

## **Qualifications and Experience**

My name is Agnes Mc Laverty, and I am an Environmental Adviser for the Corrib Project. I am also the Permits and Consents Manager for Shell E&P Ireland Limited.

I hold a degree of sivilingeniør (MSc equivalent) in chemical engineering from NTNU, the Norwegian University of Science and Technology in Trondheim, Norway. I have worked on the Corrib Project since 2000 in the areas of environment and permits and consents.

## **Contents**

My statement today deals with the topic of cumulative impacts and impact interactions, and in particular those impacts associated with the changes to the route of the proposed Corrib onshore pipeline and the associated construction methodology, as well as the changes to the construction schedule.

Unless otherwise noted, the references made in this statement to the Onshore Pipeline EIS all refer to Environmental Impact Statement, Volume 1 of 3, 'Non- Technical Summary and Environmental Impact Statement' RPS, May 2010.

## **Corrib Development – Statutory Applications and Associated Environmental Impact Statements**

The overall Corrib development project has been required to be approved by means of a series of applications including this application for consent under the Strategic Infrastructure Act. The elements of the overall development project are as follows (SLIDE 1):

<b>Elements of the Corrib Gas Field Development</b>	
<b>1</b>	Offshore installation (subsea wells, wellheads and manifold in the Gas Field).
<b>2</b>	Offshore pipeline (between wellheads and landfall).
<b>3</b>	Onshore pipeline (between landfall and the gas terminal).
<b>4</b>	Bellanaboy Bridge Gas Terminal and associated peat deposition site at Srahmore.
<b>5</b>	Onshore 150km Mayo to Galway Gas Pipeline.

The offshore installation activities including the drilling and completion of wells, the installation of wellheads, manifold and associated protection structures as well as the installation of pipework between the various elements of the seabed facilities in the Corrib Field, are essentially complete. The offshore pipeline from the Corrib field to the landfall was installed during the summer of 2009, along with the outfall pipeline and a conduit through which the offshore umbilical is planned to be pulled into the landfall. The offshore umbilical between the manifold in the Corrib Field and the landfall is planned to be installed in 2011.

Construction of the Bellanaboy Bridge Gas Terminal commenced in 2004. Construction is essentially complete. Final commissioning of the plant itself will take place when the onshore pipeline is constructed, and final landscaping will be carried out following completion of the onshore pipeline. The peat deposition site at Srahmore was established in 2005, and operated under an EPA Waste Licence until the placement of excavated peat from the terminal site was completed in 2007.

The Mayo to Galway pipeline was built in 2005/2006 and was tied in to the Bellanaboy Bridge Gas terminal in 2009.

Environmental impact statements have accompanied all the main statutory applications for the Corrib Field Development, namely:

- The planning application in 2001 for Bellanaboy Bridge Terminal;
- The Plan of Development 2001;
- The application in 2001 for Consent to Construct a pipeline;

- The Foreshore Licence application in 2001; and
- The revised planning application in 2003 for Bellanaboy Bridge Gas Terminal and associated Peat Deposition Site at Srahmore.

An Environmental Impact Statement (EIS) was also submitted to the Environmental Protection Agency as a part of SEPIL's application for an Integrated Pollution Prevention and Control Licence in respect of the gas terminal in 2004.

The Bord Gáis application in 2001 to construct the Mayo to Galway pipeline, was also accompanied by an EIS

### **Current applications and associated environmental impact statements.**

As was the case at the time of the initial Hearing several applications are now being considered by various authorities in relation to the proposed modification of the Corrib Onshore Pipeline. The applications are as follows:

- An application to the Minister for Communication Energy and Natural Resources under Section 40 of the Gas Act for Consent to Construct a pipeline;
- an application to the Minister for Communication Energy and Natural Resources for approval of an Addendum to the approved Corrib Field Plan of Development; and
- an application for a Foreshore Licence to the Foreshore Unit of the Department of Environment, Heritage and Local Government

These applications are subject to the environmental impact assessment process, and are accompanied by environmental impact statements, as follows:

- Corrib Onshore Pipeline, Revised Environmental Impact Statement, May 2010 prepared by RPS; and
- Corrib Offshore EIS including an Offshore Supplementary Update Report, May 2010.

### **Cumulative, Indirect and Interactive Impact Assessments**

An EIS must address likely significant direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the proposed development on the environment. As required under the various consent processes referred to earlier, it has been necessary to present separate elements of the overall Corrib project to the different competent authorities. As such the EIS documents accompanying those separate applications have comprehensively presented and assessed each element in terms of its cumulative effect in the context of the overall project.

In my previous statement to the hearing in 2009 I described how the assessment of cumulative and indirect impacts and impact interactions had been dealt with in the context of the Corrib project in general and the proposed Onshore Pipeline development in particular. I will supplement this by summarising the changes that have occurred on foot of the Board's request for further information and specified alternations in November 2009.

### **Corrib Onshore Pipeline, Revised Environmental Impact Statement, May 2010.**

Cumulative, indirect and interactive impacts are presented in Section 17 of Volume 1 of the revised EIS.

The assessment of cumulative impacts and impact interactions was undertaken with regard to the EPA 'Guidelines on the Information to be contained in Environmental Impact Statements 2002' and 'Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)' 2003. It was also carried out with consideration to the EU 'Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions', prepared for the European Commission (1999).

The assessment was based on the revised construction programme for the proposed onshore pipeline and the other elements of the Corrib development, taking into account the current status of works and the plans for the remaining construction activities. At the

time of writing this EIS, no other committed developments, which would contribute to cumulative impacts, were planned in the local and wider area.

