jacket and removed. Materials will be transferred from the site on vessels to authorised waste facilities.	Steel will be brought to a dismantling facility and recycled where appropriate at authorised waste facilities. Concrete will be brought onshore for reuse and recycling at authorised waste facilities.
Wellhead protection structures	Wellhead Protection Structures will be dismantled and casings to 3m below the seabed removed to allow access to the wells.	Steel and concrete will be brought onshore for reuse and recycling at authorised waste facilities.
Subsea protection materials	Concrete mattresses and grout bag materials will be removed only when necessary to allow access to the tie-in facilities underneath.	Steel and concrete will be brought onshore for reuse and recycling at authorised waste facilities.
Non-ferrous metals	Removed from platforms as part of the dismantling and removal of the topsides and jackets.	Non-ferrous metals will be brought onshore for reuse and recycling at authorised waste facilities.
Asbestos Containing Materials	Protocols to be followed to remove asbestos including transfer of small scale quanitities into heavy gauge polythene bags for transfer. Asbestos Containing Materials will be brought onshore for disposal by authorised handlers.	Asbestos and other hazardous materials will be handled by a licensed operator and disposed of at a licensed facility.
Routine wastes from the decommissioning vessels	Transferred onshore to port in line with European Communities (Port Reception Facilities for ShipGenerated Waste and Cargo Residues) Regulations 2003 (S.I. No. 117 of 2003) and MARPOL.	Disposal will be undertaken in accordance with normal procedures. Waste will be recycled, reused and/or disposed of (depending on type) in appropriately licensed facilities.

Waste stream	Removal method	Waste management method
Hazardous waste	Where practicable, hazardous waste will be removed from the platforms prior to dismantling and be transferred to appropriate waste facilities for treatment and disposal.	Chemicals, lubricants, hydrocarbon contaminated materials, diesel – disposed of to an appropriately licensed facility, if it cannot be reused or recycled.

7.8 Energy Use and Atmospheric Emissions

It is considered that there is limited scope for mitigation measures to reduce the residual effect on atmospheric Greenhouse Gas (GHG) loading, or any local effects on air quality. There is the potential to minimise time in the field and associated vessel days and related emissions by making use of vessel synergies and careful activity phasing which would form part of standard programme management, and there is the potential to make further emissions reductions during contractor selection (e.g. those using modern efficient vessels); however neither of these are considered to significantly alter the predicted effect.

Emissions from material flows will be minimised by using a waste hierarchy approach consistent with the Waste Framework Directive 2008/98/EC; establishing where there is scope for equipment and material re-use and recycling, with disposal only taking place where no feasible alternative is available.

7.9 Conservation Sites and Species

No further mitigation beyond those already indicated in **Sections 7.2** to **7.8** have been identified for conservation sites and species.

7.10 Accidental Events

7.10.1 Off-Shore Accidental Events

To minimise potential effects from accidental events associated with the offshore decommissioning works, all activities will be undertaken in accordance with regulatory and policy controls, including:

- Other users of the Kinsale Area, which include fisheries, shipping and other sea users such as recreational sailing and those involved in maritime activities such as surveys, will be alerted to the decommissioning activities via publication of Notices to Mariners detailing rig and vessel positions, activities and timing and by full navigation lighting on the rig and vessels;
- A standby vessel will minimise the potential for interaction between the rig and other users, and much of the decommissioning activity will be within existing exclusion zones thereby further reducing the potential for interaction; and
- All vessels and the rig to be used during decommissioning will be subject to audit and expected to adhere to Kinsale Energy HES policy. They will have in place the relevant, current SOPEP in accordance with MARPOL and/or an oil spill contingency plan, which would be implemented in the event of an accidental event.

Kinsale Energy risk management measures and legislative compliance minimise the risk that an accidental event could occur (noting the already very low frequencies of such incidents relating to oil and gas activities), and therefore minimise the likelihood of any resultant significant effect. This includes measures

which will be in place to avoid, as far as possible, spills from bunkering and supply operations, and general rig operations, including processes and procedures (e.g. bunkering procedures with reference to sea-state and daylight hours where practicable; procedure to be agreed with the Department of Transport, Tourism and Sport (DTTAS)), colour coding of hoses, storage of hoses in a safe area away from risk of physical damage, inspection of hose couplings, critical valves to be locked and controlled by permit, and general good housekeeping).

During the removal of topsides, jackets, wellheads, spool pieces and other associated infrastructure, every care will be taken to minimise dropped objects and the generation of debris. Any dropped objects will be recovered during decommissioning operations and an independent seabed debris clearance survey conducted once decommissioning operations have been completed to verify that debris clearance has been completed.

7.10.2 On-Shore Accidental Events

Accidental events/environmental emergencies at the onshore Inch Terminal site requiring intervention may include uncontained spillage, leak or loss of containment incident (contractor inventory only as Inch Terminal will be hydrocarbon free), fire, etc.

A list of site emergency contact numbers and the general emergency response actions will be compiled by the contractor(s) and posted at strategic locations throughout the site, such as the site entrance, safety stop-boards and contractor cabins. The emergency contact number list will be updated by each contractor to include their Safety Representative contact name and telephone number.

An example of an emergency response action is as follows for action to be taken in the event of a spillage:

1. **IF SAFE**, stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.
2. **IF SAFE** (USE PPE), contain the spill using the absorbent spills material provided. Do not spread or flush away the spill.
3. Cover or bund-off any vulnerable areas where appropriate.
4. If possible, clean up as much as possible using the absorbent spills materials.
5. Do not hose the spillage down or use any detergents.
6. Contain any used absorbent material so that further contamination is limited. Note: This material is a waste and must be treated as such. The Safety Data Sheet (SDS) for the material will determine whether the spill material is hazardous or non-hazardous and will need to be disposed of accordingly.
7. Notify the Employers Representative at the earliest opportunity.
8. An incident investigation should be performed in accordance with procedures and the report sent to the Kinsale Energy Representative.

The Employers Representative will ensure that fully detailed records are maintained of any "incident/event" likely to cause harm to the environment. Contractors who report an incident will ensure details are identified and recorded.

Environmental incidents will be recorded on an appropriate form.

Complaints and Follow up Actions on the construction site will be managed by the Employers Representative in liaison with Kinsale Energy and contractors will ensure that all complaints are recorded according to Kinsale Energy requirements. A complaints log will be kept, and any complaint from interested parties will be actioned and recorded.

7.11 Monitoring Programme

A draft monitoring programme has been prepared and is included as **Appendix B** to this report. This will require to be updated and implementated as part of the Contractors detailed EMP. It will be agreed with Kinsale Energy at this stage. This monitoring programme sets out the minimum monitoring requirements for the proposed decommissioning works.

8 References

BRE/TDI (2003) *Control of Dust from Construction and Demolition Activities.*

BS 5228-1 and 2:2014+A1:2014 (British Standards, 2014) *Code of practice for noise and vibration control on construction and open sites.*

ISO (2015) *ISO 14001:2015 Environmental management systems -- Requirements with guidance for use.*

ISO (2007) *ISO 1996: 2007: Acoustics – Description, measurement and assessment of environmental noise.*

TII (2014) *Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes.*

TII (2007) *Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan.*

Appendix A

Draft Dust Minimisation Plan

A1 Draft Dust Minimisation Plan

This draft dust minimisation plan presents a number of measures to reduce impacts on ambient air quality from the potential generation of dust during the proposed decommissioning works at the Inch Terminal site, Co. Cork.

In producing this plan, guidance has been taken from the best available techniques listed in the BRE/DTI document *'Control of Dust from Construction and Demolition Activities'* (2003).

The following avoidance, remedial or reductive measures will be implemented as part of the dust minimisation plan:

- Vehicle speed limits will be enforced at the site. It is proposed that site traffic is restricted to 20 km/hr. This will help to minimise the occurrence of dust re-suspension.
- Vehicles delivering or removing materials on site will be loaded carefully to reduce the risk of spillage from the vehicles onto nearby roads.
- Exhaust emissions from vehicles operating within the site, including trucks, excavators, diesel generators or other plant equipment, will be controlled by the contractor through regular servicing of machinery.
- Surrounding public roads used by trucks to access to and egress from the site will be inspected regularly and cleaned, using an approved mechanical road sweeper, when required. Roads will be cleaned subject to local authority requirements. Site roads will be cleaned on a daily basis, or more regularly, as required.
- During very dry periods when dust generation is likely or during windy periods, working areas and vehicles delivering material with dust forming potential will also be sprayed with water, as appropriate.
- Wheel wash facilities will be provided for use by all vehicles exiting the site prior to them entering onto the surrounding public roads. These facilities will contain rumble grids to remove excess mud and other waste from wheels, ensuring that these potential dust producing materials are not released onto surrounding public roads. The wheel wash facilities will be self-contained, ensuring that wastewater discharges to nearby water bodies are not necessary. The facilities will be located away from sensitive receptors, where possible.
- Areas where materials will be handled and stockpiled will be positioned away from main site access roads. These areas will also be designed to minimise their exposure to wind – all stockpiles shall be kept to the minimum practicable height with gentle slopes.
- There shall be no long-term stockpiling on site and storage time will be minimised.
- Material drop heights from plant to plant or from plant to stockpile will be minimised.

The degree of implementation for some of the above measures (water spraying etc.) will be determined by rainfall levels on site. The use of excessive levels of water to suppress dust will be minimised when not required. This will help limit potential drainage related impacts on site.

Dust deposition monitoring will be carried out at the nearest sensitive receptors to the proposed decommissioning works for the duration of the decommissioning works to ensure the effectiveness of the measures outlined above. Bergerhoff Dust Deposit Gauges will be positioned at each sensitive receptor. Results will be compared with TA Luft guidelines. The guideline dust deposition limit is 350 mg/m^2/day (averaged over a 30-day period). This guideline limit is widely applied in Ireland to identify periods of dust nuisance.

All potential causes for the exceedance will be analysed. These will include the decommissioning works taking place, potential off site sources and meteorological conditions. Should the decommissioning works taking place be identified as the primary cause of the exceedance, the contractor(s) will ensure that the mitigation measures listed above are improved upon. Should exceedances of the guideline limit value continue to occur following these improvements, the contractor will provide alternative mitigation measures and/or will modify the decommissioning works taking place.

Appendix B

Draft Monitoring Programme

B1 Draft Monitoring Programme

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
1	Daily/Weekly Environmental Site Inspection	Routine inspections of decommissioning activities will be carried out by the Environmental Manager on a daily basis to ensure all necessary environmental measures relevant to the decommissioning activities are being effectively implemented by staff, ensuring legal and contractual conformity. More detailed inspections would be undertaken by the Environmental Manager on a weekly basis. The weekly inspections would be appropriately documented by the Environmental Manager and copies of these records and any action required to be undertaken should be made available to the Employers Representative.	Best practice	Yes	N/A	Responsibility: Environmental Manager. No additional resources required
2	Monthly Environmental Site Inspection	Detailed inspections would be undertaken by the Environmental Manager on a weekly basis to ensure all necessary environmental measures relevant to the decommissioning activities are being effectively implemented by staff, ensuring legal and contractual conformity. Each month one of the weekly inspections will include a review of environmental documentation and records. The monthly inspection will be recorded on a standard form and reported to the Employers Representative within five days of the inspection taking place.	Best practice	Yes	N/A	Responsibility: Environmental Manager. No additional resources required

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
3	Environmental Performance Audits of the Contractor	For the duration of the contract(s), the environmental performance of the contractor will be monitored through site inspections and audits. The programme for monitoring, inspections and audits shall be specified in the contract and it is likely to be a combination of internal inspections and independent external audits that may be either random or routine. Records of all inspections carried out should be recorded on standard forms and all actions should be closed out in a reasonable time. The detailed EMP would include further details of inspection procedures.	Best practice	Yes	N/A	Responsibility: Kinsale Energy/ External Auditor. No additional resources required

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
4	EMS Conformance Audits	Planned and documented audits aimed at evaluating the conformance of the EMS would also be carried out by the Environmental Manager. As part of the detailed EMP, the Environmental Manager will establish a schedule for internal audits and this inspection calendar will be made available to the Employer's Representative. An environmental system audit will be scheduled at least once for each major contract. The contractor will be required to prepare standard forms for reporting and audit items shall include but not be limited to the following activities: • Review of environmental documentation to establish if relevant requirements are being achieved and if continual improvement is occurring; • Site inspection and interviews with onsite personnel; and • Reporting with recommendations. For any environmental nonconformities found, the auditor will prepare a Corrective Actions Report to describe and record the findings of the non-conformance. The verification of previous Corrective Actions Reports should be also recorded. Upon completion of an audit, the auditor will review all Corrective Actions Reports and prepares an Audit Report to summarise: • Corrective action requests raised; • Previous corrective action requests closed; and	Best practice	Yes	N/A	Responsibility: Contractor, Environmental Manager and Employers Representative. No additional resources required

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
		• Observations made during the audit. The Environmental Manager will be entitled to participate in all audits. Notwithstanding this, the Employers Representative shall produce and provide the contractor with a copy of each audit report within five working days of the audit. Each audit report will detail the findings from the auditor, specify non-conformances identified and outline the proposed corrective action.				

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
5	Corrective Action Investigations	Corrective actions are measures to be implemented to rectify any non-conformances (i.e. exceedance of criteria or targets) identified during monitoring, inspections and/or audits. Where a corrective action is required, in the first instance, an investigation should be undertaken by the Environmental Manager to identify the cause of any non-conformances. Appropriate remedial measures shall be identified and implemented as soon as practicable to prevent further exceedances. If necessary, the appropriate statutory authority and stakeholders will be notified. Where new or amended measures are proposed, the EMP will be updated accordingly by the Environmental Manager and the Employer's Representative should be informed at the earliest opportunity.	Best practice	Yes	N/A	Responsibility: Environmental Manager. No additional resources required

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
6	Oil/Fuel Spills Response	The following steps provide the procedure to be followed by the contractor in the event of an oil/fuel spill occurring on site: • Identify and stop the source of the spill and alert people working in the vicinity; • Notify the Environmental Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action; • If applicable, eliminate any sources of ignition in the immediate vicinity of the incident; • Contain the spill using the spill control materials or other material as required. Do not spread or flush away the spill; • If possible, cover or bund off any vulnerable areas where appropriate; • If possible, clean up as much as possible using the spill control materials; • Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited; • The Environmental Manager shall inspect the site as soon as practicable and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring; and • The Environmental Manager will notify the appropriate stakeholders such as Cork County Council, Department of Communications, Climate Action and Environment, IRCG, CRU, Department of Housing, Planning and Local Government and/or the EPA as appropriate.	Best practice	Yes	N/A	Responsibility: Contractor and Environmental Manager. A response may also be required by stakeholders such as IRCG, CRU, DCCAE, Cork County Council and the Environmental Protection Agency as appropriate. This list is not exhaustive and depends on the nature of the spill.

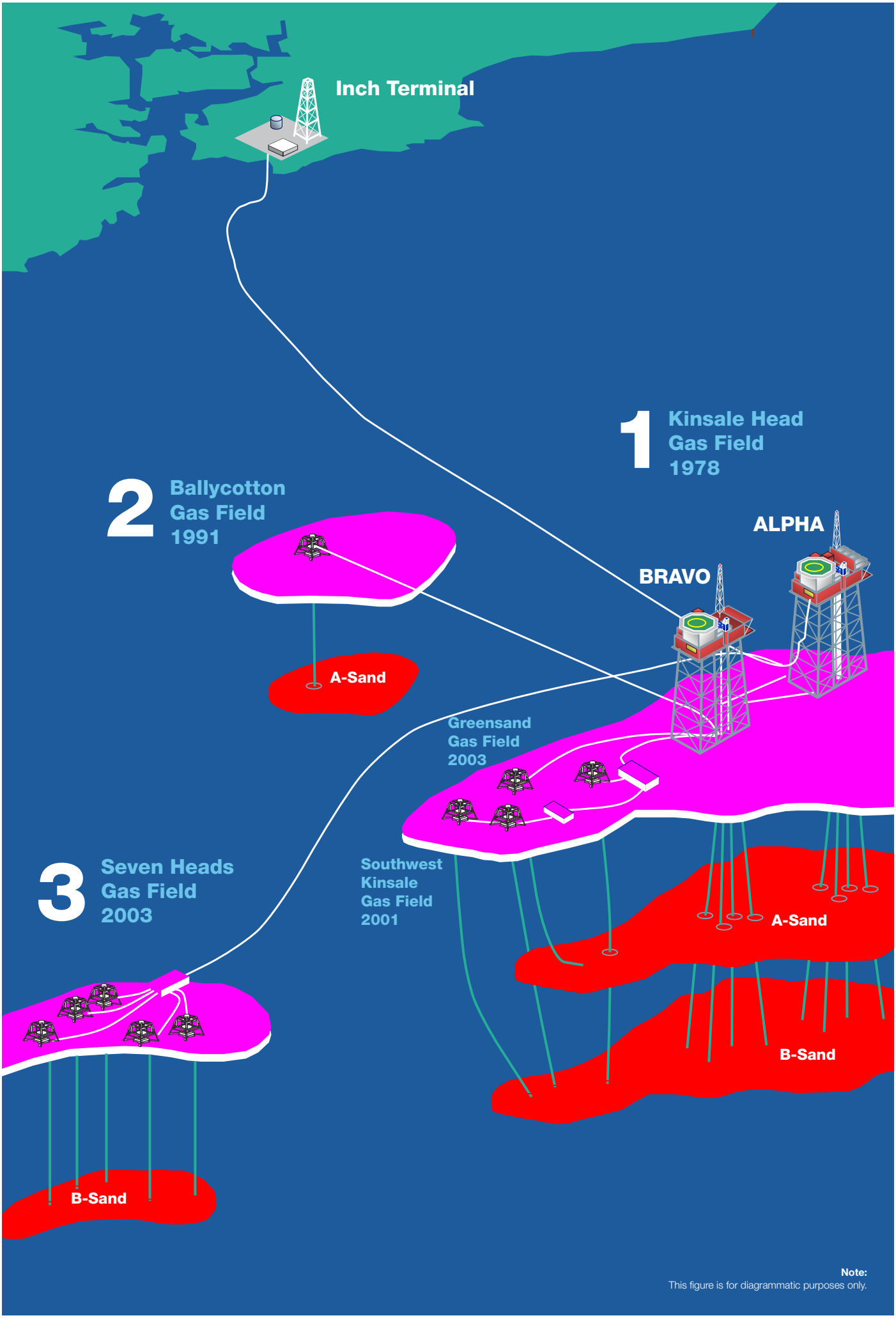
Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
7	Emergency Incident Response	In the event of an emergency incident occurring, the contractor will be required to investigate and provide a report including the following, as a minimum: • A description of the incident, including location, the type and quantity of contaminant and the likely receptor(s); • Contributory causes; The contractor will consult with the relevant statutory authorities, stakeholders and relevant parties such as the Health and Safety Authority, the Fire Authority, the Ambulance Service, the EPA and Cork County Council when preparing and developing response measures. Further, if any sensitive receptor is impacted, the appropriate environmental specialists will be informed and consulted with accordingly. Any response measures will be incorporated into an updated Emergency Incident Response Plan that should be disseminated accordingly to staff, Kinsale Energy and the Employer's Representative.	Best practice	Yes	N/A	Responsibility: Contractor. A response may also be required by l. This list is not exhaustive and depends on the nature of the emergency incident.
8	Weather Forecast Monitoring- Extreme Weather Events	The contractor will consider the impacts of extreme weather events and related conditions during the decommissioning works. The contractor will use a short to medium range weather forecasting service from Met Eireann or other approved meteorological data and weather forecast provider to inform short to medium term programme management, environmental control and mitigation measures. The detailed EMP should consider all measures deemed necessary and appropriate to manage extreme weather events and should	Best practice	Yes	N/A	Responsibility: Contractor. Resources Required: Short to medium range weather forecasting service from Met Eireann

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
		specifically cover training of personnel and prevention and monitoring arrangements for staff. As appropriate, method statements should also consider extreme weather events where risks have been identified.				
9	Unexpected Discoveries	The contractor is obliged to put in place appropriate procedures to be employed in the event of encountering unexpected contamination during the decommissioning works. The contractor will be required to develop appropriate procedures as part of their detailed EMP and the Environmental Manager will ensure that specialists are facilitated to ensure management in accordance with industry best practice and effective compliance with the relevant legislation. All unexpected discoveries will be reported to the appropriate authorities and documented in an appropriate manner.	Best practice	Yes	N/A	Responsibility: Contractor and Environmental Manager. Appropriate authorities to be consulted as appropriate depending on the nature of the unexpected discovery.
10	Underground Service Surveys	The contractor will be responsible for undertaking their own surveys to establish full extent of underground services at the onshore Inch Terminal site prior to the commencement of the decommissioning works to support any surveys already undertaken as part of early design work and statutory consent applications.	Best practice	Yes	N/A	Responsibility: Contractor. Resources Required: Third party specialist survey companies may be required to be appointed by the contractor.
11	Guard vessel monitoring of 500m zones	Guard vessels or standby vessels will be used during well abandonment to monitor statutory 500m zones and minimise the	Necessary under legislation	Yes	N/A	Responsibility: Contractor. No

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
		potential for interaction between decommissioning vessels and other users.				additional resources required
12	ROV-guided fall pipe system on the rock-placement vessel.	Accurate rock-placement will be assured by the use of an ROV-guided fall pipe system on the rock-placement vessel.	Best practice	Yes	N/A	Responsibility: Contractor. No additional resources required
13	Consultation with fisheries representatives and maritime authorities.	On-going consultation with fisheries representatives and maritime authorities will be undertaken throughout the decomissioning works. A consultation strategy will be included in the detailed EAR by the contractor and agreed with Kinsale Energy.	Best practice	Yes	N/A	Responsibility: Contractor. No additional resources required
14	Post decomissioning infrastructure surveys	All infrastructure decommissioned in situ will be surveyed post-decommissioning to accurately record their location and status. This information will be included on navigational charts and also passed to representatives of the fishing community.	Best practice	Yes	Yes	Responsibility: Contractor. Resources required: Third party specialist survey companies may be required to be appointed by the contractor. Maritime authorities and representatives of the fishing communities.
15	Overtrawling Surveys	Standard overtrawling surveys will also be undertaken where wellheads, spoolpieces etc. are removed to confirm the area is clear of debris and snagging hazards.	Best practice	Yes	Yes	Responsibility: Contractor. Resources Required: Third party specialist survey companies

Item	Title	Monitoring objectives, measures and programme proposed	Is the monitoring measure necessary under legislation or being carried out as best practice?	Is the monitoring proposed sufficient to identify important unforeseen environmental effects? (Yes/No)	State whether monitoring is required to manage residual impacts	Outline the responsibilities for the implementation of monitoring, including roles, responsibilities and resources required
						may be required to be appointed by the contractor.
16	Tracking of materials and wastes	The contractor will maintain a detailed tracking and quantitative accounting system for the handling of all materials and wastes (ferrous, non-ferrous and non-metallic items) being exported from and imported to the site.	Best practice	No	Yes	Responsibility: Contractor. No additional resources required
17	HES Audits	All vessels and the rig to be used during decommissioning will be subject to audit and expected to adhere to Kinsale Energy HES policy. They will have in place the relevant, current Shipboard Oil Pollution Emergency Plan (SOPEP) in accordance with MARPOL and/or an oil spill contingency plan, which would be implemented in the event of an accidental event.	Best practice	No	Yes	Responsibility: Contractor in consultation with Kinsale Energy


Inch Terminal
1
Kinsale Head
Gas Field
1978
2
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
3
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

KINSALE ENERGY

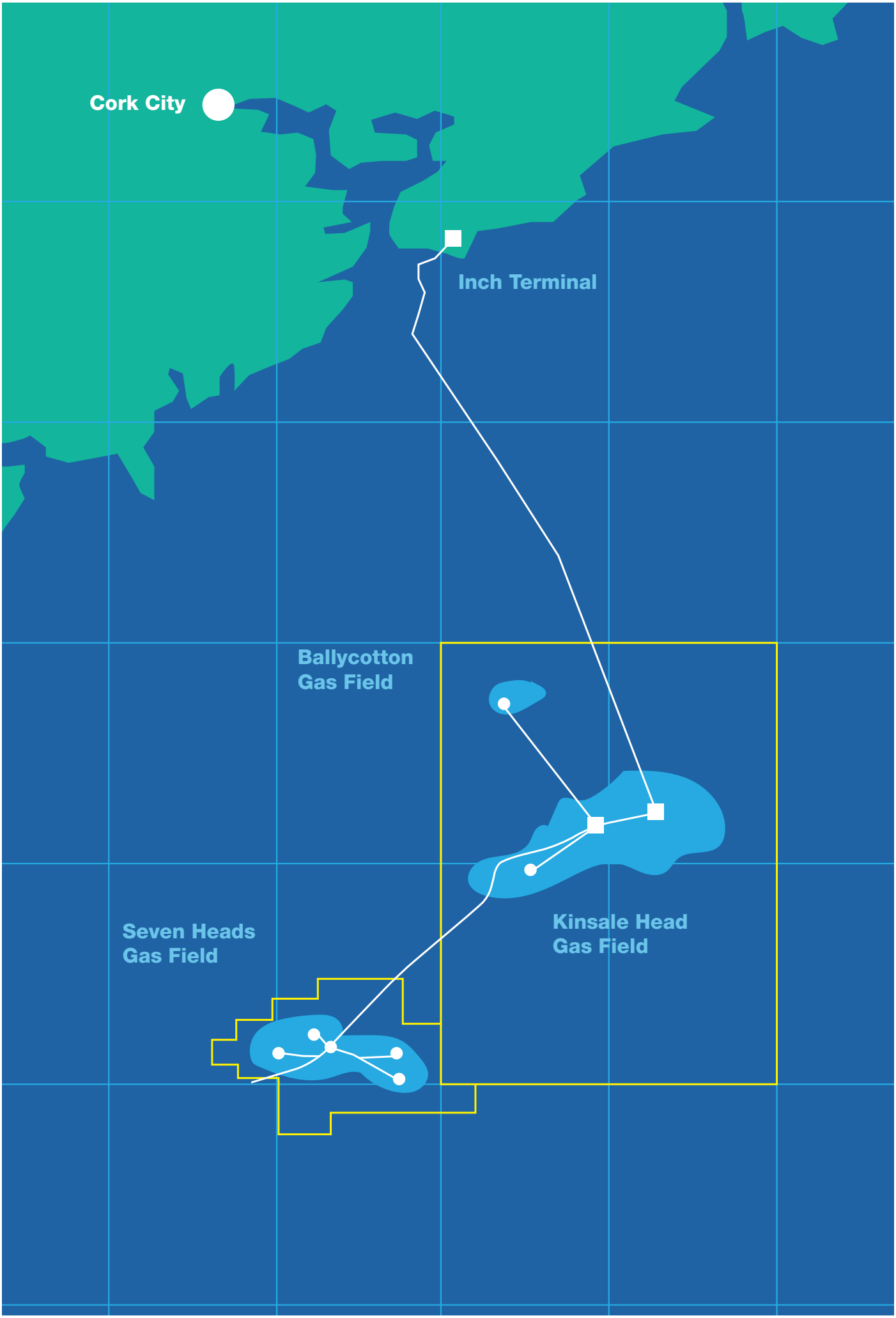
Kinsale Area Decommissioning Project

Appendix E

Waste Management Plan

Hartley Anderson

ARUP


Cork City
Inch Terminal
Ballycotton
Gas Field
Seven Heads
Gas Field
Kinsale Head
Gas Field

