

EXECUTIVE SUMMARY

Shell E&P Ireland Limited (SEPIL), on behalf of the Corrib Gas Partners (SEPIL, Statoil Exploration (Ireland) Ltd and Vermilion Energy Ireland Ltd) is developing the Corrib Gas Field off the coast of Mayo. The field will be produced via a subsea production facility with onshore processing. The overall development includes: the offshore wells, offshore subsea facilities and offshore pipeline as far as the Mayo coast, the onshore section of the pipeline and a gas terminal at Béal an Átha Buí (Bellanaboy), Co. Mayo. This Environmental Impact Statement (EIS) relates to the onshore section of the gas pipeline.

In January, 2007 SEPIL appointed RPS to implement a recommendation by the independent mediator, Mr Peter Cassells (appointed by the then Minister for Communications, Marine & Natural Resources), that SEPIL modify the route of a previously approved onshore gas pipeline *'in the vicinity of Rossport to address community concerns regarding proximity to housing'*. Since February, 2007, wide-ranging public consultation has taken place in parallel with the route selection process. Eight possible pipeline route corridors were published in June, 2007 and, after further assessment, these were shortlisted to three route corridors in September, 2007 using a combination of community, environmental and technical criteria. Throughout 2007, extensive technical and environmental assessments were undertaken to assess different aspects of each route option in parallel with community consultation. The ongoing assessment informed a decision to also investigate variations on the three shortlisted route corridors (A, B and C), and subsequently A1 and C1 were publicly announced in December 2007. The public consultation on these five corridor options, A, B, C, A1 and C1, closed in January 2008. RPS subsequently identified route C1 as the preferred route for the Corrib Onshore Pipeline in April 2008.

In February, 2009, an application for Statutory Approval of the proposed onshore pipeline development (based on the preferred Route C1) was submitted to An Bord Pleanála in accordance with the provisions of the Planning and Development (Strategic Infrastructure) Act 2006. Following a statutory period for the making of public submissions to An Bord Pleanála, an Oral Hearing, hosted by An Bord Pleanála, took place in Béal an Mhuirthead (Belmullet) during May and June, 2009.

In parallel, applications for consent to develop the Corrib pipeline under Section 40 of the Gas Act and the Foreshore Act were made to the Department of Communications, Energy and Natural Resources (DCENR) and Department of Agriculture, Fisheries and Food (DAFF) respectively.

In November, 2009, An Bord Pleanála invited SEPIL, the Applicant, to modify a specified portion of the proposed route (identified by chainage points in the Board's written correspondence) between Gleann an Ghad (Glengad) and na hEachú (Aghoos). Such modification was acknowledged in the Board's correspondence generally to comprise Corridor C as previously identified in the route selection process (that is, within Sruwaddacon Bay). An Bord Pleanála also requested further information on the proposed development, including a revised EIS, and a complete, transparent and adequate demonstration that the proposed pipeline does not pose an unacceptable risk to the public. In addition, An Bord Pleanála established both risk and consequence based safety criteria against which the proposed development will be assessed.

This revised EIS, which replaces the EIS previously submitted, describes the revised scheme in detail, including the pipeline route, construction methodologies and their associated aspects and potential impacts. The proposed route is approximately 8.3km long from the landfall at Gleann an Ghad (Glengad) to the Bellanaboy Bridge Gas Terminal. A Landfall Valve Installation (LVI) will be located approximately 50m from where the pipeline comes ashore at Gleann an Ghad (Glengad) and is designed to limit the pressure in the onshore pipeline to a maximum 100 barg. The design of the Corrib Onshore Pipeline is in accordance with recommendations made by the Independent Safety Review undertaken by Advantica, dated January 2006, and endorsed by the Technical Advisory Group (TAG) reporting to the Minister for Communications, Marine and Natural Resources. Furthermore, the design complies with the safety criteria established by An Bord Pleanála in its letter of 2nd November 2009.

In parallel with responding to An Bord Pleanála on the request for further information, applications under the Gas Act and Foreshore Act will be resubmitted to the DCENR and the Department of Environment Heritage and Local Government (DoEHLG) respectively.

The proposed onshore pipeline starts at the previously approved landfall in the townland of Gleann an Ghad/Dún Ceartáin (Glengad/Dooncarton) and crosses an area of improved grassland in the Glenamoy Bog Complex candidate Special Area of Conservation (cSAC). It then runs in a tunnel for approximately 4.9km in a south-easterly direction from Gleann an Ghad (Glengad) to na hEachú (Aghoos), whereupon it extends onto lands within the townland of na hEachú (Aghoos). It then turns in an easterly direction through peatland and forestry before rejoining the previously approved route to enter the Bellanaboy Bridge Gas Terminal site.