PSE Kinsale Energy Ltd

Kinsale Area Decommissioning Project

Draft Resource and Waste Management Plan

253993-00-REP-17

Issue 1 | 12 November 2018

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 253993

Ove Arup & Partners Ireland Ltd

Arup
50 Ringsend Road
Dublin 4
D04 T6X0
Ireland
www.arup.com

ARUP

Document Verification

ARUP

Job title		Kinsale Area Decommissioning Project			**Job number** 253993
Document title		Draft Resource and Waste Management Plan			**File reference**
Document ref		253993-00-REP-17			
Revision	**Date**	**Filename**	Resource&WasteStrategy_WorkingDraft1.docx		
Working Draft 1	28 Sep 2017	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Aoibhin Flanagan, Janet Lynch	Olivia Holmes, Sheila O'Sullivan, Ria Lyden	Paul Brady
		Signature			
Working Draft 2	19 Oct 2018	**Filename**	253993-00-REP-17-Resource&WasteStrategy_WorkingDraft1JL.docx		
		Description	Draft for response to Further Information Request for client review		
			Prepared by	Checked by	Approved by
		Name	Janet Lynch	Paul Brady, Clodagh O'Donovan	Paul Brady
		Signature			
Working Draft 3	9 Nov 2018	**Filename**	RFI - 253993-00-REP-17-ResourceWastePlan Draft 3_SG edits.docx		
		Description	Third draft		
			Prepared by	Checked by	Approved by
		Name	Janet Lynch	Paul Brady, Clodagh O'Donovan	Paul Brady
		Signature			
Issue 1	12 Nov 2018	**Filename**	RFI - 253993-00-REP-17-Draft ResourceWastePlan 2018_11_12_Final.docx		
		Description	Issue 1		
			Prepared by	Checked by	Approved by
		Name	Janet Lynch	Paul Brady, Clodagh O'Donovan	Paul Brady
		Signature			

Issue Document Verification with Document ✓

Contents

			Page
1	**Introduction**		**1**
	1.1	Overview	1
	1.2	Background to the Kinsale Area Facilities	2
	1.3	Methodology	5
	1.4	Assignment of Responsibilities	6
2	**Policy and Legislation**		**6**
3	**Resource and Waste Management Objectives**		**8**
4	**Waste Generation**		**9**
	4.1	Introduction	9
	4.2	Wells	13
	4.3	Platforms	13
	4.4	Subsea Structures	15
	4.5	Pipelines and Umbilicals	15
	4.6	Inch Terminal	16
	4.7	Waste Arising from Ships involved in Decommissioning	17
	4.8	Summary of Waste Generation	18
5	**Waste Transportation**		**20**
	5.1	Overview	20
	5.2	Transportation to other countries within the EU	20
	5.3	Transportation to countries not within the EU	20
6	**Review of Recovery and Disposal Options**		**21**
7	**References**		**22**

Appendices

Appendix A

Example Waste Facilities

Appendix B

Policy and Legislation

Appendix C

List of Potential Wastes and Hazardous Materials

Appendix D

TFS Procedures

1 Introduction

1.1 Overview

PSE Kinsale Energy Limited (Kinsale Energy) is preparing for the decommissioning of the Kinsale Area gas fields and facilities, which are coming to the end of their productive life, having been in production since 1978. The Kinsale Area gas fields and facilities are located in the Celtic Sea, between approximately 40 and 70km off the County Cork coast and onshore at Inch, Co. Cork (as illustrated in Figure 1).

Arup has been appointed by Kinsale Energy to prepare this draft Resource and Waste Management Plan (RWMP) for the Kinsale Area Decomissioning Project (KADP), to support the statutory consent process for the proposed decommissioning works under Sections 13 and 13A of the Petroleum and Other Minerals Development Act 1960 as amended. This report describes the proposed plan for managing wastes arising from decommissioning the KADP facilities.

This draft RWMP will be expanded and updated by the contractor(s) prior to the commencement of any activities on site.

This draft RWMP includes the following:

- Background to the Kinsale Area fields and the KADP (Section 1);
- Review of key policy and legislation which applies to the KADP (Section 2);
- Setting objectives for waste reuse and recovery from the KADP (Section 3);
- Description of estimated solid waste generation from the KADP (Section 4);
- Review of transportation management for waste generated from the KADP (Section 5); and
- Review of recovery and disposal options for wastes arising from the KADP (Section 6).

Following appointment, the contractor(s) will be required to develop and submit a more detailed (bespoke, contract-specific) RWMP that details, in addition to the items above, responsibilities in relation to the plan, detailed lists of wastes which will be generated, methods of waste transportation which will be used, destination recovery and disposal facilities which will be used and record keeping.

The scope of the draft RWMP includes the wells, two offshore platforms (Kinsale Alpha (KA) and Kinsale Bravo (KB)), associated subsea infrastructure (including well head protection structures, manifolds, valve skids, tee structures, and pipelines, umbilicals and their protection materials being removed from the seabed). The decommissioning of the onshore terminal at Inch is also considered. Waste generated from ships and staff involved in decommissioning activities will be considered at a strategic level.

For the purpose of this draft RWMP, all materials generated from the decommissioning works have been considered as wastes for recovery, recycling or disposal. However, where feasible, materials will be reused.

Offshore pipelines and umbilicals are proposed to be left in-situ with removal of ends at tie-in to facilities only and removal of protection materials only where necessary. The onshore pipeline will be left in-situ and filled with either grout or inhibited water. The infrastructure remaining in-situ has therefore not been included within the scope of this draft RWMP.

Additionally, the draft RWMP does not include the Gas Networks Ireland Above Ground Installation adjacent to the Inch terminal nor the Gas Networks Ireland pipeline from Inch to the national gas grid near Ballinacurra.

1.2 Background to the Kinsale Area Facilities

The Kinsale Area fields and production facilities are located in the North Celtic Sea Basin approximately 40 and 70km off the County Cork coast and onshore at Inch, Co. Cork (see Figure 1). The proposed decommissioning works described herein covers the entirely of the Kinsale Area facilities, including both the onshore and offshore facilities.

The Kinsale Head gas field was discovered in 1971 and brought on-stream in 1978 under a plan of development approved by the then Department of Industry and Commerce. The Kinsale Head field was developed through two fixed steel platforms, Kinsale Alpha (KA) and Kinsale Bravo (KB), with gas exported by pipeline from KA to the onshore Inch Terminal. Following the Kinsale Head discovery, there was extensive exploration of the Celtic Sea with approximately 90 wells drilled; the last was the Midleton well in Block 49/11 drilled by Kinsale Energy in 2015. However, despite the intensive exploration effort, no other large fields have been discovered, although a number of smaller gas fields have been commercially exploited as subsea tie-backs to Kinsale Head, including the Seven Heads field.

The Kinsale Area fields and production facilities were installed between 1977 and 2003 with gas production commencing in 1978 and seasonal gas storage operations taking place between 2001 and 2017.

There is a range of subsea infrastructure associated with the wider Kinsale Area fields (i.e. Kinsale Head, South West Kinsale, Greensand, Ballycotton and Seven Heads) including manifolds, pipelines, umbilicals and protection materials.

Peak production levels were achieved in the mid-1990s and since then gas production levels have decreased significantly – current (2017) daily average rates are less than 5% of peak rates. Field and facility performance has been carefully and proactively managed to maximise and extend economic production. However, given the continuing declines in gas rates, no economically sustainable investment program or technical improvements can be implemented to extend economic production.

The fields are coming to the end of their productive life and are expected to become uneconomic around 2020 - 2021. Cessation of Production (CoP) is the term used to mark the stage at which all production ceases and it will comprise the plugging and abandonment of wells and decommissioning of associated facilities as described in the following sections.

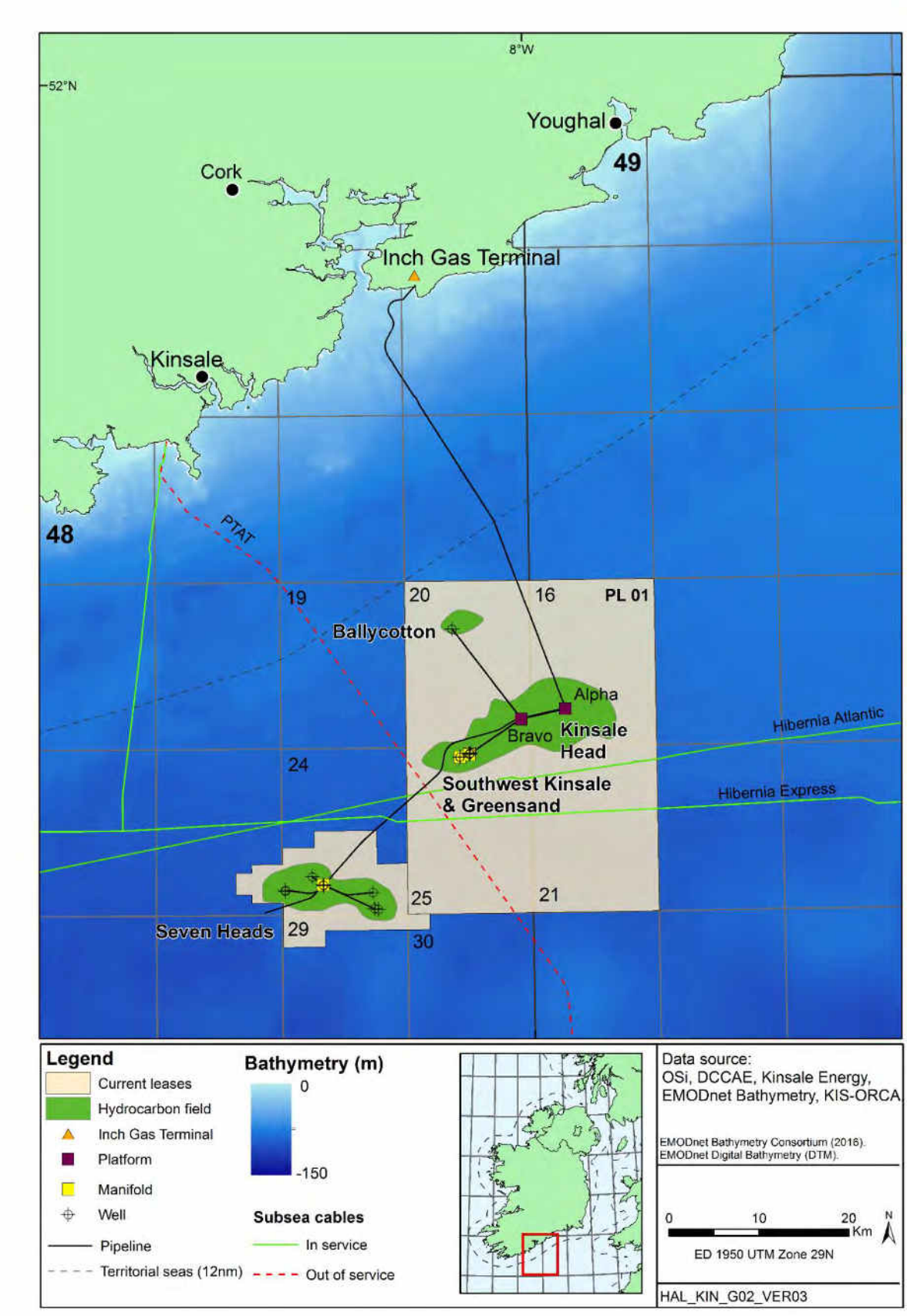


Figure 1: Location of the Kinsale Area fields

1.2.1 Development History

A brief summary of the development history for the various facilities is given in Table 1. The Kinsale Area fields were developed through the two fixed steel platforms, Kinsale Alpha (KA) and Kinsale Bravo (KB) and gas export by pipeline to the onshore Inch Terminal. Other fields are connected to the platforms by a series of pipelines, flowlines and umbilical cables.

Table 1: Summary of Development History for the Kinsale Area Fields

Lease	Field	No. of Wells	Facilities	Date/First Production	Status (2017)
PL-01	Kinsale Head	14	Kinsale Alpha (Manned Platform with production, drilling & accommodation) 7 x Platform Wells	1978	Producing
			Compression added	1992	
			Kinsale Bravo (Manned Platform with production, drilling & accommodation) 7 x Platform Wells	1979	Producing (1 Well Shut-In)
			Compression added	1993	
			Kinsale Bravo Converted to Normally Unmanned Installation	2001	
	Ballycotton	1	Ballycotton Subsea Well	1991	Shut-In
	Southwest Kinsale *	3	3 x Subsea Wells	1999 – 2001	Producing
	Greensand	1	1 x Subsea Well	2003	Producing
Seven Heads	Seven Heads	5	Subsea Manifold 5 x Subsea Wells	2003	Producing (1 Well Shut-In))

1.2.2 Project context

1.2.2.1 Project description

The broad scope of work involved in the KADP is summarised below:

- Facilities preparation: disconnect and degas process plant and pipelines (pipelines displaced with seawater, and inhibited seawater in the case of the 24” export pipeline and the 18” Seven Heads pipeline).
- Wells: plug and abandon all platform and subsea wells and removal of any surface component of these wells, including wellhead protection structures and platform conductors.
- Platform topsides: complete removal of topsides either by single lift using a conventional or specialist heavy-lift vessel (HLV), or multiple lifts using a smaller HLV after cutting the topsides into sections, in accordance with OSPAR Decision 98/3.

- Subsea structures: (e.g. manifolds, wellhead protection structures): full removal in accordance with OSPAR decision 98/3 including the removal of connecting spool pieces and umbilical jumpers, and associated protection measures, for recycling/disposal.
- Platform jackets: complete removal by single lift using a conventional or specialist HLV, flotation, or multiple lift by smaller HLV by cutting the jacket into sections in accordance with OSPAR Decision 98/3.
- Offshore pipelines, umbilicals and protection materials: leave in situ, rock cover of freespans only or all exposed sections, and rock cover remaining in situ protection materials.
- Export pipeline (offshore and onshore section): leave in situ, fill onshore section with grout (if a viable re-use option is not identified) and rock cover of freespans only or all exposed sections in offshore section.
- Inch Terminal: full removal of facilities and reinstatement of site to the original contours and agricultural use, as per the terms of the site planning permission (Cork County Council planning reference 2929/76).
- Post-decommissioning survey: A debris clearance and pipeline route survey will be undertaken to confirm the completion of the decommissioning operations.

1.2.2.2 Waste and Resource Management

The principal structures that will be removed from the fields as part of the KADP scope of works, generating wastes, include the following (further detail is provided in Table 2):

- Wells;
- Platform jackets for KA and KB (4,590 and 4,383 tonnes equivalent [te] respectively);
- Platform topsides from KA and KB (4,544 and 3,594 te respectively);
- Other subsea structures – well head protection structures, manifolds, valve skids and tee structures;
- Pipeline and umbilical ends and their associated protection materials; and
- Inch Terminal.

Additionally, waste generated from the ships and staff undertaking the decommissioning will also require management (e.g. treated domestic waste and surface drainage from decks).

The final disposal route and destination for items removed from the field, whether for recovery, recycling or disposal will be confirmed following appointment of the contractor(s). Suitable licensed waste facilities within Ireland and in the UK, Norway and the Netherlands (up to a distance of 700 nautical miles from the Kinsale Area) may be used for recycling or disposal of the various items removed from the field (some example facilities are described in **Appendix A**). The chosen waste facilities will be similar in nature to the facilities identified in **Appendix A** and must be appropriately licensed under the relevant international, EU and national waste legislation.

1.3 Methodology

Cognisance was given to all relevant guidance documents and the following sources of information were used in the preparation of the draft RWMP:

- KADP Environmental Impact Assessment Report (EIAR) prepared by Arup and Hartley Anderson on behalf of Kinsale Energy; and
- Various previous surveys, reports, risk assessments and drawings previously undertaken by Kinsale Energy for the Kinsale Area facilities.

Given the limited experience of decommissioning of oil and gas infrastructure in Ireland this report looks to international practice, in particular the UK, for resource and waste management guidance.

1.4 Assignment of Responsibilities

This draft RWMP for the KADP was prepared by Arup on behalf of Kinsale Energy. It is a high level document that will be implemented throughout the KADP and details the minimum requirements of the contractor(s) in relation to resource and waste management.

A detailed Resource and Waste Management Plan will be prepared by the contractor(s) undertaking the decommissioning works on appointment, with the draft RWMP forming the basis of this detailed plan and the associated method statements to be developed by the contractor(s). The detailed Resource and Waste Management Plans will set out the following:

- Detailed analysis of the waste arisings/material surpluses including programmes and method statements to support detailed surveys where required;
- How the project resource and waste management objectives in this plan will be achieved including proposed methods for reuse and recycling of wastes;
- The name, address and authorisation information of proposed recovery, recycling and disposal facilities which will be used for all wastes generated from the KADP;
- Proposals to educate the workforce and disseminate the Resource and Waste Management Plan to responsible staff member(s) for implementation; and
- Records that will be maintained relating to resource and waste management, including the identification of the records required to be kept, responsible staff member(s) for gathering and maintaining these records and the duration that these records will be maintained for.

The detailed Resource and Waste Management Plan (to be prepared by the contractor) will align with this draft RWMP.

The contractor(s) will be responsible for developing and implementing appropriate procedures, securing the relevant authorisations and agreements to ensure appropriate management and disposal of waste and resources throughout the KADP. The contractor(s) will also be required to employ staff with skills, qualifications and experience appropriate to the needs of the works to be carried out during the KADP.

The detailed plan by the contractor(s) will be submitted to Kinsale Energy for their approval prior to commencement of the KADP. Written approval from Kinsale Energy must be obtained prior to commencement of any decommissioning works. The contractor(s) will be responsible for managing environmental issues through appropriate risk management, mitigation, auditing, licensing and monitoring and will be required to ensure compliance with legislative and commercial standards.

2 Policy and Legislation

There is a hierarchical framework of policy and legislation in place to implement resource and waste management internationally, in the EU and Ireland. A review of relevant policy and legislation was undertaken to inform this draft RWMP. Key conventions, policy and legislation, which apply to the KADP are as follows:

International

- The Convention for the Protection of the Marine Environment of the North East Atlantic (the ‘OSPAR Convention’);
- The International Convention for the Prevention of Pollution from Ships (known as ‘MARPOL’);

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- OECD Decision C (2001)107/Final, as amended, on the Control of Transboundary Movements of Waste Destined for Recovery Operations;
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 ('London Convention') and 'London Protocol'; and
- Convention on International Trade in Endangered Species of Wild Flora and Fauna (known as 'CITES').

European Union

- Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on Shipments of Waste (as amended) (referred to as the 'TFS Regulations');
- Waste Framework Directive 2008/98/EC;
- Circular Economy Package; and
- Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on Port Reception Facilities for Ship-generated Waste and Cargo Residues.

Ireland

- Waste Management Act 1996 as amended, and associated Regulations;
- Waste Management (Shipments of Waste) Regulation, 2007;
- The Sea Pollution Acts 1991 to 2014 as amended; and
- European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003 (S.I. No. 117 of 2003).

A summary of the policy and legislation listed above and its applicability to the proposed development is presented in **Appendix B** to this report.

3 Resource and Waste Management Objectives

Taking into account key resource and waste management policy and legislation and the likely waste generation from the relevant decommissioning activities, the resource and waste management objectives for the KADP are as follows:

- 90% recycling rate by weight;
- Minimise disposal of waste to landfill; and
- Minimise environmental impacts of waste management.

The decommissioning works shall be undertaken in a manner which maximises the potential for reuse and recycling, including source segregating waste where appropriate. Details and method statements will be provided as part of the contractor's Resource and Waste Management Plan to minimise generation of waste at source and, where this is unavoidable, to reduce the quantity of waste sent to landfill by maximising re-use, recycling and recovery.

4 Waste Generation

4.1 Introduction

Waste generation from each of the key elements of the KADP considered in this report are summarised in the sections below under the following headings:

- Wells;
- Platforms – including jacket and topsides;
- Subsea Structures including spools, umbilical jumpers and protection materials; and
- Inch terminal.

Each section below includes a short text and tabular description of the infrastructure, facilities, associated materials and likely waste arisings. The material that is likely to be generated from the KADP and that will require management is identified in Table 2 and the following sections.

Table 2: Material generated from the KADP

Material Type	Wells	Platforms	Subsea Structures including spools, umbilical jumpers and protection materials	Inch Terminal
Steel	Total - 1,500Te for all wells, assuming recovery of casings to 3m below seabed and relevant sections of production tubing.	Alpha Total - 9134Te 4544Te - Topsides (695Te Piping, 179Te Deck Plate, 2457Te Equipment, 1396Te Structure less 183Te Asbestos containing materials) 4590Te Jacket Bravo Total - 7977Te 3594Te – Topsides (552Te Piping, 147Te Deck Plate, 1900 Equipment, 1128Te Structure less 133Te Asbestos containing materials) 4383Te Jacket	KH Total - 293Te (4x25 Te wellhead protection structures, 10.2 Te SWK Intermediate Tee, 12.3Te SWK Valve Skid, 11.1Te Greensand PLEM, 11.1Te WDC PLEM; 148Te spools) SH Total - 249Te (SH Manifold and spools)	Total - 110Te (Process Equipment)
Concrete	N/A	Alpha Total - 1567Te Grout (including grout in mudmats, grouted members & grout between pile and jacket legs) Bravo Total -1383Te Grout (including grout in mudmats, grouted members & grout between pile and jacket legs)	KH Total - 4452Te (4x134Te wellhead protection structures, 2x65Te and 2x45Te for SWK Valve Skid, Greensand PLEM and WDC PLEM; 3x43Te and 1x47Te for SWK Intermediate Tee 80Te Pipe spool Concrete Coating & 3000Te Concrete Mattresses) SH – 1452Te	Total - 5339Te (4980Te - approx. depth of 0.15m across full site [1.66ha] requires removal, consisting of concrete foundations, gravel, hardcore, helipad, internal access tracks etc.; 20Te – 2.9mx2.9mx3m Pumphouse [200mm solid block walls and 225mm precast slab roof]; 339Te – 11mx19.5mx3.5m Office Building [250mm cavity block walls and 225mm precast slab roof])

Material Type	Wells	Platforms	Subsea Structures including spools, umbilical jumpers and protection materials	Inch Terminal
			(42Te Pipe spool Concrete Coating and 1410Te Concrete Mattresses)	
Non-ferrous Metals	N/A	Alpha - 108Te Anodes Bravo - 108Te Anodes	SH 0.12Te Anode	N/A
Asbestos Containing materials	N/A	Alpha 183Te Bravo 133Te	N/A	N/A
Other Hazardous Waste	Small quantities of: • Excess cement ; minimised through effective planning to only make required quantity (likely discharged offshore) • Cement and steel millings (likely discharged offshore)	Small quantities of: • Fluorescent tubes (Mercury) • F&G Detectors (radioactive waste) • Fire Extinguishants • HFCs • TEG • Diesel • Heli-fuel • Lubricating Oils Hydraulic fluids • HW540 v2 • BOP fluid (Erifon HD856) (1% concentration). Other miscellaneous hazardous items such as: • Paint and Varnish • Batteries • Aerosols • Coolants	N/A	Small quantities of: • Fluorescent tubes (Mercury) • F&G Detectors (radioactive waste) • Fire Extinguishants • TEG • Diesel • Lubricating Oils • Hydraulic fluids Other miscellaneous hazardous items such as: • Paint and Varnish • Batteries • Aerosols • Coolants

Material Type	Wells	Platforms	Subsea Structures including spools, umbilical jumpers and protection materials	Inch Terminal
Other Non-hazardous Wastes	N/A	Alpha Cabling 222Te (copper and plastics) Bravo Cabling 176Te (copper and plastics) Alpha Marine Growth 1450Te Bravo Marine Growth 1450Te	Umbilical quantities negligible (copper and plastics)	N/A
Total	**1,500Te**	**23,493Te**	**6,445Te**	**5,449Te**

Source: Genesis (2011), Xodus (2016a), Xodus (2016c), OHSS (2012), OHSS (2016), Ramboll (2017a), Ramboll (2017b), John O'Donovan & Associates (1976), well steel calculated on the bases of AGR (2017a), and assuming 43kg/m tubing on each production well.

4.2 Wells

There are seven production wells on each platform all of which have a similar design, with a 20" conductor followed by 13⅜" and 9⅝" on 7" steel casings with wells reaching a total vertical depth (TVD) below seabed of ~3,000ft. All wells are completed with 7" production tubing and a Xmas Tree located on the platform cellar deck. In addition to the production wells, subsea wells and four abandoned exploration wells will be permanently decommissioned as part of the proposed development.

4.2.1 Materials

Approximately 1,500Te steel will be required to be removed as a result of well decommissioning. This assumes recovery of steel casings to 3m below seabed and relevant sections of production tubing.

4.2.2 Resource and Waste Management

Due to the high recyclability of steel, which is the dominant casing material, the wells will be recycled. The wells will be brought on shore and subsequently removed to an appropriately licensed dismantling yard. The dismantling yard, and recycling and waste facilities, which will be fully licensed for the relevant activities, will be selected by the removal contractor(s).

4.3 Platforms

The main structures of the fixed platforms in the Kinsale Gas Field, known as KA and KB, are constructed of steel and are relatively similar in size and arrangement.

The KA platform consists of an 8 leg steel structure that was installed in 1977 and piled into the chalk seabed to an approximate depth of 50m below the seabed. KA comprises an eight-leg piled steel jacket with a total weight of approximately 7,900 tonnes, standing in approximately 89.9m of water. It supports an integrated steel deck module support frame and topsides of some 4,200 tonnes, which were installed in seven sections. KA currently houses all central processing facilities as well as production and accommodation facilities. There is also a vent stack on the north-west and helideck to the south-east of the platform.

KB consists of an 'interfield' platform which is unmanned and has less equipment than the KA platform. KB stands in approximately 90.5m of water and has a similar eight-led piled steel jacket weighing approximately 7,500 tonnes, which supports a 3,800 tonne topsides structure.

4.3.1 Materials

As outlined in Table 2 approximately 9,134 te of steel will be required to be removed from KA and 7,977 te of steel will require removal from KB. It is noted that the following wastes are also present on the platforms:

- Concrete;
- Asbestos containing materials (ACM);
- Non-ferrous metals; and
- Other hazardous wastes.

Concrete

Concrete is present on the platforms in the form of grout in mudmats, grouted members and between pile and jacket legs. Approximately 1,567te of grout will be required to be removed from KA and 1,383te of grout will

be required to be removed from KB. As outlined above, the concrete and grout will be brought on shore for reuse, recovery and/or disposal during decommissioning.

Asbestos Containing Materials

It is noted that there are asbestos containing materials (ACM) present on the topsides of the KA and KB platforms. This is primarily present in accommodation modules. An estimated 183te of asbestos-containing materials are present on the KA platform and an estimated 133te are present on the KB platform. [1]

Non-ferrous metals

There are a number of anodes on KA and KB platforms containing non-ferrous metals. It is estimated that there is 108te of non-ferrous metals on each platform that will require removal.

Other Hazardous Wastes

Certain hazardous wastes will be generated during the proposed decommissioning project. Please refer to **Appendix C** in relation to an indicative list of hazardous wastes which may arise during decommissioning.

4.3.2 Resource and Waste Management

Cleaning and topsides preparation, following Cessation of Production (CoP), is the work required on all systems, plant and equipment to ensure that the platforms are free of hydrocarbon fuels, gases and removable hazardous materials. This ensures that during preparations and final removal of the topsides, no hazards from the production, operating or cleaning elements remain and that the topsides are handed over in a clearly defined and documented condition to facilitate topsides removal.

Initially, pipework and vessels on the topsides will be isolated from the wells, purged with nitrogen gas and vented to the atmosphere to ensure they are free of any residual natural gas. Volumes of waste (water and corrosion debris (iron)) from the topsides cleaning are expected to be small as the hydrocarbons produced are dry natural gas (e.g. no sludges or solid naturally occurring radioactive materials (NORM) material are present).

These wastes will be collected for onshore disposal under Kinsale Energy's existing waste management procedures along with any residual inventories of diesel, chemicals, condensate or aviation fuel.

In summary, the topsides of the platforms will be removed using a single lift approach or the piece-medium (reverse installation) removal of the platform modules with some piece-small removal of components. The jackets may be removed either in a single lift, or they may be cut into a number of sections in situ prior to lifting and transport for disposal on shore where practicable.

The majority of the topsides will be recycled and only a small proportion is unsuitable for recycling and will be sent to landfill. Asbestos containing materials identified on the platforms (mainly building cladding material) will remain on the topsides and be taken away during the topsides removal. Asbestos containing material and other hazardous waste will be handled and disposed of at appropriately licensed facilities in accordance with all relevant legislation. Contractors will be required to strictly adhere to all relevant legislation and guidelines in this regard.

Due to the high recyclability of steel, which is the dominant jacket material, the jackets will be recycled. The jackets will be brought on shore and subsequently removed to an appropriately licensed dismantling yard. The dismantling yard, and recycling and waste facilities, which will be fully licensed for the relevant activities, will be selected by the removal contractor(s).

Marine growth comprising of a variety of hard and soft-bodied organisms are present on the platform jackets, and it is proposed that the marine growth will be removed onshore following the removal and transport of the

[1] This estimate was prepared for the purpose of this report only and is a high level estimate for environmental assessment purposes. This estimate should not be relied on for any other purpose.

jackets to the recovery/disposal facility. A proportion of the marine growth will be removed offshore at cut locations, or will fall off in transit.

4.4 Subsea Structures

4.4.1 Structures

There are numerous subsea structures located at Kinsale Head (including well head protection structures, manifolds, valve skids and tee structures) at Ballycotton, South West Kinsale, Greensand and Seven Heads that require decommissioning.

4.4.2 Materials

Table 2 provides a summary of the likely materials arising from subsea structures.

4.4.3 Resource and Waste Management

The concrete mattress and grout bag materials will be removed where necessary to allow access to the tie-in facilities underneath.

The well protection structures will be removed for recovery and/or disposal on shore. The well head protection structures need to be removed to allow access to the subsea well Xmas trees and well heads, in order to allow these components to be decommissioned. The steel structures will need to be cut/disconnected from the concrete foundation blocks, which anchor them to the seabed, and then the structures can be lifted to a vessel for onshore recycling/disposal.

Initially all tie-ins associated with the valve skid, intermediary tee, pipeline end manifolds (PLEMs) and manifold (including pipe spools and umbilical jumpers) that are in the way of the lift will be disconnected and removed. The concrete protection blocks, surrounding each structure will be removed and recovered. The removal activities will be the same as those identified for the well protection structures. Once all disconnections are made, the structures will be recovered to a vessel for onshore recycling/disposal.

Due to the high recyclability of steel and concrete, which are the dominant subsea structure materials, they will be recycled with minimal disposal. The subsea structures and protection materials will be brought on shore and subsequently removed to an appropriately licensed dismantling yard. The removal contractor(s) will select the dismantling yard, and recycling and waste facilities, which will be fully licensed for the relevant activities.

4.5 Pipelines and Umbilicals

4.5.1 Structures and Materials

As described earlier, it is proposed to leave both the offshore and onshore pipelines and umbilicals associated with the KADP in situ, with the removal of associated protection materials i.e. concrete mattresses and grout bag materials and pipeline ends where necessary. Table 2 summarises the estimated materials generated from the decommissioning of the pipelines and umbilicals to be either recycled or disposed of.

4.5.2 Resource and Waste Management

Offshore pipelines and umbilicals are not covered by OSPAR and Decision 98/3.

The preferred option is to leave the pipelines and umbilicals in situ, to remediate freespans and cover the ends, to reduce future risks to third parties, using rock cover. The concrete mattress and grout bag materials will be removed for recycling or disposal only where necessary to allow access to the tie-in facilities underneath.

It is planned to remove gas from the pipelines shortly after CoP. Consequently, it is anticipated that the contents of the pipelines will be displaced with seawater into the wells. No discharge of residual hydrocarbons is expected, noting the nature of the produced gas. The work will be performed prior to completion of the subsea well abandonment.

Due to the high recyclability of steel, which is the dominant pipeline material, the pipeline spools that will be removed will be recycled. The pipelines will be brought on shore and subsequently removed to an appropriately licensed dismantling yard. The removal contractor(s) will select the dismantling yard, and recycling facilities, which will be fully licensed for the relevant activities.

Prior to decommissioning the umbilicals, all of the chemical lines within the umbilicals will have been displaced with seawater, eliminating discharges to sea from this source during or after decommissioning activities.

It is proposed that the waterbased hydraulic fluid used in the subsea hydraulic control system will remain in the umbilical lines, all or part of which may be lost during decommissioning and/or over time due to degradation of the umbilical, depending on the chosen options. The total volume of hydraulic fluid in all the Kinsale Area umbilicals is approximately 29.5m^3.

The onshore pipeline section will be filled with inhibited seawater pumped through the pipeline from Kinsale Alpha as part of the facilities preparatory works. In the event that no re-use option is identified, the onshore pipeline is to be filled with grout. A plug will be inserted in to the pipeline and run down the pipe internally to the required location.

4.6 Inch Terminal

4.6.1 Structures and Materials

The scope of work for the Inch Terminal decommissioning comprises the demolition and removal of all above ground facilities on site and reinstatement of the site to original ground condition (grassland), in accordance with the extant planning permission.

Materials likely to be generated include an estimated:

- 110 Te of steel process equipment;
- 5350 Te foundations across the site including concrete slab, helipad and internal access tracks constructed of gravel and hardcore;
- 340 Te of material from office building demolition; and
- 20 Te of material from pumphouse demolition consisting of solid block walls and concrete precast slab roof.

4.6.2 Resource and Waste Management

Prior to demolition and following Cessation of Production (CoP), Kinsale Energy will disconnect the terminal from the gas grid, purge the plant to render it hydrocarbon free, and all chemicals will be removed from site for recovery or disposal to authorised waste facilities. Similar to the offshore topsides, volumes of waste (water and corrosion debris (iron)) are expected to be small as the hydrocarbons produced are dry natural gas (e.g. no sludges or solid NORM material are present). These wastes, along with any residual inventories of

chemicals (TEG) will be collected for onshore disposal or recovery at authorised facilities under Kinsale Energy's existing waste management procedures.

The terminal facility will be disconnected from the power grid (three-phase ESB mains supply) and the telecommunications network (EIR telecommunications cable) prior to mobilisation of the demolition contractor(s).

Demolition works will be carried out by a suitably experienced contractor who will operate in accordance with a construction Health and Safety Plan, Demolition Resource Plan and a Waste Management Plan. The terminal demolition works will have a duration of approximately 16 weeks.

All buildings, above ground structures, roads and services (excluding the main access road which serves the adjacent Gas Networks Ireland above ground installation), vessels and above and below ground pipework (excluding the main export pipeline) will be fully demolished and the site reinstated to original ground condition (agricultural grassland).

No alternative re-use has been identified for this facility and the full demolition and removal of all facilities is assumed as part of this report. All wastes generated will be delivered from site to authorised recovery and disposal facilities.

On completion of the demolition works at the onshore Inch Terminal site, it is likely that subsoil and topsoil will need to be imported to the site (estimated at approximately 12,000 tonnes). All subsoil and topsoil required will be sourced locally where possible. Materials required from quarries will only be sourced from quarries which are listed on the register maintained by the local authority.

4.7 Waste Arising from Ships involved in Decommissioning

4.7.1 Overview

Waste will be generated by the vessels (including rigs, ships, barges tugs etc.) used as part of KADP when in transit and when operating within the Kinsale area fields. These vessels will be subject to the legislation outlined in Section 2 and all waste arising from contractors and decommissioning activities will be handled, treated and disposed of in accordance with relevant requirements and obligations (such as MARPOL – refer to Appendix B). The contractors will, where possible, minimise waste at source on ships.

The contractors undertaking the KADP will be required to prepare a detailed Environmental Management Plan (EMP) and detailed Resource and Waste Management Plan to describe appropriate method statements and procedures for minimising environmental impacts and managing waste arising from ships and staff. The draft EMP and draft RWMP prepared by Kinsale Energy set out the minimum requirements that the contractor(s) must adhere to, in this regard.

The following section provides a high level summary of likely waste generation and strategies to manage waste and resources. The quantity and nature of waste from vessels will vary from vessel to vessel and is expected to be generated in relatively small quantities. For this reason estimated quantities of this type of waste are not included in Table 2.

4.7.2 Discharges

Discharges resulting from operational vessels associated with the KADP will include treated domestic effluents (comprising grey water, sewage and food waste) and surface drainage from decks. These discharges are common for operational vessels and activities of this nature and quantities are expected to be relatively small.

4.7.3 Waste to Shore

Operational vessels and contractors associated with the KADP will generate a range of solid domestic and operational wastes, as are normally associated with shipping activities. These 'domestic wastes' will be returned for onshore disposal in accordance with legislation set out in Section 2.

The contractors will make provision for a waste storage area on the ships and include containers for the collection and segregation of waste to facilitate recycling and recovery. The domestic waste will be stored on the ships for the duration that they are offshore and be returned onshore for reuse, recovery and disposal as appropriate.

4.8 Summary of Waste Generation

The total estimated waste that will be generated from the KADP and require management is identified in Figure 2. The inventory includes an estimated:

- 19,265te of steel;
- 14,195te of concrete;
- 220te of non-ferrous metals;
- 3,295te of other non-hazardous materials;
- 320te of asbestos containing material; and
- 280te of other hazardous materials[2].

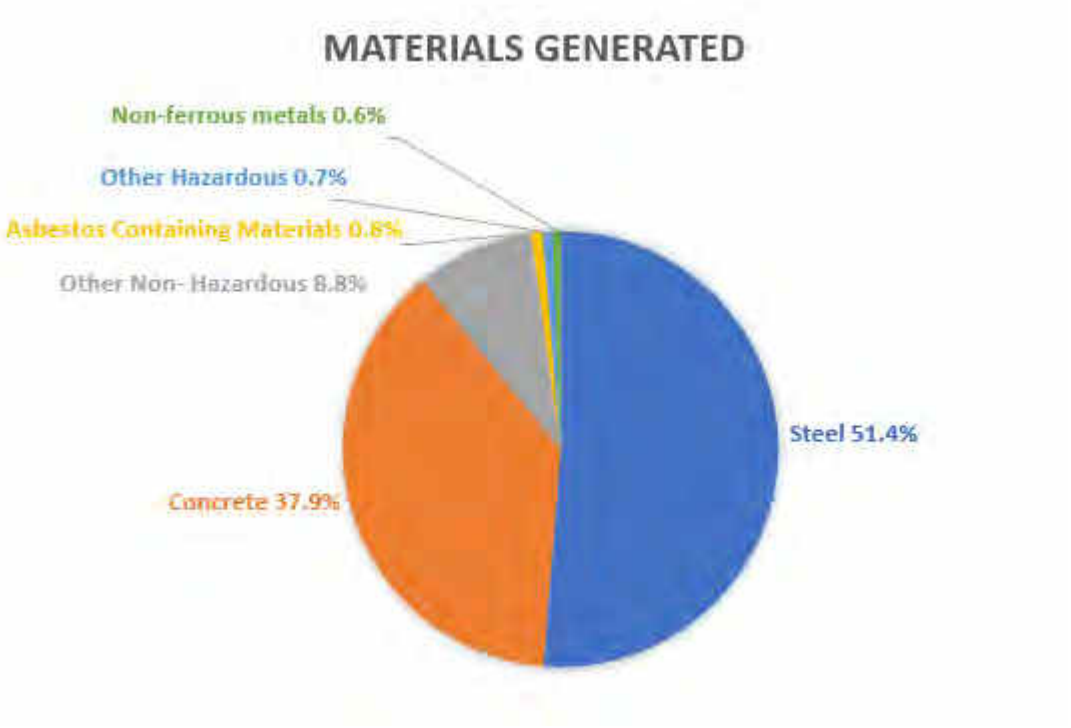


Figure 2: Estimated Waste Inventory of Likely Materials that will be generated from the KADP

[2] The quantities and List of Waste Codes for hazardous wastes must be determined by the contractor(s).

Table 3: Estimated Waste Generation – Wells and Platforms

Waste Type	List of Waste Code[3] (LOW Codes)	Estimated quantity
Steel	17 04 05 iron and steel	Wells: 1500te KA: 9134te KB: 7,977te
Concrete	17 01 01 concrete	KA: 1,567te KB: 1,383te
Non- Ferrous Metals	17 04 07 mixed metals	KA: 108te KB: 108te
Asbestos Containing Material	17 06 01 * insulation materials containing asbestos 17 06 05* construction materials containing asbestos	KA: 183te KB: 133te
Other Hazardous Wastes	A number of LOW codes apply here to be determined by the Contractor	Approximately 280te[4]

Table 4: Estimated Waste Generation – Subsea Structures including spools, umbilical jumpers and protection materials

Waste Type	LOW Codes [5]	Estimated quantity
Steel	17 04 05 iron and steel	Total: 542te
Concrete	17 01 01 concrete	Total: 5,904te

Table 5: Estimated total non-hazardous waste generated

	Total Inventory (te)	Planned to Shore (te)
Platforms and Wells	Wells: 1,500 KA: 12,664 KB: 11,227	25,391
Subsea Structures, Pipelines, Flowlines and Umbilicals	6,446	6,446
Total	31,837	31,837

[3] List of Waste Codes (EPA, 2015) are included here as a suggestion and for the purpose of this report only. It is the responsibility of the contractor(s) to classify and assign List of Waste Codes for all wastes arising from the proposed decommissioning.
[4] This figure is a high level estimate based on initial surveys. The quantities and List of Waste Codes for hazardous wastes must be determined by the contractor(s).
[5] List of Waste Codes (EPA, 2015) are included here as a suggestion and for the purpose of this report only. It is the responsibility of the contractor(s) to classify and assign List of Waste Codes for all wastes arising from the proposed decommissioning.

5 Waste Transportation

5.1 Overview

The contractor(s) will be required to comply with the relevant legislation governing storage, transfer, treatment and disposal of all wastes (as described in Section 2) and will need to develop method statements and procedures for transporting waste as part of their detailed Resource and Waste Management Plan. Further, the contractor(s) will be obliged to effectively manage waste streams throughout the decommissioning process and demonstrate their ability to deliver innovative recycling options in accordance with the principles of the waste hierarchy and circular economy. Where feasible, wastes will be managed in Ireland, however it may be necessary to transfer wastes both within and outside the EU for reuse, recovery and/or disposal (particularly for the platform topsides and jackets).

Waste generated from the decommissioning works will be removed from the KADP and transported by vessels for dismantling prior to onshore reuse, recovery and/or disposal. The dismantling yard for the offshore infrastructure is yet to be selected, however, it will be an established yard, licensed for the recovery and/or disposal of decommissioned offshore structures where the dismantling, transport and disposal of materials represent an increment to ongoing activities.

Prior to the removal of any wastes, the contractor(s) will put in place all relevant waste authorisations required and maintain a register of this information throughout the KADP. Authorisations may be required for the transfer of waste (waste carriers); any off-site waste management facilities (permitted or exempt sites) to which waste is taken to and any requirements for hazardous waste premises notification. All documentation will be retained and regularly updated (where required) by the contractor(s) throughout the KADP.

All waste transfers will be undertaken by designated waste collection permit holders. The onshore waste facilities chosen by the contractor(s) must demonstrate proven disposal track records and have appropriate licenses in places.

5.2 Transportation to other countries within the EU

Waste generated may require transfer within the EU for reuse, recovery and/or disposal. This waste will be removed from the Kinsale fields by vessels and transported either directly to the appropriate destination within the EU or to the licensed dismantling yard for onward transfer to appropriate waste facilities within the EU. The trans-frontier shipment of waste to other EU countries will be subject to the TFS Regulations and relevant approvals will be obtained in advance from the National TFS Office at Dublin City Council. Further details on the TFS requirements are provided in **Appendix D.**

Relevant permits will be obtained by the contractor(s) prior to the commencement of decommissioning works. All waste transfers will be undertaken by registered waste collectors.

5.3 Transportation to countries not within the EU

Waste generated may require transfer to countries outside of the EU for reuse, recovery and/or disposal. This waste will be removed from the Kinsale fields by vessels and transported either directly to the appropriate destination outside of the EU or via the licensed dismantling yard prior to onward transfer to appropriate waste facilities outside of the EU. The trans-frontier shipment of waste to countries outside of the EU would be subject to the Basel Convention and OECD Council Decision C(92)39/FINAL.

Relevant permits will be obtained by the contractor(s) prior to the commencement of decommissioning works. All waste transfers will be undertaken by registered waste collectors. The transfer to and management of waste in Ireland and other EU countries is preferable, and the disposal of waste to non-OECD countries will be avoided where practicable.

6 Review of Recovery and Disposal Options

Kinsale Energy is keen to implement circular economy and waste hierarchy principles where practicable for the KADP. All wastes being removed as part of the decommissioning works will be returned to shore for re-use or recycling or final disposal on land in accordance with relevant statutory requirements. The main waste streams generated from the decommissioning will be managed as set out in Table 6.

Table 6: Management methods for waste generated

Waste Stream	Removal method	Waste management method
Platforms	Platform jacket legs will be cut at the top of footings at the seabed before removal. Topsides will be disconnected from jacket and removed. Materials will be transferred from the site on vessels to authorised waste facilities.	Steel will be brought to a dismantling facility and recycled where appropriate at authorised waste facilities. Concrete will be brought onshore for reuse and recycling at authorised waste facilities.
Wellhead Protection Structures	Wellheads and Protection Structures will be dismantled and casings to 3m below the seabed will be removed.	Steel and concrete will be brought onshore for reuse and recycling at authorised waste facilities.
Subsea protection materials	Concrete mattresses and grout bag materials will be removed only when necessary to allow access to the tie-in facilities underneath.	Steel and concrete will be brought onshore for reuse and recycling at authorised waste facilities.
Non-ferrous metals	Removed from platforms as part of the dismantling and removal of the topsides and jackets	Non-ferrous metals will be brought onshore for reuse and recycling at authorised waste facilities.
Asbestos Containing Material	Protocols to be followed to remove asbestos and transfer into heavy gauge polythene bags for transfer. Asbestos will be brought onshore for disposal by authorised handlers	Asbestos and other hazardous materials will be handled by a licensed operator and disposed of at a licensed facility.
Routine wastes from the decommissioning vessels	Transferred onshore to port in line with European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003 (S.I. No. 117 of 2003) and MARPOL	Disposal will be undertaken in accordance with normal procedures. Waste will be recycled, reused and/or disposed of (depending on type) in appropriately licensed facilities.
Hazardous waste	Where practicable, hazardous waste will be removed from the platforms prior to dismantling and be transferred to appropriate waste facilities for treatment and disposal.	Chemicals, lubricants, hydrocarbon contaminated materials, diesel – disposed of to an appropriately licensed facility, if it cannot be reused or recycled.

Some example waste facilities of the type which may be considered suitable for the KADP are included in **Appendix A**. This list is not considered exhaustive and different waste facilities may be identified and used by the decommissioning contractor(s).

7 References

Department of Communications, Energy and Natural Resources (2010). Rules and Procedures Manual for Offshore Petroleum Production Operations Conducted under a Petroleum Lease or Other Authorisation

Department of Communications, Marine and Natural Resources (1992). Licensing Terms for Offshore Oil and Gas Exploration, Development & Production 1992

Environmental Protection Agency (EPA) (2015). Waste Classification List of Waste & Determining if Waste is Hazardous or Non- Hazardous Valid from 1st June 2015. EPA, Wexford, Ireland.

International Convention for the Prevention of Pollution from Ships (MARPOL) http://www.imo.org/en/about/conventions/listofconventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-(marpol).aspx [accessed 5th April 2017]

Kinsale Energy (2016). 2015 Ospar Report KH-18-TR-HES-00529.

Oil and Gas UK (2013). The Management of Marine Growth during Decommissioning.

OHSS Safety Consultants (2012). Asbestos Management Survey Report 8007 Bravo Platform.

OHSS Safety Consultants (2016). Asbestos Management Survey Report 7302 Alpha Platform (D03).

Tvedten, O.F. (2001) EIA of disposal of marine growth from Maureen at Aker Stord

UK Department of Energy and Climate Change. Version 6 (2011). Guidance Notes. Decommissioning of Offshore Oil and Gas Installations and Pipelines under the Petroleum Act 1998.

Appendix A

Example Waste Facilities

A1 Overview

This report provides an overview of example authorised waste facilities that may be of relevance for the Kinsale Area Decommissioning Project. There is a range of currently available Irish and international waste facilities identified that may treat and dispose of a range of waste streams that have been identified as part of the Resource and Waste Management Strategy for the project.

This report identifies these facilities and key characteristics, however it will be the responsibility of the contractor to select and agree the appropriate facilities that will be used for the recovery and disposal of waste arising from the project. Specific procedures, policies, guidelines, performance requirements and method statements will be developed as part of the contractor's detailed Resource and Waste Management Plan.

Draft

A2 International facilities

Harland & Wolff, Belfast – dismantling yard

Address	
Permit/License Number	**WML 07/30 LN/07/21/V2**
Permit/License granted by	Northern Ireland Environment Agency
Facility description	Has a waste management licence for dismantling of marine vessels and marine structures Storage of waste. Materials accepted are metals (ferrous and non-ferrous), NORM, concrete, WEEE and asbestos • 68,500m^2 drydock serviced by two 1600 tonne gantry cranes. • 432m, 170m & 150m quay with various • capabilities • 24/7 operation period • Asbestos handling license Past Major Projects: • Dry docking and upgrade work of Blackford Dolphin (MODU) (2013). • SeaRose FPSO dry docking for propulsion, turret and painting maintenance (2012).