The principal challenges in arriving at the proposed scheme have been to address the concerns of people in the local community and to ensure that the potential for impact to the environment (especially in designated conservation sites) is minimised. The construction methodologies have been described and resulting potential environmental impacts assessed. Measures to prevent, limit, reduce and minimise environmental impact on the human and natural environments and cultural heritage have been considered and implemented in the revised design, as described. Alternative construction methods have also been considered and outlined.

The construction of the Corrib Onshore Pipeline requires the permanent removal of up to 75,000m³ of surplus peat, which will be disposed of at a peat deposition site in An Srath Mór (Srahmore), located approximately 10km from the proposed route (see Appendix A4). A separate description of the peat deposition operations at An Srath Mór (Srahmore) is provided in Volume 3 of this EIS. There will also be a requirement to dispose of up to 68,000m³ of tunnelling arisings. It is proposed to re-use a large amount of this material on the Corrib Onshore Pipeline Project. Any surplus material that can be classified as a by-product will be used on other identified construction sites as appropriate or processed at a local quarry. If this is not possible, the material will be sent for disposal offsite. A small proportion of the tunnelling material will be required to be disposed of to a licensed waste management facility.

The Corrib development will contribute significantly to ensuring Ireland's security of supply, meeting up to 60% of Ireland's gas requirements during the initial years of production and reducing Ireland's dependence on imported energy. Ireland is currently dependent on imports for more than 90% of its gas, and generates 55% of its electricity from gas. The Corrib development has supported the recent extension of the natural gas network in Co. Mayo and the North-West generally, which has brought regional and national economic benefit in terms of a clean and reliable energy source for both residential and industrial use. The project as a whole will have a net positive impact on the national, regional and local economy and on local employment during construction and during the lifetime of the operations.

Having conducted a detailed study of the effects of the onshore pipeline project on the environment, it has been concluded that the proposed Corrib Onshore Pipeline will not have a significant residual impact on the human, natural or cultural heritage of the area in the long term.

Furthermore, the modified development addresses the safety concerns raised and safety criteria established by An Bord Pleanála, and a complete and transparent demonstration has been provided that the proposed onshore pipeline development does not present an unacceptable risk to the public (see Appendix Q).

1 INTRODUCTION

As part of the Corrib Development, Shell E&P Ireland Ltd. (SEPIL) proposes to construct an Onshore Gas Pipeline to connect the permitted offshore pipeline and Corrib Gas Field off the west coast of Ireland to the gas terminal at Béal an Átha Buí (Bellanaboy).

This Environmental Impact Statement (EIS) addresses the Corrib Onshore Pipeline between the landfall at Gleann an Ghad (Glengad) and the gas terminal at Béal an Átha Buí (Bellanaboy). The proposed development consists of the following elements, which are considered in Volumes 1 & 2 of this EIS:

- 8.3km gas pipeline extending from a landfall located at Gleann an Ghad (Glengad) via a 4.9km tunnel, most of which is under Sruwaddacon Bay, to the permitted gas terminal at Béal an Átha Buí (Bellanaboy);
- Landfall Valve Installation (LVI) located approximately 50m from the landfall at Gleann an Ghad (Glengad) (Volumes 1 & 2);
- Associated services which extend from the Bellanaboy Bridge Gas Terminal to the landfall (and continues to the subsea manifold in the Corrib Field); and
- Outfall pipeline extending from the Gas Terminal to the landfall (and which continues to a discharge location approximately 12.7km from the landfall).

The proposed development includes the permanent deposition of up to 75,000m³ of peat at the Srahmore Peat Deposition Site. This peat will be excavated during the construction of the onshore pipeline. The peat deposition operations at An Srath Mór (Srahmore) are described in Volume 3 of this EIS. A 4.9km segment lined tunnel will be constructed, which will account for over 60% of the pipeline route. There will therefore also be a requirement to dispose of up to 68,000m³ of tunnel arisings. It is proposed to re-use as much as possible of this material for the construction of the Corrib Onshore Pipeline. Any surplus material that can be classified as a by-product will be used on other identified construction sites as appropriate or for landscaping / remediation at a local quarry. If this is not possible, the material disposed of at a suitable licensed waste facility. A small proportion of the tunnelling material will be required to be disposed of to a licensed waste management facility.

Figure 1.1 shows the proposed pipeline route and the location of the LVI. Further details of the proposed development are provided in Chapter 4.

This EIS, which has been prepared on behalf of SEPIL by RPS with input from a team of specialists, provides a source of information from which the local community, the competent authorities, prescribed bodies, and other stakeholders can gain an understanding of the proposed development, the route selection process and other alternatives considered. It also provides details on the existing environment, the potential impacts that may occur as a result of the development, their likely significance and the proposed mitigation measures to prevent or minimise these impacts.

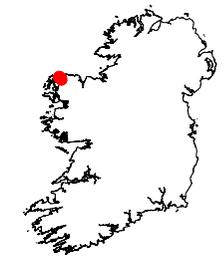
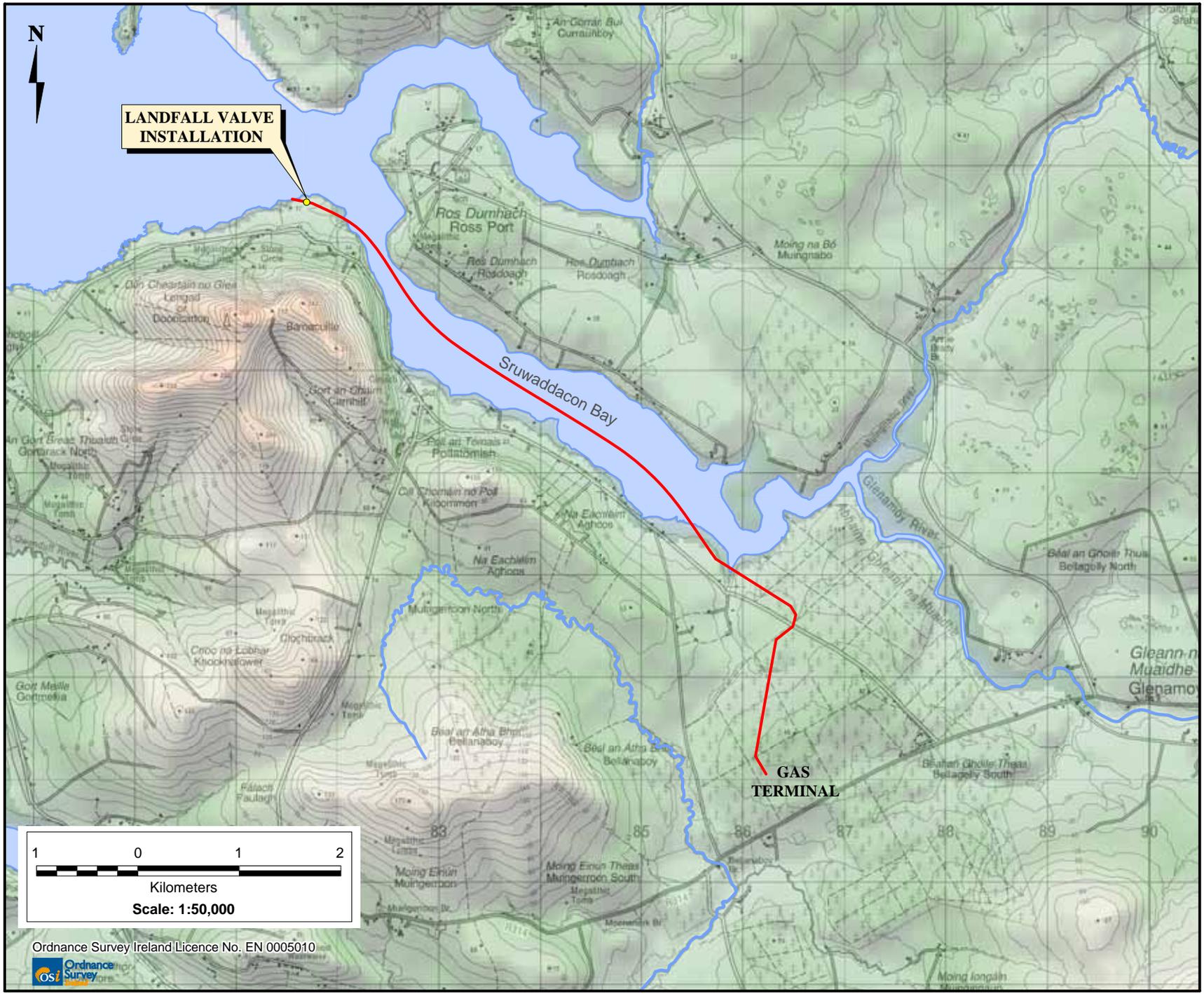
The EIS will form an integral part of the applications for consent for the proposed development (Section 1.4). In this regard, it will also act as a basis for public consultation and informed comment.