John Lawrie Group, Aberdeen, UK – dismantling yard

Address	Greenbank Road, East Tullos, Aberdeen, AB12 3BQ, United Kingdom
Permit/License Number	SNO/038419
Permit/License granted by	Scottish Environment Protection Agency
Relevant wastes accepted	Metals (Ferrous and Non-Ferrous), NORM, Concrete, WEEE
Facility description	The John Lawrie Group UK Headquarters are located in Aberdeen at one of the key ports for North Sea decommissioning projects. Key features of the facility are: • Decommissioning-dedicated quayside area at Aberdeen Harbour • Licenced to receive and process 90,000 tonnes per annum of ferrous and non-ferrous scrap metals • SEPA licenced and regulated metal recycling facilities • Licenced to receive ELVs (end of life vehicles) and non-hazardous WEEE (Waste electrical and electronic equipment) • Large lay-down area for decommissioning work • Close to site of £350m Aberdeen Harbour expansion which will provide a facility for oil industry decommissioning work

ABLE UK, Seaton Port & Meadows, UK – dismantling yard

Address	ABLE Seaton Port, Tees Road, Hartlepool, TS25 2DB, UK and Seaton Meadows, Alab Environmental Services Ltd, Brenda Road, Hartlepool, Teesside, TS25 2BS, United Kingdom
Permit/License Number	EP3830LE
Permit/License granted by	Environment Agency (England)
Facility description	ABLE Seaton Port is capable of handling all types of offshore construction vessels, has significant crane capacity and quays, which have been constructed particularly to suit the requirements of the heavy fabrication industry. From there, relevant waste can be transferred to the nearby Seatown Meadows landfill. The facility is permitted to accept hazardous (asbestos and construction waste containing asbestos), non-Hazardous (including inert) and stable non-reactive hazardous waste. Since 16 July 2004, ALAB operates an IPPC permitted landfill site for non-hazardous wastes with cells for stable non-reactive hazardous wastes. This means that all non-hazardous industrial/commercial waste streams can be received into the Seaton Meadows landfill. Additionally, the following can be accepted into stable non-reactive hazardous waste cells: • Bonded asbestos • Fibrous asbestos • Contaminated land* Any other stable non-reactive waste (hazardous) * The facility can accept up to 150,000 tonnes/year of waste including the following: • 75,000t/yr non-hazardous waste (including inert waste) • 75,000t/yr asbestos waste and construction material containing asbestos • 75,000t/yr stable, non-reactive hazardous waste. Facility infrastructure is as follows: • Total Area : 126 acres & 25 acre Drydock • Total of 11 Quays • 9,000m^2 indoor fabrication, warehousing & storage space. • Mobile Accommodation Unit (MAU) • 3,000sq/m from North West Hutton • Europe's largest mobile crane (2014) Past Major Projects: • Shell awarded Able UK Brent Field Rig • Recycling Contact, 6 year contract (2014) • One of 12 that bidded for Costa Concordia scrapping (2014) • Ghost Fleet decommissioning (2003) • 'Le Clemenceau' aircraft carrier decommissioning (2009/2010)

Greenhead Base, Lerwick Port, Shetland Islands, UK – dismantling yard

Address	Greenhead, Lerwick,ZE1 0PY, UK
Permit/License Number	SNO/038355
Permit/License granted by	Scottish Environment Protection Agency
Facility description	Lerwick Harbour has a long-term contract underway at Greenhead Base which is operated by the Lerwick Port Authority. The Greenhead Base at Lerwick Harbour provides infrastructure and facilities for decommissioning operations. Veola Environmental Services hold the PPC permit for the facilities and are responsible all waste management and decommissioning operations within the facility. This includes decontamination, deconstruction, segregation, re-use, re-cycling and disposal of materials; project management, health, safety and environmental accounting. The facility is operated through a cooperative agreement with PetersonSBS and the harbour is operated by Lerwick Port Authority. Processing sites are located on the quayside of Lerwick Harbour in close proximity to an Energy from Waste plant on the Shetland Islands. The site consists of a main process building housing waste processing equipment, storage silos for drill cuttings, and 1700 m3 capacity of bunded fluid storage tanks. • Total Area : 20,000m^2 concrete pad & 3,800m^2 with future plans of 55,000m^2 reclamation • North quay = 220m @ 6m depth ACD • South quay = 390m long (240m @ 8m ACD and 150m @ 9m ACD) • Offshore waste handling permits Past Major Projects: • Joint work with Veolia to decommission approx. 11,500tonnes of subsea equipment from BP's • Schiehallion & Loyal Fields (2014) • Partners in the Frigg decommissioning taking on the TCP2-MSF Onshore Demolition (2009) • MCP-01 Logistics and support of Offshore piece demolition (2008)

A3 Irish facilities

Hammond Lane Metal Company Ltd Cork, Ringaskiddy, Co. Cork (Metals)

Address	The Hammond Lane Metal Company Ltd, Ringaskiddy, Co. Cork
Permit/License Number	P0997-01
Permit/License granted by	EPA
Facility description	Operating since 1991, the overall amount of waste accepted is up to 73,500 tonnes annually. The facility is licenced to accept ferrous metal and non- ferrous metal This includes both hazardous and non-hazardous generated by households, commercial and industrial operations and construction & demolition sites. General waste tonnages to be accepted are as follows: • End of Life Vehicles – 50,000 tonnes;

- Ferrous metals – 12,890 tonnes;
- Non-ferrous metals – 10,000 tonnes;
- Batteries – 100 tonnes; and
- WEEE – 510 tonnes.

Draft

Appendix B

Policy and Legislation

1.1 International Policy and Legislation

1.1.1 The Convention for the Protection of the Marine Environment of the North East Atlantic ('the OSPAR Convention')

1.1.1.1 Overview

OSPAR started in 1972 with the Oslo Convention against dumping and was broadened to cover land-based sources of marine pollution and the offshore industry as part of the Paris Convention of 1974. These two conventions were unified, updated and extended by the 1992 OSPAR Convention. The new annex on biodiversity and ecosystems was adopted in 1998 to cover non-polluting human activities that can adversely affect the sea.

The OSPAR Convention has been signed and ratified by 15 governments including Belgium, Denmark, the European Union, Finland, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden, the United Kingdom of Great Britain and Northern Ireland, Luxembourg and Switzerland.

Contained within the OSPAR Convention are a series of Annexes which deal with specific areas including *Annex III: Prevention and elimination of pollution from offshore sources*; which are relevant to this report.

Annex III Article 5 notes that:

"1. No disused offshore installation or disused offshore pipeline shall be dumped and no disused offshore installation shall be left wholly or partly in place in the maritime area without a permit issued by the competent authority of the relevant Contracting Party on a case-by-case basis. The Contracting Parties shall ensure that their authorities, when granting such permits, shall implement the relevant applicable decisions, recommendations and all other agreements adopted under the Convention.

2. No such permit shall be issued if the disused offshore installation or disused offshore pipeline contains substances which result or are likely to result in hazards to human health, harm to living resources and marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.

3. Any Contracting Party which intends to take the decision to issue a permit for the dumping of a disused offshore installation or a disused offshore pipeline placed in the maritime area after 1st January 1998 shall, through the medium of the Commission, inform the other Contracting Parties of its reasons for accepting such dumping, in order to make consultation possible.

4. Each Contracting Party shall keep, and report to the Commission, records of the disused offshore installations and disused offshore pipelines dumped and of the disused offshore installations left in place in accordance with the provisions of this Article, and of the dates, places and methods of dumping."

Since 25 March 1998 the dumping, and leaving wholly or partly in place, of disused offshore installations is prohibited within the OSPAR maritime area.

However, OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations ('Decision 98/3') recognises the difficulties in removing concrete structures and the footings of large steel platform jackets weighing over 10,000te and installed prior to 9 February 1999. Specifically, Sections 2 – 3 of Decision 98/3 outlines that:

"2. The dumping, and the leaving wholly or partly in place, of disused offshore installations within the maritime area is prohibited.

3. By way of derogation from paragraph 2, if the competent authority of the relevant Contracting Party is satisfied that an assessment in accordance with Annex 2 shows that there are significant reasons why an alternative disposal mentioned below is preferable to reuse or recycling or final disposal on land, it may issue a permit for:

a. all or part of the footings of a steel installation in a category listed in Annex 1, placed in the maritime area before 9 February 1999, to be left in place;

b. a concrete installation in a category listed in Annex 1 or constituting a concrete anchor base, to be dumped or left wholly or partly in place;

c. any other disused offshore installation to be dumped or left wholly or partly in place, when exceptional and unforeseen circumstances resulting from structural damage or deterioration, or from some other cause presenting equivalent difficulties, can be demonstrated."

Annex I of Decision 98/3 outlines the following in relation to those installations where derogations may be considered:

"The following categories of disused offshore installations, excluding their topsides, are identified for the purpose of paragraph 3:

a. steel installations weighing more than ten thousand tonnes in air;

b. gravity based concrete installations;

c. floating concrete installations;

d. any concrete anchor-base which results, or is likely to result, in interference with other legitimate uses of the sea."

1.1.1.2 Relevance

OSPAR and Decision 98/3 are of relevance to the KADP as they prohibit the dumping and leaving offshore installations wholly or partly in place, but it recognises the difficulties in removing older, larger platforms as outlined in Decision 98/3.

In accordance with the requirements of Decision 98/3, the Kinsale Area platforms (including topsides and jackets) and subsea manifolds and well head protection structures will be removed as part of the KADP.

Offshore pipelines are not covered by Decision 98/3 and there is no international guidelines on the decommissioning of unused pipelines. As described above, the pipelines and umbilicals will not be removed.

In order to comply with OSPAR and Decision 98/3, there is a general presumption in favour of the reuse, recycling or final disposal on land for materials arising from the KADP.

1.1.2 The International Convention for the Prevention of Pollution from Ships (known as 'MARPOL')

1.1.2.1 Overview

The International Convention for the Prevention of Pollution from Ships ('MARPOL') was developed by the International Maritime Organisation to minimise pollution of oceans and seas from ships. The

MARPOL convention regulates pollution (including waste) generated by ships from operational or accidental causes. MARPOL does not apply to waste generated from offshore platforms.

MARPOL is divided into six technical Annexes. Regulations for the Prevention of Pollution by Garbage from Ships are contained in Annex V of MARPOL. The most recent revisions to Annex V (which entered into force in 2013) generally prohibits the discharge of all waste into the sea, with exceptions defined in relation to food waste, cargo residues, cleaning agents and additives. Exceptions also exist with respect to ensuring the safety of a ship and those on board and as a result of accidental loss. Annex V also imposes a complete ban on the disposals of all forms of plastic into the sea.

The Marine Survey Office (in the Department of Transport, Tourism and Sport) implements MARPOL on behalf of the Irish Government.

1.1.2.2 Relevance

MARPOL is of relevance to the KADP as it regulates the discharge of waste from ships into the sea. The KADP will require the use of a range of ships to support decommissioning activities. As such, the discharge of garbage from those ships is generally prohibited whilst ships in excess of 100 gross tonnage and every ship that is certified to carry 15 or more persons and fixed or floating platforms shall be required to prepare and carry a garbage management plan, which the crew shall follow. Further every ship of 400 gross tonnage or more and every ship, which is certified to carry 15 or more persons engaged in voyages to ports or offshore terminals, will be obligated to carry and maintain a Garbage Record Book.

The provisions of Annex V which deals with different types of waste from ships and the manner by which disposal should be undertaken, will be applied to those ships operating as part of the KADP. A simplified overview of the discharge provisions is provided in Figure 1.

Figure 1 Simplified overview of the discharge provisions in Annex V of MARPOL

<table>
<tr><th>Type of garbage</th><th>Ships outside special areas</th><th>Ships within special areas</th><th>Offshore platforms and all ships within 500 m of such platforms</th></tr>
<tr><td>Food waste comminuted or ground</td><td>Discharge permitted ≥3 nm from the nearest land and en route</td><td>Discharge permitted ≥12 nm from the nearest land and en route</td><td>Discharge permitted ≥12 nm from the nearest land</td></tr>
<tr><td>Food waste not comminuted or ground</td><td>Discharge permitted ≥12 nm from the nearest land and en route</td><td>Discharge prohibited</td><td>Discharge prohibited</td></tr>
<tr><td>Cargo residues[1] not contained in wash water</td><td rowspan="2">Discharge permitted ≥12 nm from the nearest land and en route</td><td>Discharge prohibited</td><td>Discharge prohibited</td></tr>
<tr><td>Cargo residues[1] contained in wash water</td><td>Discharge only permitted in specific circumstances[2] and ≥12 nm from the nearest land and en route</td><td>Discharge prohibited</td></tr>
<tr><td>Cleaning agents and additives[1] contained in cargo hold wash water</td><td rowspan="2">Discharge permitted</td><td>Discharge only permitted in specific circumstances[2] and ≥12 nm from the nearest land and en route</td><td>Discharge prohibited</td></tr>
<tr><td>Cleaning agents and additives[1] contained in deck and external surfaces wash water</td><td>Discharge permitted</td><td>Discharge prohibited</td></tr>
<tr><td>Carcasses of animals carried on board as cargo and which died during the voyage</td><td>Discharge permitted as far from the nearest land as possible and en route</td><td>Discharge prohibited</td><td>Discharge prohibited</td></tr>
<tr><td>All other garbage including plastics, domestic wastes, cooking oil, incinerator ashes, operational wastes and fishing gear</td><td>Discharge prohibited</td><td>Discharge prohibited</td><td>Discharge prohibited</td></tr>
<tr><td>Mixed garbage</td><td colspan="3">When garbage is mixed with or contaminated by other substances prohibited from discharge or having different discharge requirements, the more stringent requirements shall apply</td></tr>
</table>

1.1.3 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

1.1.3.1 Overview

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted on 22 March 1989 and entered into force in 1992. To reduce the transfer of hazardous waste between nations and prevent the transfer of hazardous waste to developing and less developed countries Ireland, the UK and Norway (which are possible destinations for waste from the KADP) are among the signatories of the convention.

The overarching objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous waste. Parties to the Basel Convention must ensure that trans-boundary movements of hazardous waste are minimised and that any trans-boundary movement is conducted in a regulated manner that will protect human health and the environment.

Hazardous waste, for the purpose of the Basel Convention, include those that are listed in Annex I and exhibit the characteristics identified in Annex III as well as those wastes considered to be hazardous by domestic legislation. Disposal refers to any operation specified in Annex IV of the Convention.

Waste lists annexed to the Basel Convention are referenced in Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (as amended) and further detail is provided in Section 1.2.1.

1.1.3.2 Relevance

All hazardous waste generated as part of the KADP will be governed by the Basel Convention. The Resource and Waste Management Strategy has given cognisance to appropriate management, treatment and disposal of hazardous waste and will seek to minimise trans-boundary movement of any hazardous waste where practicable.

1.1.4 OECD Decision C (2001)107/Final, as amended, on the Control of Transboundary Movements of Waste Destined for Recovery Operations

1.1.4.1 Overview

Since March 1992, the trans-boundary movement of wastes destined for recovery operations between member countries of the Organisation for Economic Co-operation and Development (OECD) have been governed in accordance with an intra-OECD Control System. The Control System was established by Council Decision C (92)39/FINAL on the Control of Transfrontier Movements of Wastes Destined for Recovery Operations.

This Council Decision provides a framework for the OECD members to control trans-boundary movement of recoverable waste between OECD countries in an environmentally sound and economically efficient manner. Compared to the Basel Convention, it provides a simplified and more explicit means of controlling the trans-boundary movement of waste. It also facilitates trans-boundary movement of recoverable wastes between OECD member countries in the case where an OECD member country is not a Party to the Basel Convention.

The OECD Decision includes lists of wastes which have been harmonised to a large extent with the lists of wastes of the Basel Convention.

1.1.4.2 Relevance

The provisions of Council Decision C (92)39/FINAL on the Control of Transfrontier Movements of Wastes Destined for Recovery Operations will apply to hazardous waste generated as part of the KADP. Specifically, the movement of hazardous waste to any other OECD member would be undertaken in accordance with the relevant control procedures.

1.1.5 Convention on International Trade in Endangered Species of Wild Flora and Fauna (known as ‘CITES’)

1.1.5.1 Overview

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

CITES deals with the conservation of wild populations in their native habitats and establishes the need for a permit system for the trade of certain species. Specifically, CITES identifies threatened species and those species in which trade must be controlled, including alien species that are

potentially invasive in non-native habitats. As such, member parties are obliged to consider the problems of invasive species when developing national legislation and regulations that deal with trading live animals or plants.

1.1.5.2 Relevance

This Resource and Waste Management Strategy has been prepared with cognisance of CITES and potential invasive species that may be encountered as part of the KADP.

The KADP and associated waste and resource management activities will be undertaken with due consideration to ensure that effective regulation of species and conservation will be undertaken in accordance with CITES.

1.2 European Union Policy and Legislation

1.2.1 Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on Shipments of Waste (as amended) (referred to as the 'TFS Regulations')

1.2.1.1 Overview

Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (as amended) (referred to as 'the TFS Regulations') regulates the movement of wastes within and out of the EU and implements the Basel Convention.

On 28 July 2016, Regulation (EU) 2016/1245 set out a preliminary correlation between customs and waste codes to enforce the TFS Regulations and assist customs officers with the identification of potential waste streams.

Article 2 of the Regulation notes that the " *'area under the national jurisdiction of a country' means any land or marine area within which a state exercises administrative and regulatory responsibility in accordance with international law as regards the protection of human health or the environment".*

Article 30 of the regulation notes that *"Countries that are Parties to the Agreement on the European Economic Area may adopt the control procedures provided for shipments within the Community."*

Article 33 of the Regulation notes that:

"1. Member States shall establish an appropriate system for the supervision and control of shipments of waste exclusively within their jurisdiction. This system shall take account of the need for coherence with the Community system established by Titles II and VII."

Article 53 of the Regulation notes that:

"Member States shall designate the competent authority or authorities responsible for the implementation of this Regulation. Each Member State shall designate only one single competent authority of transit."

1.2.1.2 Relevance

The TFS Regulations covers almost all types of waste and enforces approval requirements for certain types of waste which may arise from the KADP.

The TFS Regulations prohibit the export of waste to non-EU countries for disposal and the export and import of hazardous waste for recovery to/from non-EU countries. Further, all parties are obligated to undertake the following:

- All parties involved must ensure that waste is managed in an environmentally sound manner, respecting EU and international rules, throughout the shipment process and when it is recovered or disposed of;
- Ensure effective waste management in an environmentally sound manner throughout the shipment process, the notification procedure requires the prior written consent of the competent authorities of the countries concerned by the shipment (country of dispatch, country of transit and country of destination) to be given within 30 days; and
- The notifier has a duty to take back waste shipments that are found to be illegal or cannot be provided as intended (including the recovery or disposal of waste).

The TFS regulations state that the member state has responsibility for the waters under its control. The Regulation was transposed into Irish law on 12 July 2007 through the Waste Management (Shipments of Waste) Regulation, 2007, with further detail provided in Section 1.3.

1.2.2 Directive 2008/98/EC on Waste ('Waste Framework Directive')

1.2.2.1 Overview

Definition of "Waste"

The definition of waste in the European Union is set out in Article 3 of the Waste Framework Directive[1] as *"any substance or object which the holder discards or intends or is required to discard".*

The Waste Framework Directive incorporates the concepts of "*by product*" (Article 5) and "*end-of-waste*" (Article 6). The directive sets out a legal framework for defining a substance or object as a by-product and provides a process by which certain specified wastes shall cease to be a waste.

Article 5(1) of the Waste Framework Directive sets out the following four conditions that a production residue must meet in order to be considered a by-product:

- Further use of the substance or object is certain;
- The substance or object can be used directly without any further processing other than normal industrial practice;
- The substance or object is produced as an integral part of a production process; and
- Further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health-protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

These tests are cumulative, meaning that all four conditions must be met.

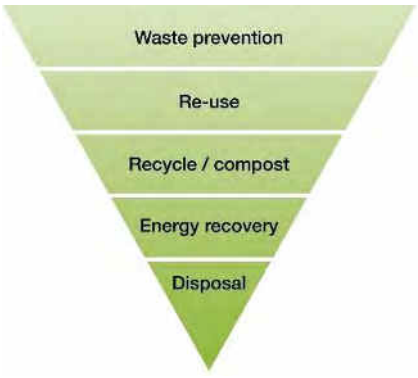
Waste Hierarchy

The waste hierarchy (See Figure 2) sets out the most desirable approaches to waste management in the European Union (through the EU Waste Framework Directive 2008/98/EC). It became obligatory in Ireland in 2011 through the European Communities (Waste Directive) Regulations 2011. The waste

[1] Directive 2008/98/EC on waste

hierarchy imposes a priority order, with waste prevention being the most preferable option and waste disposal the least desirable.

Figure 2 Waste Hierarchy



1.2.2.2 Relevance

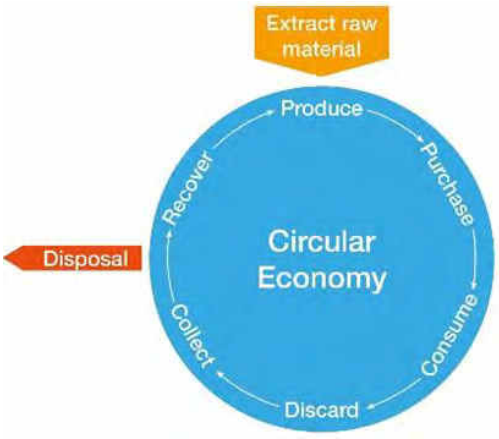
All waste generated as part of the KADP will be required to be managed in accordance with the Waste Framework Directive. Specifically, this Resource and Waste Management Strategy seeks to apply the principles of the waste hierarchy and where practicable identify waste likely to be generated as well as by products and materials which achieve 'end of waste' status that may be available for re-use or recycling.

1.2.3 European Commission Circular Economy Strategy (2015)

1.2.3.1 Overview

The principal objective of sustainable resource and waste management is to use material resources more efficiently, where the value of products, materials and resources are maintained in the economy for as long as possible and the generation of waste minimised. To achieve resource efficiency there is a need to move from a traditional linear economy to a circular economy (See Figure 3). The circular economy seeks to maintain the value of products, materials and resources in the economy for as long as possible, thereby minimising waste. The circular economy aims to reduce environmental externalities (such as pollutant emissions, water extraction and public health impacts) and seeks to build economic, natural and social capital to maximise their utility and value at all times.

Figure 3 Circular Economy



In December 2015, the European Commission adopted an ambitious Circular Economy Package, which includes revised legislative proposals on waste to stimulate Europe's transition towards a circular economy.

The Circular Economy Package consists of an EU Action Plan for the Circular Economy that establishes a programme of action, with measures covering the whole cycle: from production and consumption to waste management and the market for secondary raw materials. The annex to the action plan sets out the timeline when the actions will be completed.

The proposed actions will contribute to "closing the loop" of product lifecycles through greater recycling and re-use, and bring benefits for both the environment and the economy.

Key legislative measures adopted to date under the plan include:

- Directive (EU) 2018/851 amending Directive 2008/98/EC on waste;
- Directive (EU) 2018/850 amending Directive 1999/31/EC on the landfill of waste;
- Directive (EU) 2018/852 amending Directive 94/62/EC on packaging and packaging waste; and
- Directive (EU) 2018/849 amending Directives 2000/53/EC on end-of-life vehicles, 2006/66/EC on batteries and accumulators and waste batteries and accumulators, and 2012/19/EU on waste electrical and electronic equipment.

1.2.3.2 Relevance

The principles of the circular economy will be applied to the waste generated from the KADP where practicable. Specifically, this Resource and Waste Management Strategy will seek to enhance the uptake of secondary raw materials and improve resource efficiency.

1.2.4 Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on Port Reception Facilities for Ship-generated Waste and Cargo Residues

1.2.4.1 Overview

Directive 2000/59/EC, as amended, has the purpose of reducing discharges of ship-generated waste and cargo residues into the sea, especially illegal discharges, from ships using ports in the Community.

1.2.4.2 Relevance

All ships used during the KADP will be obligated to monitor, control and reduce their discharge of waste in accordance with this Directive. Further detail on implementation through Irish legislation is provided in Section 1.3.4.

1.3 Irish Policy and Legislation

1.3.1 Waste Management Act, 1996, as amended and Regulations

1.3.1.1 Overview

The Waste Management Act, 1996 was enacted in May, 1996 and sets out the responsibilities and functions of various persons in relation to waste in Ireland. This was amended by a number of subsequent acts including the Waste Management (Amendment) Act 2001 and the Protection of the Environment Act 2003. The Act:

- Prohibits any person from holding, transporting, recovering or disposing of waste in a manner which causes or is likely to cause environmental pollution;
- Requires any person who carries on activities of an agricultural, commercial or industrial nature to take all such reasonable steps as are necessary to prevent or minimise the production of waste; and
- Prohibits the transfer of waste to any person other than an authorised person (i.e. a holder of a waste collection permit or a local authority).

The Waste Management Act, 1996 as amended, does not apply to wastes dumped at sea or radioactive substances.

Waste Facility Authorisations

Waste disposal and recovery activities in Ireland are required to hold an authorisation in accordance with the Waste Management Act 1996, as amended. A four tier system of authorisation has been established for the regulation of waste activities at a facility. Waste disposal and recovery or recycling activities require one of the following authorisations:

- A Waste (IE or IPC) licence;
- A Waste Facility Permit; or
- A Waste Certificate of Registration.

A small number of low risk activities are deemed to be exempted in accordance with the Waste Management Act 1996, as amended and these do not require authorisation.

1.3.1.2 Relevance

This Resource and Waste Management Strategy has been developed with regard to the Waste Management Act, 1996, as amended to ensure compliance with national legislation. All reasonable steps will be taken to minimise waste and appropriate actions have been outlined to ensure that the transport, recovery, disposal and transfer of waste is undertaken in an appropriate manner.

1.3.2 Waste Management (Shipments of Waste) Regulation, 2007 (SI 419 of 2007)

1.3.2.1 Overview

The TFS Regulations were transposed into Irish law on 12 July 2007 through the Waste Management (Shipments of Waste) Regulation, 2007 (ST 419 of 2007).

The National TransFrontier Shipments Office, based at Dublin City Council, is the competent authority for all waste being exported from the State, under the EU and National TFS Regulations. It is the competent authority for any transfrontier shipments of waste into, out of, or transiting through the State.

All shipments of waste, for which notification is required, shall be subject to the requirement of a financial guarantee or equivalent insurance.

In Article 4 of the Waste Management (Shipments of Waste) Regulation, 2007 it is stated that:

"Designation of competent authority.

4. (1) Dublin City Council is designated as the competent authority under article 53 of the TFS Regulation, hereafter referred to as the competent authority.

It shall be the competent authority of dispatch in respect of the export of waste from the State, the competent authority of destination and the competent authority of transit in respect of the import of waste into, or passage of waste in transit, through the State. It may for the purposes of the enforcement of the TFS Regulation and these Regulations operate both within and outside its functional area.

(2) The competent authority may, for the purposes of paragraph 1, appoint authorised officers.

(3) Without prejudice to the powers conferred on the competent authority or its authorised officers by the TFS Regulation and these Regulations it is declared that the provisions of section 14 of the Act, subject to any modifications or adaptations as may be required, shall apply in relation to these Regulations."

Waste is categorized as hazardous and non-hazardous and classified in the List of Wastes published by the Environmental Protection Agency under hazardous and non-hazardous waste codes (LOW codes)[2].

For shipment purposes, Basel and OECD codes (see sections above) are used to identify the waste in Amber (hazardous) and Green (non-hazardous) lists annexed to Regulation 1013/2006 in Annexes III, IIIA, IIIB, IV, IVA, and V.

Amber List Wastes

Shipments of Amber listed waste destined for recovery, and all shipments of waste destined for disposal, are subject to prior notification and consent procedures in accordance with Articles 3 and 4 of Regulation 1013/2006. Proposed shipments of unlisted, contaminated, or co-mingled or mixed waste not classified under one single entry in the waste lists are subject to the procedure of prior written notification and consent.

Green List Wastes

---

[2] EPA (2015). Waste Classification List of Waste & Determining if Waste is Hazardous or Non-Hazardous Valid from 1st June 2015. Environmental Protection Agency, Wexford, Ireland.

The Green list applies to the export of non-hazardous waste for recovery classified under one single entry.

Shipments of Green listed waste for recovery are not subject to the notification and consent procedures but must be accompanied by an Annex VII document in accordance with Article 18 of EC Regulation 1013/2006. Regardless of whether or not wastes are included in the Green list, they may not be shipped as Green wastes if they are contaminated by other materials to an extent which increases the risks associated with the waste sufficiently to render it appropriate for inclusion in the Amber list, or prevents the recovery of the waste in an environmentally sound manner.

1.3.2.2 Relevance

Dublin City Council is the competent authority of dispatch in respect of the export of waste for the KADP.

A summary of procedures for the export of waste from Ireland is set out in the Waste Management (Shipments of Waste) Regulation, 2007. Different procedures apply to wastes exported to EU, non EU, OECD and EFTA members. A summary of procedures is provided in **Error! Reference source not found.** to this report. Section **Error! Reference source not found.** of this Strategy provides further detail on destination options and transportation management for waste generated from the KADP.

1.3.3 The Sea Pollution Acts 1991 to 2014 as amended

1.3.3.1 Overview

The Sea Pollution Acts 1991 to 2014, and associated Regulations are a group of acts that make provision in national law for the following matters:

The Sea Pollution Act 1991 made provision for the prevention of pollution of the sea by oil and other substances; and gave effect to the London Convention and Protocol (Refer to Section **Error! Reference source not found.**).

The Sea Pollution (Amendment) Act 1999 gives effect to the International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990, done at London on the 30th day of November 1990, and amends the Sea Pollution Act, 1991.

Government decision (S.15675D, 03 May 1988), the Minister of Communications Marine and Natural Resources has assigned the responsibility for the removal of oil from the coastline and in the event of major pollution incident, the direction of co-ordination of the onshore response to the Irish Coast Guard.

The Sea Pollution (Miscellaneous Provisions) Act 2006 give effect to the following:

- International Convention on Civil Liability for Bunker Oil Pollution Damage 2001 done at London on 23 March 2001;
- Matters relating to Council Regulation (EC) no. 44/2001 of 22 December 2000 on Jurisdiction and the Recognition and Enforcement of Judgments in Civil and Commercial Matters in so far as it relates to that Convention;
- OPRC-HNS Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances done at London on 15 March 2000;
- International Convention on the Control of Harmful Anti-Fouling Systems done at London on 5 October 2001;

- Annex VI as added to the MARPOL Convention by the Protocol agreed in London on 26 September 1997; and
- The International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004, done at London on 13 February 2004.

1.3.3.2 Relevance

In summary, the Sea Pollution Acts 1991 to 2006, as amended, provide for the management of ship-source pollution and give effect to related EU and international policy and legislation. All ships used as part of the KADP will be required to manage their waste and discharges effectively to protect the environment. This Resource and Waste Management Strategy will set out the framework for controlling and implementing effective disposal measures to prevent marine pollution.

1.3.4 European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003 (S.I. No. 117 of 2003)

1.3.4.1 Overview

Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues is effective in national law through the European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003 (S.I. No. 117 of 2003). Ships visiting Irish ports must provide formal advance notice of waste and cargo residues which they intend to deliver, and ports must provide reception facilities for ships. Wastes include waste oils (sludge and bilge water), garbage (food waste, plastic, etc.), sewage and cargo-associated waste.

Port Companies, Harbour Authorities, Fishery Harbour Centres, Marinas and certain local authorities are designated as local competent authorities with responsibilities in their functional areas for the regulation of reception of waste and cargo residues from ships. The local competent authorities have Three-Year Port Waste Management Plans. They charge fees for reception of ship waste and must notify their fee system to the shipping sector.

1.3.4.2 Relevance

All ships used as part of the KADP will be required to notify the relevant authorities and provide formal advance notice of waste and cargo residues that they intend to deliver. Specifically, the movement of waste and cargo to ports would be undertaken in accordance with the relevant control procedures.

1.3.4.3 Dumping at Sea Acts, 1996 to 2009

1.3.4.4 Overview

In Ireland, OSPAR and London Convention requirements are implemented via the Dumping at Sea Act 1996, as amended and subsequent legislation including the following:

- Dumping at Sea Act (14/1996);
- Dumping at Sea (Amendment) Act 2004 (35/2004);
- Sea Fisheries and Maritime Jurisdiction Act 2006 (8/2006), s. 103; and

- Foreshore and Dumping at Sea (Amendment) Act 2009 (39/2009), part 3, s. 1 (other than subss. (2), (4)) and sch. 2.

The Dumping at Sea Act was most recently updated in July 2016. In summary, the Dumping at Sea Acts prohibit the dumping at sea from vessels, aircraft or offshore installations of a substance or material unless permitted by the Environmental Protection Agency. Any person who wishes to dispose of material at sea is required to apply for a Dumping at Sea permit. Section 1 Interpretation of the Act notes that dumping means:

(a) any deliberate disposal in the maritime area (including side-cast dredging, plough dredging, water injection dredging and other such dredging techniques) of a substance or material from or in conjunction with a vessel or aircraft or offshore installation,

(b) any deliberate disposal in the maritime area of vessels, aircraft or offshore installations,

but does not include—

(i) the disposal in accordance with the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, or other applicable international law to which Ireland is a party, of a substance or a material incidental to, or derived from, the normal operations of a vessel or aircraft or offshore installation (or its equipment) other than a substance or a material transported by or to a vessel or aircraft or offshore installation for the purpose of disposal of such substance or material or derived from the treatment of such substance or material on such a vessel or aircraft or installation;

(ii) the discharge, for the purpose of dispersing or otherwise altering the distribution or character of any mineral oil on the surface of the sea, of a substance or material designed or intended for use for the purpose aforesaid and cognate words shall be construed accordingly;

(iii) placement of a substance or material or vessel or aircraft in the maritime area for a purpose other than the mere disposal thereof, provided that, if the placement is for a purpose other than that for which the substance or material or vessel or aircraft was originally designed or constructed, it is in accordance with the provisions of sections 2 and 5 of this Act;

(iv) the discarding of unprocessed fish or fish offal from fishing vessels;

1.3.4.5 Relevance

Under the provisions of the Dumping at Sea Acts 1996 to 2009, the KADP will be prohibited from dumping at sea unless a permit is obtained from the Environmental Protection Agency.

However, Section 5 of the Dumping at Sea Act which specifically regulates the abandonment of an offshore installation has not been commenced and therefore will not apply to the KADP.

Appendix C

List of Potential Wastes and Hazardous Materials

Appendix C: List of Potential Wastes and Hazardous Materials

Item	Location/Reference	Waste Description	Removed post COP, before decommissioning (Y/N)	Quantity (no. of cylinders, where not otherwise indicated) [1]	Comments Note: All quantities and details presented in this table are indicative and subject to contractor surveys
Steel	Wells	Steel	N	1,500 tonnes	
	KA (Kinsale Alpha)		N	9,134 tonnes	
	KB (Kinsale Bravo)		N	7,977 tonnes	
	Subsea Structures including spools, umbilical jumpers and protection materials		N	542 tonnes	
	Inch (Inch Terminal)		N	110 tonnes	
Concrete	KA	Concrete	N	1,567 tonnes	
	KB		N	1,383 tonnes	
	Subsea Structures including spools, umbilical jumpers		N	5,904 tonnes	

Item	Location/Reference	Waste Description	Removed post COP, before decommissioning (Y/N)	Quantity (no. of cylinders, where not otherwise indicated) [1]	Comments Note: All quantities and details presented in this table are indicative and subject to contractor surveys
	and protection materials				
	Inch		N	5,339 tonnes	
Non-Ferrous Metals	KA	Non-Ferrous Metals	N	108 tonnes	
	KB		N	108 tonnes	
	Subsea Structures including spools, umbilical jumpers and protection materials		N	0.12 tonnes	
Other non-hazardous wastes	KA	Cabling (copper and plastics)	N	222 tonnes	
	KB		N	176 tonnes	
	KA	Marine Growth	N	1,450 tonnes	

Item	Location/Reference	Waste Description	Removed post COP, before decommissioning (Y/N)	Quantity (no. of cylinders, where not otherwise indicated) [1]	Comments Note: All quantities and details presented in this table are indicative and subject to contractor surveys
	KB		N	1,450 tonnes	
Asbestos Containing Materials	KA	Asbestos Containing Materials	N	183 tonnes	
	KB	Asbestos Containing Materials	N	133 tonnes	
Filters, socks/rags	KA	Oil contaminated material	Y	-	Quantity varies per year. Waste collected in bins, which came ashore monthly.
Cylinders	KA	Nitrogen cylinders	N	10	N2 seal gas to compressors
		Hydraulic fluid	N	1	Emergency Generator
		N2 cylinders		7	Sevenheads HPU
	Inch	GC calibration gas	N	2	57.5kg cylinders
		Helium	N	2	40kg cylinders
Fire Fighting chemicals (Portable extinguishers)	KA	CO2	N	57	Quantities of cylinders may vary.
	KA	Dry powder	N	90	

Item	Location/Reference	Waste Description	Removed post COP, before decommissioning (Y/N)	Quantity (no. of cylinders, where not otherwise indicated) [1]	Comments Note: All quantities and details presented in this table are indicative and subject to contractor surveys
	KA	Wet chemical	N	2 * 12 litre cylinders in galley	
	KA	Foam	Y	19	
	Inch	CO2	Y	8 cylinders, 40 kg each	
	Inch	Dry powder	Y	7 cylinders, 57kg each	
Fixed Fire suppression system cylinders	KA	Hi Fog system for each turbine enclosure)	N	6	Turbine hall (2 Hifog per turbine)
		N2 for HiFog system activation	N	3	
		C02 for compressor turbine enclosures	N	9	3 N2 cylinders per turbine enclosure
		C02 for CCR	N	12	CCR (upper and lower)
		C02	N	42	Vent stack

Item	Location/Reference	Waste Description	Removed post COP, before decommissioning (Y/N)	Quantity (no. of cylinders, where not otherwise indicated) [1]	Comments Note: All quantities and details presented in this table are indicative and subject to contractor surveys
		Inergen	N	4	Back of Control room
	Inch	Inergen	N	2	
Aqueous Resistant Film Forming Foam	KA	Fixed storage and portable containers.	N		5000 litres approx. total quantity
Smoke detectors	KA	Americum	N		101 smoke, 132 gas, 8 heat, 78 flame.
	Inch		Y		13 smoke, 14 gas, 4 heat, 2 flame.
Flourescent tube lighting	KA	Mercury	N		488 light fittings
	Inch		Y	17	
HFCs	KA	HFCs in refrigeration/HVAC units.	N		91kg in Refrigeration, HVAC units
	Inch		N		Air conditioning in Control Room Building
Oils, Lubricants	KA	Lubricants	Y		Located in various sized containers and in equipment. Quantities varied over time.
	Inch		Y		

Item	Location/Reference	Waste Description	Removed post COP, before decommissioning (Y/N)	Quantity (no. of cylinders, where not otherwise indicated) [1]	Comments Note: All quantities and details presented in this table are indicative and subject to contractor surveys
Miscell chemicals in containers	KA	Paints, grease, coolant, aerosols, etc.	Y (some)		Variable quantities
	Inch		Y (some)		
Lead in old paint coatings	KA	Lead	N		To be confirmed by survey commissioned by contractor
	Inch		N		
Diesel	KA	Diesel	Y		32 m^3; Crane pedestal, Day tanks).
	Inch	Diesel	Y		2.2m^3 (generator & fire pump tanks)
Condensate	KA	Condensate	Y		4.8m^3 (Condensate storage tank)

Item	Location/Reference	Waste Description	Removed post COP, before decommissioning (Y/N)	Quantity (no. of cylinders, where not otherwise indicated) [1]	Comments Note: All quantities and details presented in this table are indicative and subject to contractor surveys
Heli fuel	KA	Jet A1 Fuel	Y	1 tank	5.43 m^3; Tote
Dehydration & Regen system	KA	TEG Glycol	Y		29,700kg; source: Annual OSPAR Report
	Inch	TEG Glycol	y		2.626 m^3 (storage vessel)
Umbilicals Fluids	Subsea umbilicals	Hydraulic Fluid - HW540 v2	N		24.3 m^3
		BOP Fluid	N		5.75 m^3 BOP fluid: Erifon HD856
	Topsides- KA	HW540 v2	N		Supply and return storage tanks as part of HPU system.
		BOP Fluid	N		Cameron tank volume: 800L
Batteries	KA	Batteries	Y		2176 kg (Alpha), 828kg (Inch)

Item	Location/Reference	Waste Description	Removed post COP, before decommissioning (Y/N)	Quantity (no. of cylinders, where not otherwise indicated) [1]	Comments Note: All quantities and details presented in this table are indicative and subject to contractor surveys
	Inch		Y		
WWTP equipment	KA	Waste from waste water treatment vessels.	N		Small quantities. To be surveyed and quantified prior to decommissioning.
Drains & caissons	KA	Closed oil caisson	Y		Minimal quantities.
PFP Coating	KA	Mixture of Chartek, Mandolite, Thermolag.	N		Drawings available showing location
Human effluent	KA	-	Y		Discharged to sea
Corrosion products	KA, Inch		N		Minimal quantity
Medical supplies	KA	Medical supplies	Y		Small variable quantity (First aid boxes, medical cabinet)

[1] Where waste quantities relate to the Kinsale Alpha platform, and a quantity is not presented for the Kinsale Bravo platform, please note that similar quantities of wastes should be assumed to arise from the Kinsale Bravo platform.

Appendix D

TFS Procedures

D1 Transfrontier Shipment of Waste from Ireland to within the EU

The trans-frontier shipment (TFS) of waste from Ireland is governed by European Regulation (EC) No 1013/2006 which has been transposed into Irish law through the Waste Management (Shipment of Waste) Regulation 2007 (SI No 419 of 2007). Under these regulations, Dublin City Council is designated as the national competent authority established for the export, import and transit of waste shipments.

This memo provides an overview of the TFS of waste authorisation process relevant to the shipment of waste arising from the support the Kinsale Area Decommissioning Project (KADP). All TFS of waste originating in any local authority area in the State after the 12 July 2007, that are subject to the prior written notification procedures set out in the regulations must be notified to and through Dublin City Council National TFS Office.

There are four main stages involved in the trans-frontier shipment (TFS) of waste as outlined below and described in the following sections:

- Submitting an Application/Notification;
- Assessing and Transmitting the Notification;
- Moving the Waste; and
- Waste Processing.

D1.1 Submitting an Application/Notification

Intended shipments that are subject to the controls of the prior written notification and consent procedures must be brought to the attention of the National TFS Office by means of the submission of an application, known as a notification, consisting of a notification document and a movement document, as set out in Annex 1A and 1B of Council Regulation 1013/2006). A person or body proposing to carry out a shipment of waste, whether it is the waste producer, collector, broker, or dealer, may act in a notifying and exporting capacity.

The notifier should apply in writing to the National TFS Office for a requisition number (for inclusion on the Notification Document Annex 1A), outlining proposals in relation to the waste description, waste code, origin and destination of the waste. Requests for requisition numbers may be made to the National Transfrontier Shipment Office within Dublin City Council.

A unique reference number is allocated to each notification issued for tracking purposes. Before the notifier can proceed with arranging any waste shipments he/she shall submit a completed Notification Document, together with any supporting documentation, to the National TFS Office for approval.

Subject to exceptions, only one waste identification code (Basel/OECD) shall be covered for each notification. When the notifier is not the original producer, the notifier shall ensure that the appropriate person also signs the notification document.

A notification must be accompanied by:

- Correct Notification fee;
- Copy of the contract drawn up between the notifier and the consignee for the recovery or disposal of the waste;
- Original Financial Guarantee and Calculations;
- List of Carriers/Hauliers including Waste Collection Permit details;
- Detailed Waste Description;
- Transport Route/Itinerary; and
- Contact details for the Competent Authority of Destination & Transit.

D1.2 Assessing and Transmitting the Notification

Once the notification procedure has been followed correctly:

- The National TFS Office shall retain a copy of the notification and transmit the original to the competent authority of destination, with copies sent to any competent authority(ies) of transit, within 3 working days of the official receipt of the notification.
- The National TFS Office shall send an acknowledgement to the notifier within 3 working days of the receipt of the notification (and copies to the other competent authorities concerned), informing the notifier of the transmission of the notification.
- When the competent authority of destination considers that the notification has been completed correctly, it shall send an acknowledgement notice to the notifier and the other competent authorities concerned.

Tacit consent by the competent authority of transit may be assumed if no objection is lodged within the 30-day time limit following transmission of the acknowledgement by the competent authority of destination.

The competent authorities of destination, dispatch and transit, may also within the 30 day time limit, transmit their decision in writing to the notifier, with copies to each other, granting consent to the planned shipment with or without conditions. The competent authorities shall signify their written consent by appropriately stamping, signing and dating the original notification document or their copies of same.

There are mechanisms for objections to the shipment by the National TFS Office, the competent authorities of dispatch and destination. In addition there are requirements relating to any essential changes to the details and/or conditions of the consented shipment.

D1.3 Moving the Waste

Once a satisfactory notification has been submitted and prior to any waste being exported, waste exporters must have:

a) Obtained the necessary consent from all the regulatory authorities involved;

b) Received a certificate for the guarantee;

c) Have appropriate third party liability insurance;

d) Ensure that the waste is moved in accordance with the information provided in the notification; have arranged to comply with all other applicable enactments in addition to the TFS legislation, and

e) Ensure that the proposed shipment is managed in an environmentally sound manner.

After consent has been given to a notified shipment by the competent authorities involved, the notifier shall complete the movement document and send a copy of the completed movement document to the competent authorities concerned and to the consignee at least 3 working days before the shipment starts.

Certain specified documents must accompany the shipment and the movement document shall be retained by the consignees that receives the waste. The movement document and a copy of the notification document, together with the written consents and any conditions specified by the competent authorities concerned, shall accompany each shipment. The movement document shall be retained by the consignee facility that receives the waste.

D1.4 Waste Processing

Upon arrival at the destination, the waste should be processed and disposed of at the destination facility in accordance with the procedures and measures outlined in the relevant permit or authorisation.

Within 3 working days of receiving the waste, the destination facility shall provide confirmation in writing that the waste has been received. This confirmation shall be contained in Box 18 of the movement document. The facility shall send signed copies of the movement document containing this confirmation to the notifier and to the National TFS Office.

As soon as possible, but no later than 30 days after completion of the recovery or disposal operation, and no later than one calendar year following receipt of the waste, the facility carrying out the operation shall, under

Draft

its responsibility, certify that the recovery or disposal has been completed. This certificate shall be contained in, or annexed to, the movement document. The facility shall send signed copies of the movement document containing this certificate to both the notifier and the National TFS Office.

If the waste shipment is destined for interim recovery or disposal operations, the contract shall include an obligation on the destination facility of interim recovery or disposal to:

i) Provide certificates to the notifier and the competent authorities concerned that the waste has been recovered or disposed of in accordance with the notification.

ii) Obtain a certificate of completion from the subsequent non-interim facility if located in the first country of destination, and to transmit the certificate to the notifier and the competent authorities concerned.

Draft

D2 Trans-boundary movement of waste from Ireland to another OECD country (not within the EU)

European Regulation (EC) No 1013/2006 and the transposing Waste Management (Shipment of Waste) Regulation 2007 (SI No 419 of 2007) contains rules on the shipment of waste, whereby a distinction is made between exports to:

(a) another EU Member State,

(b) an EFTA country,

(c) an OECD country or

(d) a non-OECD country.

Regulations vary by country if the destination facility is located outside the EU. Before exporting any waste to any country outside of the EU it is advisable to check with the competent authorities in those countries to and through which the waste will travel as to what controls/procedures apply to the waste type being shipped.

Articles 31 - 40 and 47 - 48 of Council Regulation EC No. 1013/2006 are the main provisions to be noted in relation to the export of waste from the EU. In summary, the Basel Convention applies and compliance with relevant international law is necessary. Further, written consent must be obtained from competent authorities of dispatch, destination and transit location and environmentally sound management, contracts and financial guarantees are required in order for the shipment to take place.

Draft

D3 National TFS Office - TFS Guidelines

Draft

Transfrontier Shipment of Waste
Guidelines For Exporting Waste from, and Importing Waste to, the Republic of Ireland

Contents

1.0	Introduction	2
2.0	Waste Lists	3
3.0	Brokers and Dealers Registration	4
4.0	Prior Written Notification Procedures	4
5.0	Assessing and Transmitting the Notification	6
6.0	Moving the Waste	7
7.0	Waste Processing	7
8.0	General Notifications	8
9.0	Interim Recovery and Disposal	9
10.0	Green Listed Waste	10
11.0	Exports to, and transit, through Non-OECD Countries	11
12.0	Waste Imports	12
13.0	Enforcement	13
14.0	General Provisions	14

- Annex 1: Broker Dealer Registration 16
- Annex 2: Completing Notification & Movement Documents 18
- Annex 3: Schedule of Charges 23
- Annex 4: Refunds 24
- Annex 5: Contract (Amber-List) 25
- Annex 6: Financial Guarantee Guide 26
- Annex 7: Contract (Green-List) 28
- Annex 8: Frequently Asked Questions 29
- Annex 9: Web Links 32
- Annex 10: Contact Details 33

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

1.0 INTRODUCTION

1.1 EU / Irish Legislation

The transfrontier shipment of waste deals with the movement of waste between countries. Transfrontier shipments of waste within, into and out of the EU, for recovery or disposal operations, are governed by Regulation (EC) No. 1013/2006 on shipments of waste which came into effect on the 12th July 2007. Proposals for the export of waste from, and the import of waste into the Republic of Ireland are subject to the provisions of the Waste Management (Shipments of Waste) Regulations 2007, S.I. No. 419, introduced on the 5th of July 2007, which give effect to Regulation (EC) No. 1013/2006 under Irish Law. The overall objective of the TFS Regulations is to implement measures for the supervision and control of shipments of waste in order to ensure that the movement, recovery, or disposal of waste, is managed in an environmentally sound manner, for the protection of the environment and human health.

1.2 Scope of TFS Regulations

The Regulations apply to waste:

(a) exported from the Republic of Ireland to EU Member States
(b) in transit through the EU
(c) exported from the Republic of Ireland to countries outside the Community
(d) imported into the Republic of Ireland from EU Member States
(e) imported into the Republic of Ireland from countries outside the Community

1.3 Competent Authorities

All EU member states have designated a national competent authority, responsible for implementing both EU and national TFS Regulations within their jurisdiction. Countries outside the EU operate under an agreement whereby nominated competent authorities supervise international waste movements. There are 3 competent authorities involved with the transfrontier shipment of waste:

(a) the competent authority of dispatch for the country or area from which the waste shipment originates;
(b) the competent authority of destination for the country or area where the authorised facility is located in which the shipment is received for recovery or disposal;
(c) the competent authority of transit for the country through which the waste is transported on route to the destination facility.

1.4 National TFS Office

Under the Waste Management (Shipments of Waste) Regulations 2007, Dublin City Council is nominated as the competent authority of dispatch in respect of the export of waste, the competent authority of destination in respect of the import of waste, and the competent authority of transit in respect of any waste shipments transiting through the Irish State. Dublin City Council carries out its National TFS functions at

National TFS Office, Dublin City Council [NTFSO],
Floor 2, Eblana House,
68-71 Marrowbone Lane,
Dublin 8, Republic of Ireland
Email: nationaltfs@dublincity.ie
Fax: 01 411 3452

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

2.0 WASTE LISTS

2.1 Amber and Green Lists

Waste is categorized as hazardous and non-hazardous and classified in the European Waste Catalogue published by the Environmental Protection Agency under hazardous and non-hazardous waste codes (EWC codes). For shipment purposes, Basel and OECD codes (agreed by the Basel Convention and the OECD) are used to identify the waste in Amber (hazardous) and Green (non-hazardous) lists annexed to Regulation 1013/2006 in Annexes III, IIIA, IIIB, IV, IVA, and V.