This chapter provides details on the overall structure of the EIS (Section 1.2), the EIS Study Team (Section 1.3), the applicable regulatory framework pertaining to the approval of the proposed development (Section 1.4 (also Preamble)), the Environmental Impact Assessment (EIA) process including project scoping (Section 1.5.1), as well as any difficulties encountered during the preparation of this EIS (Section 1.6).

1.1 EIS SCOPE

This EIS has considered:

- Construction, commissioning, operation and decommissioning of the onshore gas pipeline, services, outfall pipe and LVI.
- Temporary works (e.g. compounds and access roads) required for the construction of these facilities.



Proposed Pipeline Route

Overall Layout of the Onshore Pipeline and Landfall Valve Installation

Figure 1.1

File Ref: COR25MDR0470M2145A03
Date: May 2010

CORRIÓ ONSHORE PIPELINE



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1.2 EIS STRUCTURE

This EIS is contained within three volumes as follows:

Volume 1 Corrib Onshore Pipeline EIS:

1. **Preamble:** Provides background information in relation to the Corrib Gas Field Development including details on the SEPIL, need for the development, history of the project, the applications process and the relevant regulatory framework. It also addresses An Bord Pleanála's written Request for Further Information, dated 2nd November, 2009.
2. **Non-Technical Summary:** Provides a summary description of the project, the application process, and describes the main potential impacts associated with the proposed development and the proposed measures to mitigate against these impacts.
3. **EIS:** This report includes the following sections:

Section A: Introduction and Project Description (Chapters 1- 5): Provides an introduction to the EIS, outlines the EIA and scoping process and describes the consultation process and other statutory processes. It also outlines the need for the onshore pipeline, the alternatives considered including the route selection process, and describes the proposed development including the associated construction activities and the decommissioning of the facilities.

Sections B - F provide details on the existing environment prior to the development, describe the potential impacts (including residual, indirect and cumulative impacts) during the construction, commissioning and operational phases of the proposed development and the mitigation measures proposed in order to eliminate or reduce these impacts and any residual impacts. The content of these sections is outlined in the following:

Section B: The Human Environment (Chapters 6-11): Community & Socio-Economic, Traffic, Air Quality and Climate, Noise and Vibration, Landscape and Visual Impact and Material Assets.

Section C: The Natural Environment (Preface to Section C, Chapters 12-15): Preface, Ecology (terrestrial, freshwater and marine), Soils, Geology, Hydrogeology and Hydrology.

Section D: Cultural Heritage (Chapter 16): Archaeology, Architectural and Cultural Heritage, including Underwater Archaeology.

Section E (Chapter 17): Indirect, Cumulative Impacts & Impact Interactions

Section F (Chapter 18): Summary of Potential Impacts & Mitigation

Glossary of Terms

Volume 2 Corrib Onshore Pipeline EIS - Appendices:

Technical Appendices: Contains supplementary information to the above Sections A – D including reports on the specialist environmental studies. It also includes drawings of the proposed development, including alignment sheets for the proposed route and an integrated set of design documentation in the form of Appendix Q. An index of these reports and drawings is provided in the front of Volume 1.

Volume 3 Corrib Onshore Pipeline EIS – An Srath Mór (Srahmore) Peat Deposition Site EIS:

EIS, Non-technical Summary, Technical Appendices & Drawings: Volume 3 describes the proposed peat deposition site at An Srath Mór (Srahmore) and the proposed operations to dispose of up to 75,000m³ of peat from the construction of the onshore pipeline.

1.3 EIS STUDY TEAM

This EIS has been prepared by RPS on behalf of SEPIL. Input was obtained from specialists who contributed to the EIS. Specialists who contributed to Volumes 1 & 2 of the EIS are outlined in Table 1.1. Volume 3 of the EIS, which addresses the Srahmore Peat Deposition Site, has been prepared by Tobin Consulting Engineers for Bord na Móna.

Table 1.1: EIS Study Team.