2.1.1 Amber List

Shipments of Amber listed waste destined for recovery, and all shipments of waste destined for disposal, are subject to prior notification and consent procedures in accordance with Articles 3 and 4 of Regulation 1013/2006 (see page 4). Proposed shipments of unlisted, contaminated, or co-mingled or mixed waste not classified under one single entry in the waste lists are subject to the procedure of prior written notification and consent.

2.1.2 Green List

The Green list applies to the export of non-hazardous waste for recovery classified under one single entry. Shipments of Green listed waste for recovery are not subject to the notification and consent procedures but must be accompanied by an Annex VII document in accordance with Article 18 of EC Regulation 1013/2006 (see page 9). Regardless of whether or not wastes are included in the Green list, they may not be shipped as Green wastes if they are contaminated by other materials to an extent which increases the risks associated with the waste sufficiently to render it appropriate for inclusion in the Amber list, or prevents the recovery of the waste in an environmentally sound manner.

Note

It should be noted that since waste Regulations vary according to the country for which the material is destined if that country is outside the EU, a particular classification will not always apply. Misclassified material may be returned on the basis that it has been illegally exported.

2.2 Mixed Municipal Waste

Shipments of mixed municipal waste (waste entry EWC 20 03 01) to recovery or disposal facilities shall be subject to the same provisions as shipments of waste destined for disposal (prior written notification and consent procedures).

2.3 Dry Recyclable Waste

Exports of dry recyclable waste for the purposes of recycling or recovery must be correctly classified. Dry recyclable waste will not normally qualify as Green listed waste unless it has been sorted and is readily classifiable under a single category of the permitted Green listed wastes. Co-mingled dry recyclable material of municipal origin will often qualify as Amber listed waste, and must be notified in accordance with the Regulations.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

3.0 BROKERS AND DEALERS REGISTRATION

Brokers and Dealers Regulations
Brokers and dealers, who on a professional basis collect or arrange for the shipment of waste the subject of the TFS Regulation and the Waste Management (Registration of Brokers and Dealers) Regulations 2008, S.I. No. 113 of 2008, must ensure that they are registered with the competent authority (National TFS Office, Dublin City Council).

Any person who arranges for the shipment of waste the subject of the TFS Regulation and the Brokers and Dealers Regulation, on behalf of others or themselves, has a responsibility to only use a broker or dealer who is registered with the competent authority. Any person who contravenes these provisions shall be guilty of an offence. A waste broker arranges to handle, transport, dispose of or recover controlled waste on behalf of themselves or others. They do not necessarily handle, transport, dispose of or recover the waste directly. Waste brokers include waste dealers who acquire waste and sell it on.

Waste brokers and dealers include:

- Businesses that buy and sell scrap metal and other recoverable materials. They may operate from a yard or act as a third party making the buying and selling arrangements for the materials.
- Businesses arranging the disposal of waste on behalf of another company or waste producer.
- Waste disposal operators or carriers arranging the disposal or recovery of waste not covered by their own licence.

A broker shares responsibility with the waste holders for the proper management of the waste before and after its transfer. As they control what happens to the waste, they are legally responsible for its proper handling and disposal. Any individual or business that arranges the collection, recycling, recovery or disposal of waste on behalf of themselves or another party must register as a waste broker with the National TFS Office *[see **Annex 1** for registration guidance].*

4.0 PRIOR WRITTEN NOTIFICATION PROCEDURES
Waste Exports from the Republic of Ireland

There are 4 main stages involved in the shipment of waste each of which is dealt with in turn under the appropriate heading:

- Submitting an Application/Notification;
- Assessing and Transmitting the Notification;
- Moving the Waste;
- Waste Processing

4.1 Submitting an Application/Notification

4.1.1 Notification and Movement document
Intended shipments that are subject to the controls of the prior written notification and consent procedures must be brought to the attention of the National TFS Office by means of the submission of an application, known as a notification, consisting of a notification document and a movement document, as set out in Annex 1A and 1B of Council Regulation 1013/2006).

4.1.2 Notifier
A person or body proposing to carry out a shipment of waste, whether it is the waste producer, collector, broker, or dealer, may act in a notifying and exporting capacity.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

4.1.3 Applying for a notification

The notifier should apply in writing to the National TFS Office for a requisition number (for inclusion on the Notification Document Annex 1A), outlining proposals in relation to the waste description, waste code, origin and destination of the waste. Requests for requisition numbers may be made by post, email, or fax:

National TFS Office, Dublin City Council [NTFSO],
Floor 2, Eblana House,
68-71 Marrowbone Lane,
Dublin 8, Republic of Ireland
Email: nationaltfs@dublincity.ie
Fax: 01 411 3452

A unique reference number is allocated to each notification issued for tracking purposes. Before the notifier can proceed with arranging any waste shipments he/she shall submit a completed Notification Document, together with any supporting documentation, to the National TFS Office for approval. The notifier is required to submit by post 1 original and 2 copies of the notification.

4.1.4 Information, documents and items required in a notification

The notification and movement documents must be completed to the fullest extent possible at the time of notification *[see **Annex 2** for guidance on completing the Notification and Movement Document].* The notifier shall provide the information listed in Annex II, Parts 1 and 2. Subject to exceptions, only one waste identification code (Basel/OECD) shall be covered for each notification. When the notifier is not the original producer, the notifier shall ensure that the appropriate person also signs the notification document.

A notification must be accompanied by:

(a) **Notification fee** *[see **Annex 3**: Schedule of Charges].* Please note that the NTFSO is not in a position to process applications unless the correct fee is included in the notification application. The notifier may claim a refund of fees paid for unused tonnages *[see **Annex 4** for guidance on Refunds].*

(b) **Copy of a contract** drawn up between the notifier and the consignee for the recovery or disposal of the waste *[see **Annex 5** for Contract template].*

(c) Financial Guarantee and Calculations: The original guarantee document, together with calculations *[see **Annex 6** for guidance on the Financial Guarantee]*, must be furnished to the National TFS Office as part of the notification process.

(d) List of Carriers/Hauliers, indicating **Waste Collection Permit** reference numbers together with copy/extract from the Permit referencing the waste material and destination.

(e) Detailed Waste Description including information on source and handling, and appropriate Waste Codes.

(f) Transport Route/Itinerary

(g) Contact details for the Competent Authority of Destination & Transit, including name, address, telephone number, email address & contact name.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

5.0 ASSESSING AND TRANSMITTING THE NOTIFICATION

5.1 Acknowledgement and Transmission

Once the notification procedure has been followed correctly, the National TFS Office shall retain a copy of the notification and transmit the original to the competent authority of destination, with copies sent to any competent authority (ies) of transit, within 3 working days of the official receipt of the notification. The National TFS Office shall send an acknowledgement to the notifier within 3 working days of the receipt of the notification (and copies to the other competent authorities concerned), informing the notifier of the transmission of the notification. When the competent authority of destination considers that the notification has been completed correctly, it shall send an acknowledgement notice to the notifier and the other competent authorities concerned.

5.2 Additional Information

If the notification procedure has not been followed correctly, the National TFS Office will issue a request for additional information within 3 working days of the receipt of the notification. The application will be considered incomplete and will not be processed any further. Once the additional information is received and checked, the application will be considered complete and the transmission procedures shall apply.

Following the transmission of a notification, any of the competent authorities concerned may request further information from the notifier.

5.3 Consent

The competent authorities of destination, dispatch and transit, may within 30 days following the transmission of the acknowledgement by the competent authority of destination, transmit their decision in writing to the notifier, with copies to each other, granting consent to the planned shipment with or without conditions. Tacit consent by the competent authority of transit may be assumed if no objection is lodged within the 30-day time limit. The competent authorities shall signify their written consent by appropriately stamping, signing and dating the original notification document or their copies of same.

5.4 Objections

i) Once the notification procedure has been followed correctly, the National TFS Office may decide, within 3 working days of receipt of the notification, not to proceed with the notification if it has objections to the shipment, and shall inform the notifier of its decision and the reason for the objection.

ii) Where a notification is transmitted by the National TFS Office, the competent authorities of dispatch and destination may within 30 days following the transmission of the acknowledgement by the competent authority of destination raise objections on specified grounds.

5.5 Changes in the shipment after consent

If any essential change is made to the details and/or conditions of the consented shipment, (including changes to the intended quantity, route, date of shipment, or carrier), before the shipment starts, the notifier shall immediately inform the National TFS Office, all other competent authorities concerned and the consignee.

In such cases a new notification shall be submitted, unless all the competent authorities concerned consider that the proposed changes do not require a new notification.

Where such changes involve additional competent authorities to those involved in the original notification, a new notification shall be submitted.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

6.0 MOVING THE WASTE

Once a satisfactory notification has been submitted and prior to any waste being exported, waste exporters must have:

(a) obtained the necessary consent from all the regulatory authorities involved;
(b) received a certificate for the guarantee;
(c) have appropriate third party liability insurance;
(d) ensure that the waste is moved in accordance with the information provided in the notification; have arranged to comply with all other applicable enactments in addition to the TFS legislation, and
(e) ensure that the proposed shipment is managed in an environmentally sound manner.

The following procedures then apply:

6.1 Completion of movement document

After consent has been given to a notified shipment by the competent authorities involved, the notifier shall insert the actual date of shipment in the movement document, sign it and complete the document.

6.2 3 working days notice

The notifier shall send a copy of the completed movement document to the competent authorities concerned and to the consignee at least 3 working days (excluding Bank Holidays) before the shipment starts. A copy of the pre-notification should be submitted to the National TFS Office between the hours of 9.30am - 4.30pm Monday to Friday. The notifier shall retain a copy of the completed movement document.

6.3 Documents to accompany each transport

The movement document and a copy of the notification document, together with the written consents and any conditions specified by the competent authorities concerned, shall accompany each shipment. The movement document shall be retained by the consignee facility that receives the waste.

7.0 WASTE PROCESSING

7.1 Written confirmation of receipt of the waste by the consignee facility

Within 3 working days of receiving the waste, the destination facility shall provide confirmation in writing that the waste has been received. This confirmation shall be contained in Box 18 of the movement document. The facility shall send signed copies of the movement document containing this confirmation to the notifier and to the National TFS Office.

7.2 Certificate for recovery or disposal by the facility

As soon as possible, but no later than 30 days after completion of the recovery or disposal operation, and no later than one calendar year following receipt of the waste, the facility carrying out the operation shall, under its responsibility, certify that the recovery or disposal has been completed. This certificate shall be contained in, or annexed to, the movement document. The facility shall send signed copies of the movement document containing this certificate to both the notifier and the National TFS Office.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

8.0 GENERAL NOTIFICATIONS

The notifier may, with the consent of the National TFS Office, submit a general notification to cover several shipments if, in the case of each shipment:
(i) the waste has essentially similar physical and chemical characteristics;
(ii) the waste is shipped to the same consignee and the same facility; and
(iii) the route of the shipment as indicated in the notification document is the same.

Notification procedures detailed in this document apply in principle to general notifications.

9.0 INTERIM RECOVERY AND DISPOSAL

Interim Disposal means disposal operations D13 (Blending or mixing prior to submission to any of the operations D 1 to D 12); D 14 (Repackaging prior to submission to any of the operations D 1 to D 13); D 15 (Storage pending any of the operations D 1 to D 14).

Interim Recovery means recovery operations R12 (Exchange of wastes for submission to any of the operations R 1 to R 11) and R13 (Storage of wastes pending any of the operations R 1 to R12).

General Requirement

i) Where a shipment of waste is destined for an interim recovery or disposal operation, all the facilities where the interim operation in the country of destination and the subsequent non-interim recovery and disposal operations located in the country of destination or located in another country are envisaged, and information on the interim and non-interim operations, shall be indicated in the notification document.

ii) A notification shall cover the shipment of waste from its initial place of dispatch to its interim recovery or disposal. If a subsequent non-interim operation takes place in another country then a new notification shall be required to cover the shipment of the waste from the first country of destination to the next country of destination which shall be authorised under the jurisdiction of the competent authority in the first country of destination.

Notification Document

i) **Block 10:** If the disposal or recovery operation is a D13–D15 or R12 or R13 operation, details on the facility performing the interim operation should be provided in Block 10. Corresponding information on the

ii) subsequent facility or facilities where any subsequent non-interim operation takes place or may take place in the first country of destination or in another country should be provided in an Annex referenced in Block 10.

ii) **Block 11:** If the disposal or recovery operation is a D13–D15 or R12 or R13 operation, details on the interim operation/s should be provided in Block 11. Corresponding information on the subsequent non-interim operation/s taking place in the first country of destination or in another country should be provided in an Annex referenced in Block 11.

Financial Guarantee

i) If the waste shipment is destined for interim recovery or disposal operations, a financial guarantee shall be raised to cover the interim operation in the first country of destination.

ii) Further to request from the notifier, the financial guarantee shall be released when the NTFSO has received the completion certificate for the interim operation.

iii) Any further shipment for a subsequent non-interim operation taking place in another country shall be covered by a new financial guarantee or equivalent insurance.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

Contract

If the waste shipment is destined for interim recovery or disposal operations, the contract shall include an obligation on the destination facility of interim recovery or disposal to-

i) Provide certificates to the notifier and the competent authorities concerned that the waste has been recovered or disposed of in accordance with the notification.

ii) Obtain a certificate of completion from the subsequent non-interim facility if located in the first country of destination, and to transmit the certificate to the notifier and the competent authorities concerned.

10.0 GREEN LISTED WASTE

Green List waste refers to shipments of non-hazardous waste for recovery within and from the EU. Annex III, IIIA and IIIB of Commission Regulation 1013/2006 specify different types of non-hazardous waste (Green List) and apply to the export of waste for recovery. The annexes will be issued by the Commission in due course.

„Green List" waste is:

- A single type of waste that can be classified by a single entry in Annex III, or;
- A mixture of wastes covered by a single entry in Annex III, or;
- A mixture of wastes covered by a single entry in Annex IIIA.

Annex IIIB comprises waste that is considered „green list" when moving only between EU member states. Exports of waste in annex IIIB non-OECD countries are subject to notification controls.

The exporter/notifier must determine the code that best describes the waste being moved. Any contamination that may either make the waste hazardous or make it more appropriate to classify it by another code for shipment under the Amber rules, must be taken into account when determining the waste classification.

The person who arranges the shipment of Green List waste must ensure that each consignment is accompanied by the document in Annex VII of Regulation 1013/2006 and moved under contract to an authorised facility. They must also ensure that each shipment is managed in an environmentally sound manner.

To export waste under Green List controls the exporter/notifier must:

- Ensure the waste being exported is „green list" waste
- Check the recovery facility is located in a country that accepts imports of the type of green list waste being sent under green list controls
- Ensure the waste is going to an authorised facility where it will be recovered in an environmentally sound manner
- Enter into a contract with the person the waste is being sent to for recovery. The contract must contain specified terms and be in place before the waste is shipped
- Register as a Broker or Dealer with the NTFSO in accordance with the Waste Management (Shipment of Waste) Regulations S.I. No. 419 of 2007
- Complete and sign an Annex VII form before moving the waste, providing details about: the people involved with producing and moving the waste, waste description, proposed recovery operation and the recovery facility
- Make sure a copy of the signed and completed Annex VII form accompanies the waste on its journey to the receiving facility in the country it is going to

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

- Keep copies of the completed form sent with the waste for three years. NTFSO enforcement officers may ask for copies of the forms completed for shipments already made

The Annex VII document must be completed as far as possible before the shipment commences in order to provide details of shipment. It must be signed and dated by the person who arranges the shipment and by the consignee and/or the recovery facility when the waste is received. Each shipment must be accompanied by a corresponding Annex VII for that load. A copy shall be retained by the person who arranges the shipment for inspection by NTFSO Enforcement Officers, as necessary.

The person arranging the shipment is responsible for ensuring that the waste is moved in accordance with the information provided on the Annex VII. It is also their responsibility to ensure that the shipment complies with all other requirements as well as waste shipment legislation i.e. that appropriate liability insurance is provided, and that the proposed shipment is managed in an environmentally sound manner.

The contract referred to in Annex VII (Box 12) should be drawn up between the person or company who arranges the waste shipment and the consignee. The contract is effective from the start of the shipment and its duration. It must include obligations on the person who arranges the shipment (or the consignee in certain circumstances) to have the waste returned, recovered, or provide for its storage in cases when the shipment or its recovery cannot be completed or where an illegal shipment has been effected. The person who arranges the shipment or the consignee shall provide a copy of the contract to the NTFSO if requested ***[see Annex VII for Contract template]***.

Online Reporting System:

To facilitate the administration, recording, enforcement and inspections of Green List waste movements, the NTFSO operates an online reporting system for the export and import of Green List waste out of and into Ireland in accordance with Regulation 13(d) of the Waste Management (Registration of Brokers and Dealers) Regulations 2008, and Regulation 5(1)(q) of the Waste Management (Shipments of Waste) Regulations 2007. The person or company who arranges Green waste shipments, whether a broker or dealer involved in the export and import of waste, is required to provide information to the National TFS Office in a Green List Waste (GLW) report each calendar quarter. This is a quarterly summary report on waste shipped in the last 3 months.

The GLW (Green List Waste) Shipment report must be completed and submitted online at the end of each calendar quarter; this may be accessed together with instructions for completing the report via the webpage https://wrms.dublincity.ie/wrms/frontoffice.

Fees for Green shipments:

TFS SERVICE CHARGES FOR GREEN-LISTED WASTE	**EXPORTS per tonne**	**IMPORTS**
Annual Administration Fee (per notifier)	**€ 250.00**	**€500.00**
Tonnage Fee General	**0.60**	**0.00**
Tonnage Fee Glass	**0.30**	**0.00**
Bulk Shipment (1 shipment > or = 1000 tonnes)	**0.30**	**0.00**

Note: A bulk shipment is defined as a single waste shipment greater than or equal to 1,000 tonnes carried out at any one time.

Invoice
The person arranging the shipment will be issued with an invoice every quarter based on the details contained in the GLW Report in accordance with the schedule of charges. For payment purposes the calculation of the

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

fee should be based on the tonnages received at the facility as recorded from actual movements carried out on in the previous quarter.

Payments
Customers are requested to submit the required fee either by cheque to the National TFS Office, Eblana House, 66 to 68 Marrowbone Lane, Dublin 8, or by electronic fund transfer.

Pre-shipment notice to Enforcement
If directed, the person who arranges the shipment shall send a copy of the completed Annex VII Form to the National TFS Office Enforcement Unit at least 3 working days, not including Bank Holidays, before the shipment starts. The NTFSO should be notified during the hours of 9.30am - 4.30pm Monday to Friday.

11.0 EXPORTS TO, AND TRANSIT THROUGH, COUNTRIES OUTSIDE THE EU

The Waste Shipment Regulations (WSR) contains rules on the shipment of waste, whereby a distinction is made between exports to:

(a) another EU Member State,
(b) an EFTA country,
(c) an OECD country or
(d) a non-OECD country.

Regulations vary by country if the destination facility is located outside the EU. Before exporting any waste it is advisable to check with the competent authorities in those countries to and through which the waste will travel as to what controls/procedures apply to the waste type being shipped.

Articles 31-40 and 47&48 of Council Regulation EC No. 1013/2006 are the main provisions to be noted in relation to the export of waste from the EU.

11.1 Export of Green List Waste to Non-OECD Countries

Green listed waste for recovery –such as paper/scrap-can be exported to EU Member States, EFTA countries and OECD countries without prior notification. Under the WSR, non-OECD countries must state (in answer to a European Commission written request sent to each of them) whether and, if so, under what procedure, they wish to receive green-list waste from the EU for recovery.

Each country's response can be found in Commission Regulation (EC) No 1418/2007 issued on the 26th November 2007 or by clicking on the website link below (information website only to ensure compliance with legislation and wishes of the country of destination):
http://ec.europa.eu/trade/issues/global/environment/waste_nr.htm#

A country can state that it:

(a) does not wish to import green-list waste -a prohibition,
(b) that it is prepared to accept them without any controls;
(c) that it will permit exports only with a pre notification and consent; or
(d) that it will permit exports in accordance with other local requirements.

It is the responsibility of the notifier/exporter/ person who arranges the shipment of waste to ensure that waste material intended for export is correctly classified, and to ascertain the controls that apply to proposed shipments of waste for recovery to countries outside the EU. Misclassified material may be returned (under waste repatriation procedures) on the basis that it has been illegally exported.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

As regards the documentation to accompany the waste the document contained in Annex VII of the WSR must accompany the shipment. Blocks 6 and 7 of this form should be completed with the name and address of the waste generator or the plant where the waste is to be received together with the details of a contact person [A plant responsible for storing the waste intended for recovery (an R13 organisation) also comes under this definition].

The Annex VII form must be duly completed by-

(a) the person who arranges the shipment before the shipment takes place, and then by;
(b) the recovery facility and the consignee when the waste is received-see article 18 of the WSR .

The completed Annex VII form must accompany each consignment of waste throughout its journey.

If a country has not responded to the Commission's request for a procedure to be chosen, prior notification must be obtained in every case for the country in question (Article 37(2) of the WSR). If a notification has to be made, a non-OECD country has 60 days to decide. During this period, no export to that country is possible from the EU.

12.0 WASTE IMPORTS INTO IRELAND AND INTO THE COMMUNITY

12.1 Waste Management

Waste shipped within the Community and waste imported into the Community must be managed throughout the period of shipment and on its arrival in the country of destination, without endangering human health and without using processes or methods which could harm the environment. The authorised facility which receives the waste should be operated in accordance with established standards for human health and environmental protection.

12.2 Imports of waste into Ireland

Proposals for the import of waste into the Republic of Ireland are subject to the provisions of Regulation (EC) No. 1013/2006, and the Waste Management (Shipments of Waste) Regulations 2007, S.I. No. 419. Shipments of Amber listed waste destined for recovery, and all shipments of waste destined for disposal, are subject to notification and tracking procedures. Shipments of uncontaminated, sorted wastes which appear on the Green Waste List and are destined for recovery at an authorised facility under contract need only be accompanied by an Annex VII document.

12.2 Imports of waste into the Community for recovery

Imports into the Community of waste for recovery may be permitted where the exporting country:

(a) Is one to which the OECD Decision applies;
(b) Is a Party to the Basel Convention; or
(c) Where prior agreements or arrangements are in place.

This applies to proposals for the import of waste into the Republic of Ireland.

12.3 Right of prohibition

The National TFS Office reserves the right under the Regulations to prohibit the import of waste.

12.4 Adequate cover

As the competent authority of destination, the National TFS Office shall review the amount of cover provided for a waste import into the State and, if necessary, approve an additional financial guarantee.

12.5 Exclusions

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

Subject to conditions, shipments of waste generated by armed forces or relief organisations are excluded from the scope of the Regulations.

13.0 ENFORCEMENT

13.1 Legal procedures
The National TFS Office enforces the Regulations by ensuring that waste is exported and imported in accordance with the relevant legal procedures.

13.2 Supervision
The National TFS Office supervises and monitors the shipment and recovery or disposal of waste through the notification procedures and inspections.

13.3 Inspections
Staff from the National TFS Office are authorised to carry out inspections of any intended consignments of waste prior to dispatch**,** and any consignments of waste entering the State. On and off-site inspections are carried on throughout the State in order to prevent illegal shipments and to ensure that the shipment, recovery or disposal of waste is managed in an environmentally sound manner for the protection of the environment and human health.

13.4 Ports
The National TFS Office may direct that shipments of waste shall leave or enter the State at a specified port or place within the State.

13.5 Control of waste
The National TFS Office may seize, take in charge, recover or dispose of a consignment of waste or a part thereof where any provision of the Regulations has not been complied with as respects the consignment or a part thereof, as the case may be.

13.6 Direction to return waste [waste repatriation]
The National TFS Office may direct a person who undertakes the shipment of waste or who is the consignee of waste imported into the State, to return the waste to its place of origin or to such other place as may be specified in the direction and to take such measures as may be so specified in relation to the waste, including the recovery or disposal of the waste in such manner or at such facility as may be so specified.

13.7 Prohibition
The National TFS Office may prohibit the import or export of any shipment of waste, or of a class or classes of waste, or of any shipment, class or classes of waste intended for any specified purpose, either generally or for such periods as may be specified for the purposes of the Regulations, or to comply with recommendations or provisions of the Hazardous Waste Management Plan made under Section 26 of the Act.

13.8 Exclusions
Types of shipments and activities excluded from the scope of these Regulations are listed in Article 1(3) of the Council Regulation.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

14.0 GENERAL PROVISIONS

14.1 Waste Management
All those involved in a shipment of waste and its recovery or disposal shall take the necessary steps to ensure that the shipment is managed without endangering human health and in an environmentally sound manner throughout the period of shipment and its recovery and disposal.

14.2 Communication methods
Subject to the agreement of the National TFS Office, the other competent authorities concerned, and the notifier, the information and documents referred to in these Regulations may be submitted by using any of the following methods of communication:

- Post; or
- Fax; or
- Fax followed by post

14.3 Language
Any notification, information, documentation or other communication submitted by the notifier shall be supplied in English or Irish to the National TFS Office.

14.4 Keeping of documents and information
All documents relating to a notified shipment shall be kept for at least three years from the date when the shipment starts by the notifier, the National TFS Office, the consignee and the facility which receives the waste. Information given pursuant to Article 18 shall be kept for at least three years from the date when the shipment starts by the person who arranges the shipment, the consignee and the facility which receives the waste.

14.5 Public access to notifications
The NTFSO, as the competent authority of dispatch and destination, may make publicly available information on notifications consented to, where such information is not legally confidential.