Section/Chapter	Topic:	Specialists:
A/ Chapter 2	Consultation	RPS
A/ Chapter 3	Alternatives, Route Selection,	RPS
A/ Chapter 4 and 5	Design and Construction	RPS (construction and civil design) JP Kenny (mechanical design) de la Motte (tunnelling)
B/ Chapter 6	Community and Socio Economics	RPS
B/ Chapter 7	Traffic Traffic Counts Traffic Management Plan	RPS Count on Us Tobins Environmental Services Ltd.
B/ Chapter 8	Air Quality and Climate	RPS
B/ Chapter 9	Noise and Vibration	RPS and Rupert Taylor Ltd
B/ Chapter 10	Landscape and Visual Assessment	RPS and Kevin Cleary and Associates Ltd.
B/ Chapter 11	Material Assets (agricultural/non-agricultural)	RPS
C/ Chapter 12	Flora and Fauna - Terrestrial Ecology Habitats and Vegetation Fauna Birds	Ecological Advisory & Consultancy Services (EACS): EACS and Enviroscope Environmental Consultancy Ecological Solutions and Associates Fehily Timoney and Company Ltd
C/ Chapter 13	Flora and Fauna - Freshwater Ecology	Aquatic Services Unit, UCC
C/ Chapter 14	Flora and Fauna - Marine Ecology Intertidal Sub-tidal Hydrodynamic Modelling	Benthic Solutions Ltd. RSK Environment Ltd EcoServe (Ecological Consultancy Services) HR Wallingford
C/ Chapter 15	Soils & Geology (including hydrogeology, hydrology and peat hydrology)	RPS AGEC Ltd Hydro - Environmental Services
D/ Chapter 16	Archaeology, Architectural & Cultural Heritage Terrestrial Underwater	Margaret Gowen & Co. Ltd. Archaeological Diving Company Ltd (ADCo)
E/ Chapter 17	Indirect, Cumulative Impacts & Impact Interactions	RPS
F / Chapter 18	Summary of Impacts and Mitigation Measures	RPS

A Natura Impact Statement (NIS), which is a report to inform the Appropriate Assessment with respect to the potential impact of the proposed onshore pipeline development on the Natura 2000 sites (Glenamoy Bog Complex cSAC 000500 and Blacksod Bay/Broadhaven pSPA 004037), was prepared by relevant specialists, who are as follows:

Table 1.2: Natura Impact Statement Study Team.

Topic:	Specialists:
Terrestrial Ecology (including otters and aquatic birds)	Ecological Advisory Consultancy Services (EACS):
Freshwater Ecology	Aquatic Services Unit, UCC
Marine Environment	Benthic Solutions Ltd.

The NIS was also prepared with the contribution from those listed in table 1.1 above. The NIS is provided in Appendix P of this EIS.

1.4 REGULATORY FRAMEWORK

This EIS supports the following applications for consents described in Figure 1.2.

1. Approval under the Planning and Development Act, 2000 as amended by the Planning and Development (Strategic Infrastructure) Act 2006, by An Bord Pleanála (development within the functional area of the Planning Authority);
2. Consent to construct a pipeline under Section 40 of the Gas Act 1976 to 2000, by the Minister for Communications, Energy and Natural Resources; and
3. A Foreshore Licence under the Foreshore Act 1933 to 2003 from the Minister for the Environment, Heritage and Local Government (for works in the foreshore).

Details on specific codes, standards, guidelines and legislation in the context of the proposed development are provided in the relevant chapters throughout sections A – F (Volume 1) of the EIS and Volume 3 of the EIS.

1.5 ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS

The main purpose of the EIA process is to identify the likely significant impacts on the human environment, natural environment and on cultural heritage associated with the proposed development and to determine how to eliminate or minimise these. The EIS summarises the environmental information gathered during the impact assessments of the proposed development and, together with the ‘competent authority’ assessment, (which includes stakeholder consultation) and post construction monitoring, will make up the EIA process (see Figure 1.3). This EIS is based on all available information at the time of writing.

Several interacting steps typify the early stages of the EIA process, which include:

1. Screening – deciding whether an EIA is needed (see Preamble).
2. Scoping – identifying the issues likely to be important and the likely significant impacts of the development in the EIA process through consulting with various parties (see Section 1.5.1).
3. Assessment of Alternatives - outline of possible alternative approaches to the project, including route selection, design and construction (see Chapter 3).
4. Assessing & Evaluation - the central steps of the EIA process include baseline assessment (desk study and field surveys) to determine the status of the existing environment, impact

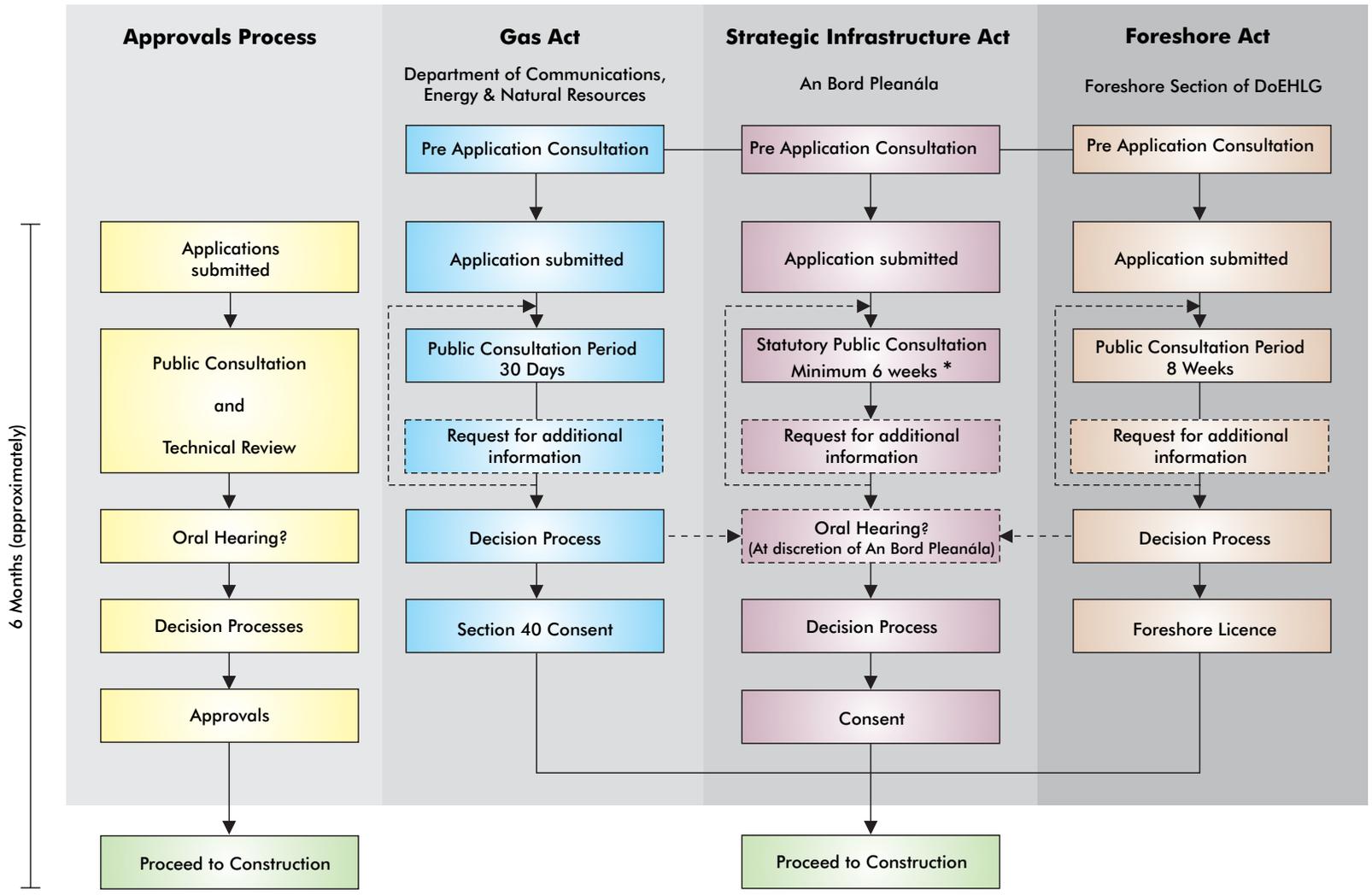
prediction and evaluation, and determining appropriate mitigation measures (see Sections B - F of this EIS).

This EIS, which is the cornerstone document in the EIA process, will aid in the development of the project's Environmental Management Plan (see Chapters 5 and 11) during the construction and operation of the proposed development.

1.5.1 Scoping

The scoping process for the Corrib Gas Field Development EIA commenced in 2000 and as a result, extensive information has been gathered through consultation with stakeholders. Stakeholders are those individuals, groups and communities who have a direct interest in the proposed development and the relevant governmental agencies concerned.

The scoping process for the proposed development of the modified route of the Corrib Onshore Pipeline began in early 2007 with the identification of individuals, communities, local authorities and statutory/non-statutory consultees likely to have an interest in, or that could be affected by, the proposed development or who could provide information on aspects relating to the project.