The NTFSO provides access to certain information maintained on our Public Register in connection with: 1) the shipment of hazardous (Amber-listed) waste; and, 2) the shipment of non-hazardous (Green-listed) waste, carried out under Regulation (EC) No. 1013/2006 and the Waste Management (Shipments of Waste) Regulations 2007; and, 3) Brokers and Dealers who have obtained a Certificate of Registration under the Waste Management (Registration of Brokers and Dealers) Regulations 2008.

1) Hazardous (Amber) Shipments
The National TFS Office provides public access to information on consented notifications in respect of hazardous waste shipments that are exported from the ROI, imported into the ROI, and transited through the ROI, under the following headings:

Hazardous Waste Exports- Notification Number; Notifier/Exporter; Waste Description; EWC Code; Basel/OECD Code; Y Code; Shipment Number; Shipment Quantity; Disposal/Recovery Code; Destination Country.

Hazardous Waste Imports- Notification Number; Competent Authority of Despatch; Notifier/Exporter; Waste Description; Basel/EWC Code; Y Code; Shipment Number; Shipment Quantity; Disposal/Recovery Code;

Hazardous Waste Transits- Notification Number; Competent Authority of Despatch; Notifier/Exporter; Waste Description; EWC Code; Y Code; Shipment Number; Shipment Quantity; Disposal/Recovery Code; Country of Origin; Destination Country.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

Request to access specific information contained in TFS notifications

TFS notifications are not available for public inspection on the grounds that certain information contained in notification files and records is regarded as confidential. A request received from a member of the public to inspect a notification, or a request to obtain other specific information regarded as confidential, shall not be granted. The NTFSO is subject to the provisions of the Freedom of Information Act. An information request under this Act must be submitted in writing to Dublin City Council. Details are available from: Freedom of Information Officer, Corporate Services Department, Dublin City Council, 3 Palace Street, Dublin 2; Tel: 2223775; Email: foi@dublincity.ie.

2) Non-hazardous (Green) Shipments
The NTFSO provides public access to information in respect of non-hazardous waste shipments that are exported from the ROI, and imported into the ROI, under the following headings:

Non-Hazardous Waste Exports- The Person/Company Who Arranges the Shipment;
Waste Description: EWC Code; Shipment Quantity; Shipment Month; Destination Country.

Non-Hazardous Waste Imports- The Person/Company Who Arranges the Shipment;
Waste Description: EWC Code; Shipment Quantity; Shipment Month; Country of Origin.

3) Registered Brokers and Dealers
The NTFSO provides public access to information in respect of the registration of Brokers and Dealers under the following headings: Registered Person/Company; Registered Number; Certification/ Registration Date; Contact Person.

Availability Information specified above is available for public inspection at the NTFSO by prior arrangement (telephone 01 2224601, 2224634) and is also obtainable on request by email (nationaltfs@dublincity.ie).

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 1

Broker and Dealers Registration
FAQs

What are the Brokers and Dealers Regulations?
The Waste Management (Registration of Brokers and Dealers) Regulations, S.I. No. 113 of 2008 provide for the introduction of a registration system for waste brokers and dealers in order to better facilitate controls on such persons who arrange shipments of waste.

Any individual or business involved in the export of Amber List or Green List waste abroad for recovery and/or disposal must register with the National Transfrontier Shipment Office (NTFSO) in Dublin City Council.

Who is required to register?
A **broker** is defined as an individual or company who arranges the recovery or disposal of waste and includes those who do not take physical possession of the waste.

A **dealer** means any individual or company whose activities involve the purchase and selling of waste and includes those who do not take physical possession of the waste.

Brokers and dealers as described above must be registered with the NTFSO in Dublin City Council in order to carry out their activities. Registration is valid for a period of two (2) years.

How do I register?
Applications for registration must be submitted to the NTFSO of Dublin City Council. The application form is available from the NTFSO, which must be completed and accompanied by the following documents:

- Signed and stamped statutory declaration (provided with application form) (Schedule 1 of the Regulations)
- Copy of the applicant"s certificate of incorporation, certified by the Registrar of Companies
- If the applicant carries out business under a name which differs to that of the applicant, a copy of a certificate of registration under the Registration of Business Names Act 1963
- Application fee of €200

A full list of the information required is given in Articles 7 and 8 of the Waste Management (Registration of Brokers and Dealers) Regulations 2008.

Application forms can be accessed through the appropriate quick-link on the following web-page or by emailing: nationaltfs@dublincity.ie
Dublin City Council: National TFS Office

Where should applications be sent for processing?
Completed applications forms and accompanying documentation should be sent to the following address:
Brokers and Dealers Registration
National Transfrontier Shipment Office
Floor 2, Eblana House
68-71 Marrowbone Lane
Dublin 8

What is the application fee?
An annual registration fee of €200 applies to all applications.

What are the criteria used in deciding to grant or refuse an application for registration?
See Article 8 of the Regulations.

The certificate of registration may be subject to conditions related to environmental protection and preventing the illegal shipment of waste, see Article 9 of the Regulations.

Is there an appeals process if I am refused a certificate of registration?
See Article 11 of the Regulations.

How will commercially sensitive information be handled in the application process?
See Article 14 (3) of the Regulations.

What if my company is registered outside of Ireland?
Where the applicant is incorporated outside the State, the equivalent company registration certificate from the appropriate authority of that State must be provided.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

If the applicant"s principal place of business is outside the State, confirmation must be provided from the competent authority (ies) of that State of the applicant"s registration or authorisation under the relevant legislation in that State.

Applicants for registration, who are resident outside of the State, will be required to provide the address of their principal place of business within the State.

It is an offence under these Regulations to supply misleading or false information in an application for registration.

How long is the certificate of registration valid?
Certificates of registration will be valid for a period of two (2) years.

How do I renew or transfer my certificate of registration?

- See Article 10 for certificate renewal process
- See Article 12 for transfer of certificate process

Duties of Brokers and Dealers
The obligations of brokers and dealers are set out in Article 13 of the Waste Management (Registration of Brokers and Dealers) Regulations, S.I. No. 113 of 2008, and include:

- Compile and maintain records relating to the waste dealt with during the course of business
- Notify the competent authority (Dublin City Council) when convicted of an offence as specified in Schedule 2 of the regulations
- Make available, within 10 working days, records as required under the regulations
- Provide information on the collection and movement of waste as specified by the competent authority
- Records must be retained for 5 years.
- It is an offence under these Regulations to supply misleading or false information in an application for registration.

What obligations are there on individuals or companies exporting waste from the State?
Under Article 15 of the regulations only registered brokers and dealers may export waste from Ireland. Therefore any person or business who arranges for the shipment of waste the subject of the TFS Regulation (i.e. Green List and Amber List waste) and the Brokers and Dealers Regulation, has a responsibility to only use a broker or dealer who is registered with the competent authority. Any person who contravenes these provisions shall be guilty of an offence.

What are the enforcement powers of NTFSO regarding brokers and dealers?

- The NTFSO administers the registration of waste brokers and dealers
- It has enforcement powers, see Article 11 (revocation process) and 14 (general enforcement) of the Regulations

Contact details of NTFSO on this issue:
Brokers and Dealers Registration
National Transfrontier Shipment Office
Floor 2, Eblana House
68-71 Marrowbone Lane
Dublin 8

Tel: 01 2224631, 01 2224633
Fax: 01 411 3452
Email: nationaltfs@dublincity.ie

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 2

Guidelines for Completing the Notification Document & Movement Document

Introduction
A planned shipment subject to the procedure of prior written notification and consent may take place only after the notification and movement documents have been completed pursuant to **Regulation (EC) No 1013/2006 of the European Parliament of the Council of 14 June 2006 on Shipments of Waste**, and during the period of validity of the written or tacit consents of all the competent authorities concerned.

The National TFS Office, Dublin City Council [NTFSO], the National Competent Authority of Despatch for Ireland, is responsible for providing and issuing the notification and movement documents (in both paper and electronic versions). The competent authorities use a notification numbering system prefixed with the country code of the country of dispatch, which allows a particular consignment of waste to be tracked and traced. The NTFSO issues a notification using the prefix IE 31 (the country code in ROI) to identify the notification, which is followed by a four digit number.

The notification document (Annex 1A) is intended to provide the competent authorities concerned with the information they need i) to assess the acceptability of proposed waste shipments; ii) to acknowledge receipt of the notification; and iii) to consent in writing to a proposed shipment. The movement document (Annex 1B) is intended to travel with a consignment of waste at all times from the moment it leaves the waste producer to its arrival at a disposal or recovery facility in another country. Each person who takes charge of a shipment must sign the movement document either upon delivery or receipt of the wastes in question. The movement document records the passage of the consignment through the customs offices of all countries concerned, and is used by the relevant disposal or recovery facility to certify that the waste has been received and that the recovery or disposal operation has been completed.

At the time of notification, the notifier is required to complete blocks 1–18 on the notification document and complete blocks 3, 4 and 9–14 on the movement document. When the notifier is not as the original producer, this producer or one of the persons indicated in point 15(a)(ii) or (iii) of Article 2 of Regulation 1013/2006 is, where practicable, also to sign in block 17 on the notification document. Where it is necessary to add annexes to the documents, each annex should include the notification reference number and cite the block to which it relates.

Please note that the required information must be provided in the notification documents. If any question is not applicable in a particular case, please insert N/A, as appropriate. For example, in Block 14, if any requested code does not apply to the waste, please insert N/A.

After receipt of the consents from the competent authorities of dispatch, destination and transit (or tacit consent), and before the actual start of the shipment, the notifier is required to complete on the movement document the remaining blocks 2, 5–8 (except the means of transport, the date of transfer and the signature), 15 and, if appropriate, 16. Prior to the actual start of shipment the notifier is required to send a copy of the completed and signed movement document to i) the NTFSO, ii) the other competent authorities concerned, and iii) the consignee, at least 3 working days before the shipment commences. At the time of taking possession of the consignment, the carrier or its representative is to complete on the movement document the means of transport, the date of transfer and the signature, which appear in blocks 8(a) to 8(c) and, if appropriate, 16. The shipment shall be accompanied by the movement document and copies of the notification document containing the written consent, including any conditions, of the competent authorities concerned.

Guidance for completing the Notification Document (Annex 1A)

Block 1: Exporter/Notifier - Provide the required information on the exporter/notifier: registration number; exporter/notifier name & address including the name of the country; contact person who is responsible for the shipment; telephone number, fax number & email.

Block 2: Importer/Consignee - Provide the required information on the importer/consignee. Normally, the consignee would be the disposal or recovery facility given in block 10. In some cases, however, the consignee may be another person, for example a dealer, a broker or a corporate body, such as the headquarters or mailing address of the receiving disposal or recovery facility in block 10. In order to act as a consignee, a dealer, broker or corporate body must be under the jurisdiction of the country of destination and possess or have some other form of legal control over the waste at the moment the shipment arrives in the country of destination.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

Block 3: Notification Number - When issuing a notification document, the NTFSO provides an identification number which will be printed in this block. Under A, "individual shipment" refers to a single notification and "multiple shipments" to

a general notification. Under B, give the type of operation the waste being shipped is destined for. Under C, pre-consent refers to Article 14 of Regulation 1013/2006.

Block 4: Number of Shipments - Give the intended number of shipments.

Block 5: Quantity - Give the estimated minimum and maximum weight in tonnes (1 tonne equals 1 megagram (Mg) or 1 000 kg) of the waste. The total quantity shipped must not exceed the maximum quantity declared in Block 5.

Block 6: Period for shipment - Give the intended date of a single shipment or, for multiple shipments, the dates of the first and last shipments. The intended period of time for shipments may not exceed one year, with the exception of multiple shipments to pre-consented recovery facilities, for which the intended period of time may not exceed three years. All shipments must take place within the validity period of the written or tacit consents of all competent authorities concerned issued by the competent authorities. Where a competent authority issues a written consent to the shipment and the validity period of that consent in block 20 differs from the period indicated in block 6, the decision of the competent authority overrides the information in block 6.

Block 7: Packaging - Types of packaging should be indicated using the codes provided in the list of abbreviations and codes attached to the notification document. If special handling precautions are required, such as those required by producers" handling instructions for employees, health and safety information, including information on dealing with spillage, and instructions in writing for the transport of dangerous goods, tick the appropriate box and attach the information in an annex.

Block 8: Carriers - Provide the required information on the intended carriers of the waste: registration number; name & address including the name of the country; contact person responsible for the shipment; telephone number, fax number & email. If more than one carrier is involved, the required information for each carrier should be listed in an annex. Where the transport is organised by a forwarding agent, the agent"s details and the respective information on actual carriers should be provided in an annex. Provide evidence of waste collection permits issued to the carrier(s) regarding the waste transports in an annex. Means of transport should be indicated using the abbreviations provided in the list of abbreviations and codes attached to the notification document.

Block 9: Generator/Producer - Provide the required information on the generator/producer of the waste: registration number. If the notifier is the producer of the waste then write "Same as block 1". If the waste has been produced by more than one producer, write "See attached list" and append a list providing the requested information for each producer. Where the producer is not known, give the name of the person in possession or control of such waste (holder). Also provide information on the process by which the waste was produced and the site of production.

Block 10: Destination Facility - Provide the required information: destination of the shipment by ticking either disposal or recovery facility; registration number; actual site of disposal or recovery if it is different from the address of the facility. If the disposer or recoverer is also the consignee, state here "Same as block 2". If the disposal or recovery operation is a D13–D15 r R12 or R13 operation, the facility performing the operation should be mentioned in block 10, as well as the location where the operation will be performed. In such a case, corresponding information on the subsequent facility or facilities, where any subsequent R12/R13 or D13–D15 operation and the D1–D12 or R1–R11 operation or operations takes or take place or may take place should be provided in an annex (see R-codes or D-codes of Annexes IIA or IIB of Directive 2006/12/EC on waste (see also the list of abbreviations and codes attached to the notification document).

Block 11: Disposal/Recovery operation - Indicate the type of recovery or disposal operation. If the disposal or recovery operation is a D13–D15 or R12 or R13 operation, corresponding information on the subsequent operations (any R12/R13 or D13–D15 as well as D1–D12 or R1–R11) should be provided in an annex. Also indicate the technology to be employed. If the waste is destined for recovery, provide the planned method of disposal for the non-recoverable fraction after recovery, the amount of recovered material in relation to non-recoverable waste, the estimated value of the recovered material, and the cost of recovery and the cost of disposal of the non-recoverable fraction in an annex. *List of recovery and disposal codes is available on the reverse side of the notification document.*

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

Block 12: Waste Description - Provide designation and composition of the waste. Give the name or names by which the material is commonly known or the commercial name and the names of its major constituents (in terms of quantity and/or hazard) and their relative concentrations (expressed as a percentage). In the case of a mixture of wastes, provide the

same information for the different fractions and indicate which fractions are destined for recovery. A chemical analysis of the composition of the waste may be requested. Attach further information in an annex if necessary.
Block 13: Physical Characteristics - Indicate physical characteristics of the waste (eg solid, liquid) at normal temperatures and pressures. *List of physical characteristics is available on the reverse side of the notification document.*

Block 14: Waste Identification - State the code that identifies the waste according to Annexes III, IIIA, IIIB, IV or IVA of Regulation 1013/2006. Give the code according to the system adopted under the Basel Convention (under subheading (i) in block 14) and, where applicable, the systems adopted in the OECD Decision (under subheading (ii)) and other accepted classification systems (under subheadings (iii) to (xii)). Give only one waste code (from Annexes III, IIIA, IIIB, IV or IVA of Regulation 1013/2006) with the following two exceptions: In the case of wastes not classified under one single entry in either Annex III, IIIB, IV or IVA, give only one type of waste. In the case of mixtures of wastes not classified under one single entry in either Annex III, IIIB, IV or IVA, unless listed in Annex IIIA, provide the code of each fraction of the waste in order of importance (in an annex if necessary).

(i): Basel Convention Annex VIII codes should be used for wastes that are subject to the procedure of prior written notification and consent (see Part I of Annex IV of Regulation 1013/2006). Basel Annex IX codes should be used for wastes that are not usually subject to the procedure of prior written notification and consent but which, for a specific reason such as contamination by hazardous substances or national regulations, are subject to the procedure of prior written notification and consent. Basel Annexes VIII and IX can be found in Annex V of Regulation 1013/2006. If a waste is not listed in Annexes VIII or IX of the Basel Convention, insert “not listed”.

(ii): OECD member countries should use OECD codes for wastes listed in Part II of Annexes III and IV of Regulation 1013/2006, i.e. wastes that have no equivalent listing in the Annexes of the Basel Convention or that have a different level of control under this Regulation from the one required by the Basel Convention. If a waste is not listed in Part II of Annexes III and IV of Regulation 1013/2006, insert “not listed”.

(iii): European Union Member States should use the codes included in the European Community list of wastes (see Commission Decision 2000/532/EC as amended).
(iv) and (v): Where applicable, national identification codes other than the EC list of wastes used in the country of dispatch and, if known, in the country of destination should be used. Such codes may be included in Annexes IIIA, IIIB or IVA of this Regulation.

(vi): If useful or required by the relevant competent authorities, add here any other code or additional information that would facilitate the identification of the waste.

(vii): State the appropriate Y-code or Y-codes according to the “Categories of wastes to be controlled” (see Annex I of the Basel Convention and Appendix 1 of the OECD Decision), or according to the “Categories of wastes requiring special consideration” given in Annex II of the Basel Convention (see Annex IV Part I of Regulation 1013/2006 or Appendix 2 of the Basel Instruction Manual), if it or they exist(s). Y-codes are not required by Regulation 1013/2006 and the OECD Decision except where the waste shipment falls under one of the two “Categories requiring special consideration” under the Basel Convention (Y46 and Y47 or Annex II wastes), in which case the Basel Y-code should be indicated. Nevertheless, indicate the Y-code or Y-codes for wastes defined as hazardous according to Article 1(1)(a) of the Basel Convention in order to fulfil the reporting requirements under the Basel Convention.

(viii): If applicable, state here the appropriate H-code or H-codes, i.e. the codes indicating the hazardous characteristics exhibited by the waste (see the list of abbreviations and codes attached to the notification document). If there is no hazardous characteristics covered by the Basel Convention, but the waste is hazardous according to Annex III of Directive 91/689/EEC on hazardous waste, state the H-code or H-codes according to this Annex III and insert “EC” after the H code (e.g. H14 EC). *List of H codes is available on the reverse side of the notification document.*

(ix): If applicable, state here the United Nations class or classes which indicate the hazardous characteristics of the waste according to the United Nations classification (see the list of abbreviations and codes attached to the notification document) and are required to comply with international rules for the transport of dangerous goods (see the United Nations Recommendations on the Transport of Dangerous Goods. Model Regulations (Orange Book), latest edition). *List of H codes is available on the reverse side of the notification document.*

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

(x and xi): If applicable, state here the appropriate United Nations number or numbers and United Nations shipping name or names. These are used to identify the waste according to the United Nations classification system and are required to comply with international rules for transport of dangerous goods (see the United Nations Recommendations on the Transport of Dangerous Goods. Model Regulations (Orange Book), latest edition).

(xii): If applicable, state here customs code or codes, which allow identification of the waste by customs offices (see the list of codes and commodities in the "Harmonised commodity description and coding system" produced by the World Customs Organisation).

Block 15: Countries/CA Codes/Exit/Entry - On line (a) of block 15, provide the name of the countries of dispatch, transit and destination. On line (b), provide, where applicable, the code number of the respective competent authority for each country and on line (c) insert the name of the border crossing or port and, where applicable, the customs office code number as the point of entry to or exit from a particular country. For transit countries give the information in line (c) for points of entry and exit. If more than three transit countries are involved in a particular shipment, attach the appropriate information in an annex. Provide the intended route between points of exit and entry, including possible alternatives, also in cases of unforeseen circumstances, in an annex.

Block 16: Customs - In cases where shipments enter, pass through or leave the European Union, provide the required information

Block 17: Declaration - Each copy of the notification document is to be signed and dated (six-digit format) by the notifier before being forwarded to the competent authorities of the countries concerned. When the notifier is not the same person as the original producer, this producer, the new producer or the collector is, where practicable, also to sign and date; it is noted that this may not be practicable in cases where there are several producers.

Block 18: Annexes - Indicate the number of annexes containing any additional information supplied with the notification document. Each annex must include a reference to the notification number to which it relates.

Block 19: Acknowledgement/Waste recd - For use by competent authority or authorities of the country or countries of destination (where applicable) and transit when issuing a signed, dated and stamped acknowledgement for the receipt of the waste.

Block 20: Consent - For use by competent authorities of any country concerned when providing a signed, dated and stamped written consent (a competent authority of transit may provide a tacit consent) to the waste shipment.

Block 21: Consent/Objection - If the shipment is subject to specific conditions, the competent authority in question should tick the appropriate box and specify the conditions in block 21 or in an annex to the notification document. If a competent authority wishes to object to the shipment it should do so by writing "OBJECTION" in block 20. Block 21, or a separate letter, may then be used to explain the reasons for the objection.

Guidance for completing the Movement Document (Annex 1B)

Block 1: Notification Number - The notification number entered is the number in Block 3 in the notification document.

Block 2: Serial/Total No. Shipments - For a general notification for multiple shipments, enter the serial number of the shipment and the total intended number of shipments indicated in block 4 in the notification document (for example, enter "4/11" for the fourth shipment out of eleven intended shipments under the general notification in question). In the case of a single notification, enter "1/1".

Block 3: Exporter/Notifier - Reproduce the same information on the notifier as given in block 1 in the notification document.

Block 4: Importer/Consignee - Reproduce the same information on the consignee as given in block 2 in the notification document.

Block 5: Quantity -Give the actual weight in tonnes (1 tonne equals 1 megagram (Mg) or 1000 kg of the waste.

Block 6: Date of shipment - Enter the date when the shipment actually starts.

Block 7: Packaging - Types of packaging should be indicated using the codes provided in the list of abbreviations and codes attached to the movement document. If special handling precautions are required, such as those prescribed by producers" handling instructions for employees, health and safety information, including information on dealing with

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

spillage, and transport emergency cards, tick the appropriate box and attach the information in an annex. Also enter the number of packages making up the consignment.

Blocks 8 (a), (b) and (c): Carriers - Provide the required information on the carriers: registration number; name & address including the name of the country; telephone number; fax number; email. When more than three carriers are involved, appropriate information on each carrier should be attached to the movement document. The means of transport, the date of transfer and a signature should be provided by the carrier or carrier"s representative taking possession of the consignment. A copy of the signed movement document is to be retained by the notifier. Upon each successive transfer of the consignment, the new carrier or carrier"s representative taking possession of the consignment will have to comply with the same request and also sign the document. A copy of the signed document is to be retained by the previous carrier.

Block 9: Generator/Producer - Reproduce the information given in block 9 of the notification document.

Block 10: Destination Facility - Reproduce the information given in blocks 10 in the notification document. If the disposer or recoverer is also the consignee, write “Same as block 4”.

Block 11: Disposal/Recovery operation - Reproduce the information given in block 11 in the notification document. If the disposal or recovery operation is a D13–D15 or R12 or R13 operation, the information on the facility performing the operation provided in block 10 is sufficient. No further information on any subsequent facilities performing R12/R13 or D13–D15 operations and the subsequent facility(ies) performing the D1–D12 or R1–R11 operation(s) needs to be included in the movement document.

Block 12: Waste Description - Reproduce the information given in block 12 in the notification document.
Block 13: Physical Characteristics - Reproduce the information given in block 13 in the notification document.
Block 14: Waste Identification - Reproduce the information given in block 14 in the notification document.
Block 15: Declaration - At the time of shipment, the notifier shall sign and date the movement document. The shipment shall be accompanied by the movement document and copies of the notification document containing the written consent, including any conditions, of the competent authorities concerned.

Block 16: Additional requirement in certain cases - This block can be used by any person involved in a shipment in specific cases where more detailed information is required by national legislation concerning a particular item (for example, information on the port where a transfer to another transport mode occurs, the number of containers and their identification number, or additional proof or stamps indicating that the shipment has been consented by the competent authorities). Give the routing (point of exit from and entry into each country concerned, including customs offices of entry into and/or exit from and/or export from the Community) and route (route between points of exit and entry), including possible alternatives, also in case of unforeseen circumstances, either in block 16 or attach it in an annex.

Block 17: Shipment not first recd by facility - This block is to be completed by the consignee in the event that it is not the disposer or recoverer and in case the consignee takes charge of the waste after the shipment arrives in the country of destination.

Block 18: Shipment recd by facility - This block is to be completed by the authorised representative of the disposal or recovery facility upon receipt of the waste consignment. Tick the box of the appropriate type of facility. With regard to the quantity received, give the actual weight in tonnes (1 tonne equals 1 megagram (Mg) or 1000 kg of the waste. A signed copy of the movement document is given to the last carrier. If the shipment is rejected for any reason, the representative of the disposal or recovery facility must immediately contact his or her competent authority. Signed copies of the movement document must be sent within three days to the notifier and the competent authorities in the countries concerned. The original movement document shall be retained by the disposal or recovery facility. Receipt of the waste consignment must be certified by any facility performing any disposal or recovery operation, including any D13–D15 or R12 or R13 operation. Indicate also the type of disposal or recovery operation by using R-codes or D codes and the approximate date by which the disposal or recovery of waste will be completed.

Block 19: Certification of Completion - This block is to be completed by the disposer or recoverer to certify the completion of the disposal or recovery of the waste. Signed copies of the movement document with block 19 completed should be sent to the notifier and competent authorities of dispatch, transit and destination as soon as possible, but no later than 30 days after the completion of the recovery or disposal and no later than one calendar year following the receipt
of the waste. The disposal or recovery of waste must be certified by any facility performing any disposal or recovery operation, including a D13–D15 or R12 or R13 operation.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

Block 20, Block 21 and Block 22: Customs - The blocks must be used for control by customs offices at the borders of the Community.