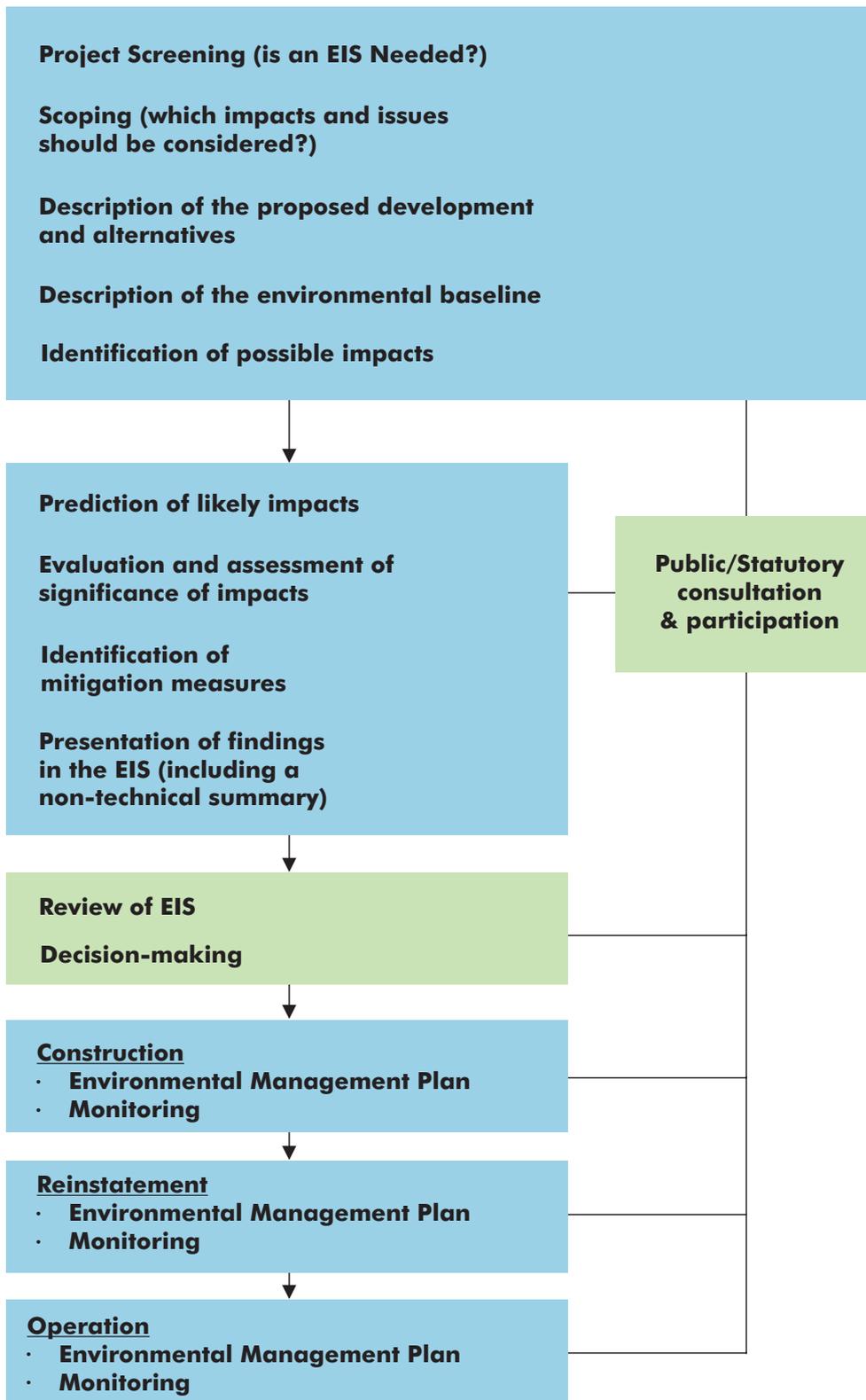
* For Initial Application
(as specified by ABP for Additional Information)

The Approvals Processes
Figure 1.2

File Ref: MDR0470GrEIS003 RevA03
Date: May 2010

CORRIB ONSHORE PIPELINE





Important Steps in the EIA Process

Figure 1.3

Following the written request from An Bord Pleanála, received on 2nd November, 2009 for a modified route and revised EIS, the scoping and consultation process was revisited. One objective of the scoping process was to provide stakeholders with the opportunity to make known to the project team those issues pertaining to the route selection and proposed development that they considered important and warranted investigation and inclusion in the EIS. Chapter 2 provides further details on these consultations, including issues or concerns raised during the consultation process.

Scoping also involved consultations between the various specialists in the EIS Study Team (see Table 1.1), in particular to discuss proposed construction methods, interactions and to evaluate their likely significant impacts. Several workshop- type discussions were held to discuss the activities associated with the construction of the development and secondly to develop methods that would avoid or minimise environmental impacts. Through this process a thorough evaluation of potential impacts was undertaken and certain construction methodologies were eliminated from further consideration due to the likely significant impacts of their use.

In addition, RPS reviewed similar projects undertaken in Europe in order to gain a full understanding of potential impacts and suitable mitigation measures and to ascertain best practice, in particular in designated conservation sites.