This document is based on the provisions of Annex 1C and Annex II of Regulation (EC) No 1013/2006 of the European Parliament of the Council of 14 June 2006 on Shipments of Waste.

ANNEX 3

Schedule of Charges applying from 1st July 2010

Export Charges €	Amber	Green	Amber + Green
Annual Fixed Administration Fee (per calendar year)	500.00	250.00	600.00
Tonnage Fee	2.50	0.60	
Glass		0.30	
Soil	0.30		
Bulk Shipment [a single shipment of waste greater than or equal to 1000 tonnes (for fee purposes)].	0.30	0.30	

Import Charges €	Amber	Green
Annual Fixed Administration Fee (per calendar year)	500.00	500.00
Shipment Fee	25.00	0.00

Repatriation Fee €	Amber and Green List Waste
Repatriation/direction to return amber or green list waste from Irish, EU or international ports	750.00 per returned shipment

Registration Fee €	2-yearly Fee/ Renewal Fee
Registration under Waste Management (Brokers and Dealers) Regulations 2008	200.00

Refund Fee €	Administration of Refund Application
Unused Tonnes notified; Cancelled Notifications	350.00

Monitoring Fee €	Amber and Green List Waste
Investigations/Written Directions re Amber & Green Shipments	350.00

Please Note-

Export Charges: The administration fee applies from 1st January to 31st December each year.

Import Charges: The €25 fee applies to each shipment on a notification for Amber waste imports. No tonnage/shipment fees apply to the import of Green waste.

Repatriation Fee: The €750 fee covers all containers in a returned shipment. This fee is avoidable.

Registration Fee: The Certificate of Registration shall be valid for a period of 2 years.

Refund Fee: The fee of €350 shall be deducted from the tonnage fees already paid on the notification. Refund claims up to €350 shall not be considered. The annual administration fee is non-refundable. A claim for a refund must be received by email on the prescribed TFS Refund Form no later than I month from the notification expiry date (guidance and form available on website: www.dublincity.ie.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 4

Claiming a Refund

The National TFS Office considers claims or requests from notifiers for a partial refund of fees paid in respect of the submission of TFS Notifications on the basis that i) the total intended quantity of waste indicated in tonnes on the notification document is not shipped, or ii) the notification is cancelled. Claims for a refund must be received no later than I month from the notification expiry date.

Fee per Refund Application

A fee of €350 shall be charged for the processing of each refund application in respect of unused tonnages and cancelled notifications. This fee shall be deducted from the tonnage fees already paid on the notification. Accordingly, applications for a refund amounting to €350 or less shall not be considered.

Refunds Claims are processed in accordance with the following conditions-

Unused Tonnes: A refund is payable in respect of unused tonnes of waste not shipped on the notification. The amount refunded shall be the fees paid for any unused tonnes, less €350 of the total tonnage fee paid on the notification.
Cancelled notifications: A refund is payable in respect of the tonnage fee paid on a notification that is cancelled prior to shipments taking place, less €350 of the tonnage fee paid.
Administration Charge: A refund is payable for unused tonnes only. The annual administration fee charged per notifier is non-refundable.
Refund Claim Form: A claim for a refund must be submitted to the NTFSO by email (national tfs@dublincity.ie) on the prescribed form: TFS Refund Form (attached).
Refund Submission Time: Claims for a refund must be received no later than I month from the notification expiry date.

Procedures for Claiming a Refund applying from 1st July 2010

Claimants for a refund in respect of Unused Tonnes and Cancelled Notifications must-

- Submit a claim for a refund to the NTFSO by email on the prescribed form: TFS Refund Form (attached).
- Submit the completed TFS Refund Form no later than 1 month from the expiry date on a notification.
- Provide information on the TFS Refund Form in respect of each notification under the following 8 headings:

1) The TFS Notification Number/s.
2) The notification expiry date.
3) The refund category: whether the claim is for unused tonnes or a cancelled notification.
4) The intended quantity in tonnes and the intended number of loads.
5) The quantity in tonnes and the number of loads received at the destination facility (as confirmed by the facility in Block 18 on Annex 1B Movement Document).
6) The unused quantity in tonnes and the unused number of loads.
7) The reason/s for not shipping the intended tonnage, or the reason for cancelling the notification.
8) The refund amount claimed (for unused tonnes).

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 5

CONTRACT [Amber]

Contract concluded between the Notifier and the Consignee for purposes of Article 5 of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on Shipments of Waste

This Contract applies to waste shipments effected on TFS Notification Number IE 31XXXX (in addition to any other contract entered into between the parties concerned).

The parties to this Agreement being the Notifier and the Consignee shall comply with the requirements of the Waste Shipment Regulations in respect of the recovery or disposal of notified waste shipments. Shipments shall be carried out in accordance with the information provided in the Notification subject to the conditions of Consent and the approved Financial Guarantee and this Contract.

Notifier (Name, Address):

_____

Consignee: (Name, address);

_____

Competent Authority of Despatch: National TFS Office, Dublin City Council,
Eblana House, 68-71 Marrowbone Lane, Dublin 8, ROI.

It is hereby agreed between the parties that the following legal duties and obligations will be observed in relation to TFS Notification No IE 31XXXX, as required by Council Regulation (EC) No 1013/2006:

-The Notifier shall take back the waste if the shipment or the recovery or disposal operation has not been completed in the intended way or was effected in an illegal way, in accordance with the provisions of Article 22 and Article 24(2) of Council Regulation (EC) No 1013/2006.

-The Consignee shall recover or dispose of illegally shipped waste under its responsibility, in accordance with the provisions of Article 24(3), of Council Regulation (EC) No 1013/2006.

-The Facility shall submit a certificate to the competent authorities and to the Notifier indicating that the recovery or disposal operation on each shipment has been completed, in accordance with the provisions of Article 16(e) of Council Regulation (EC) No 1013/2006.

-This Contract is valid for the duration of all shipments effected on the notification until the final certificate from the facility has been received indicating that the recovery or disposal operation has been completed.

Signatures

Notifier: _____ **Date**: _____

Consignee: _____ **Date**: _____

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 6

Financial Guarantee

Under Regulation (EC) 1013/2006 and the Waste Management (Shipments of Waste) Regulations 2007, the notifier of a proposed waste shipment is legally obliged to put in place a Financial Guarantee to cover liabilities resulting from shipments carried out under the notification. The purpose of the Financial Guarantee is to cover costs arising in the context of 1) cases where a notified shipment, or the recovery or disposal of the notified waste cannot be completed as intended, or 2) cases where a shipment or the intended recovery or disposal is deemed illegal. The guarantee is concerned with the legal completion of the waste only and does not apply to liabilities covered by public liability insurance put in place by the notifier in connection with environmental pollution or damage to third parties.

A Financial Guarantee should be submitted for the approval of the National TFS Office, Dublin City Council [NTFSO] on headed paper; containing the original signature of the appropriate person acting on behalf of the Bank, the date of issue, and a reference number. A guarantee in the form of a deposit with a bank to secure the bond is acceptable.

Calculations

The Financial Guarantee must cover costs in relation to transport, recovery or disposal, and storage. The calculation of the amount of the guarantee should be based on the costs involved in respect of an individual shipment, as follows:

a) Transport costs. These costs are associated with transporting one shipment of waste between the points of despatch and destination, there and back, in respect of, for example, shipping, carriage, and harbour costs, in cases where shipments cannot be completed as intended or are deemed illegal and must be returned to the country of origin.
b) Recovery/Disposal costs. These are costs based on the estimated cost of the recovery/disposal operation in respect of one shipment in relation to shipments which cannot be completed as intended or are deemed illegal. In such cases alternative arrangements would be required for recovery or disposal in the country of despatch or destination, as agreed.
c) Storage costs. A contingency sum amounting to 50% of the transport and recovery/disposal costs must be included to cover storage for up to 90 days in situations where the waste material cannot be delivered directly to the facility for legal or other reasons and must be stored at the port of entry or elsewhere. The contingency sum also covers any additional administrative or legal costs incurred by the competent authorities.
d) Number of active shipments taking place at any one time. The value of the guarantee increases according to the number of active shipments covered and specified in the guarantee. A shipment is deemed active until such time that a certificate of disposal or recovery is issued by the consignee.

Therefore, the value of an average bond is [a + b + (a + b x 50%)] x d

The calculations for the value of the bond should be submitted to the NTFSO on signed headed paper.

Certificate

The export of the waste cannot commence unless the NTFSO issues a certificate confirming that there is an adequate financial guarantee in force to cover the proposed shipment.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

Text
The Financial Guarantee should be based on the wording in our suggested text, as follows-

Template for Financial Guarantee

In accordance with the provisions of the Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007), and Regulation (EC) No. 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, we, **(NAME OF BANK)** hereby unconditionally and irrevocably guarantee to pay for any and all claims made by the National TFS Office, Dublin City Council, being the Competent Authority of Despatch as defined by the above Regulations, on receipt of a written demand or demands from the Competent Authority referred to above, accompanied by a signed Declaration that the amount claimed is due by reason of the notifier **(NAME)** and / or the consignee **(NAME)** having failed to fulfil their obligations under the Regulations with regard to **(TFS Number)**, provided that our liability shall not exceed **(AMOUNT)** per load and our total liability shall not exceed **(AMOUNT)**.

This guarantee covers the movement of any **(Number)** consignments only at any one time. Further consignments can issue only upon receipt of a copy certificate of disposal or recovery from the previous consignment. The Guarantee shall be in place to cover all consignments notified for the period **(** **)** to **(** **)** as specified by **(TFS Number** **)** and shall terminate on the close of our banking business on the 400th day after receipt of the consignment by the consignee if that consignment was collected on the last day of the period as specified above (and if that day is not a business day, that the next succeeding business day) or if sooner upon receipt of a copy of the certificate of recovery/disposal of the final consignment. This guarantee may also be terminated by 400 days written notice served by us on you, the National TFS Office, Dublin City Council, as the Competent Authority of Despatch, and our liability hereunder shall cease as and from the close of our banking business on the day of expiry of that notice (and if that day is not a business day, then the next business day) except for any liability in respect of which a demand in writing shall have been made hereunder before the expiry date.

Any demand under this guarantee must be presented in writing to the Manager, **(NAME OF BANK)**.

Dated this _____ day of _____ 2008

Signed: _____
Manager

Shipments under guarantee
It is the full responsibility of the notifier to ensure that all shipments carried out are financially guaranteed in accordance with the certification process. The consent issued to a TFS notification shall be considered withdrawn if the financial guarantee approved and certified by the NTFSO is not effective when the pre-notified shipment starts.

Bond Release
The notifier is required to furnish a letter to the NTFSO requesting the release of the bond, as applicable. The NTFSO shall release the bond following receipt of certified confirmation regarding the completion of all notified recovery or disposal operations.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 7

CONTRACT [Green]

Contract concluded between the Person Who Arranges Shipments of Green-list Waste for purposes of Article 18, Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on Shipments of Waste

This Contract applies to waste shipments carried in accordance with Article 18 procedures on an Annex VII document in compliance with the requirements of Regulation (EC) No 1013/2006. The parties to this Agreement, being the Person Who Arranges Shipments and the Consignee, shall comply with the requirements of the Waste Shipment Regulations in respect of the movement of Green waste and its recovery at an authorised facility. Shipments shall be carried out in accordance with the information provided in the Annex VII document and under the terms of this Contract.

Person Who Arranged Shipment: _____

Consignee: _____

Competent Authority of Despatch: National TFS Office, Dublin City Council,
Eblana House, 68-71 Marrowbone Lane, Dublin 8, ROI.

It is hereby agreed between the parties that the following legal duties and obligations will be observed, as required by Council Regulation (EC) No 1013/2006:

-This contract between the person who arranges the shipment and the consignee shall be effective when the shipment starts.

-This contract is valid for the duration of all shipments effected on the Annex VII document until the final recovery operation has been completed at the authorised facility.

-The Annex VII document shall be signed by the person who arranges the shipment before the shipment starts, and by the recovery facility and the consignee when the waste is received.

-The person who arranges the shipment shall ensure that the waste is accompanied by the Annex VII document.

-The person who arranges the shipment or the consignee shall provide a copy of the contract upon request by the competent authority concerned.

-The person who arranged the shipment, or where that person is not in a position to complete the shipment of waste or its recovery, the consignee, shall take back the waste or ensure its recovery in an alternative way, and provide, if necessary, for its storage in the meantime, if the shipment or the recovery operation has not been completed in the intended way or was effected in an illegal way.

Signatures

Notifier: _____ **Date**: _____

Consignee: _____ **Date**: _____

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 8

Frequently Asked Questions

What is the transfrontier shipment of waste?
The transfrontier shipment of waste concerns the shipment of waste between countries involving waste movement within, into and out of the EU.

How is the Transfrontier Shipment of waste regulated and controlled?
Transfrontier shipments of waste within, into and out of the EU are regulated and controlled by Regulation (EC) No.1013/2006 of the European Parliament and the Council of 14 June 2006 on shipments of waste effective from the 12th of July 2007. As and from this date, Dublin City Council is designated as the National Competent Authority for the export, import and transit of waste shipments under the Waste Management (Shipments of Waste) Regulations 2007, which give effect to the provisions of Regulation (EC) 1013/2006.

What is the National TFS Office?
For purposes of the Regulations Dublin City Council has established the National TFS Office, address: National TFS Office, Dublin City Council, Eblana House, 68-71 Marrowbone Lane, Dublin 8, Republic of Ireland. The National TFS Office is responsible for meeting Dublin City Council"s obligations as the nominated Competent Authority of Dispatch in respect of the export of waste from the State, the Competent Authority of Destination in respect of the import of waste into the State, and the Competent Authority of Transit in respect of the passage of waste in transit through the State.

What is a Competent Authority?
To implement the TFS Regulations and ensure the movement and processing of waste in an environmentally sound manner, 3 competent authorities are designated for the dispatch, destination and transit of waste.

What are the Waste Lists?
For export and import purposes, wastes are identified for inclusion in Green or Amber lists which are annexed to Regulation (EC) 1013/2006. Shipments of Amber listed waste for recovery are subject to the prior written notification and consent procedures. Shipments of Green listed waste for recovery need only be accompanied by information certified by the owner. All shipments of waste destined for disposal are subject to the prior written notification and consent procedures.

Who is the Notifier?
A person or body proposing to carry out a shipment of waste, whether it is the waste producer, collector, broker, or dealer, may act in a notifying and exporting capacity. Where the notifier intends to ship waste, he/she shall submit a prior written notification to and through the National TFS Office.

What does prior written notification mean?
Under the prior written notification and consent procedures, any proposals for the shipment of waste must first of all be brought to the attention of the National TFS Office by means of the submission of an application, known as a notification, consisting of a notification document and a movement document, as set out in Annex 1A and 1B of Regulation (EC) 1013/2006. Having obtained consent to the waste movement, prior to export the notifier shall send a copy of the completed movement document to the National TFS Office between the hours of 9:30am to 4:30pm Monday to Friday (excluding Bank Holidays) and to the competent authorities concerned at least 3 working days before the shipment starts. The notifier shall retain a copy of the completed movement document.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

What is the purpose of the Notification and Movement documents?
The Notification Document provides the Competent Authorities of countries concerned in the proposed waste shipment with information such as the waste type, waste generator, intended quantity of shipments, disposal/recovery process, expiry date etc. The Movement Document, must accompany the waste shipment at all times through the country (ies) of transit on route
to the disposal/recovery facility in the country of destination. This document provides information on the notifier, importer, carriers of the consignment, means of transport etc. The main objective of this document is to track and trace the movement of the waste shipment from cradle to grave, including the certification regarding the acceptance and the completed recovery/disposal operation at the authorised waste recovery/disposal facility.

What Information should be submitted in an application or notification?
The notification and movement documents must be fully completed and must be accompanied by:
• The notification fee.
• Copy of a contract drawn up between the notifier and the consignee for the recovery or disposal of the waste.
• Financial Guarantee.
• List of Carriers/Hauliers, indicating Waste Collection Permit reference numbers
• Detailed Waste Description.
• Transport Itinerary.
• Contact details for the Competent Authority of Destination & Transit, including name, address, telephone number, email address & contact name.

How do I export waste out of the Republic of Ireland?
Intended shipments from the State that are subject to the controls of the prior written notification and consent procedures must be brought to the attention of the National TFS Office by means of the submission of a notification. The notifier should firstly apply in writing to the National TFS Office for the notification document and movement document, outlining proposals in relation to the description, origin and destination of the waste. A reference number is allocated to each notification issued.

What if I am exporting waste outside the European Community?
Proposals for the export of waste to countries outside the EU such as China, Hong Kong, Malaysia, Singapore, India are subject to specific importation Regulations. **Please contact the National TFS Office for further information**.

What is the procedure on notification consented before July the 12th 2007?
Any shipment that has been notified and for which the competent authority (ies) of destination, transit and export has given acknowledgement and consent before the 12 July 2007 shall be subject to the provisions of the Regulation (EEC) No 259/93. Their consent shall be completed not later than one year from 12 July 2007.

When can I move the Waste?
Having submitted a satisfactory notification, prior to export, waste exporters must have obtained the necessary consent from all the competent and regulatory authorities involved; have received a certificate for the guarantee; have appropriate third party liability insurance; ensure that the waste is moved in accordance with the information provided in the notification; have arranged to comply with all other applicable enactments in addition to the TFS legislation, and ensure that the proposed shipment is managed in an environmentally sound manner. The notifier shall insert the actual date of shipment in the movement document, sign it and otherwise complete the movement document and shall send a copy of the completed movement document to the competent authorities concerned and to the consignee at least
3 working days before the shipment starts. The movement document and a copy of the notification document containing the written consents and the conditions of the competent authorities concerned shall accompany each transport.

How do I reference any annexes/attachments to my notification documents?
Each attachment should include the reference number of the relevant notification and mention the block to which it relates in the notification or Movement Document. It should be in capital letters at the top of each annex/amendment.

Are there any other requirements needed on completing the notification documents?
A six digit format should be used to indicate the date e.g. 12 July 2007 should be shown as 12.07.07*(day. month. year.)*
All signatures should be written in permanent ink. The name of the authorised representative e.g. signature of declaration box 15, should also be written in capital letters to accompany the signature.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

What is consent to notification?
The competent authorities of dispatch, destination, and transit may consent to the proposed shipment with or without conditions, or may object to the shipment.

What if I have changes in the shipment after consent?
If any essential change is made to the details and or the conditions of the consented shipment, including changes in:
• Intended quantity
• Route
• Date of shipment or carrier
The notifier shall inform the competent authorities concerned and the consignee immediately.
In such cases a new notification shall be submitted, unless all the competent authorities concerned consider that the proposed changes do not require a new notification. Where such changes involve competent authorities other than those concerned in the original notification, new notification shall be submitted.

What is a general notification?
In cases where essentially similar waste (e.g. those having essentially similar physical and chemical characteristics) are to be shipped to the same consignee, facility, through the same route, exporter, the competent authorities of the countries concerned may provide one general notification for such multiple shipments for a time period of up to one year.

What is a pre – consented facility?
The competent authorities of destination, import, which have jurisdiction over specific recovery facilities, may decide to issue pre-consents to such facilities. Such decisions can be limited to a specified period of time and can be revoked at any time.

What is an illegal shipment?
An illegal shipment means any shipment of waste, which is subject to the pre-notification and consent procedures but is effected:
• without notification to all the competent authorities concerned
• without consent of all the competent authorities concerned
• In breach of the information specified in the notification documents and In contravention of the Regulations.

How long do I keep the documents and information for?
All documents sent to or by the competent authorities in relation to a notified shipment shall be kept for *at least three years* from the date when the shipment starts, by the competent authority (ies), the notifier, the consignee and the facility that receives the waste.

What is the Basel Convention?
Means the Basel Convention of 22 March 1989 on the control of transboundary movements of hazardous wastes and their disposal.

What is the OECD Decision?
The OECD (Organisation of Economic Co-operation and Development) decision [Council Decision C (2001) 107/FINAL – Decision] is applied to transfrontier shipments of waste destined for recovery operations that take place from one OECD member to another. Any country that is not part of the OECD decision is known as a non-OECD country e.g. China.

Who are the EFTA countries?
The European Free Trade Association (EFTA) consists of four members Iceland, Liechtenstein, Norway and Switzerland. If you are intending on exporting to these countries **please contact the National TFS Office for further Information**.

What is Impel?
IMPEL is the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL). It is an informal Network of the environmental authorities of the Member States. The network is commonly known as the IMPEL Network.

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 9

Web Links

- Application forms, including the Notification Document; Movement Document; Broker and Dealer Registration Form; Refund Claim Form; and the Annex VII Document, can be accessed through the appropriate quick-link on the following web-page:

Dublin City Council: National TFS Office

[or by emailing nationaltfs@dublincity.ie]

• Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14June 2006 on shipments of waste **europa.eu/scadplus/leg/en/lvb/l11022.htm**

• European Waste Catalogue Coding System: **www.environ.ie/en/Publications/Environment/Waste/WEEE/FileDownLoad,1343,en.pdf**

• Irish Acts and Statutory Instruments are available at **www.irishstatutebook.ie**

• EPA – National Waste Reports **www.epa.ie/whatwedo/resource/nwr/**

• Department of Environment Website**:** **www.environ.ie**

• Race Against Waste **www.raceagainstwaste.ie**

• This webpage explains the rules and gives further information on the control of waste shipments in the EU. ec.europa.eu/environment/**waste**/**shipments**/index.htm

• Access to European Law: **www.europa.eu.int/eur-lex/en/index.html**

• European Environment Agency: **www.eea.europa.eu/**

• Germany Environmental Agency: **www.umweltbundesamt.de/index-e.htm**

• OECD home page: **http://www.oecd.org/**

• OECD countries: **http://www2.oecd.org/waste/Countries.asp?q=1**

• OECD enquiries: **http://www2.oecd.org/waste/Queries.asp**

• Impel website: **http://impel.eu/**

• Basel Convention home page: **http://www.basel.int/**

• Basel parties: **http://archive.basel.int/ratif/convention.htm**

• Basel countries: **http://www.basel.int/PARTIES%20(CA).doc**

• EFTA Countries website **webmaster@efta.int**

• EEA agreement /EFTA countries – please refer to **annex 20 (waste)** **secretariat.efta.int/Web/EuropeanEconomicArea/EEAAgreement/annexes**

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

ANNEX 10

Contacts

National TFS Office Dublin City Council, Tel: + 353 (01 2224235
Eblana House, or + 353 (0)1 2224374
68-71 Marrowbone Lane, Fax: +353(0) 1 4544830
Dublin 8, Email: **nationaltfs@dublincity.ie**
Republic of Ireland **www.dublincity.ie/living_in_the_city/your_home/waste_services/national_tfs_office/**

Waste Enforcement Unit Dublin City Council, Tel: + 353 (0)1 2224267
Eblana House Fax: +353 (0)1 4539549
68-71 Marrowbone Lane, Email:
Dublin 8. **waste.enforcement@dublincity.ie**
Republic of Ireland

Department of Environment Environmental Division LoCall: 1890 20 20 21
Heritage and Local Government Custom House, or 01 888 2000
Dublin 1 **www.environ.ie**

EPA Headquarters PO Box 3000 Tel: +353 (0)53-9160600. Fax:+353 (0)53-9160699
Johnstown Castle Estate Lo Call: 1890 335599
Co. Wexford Email: **info@epa.ie**
www.epa.ie

OEE Public Authority Enforcement Environmental Complaints Unit, Tel: +353 (0)53-9160600.
Office of Environmental Enforcement, Fax:+353 (0)53-9160699
Environmental Protection Agency, Lo Call: 1890 335599
PO Box 3000
Johnstown Castle Estate Email: **info@epa.ie**
Co. Wexford **www.epa.ie**

Health and Safety Authority The Metropolitan Building Tel: 1890 289 389
James Joyce Street Fax: +353 (0) 1-614 7020
Dublin 1 Email: **wcu.hsa.ie**
www.hsa.ie

Department of Agriculture, Agriculture House, Tel: +353 (0) 1 6072000
Fisheries and Food Kildare Street, Lo-call 1890 200 510
Dublin 2. Email: **info@agriculture.gov.ie**
www.agriculture.gov.ie

Enfo 17 St. Andrew"s St., Tel: +353 (0) 1 888 2001 Fax: +353 (0) 1 888 3946
Dublin 2 LoCall: 1890 200 191
Email: **info@enfo.ie**
www.enfo.ie

Bills, Acts, Statutory Instruments etc. are available from:
Government Publications Sales Office Sun Alliance House Tel: +353 (0) 1 647 6869
Molesworth Street
Dublin 2 **www.opw.ie**

Government Publications 51 St Stephen"s Green Tel: + 353 (0) 1 647 6000
– mail order service Dublin 2
Ireland **www.opw.ie**
EU Publications Molesworth Street,
Dublin 2

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.

Other Competent Authorities

Northern Ireland

The Environment and Heritage Klondyke Building, Tel: +44 28 90569742
Service (EHS), Cromac Avenue, Fax: +44 28 90569310
Hazardous Waste/TFS Section, Gasworks Business Park.
Lower Ormeau Road,
Belfast BT7 2JA Web: **www.ehsni.gov.uk/**

England and Wales

Environment Agency, Richard Fairclough House, Tel: +44 1925542413
TFS National Service, Knutsford Road, Fax: +44 1925 542105
Warrington WA4 1HT Email: **nattfs@environment-agency.gov.uk**
Web: **www.environment-agency.gov.uk/**

Scotland

The Scottish Environment Clearwater House, Tel: + 44 131 449 7296
ProtectionAgency (SEPA), Heriot Watt Research Park, Fax: +44 131 449 7277
Avenue North, Riccarton,
Edinburgh Email: **transfrontier@sepa.org.uk**
EH16 6UW. Web: **www.sepa.org.uk**

This document is a guide only and does not purport to provide, and should not be relied upon as, a legal interpretation of the Regulations.