The following main points were identified as a result of the scoping exercise:

- The majority of potential impacts will be temporary or short term and restricted to the construction stage.
- Further assessment of all baseline studies together with consultation with statutory and non-statutory bodies would be required to assist with identification of the potential impacts for the preferred route (see Chapter 5 and Sections B – F of Volume 1 of this EIS).
- The community had concerns regarding the proximity of the proposed development to dwellings (see Section B of Volume 1 of this EIS).
- Potential impacts on habitats, protected species, migratory species and feeding grounds would require further examination to ensure that potential impacts will be addressed adequately (see Section C of Volume 1 of this EIS).

1.5.2 Environmental Guidelines

This EIS has been prepared in accordance with the EPA documents 'Guidelines on Information to be contained in Environmental Impact Statements' (2002) and 'Advice Notes on Current Practice in the Preparation of Environmental Impact Statements' (2003) and having regard to the European Communities (Environmental Impact Assessment) Regulations 1989-2001. Other environmental guidelines have also been considered and have been referenced in Sections B – D of Volume 1 and Volume 3 where relevant.

1.6 DIFFICULTIES ENCOUNTERED

No specific constraints have limited the assessment of likely significant impacts detailed in Sections B – D (Volume 1) of the EIS.

1.7 SUMMARY OF CHANGES

Table 1.3 provides a summary of changes between the EIS which was submitted to the relevant authorities in 2009 and this revised EIS.

Table 1.3: Summary of Changes

Section / Chapter	Topic:	Description of Change:
Non Technical Summary	n/a	Pipeline route alignment Construction methodology Construction duration
A/ Preamble	n/a	Updated
A/ Chapter 1	n/a	Project description
A/ Chapter 2	Consultation	Public consultation in March/April 2010
A/ Chapter 3	Alternatives, Route Selection,	Selection of construction method between Gleann an Ghad (Glengad) and na hEachú (Aghoos) Selection of proposed tunnel alignment Mechanical configuration of LVI (straight pipe)
A/ Chapter 4	Design and Construction	Pipeline route description Tunnel description, including internal layout of tunnel Updated description of pipeline design and safety aspects
A/ Chapter 5	Construction	Construction of tunnel and associated works Construction activities at na hEachú (Aghoos) Construction of LVI surface water outfall Management of materials
B/ Chapter 6	Community and Socio Economics	Updated to reflect current status of project and proposed development
B/ Chapter 7	Traffic	Traffic numbers and durations Haulage roads
B/ Chapter 8	Air Quality and Climate	Reassessment of impacts of air emissions associated with change to pipeline route and construction methods
B/ Chapter 9	Noise and Vibration	Reassessment of noise and vibration impacts associated with change to pipeline route and construction methods
B/ Chapter 10	Landscape and Visual Assessment	Reassessment of landscape and visual impacts aspects associated with change to route and construction methods
B/ Chapter 11	Material Assets (agricultural/non-agricultural)	Management of tunnel arisings Resources and materials associated with tunnelling No longer impacts on Ros Dumhach (Rossport) Commonage
C/ Chapter 12	Flora and Fauna - Terrestrial Ecology Habitats and Vegetation	Reassessment of ecological aspects associated with change to pipeline route and construction methods Tunnelling noise and vibration Update surveys
C/ Chapter 13	Flora and Fauna - Freshwater Ecology	Reassessment of ecological aspects associated with change to pipeline route and construction methods Tunnelling noise and vibration
C/ Chapter 14	Flora and Fauna - Marine Ecology	Reassessment of ecological aspects associated with change to pipeline route and construction methods Tunnelling noise and vibration Updated surveys (benthic)

Section / Chapter	Topic:	Description of Change:
C/ Chapter 15	Soils & Geology (including hydrogeology, hydrology and peatland hydrology)	Peatland hydrology Reassessment of Geotechnical aspects associated with change to pipeline route and construction methods Reassessment of soils and geology aspects associated with change to pipeline route and construction methods Risk of landslides from tunnelling
D/ Chapter 16	Archaeology, Architectural & Cultural Heritage -Terrestrial -Underwater	Reassessment of archaeological impacts associated with change to pipeline route and construction methods Terrestrial archaeology survey at na hEachú (Aghoos) Marine archaeological surveys at na hEachú (Aghoos) and Gleann an Ghad (Glengad)
E/ Chapter 17	Indirect, Cumulative Impacts & Impact Interactions	Assessment of cumulative impacts in the context of revised route construction methods and current project schedule
F / Chapter 18	Summary of Impacts and Mitigation Measures	Updated