**Indirect impacts** including those associated with road maintenance works as well as aggregate extraction and economic impact are discussed in Section 17.1. Section 17.1 also includes an assessment of the indirect impacts associated with mitigation measures, and how these in turn have been subject to mitigation to reduce the identified impacts (see Table 17.1).

An example of indirect impact resulting from mitigation measures is that by tunnelling from Aghoos to Glengad instead of tunnelling from both sides, which has reduced traffic disturbance through Pollathomas, and minimised construction activity in Glengad, the duration of the project and associated disturbance have increased, and there are greater impacts associated with a larger scale and longer lasting construction activity at Aghoos.

### **Impact Interactions**

The EIS has considered interactions between aspects of the environment likely to be affected. While almost all environmental aspects are inter-related to some degree only the interactions with potential for significant impact were taken into consideration in this assessment. Details of this assessment are provided in Table 17.2 of the EIS for the construction phase of the onshore pipeline. Table 17.2 shows that potential interactions identified in respect of the construction phase of the project mainly affect *the local community* and *ecology*. However, as the proposed mitigation measures will reduce, and where possible, eliminate the potential for these effects to occur, these interactions will be avoided or significantly reduced.

The interaction of seasonal sensitivities and potential impacts on the environment has been discussed in Section 17.2. These have also, where relevant, been dealt with for each of the individual environmental elements covered by the EIS (as presented in the various specialist chapters). Mitigation measures to eliminate or minimise impacts in this context include:

- Avoiding peat excavation and transport in the winter season;

- Minimising impact on wintering water birds by avoiding surface disturbance in Sruwaddacon Bay; and
- Minimising disturbance of birds in Sruwaddacon Bay through the installation of fencing which attenuate noise and lighting.

### **Cumulative Impacts**

Cumulative impacts are described in Section 17.3 of the EIS.

The changes to the project as described in the revised EIS have extended the duration of the construction phase of the project. In some areas this has reduced the magnitude of cumulative effects, e.g. in terms of traffic, but it has increased the overall duration of construction related traffic disturbance e.g. at Glengad, at Aghoos, around the terminal site and along all parts of the haul route between Bangor Erris and Glengad. For example, as the onshore pipeline is proposed to be installed after construction of the offshore pipeline, the duration of disturbance at the landfall, though temporary, will be greater than that associated with the onshore pipeline alone. However, the extension of the overall construction period has also resulted in a longer period of direct and indirect economic benefits due to the number of people and services involved in the construction activities, many of which are sourced in the region.

From a local perspective activities associated with the Corrib Gas Field Development have been ongoing since 2002 including:

- Construction of the Gas Terminal and associated peat removal and deposition since late 2004;
- preparatory works nearshore and at the landfall for the offshore pipeline in 2002 and 2005;
- extensive survey activities, particularly in Sruwaddacon Bay, since 2007; and
- the laying of the offshore pipeline completed in 2009 and associated landfall works at Glengad

It is anticipated that works for the construction of the onshore pipeline, including associated peat transport and deposition will begin in 2011 and will continue to 2013. These construction activities will result in additional traffic, noise, dust and visual

disturbance in the immediate area of the works. The continuous nature of construction works associated with these elements of the Corrib Gas Field Development has the potential to result in significant cumulative impact on those living in immediate area of the works and those living along the haul route to Srahmore. These potential impacts will be mitigated as outlined in Sections B – D of the EIS in order to minimise potential cumulative impacts on the local community and on the local environment.

The two construction activities, associated with the Corrib Field Development, with potential for cumulative impact with the onshore pipeline are in respect of the installation of the offshore umbilical including the pull-in to the landfall at Glengad, planned to be carried out in the summer of 2011, and the activities at Glengad associated with the pre-commissioning of the offshore pipeline, expected to take place in the summer of 2012. The final commissioning and start-up of the terminal will also coincide with the commissioning and start-up of the onshore pipeline.

Predicted cumulative impacts include:

- Higher traffic levels and potential for dust emissions than associated with the onshore pipeline development alone;
- Higher noise levels affecting local residents than associated with the onshore pipeline development alone;
- Increased duration of visual disturbance due to the increased duration of construction and associated temporary construction facilities, including increased night time visual disturbance; and
- Greater positive socioeconomic impacts including an increased demand for local services and accommodation than associated with the onshore gas pipeline alone.

The pull-in to the landfall of the offshore umbilical is scheduled to occur in 2011, during the period when the onshore pipeline and LVI are being constructed. This will lead to increased disturbance in the area of the landfall site, particularly in terms of traffic, noise and visual amenity, however this is expected to be of short duration. Pre-commissioning of the offshore pipeline in 2012 is predicted to lead to increased noise levels in the Glengad area. This activity will be limited to a two week period.

As set out in Table 17.7 of Volume 1 of the EIS, there is potential for cumulative impacts on the human and natural environment to arise, but these are generally predicted to be temporary or short term.

The EIS concludes that the construction activities associated with all elements of the Project are predicted to result in short term negative cumulative impacts on terrestrial ecology, but that these will not be additive in terms of temporary loss (i.e. in combination they do not result in a greater impact) on ecological resources, such as cSAC or natural habitats.

The nature and magnitude of impacts including cumulative impacts on peatland, habitats and species for the route of the pipeline and the peat deposition site at Srahmore have been addressed in Chapter 12 of the EIS and the Statement on Terrestrial Ecology.

Potential cumulative impacts on ecology, terrestrial, aquatic and marine in respect of designated sites and protected habitats and species have been dealt with in the Natura Impact Statement (Appendix P) of the EIS.

The current site investigation in Sruwaddacon Bay associated with works for the Corrib Onshore Pipeline will be completed prior to the construction of the onshore pipeline, and will not have a cumulative impact in respect of impact magnitude with the construction of the onshore pipeline. However, its associated visual and noise disturbance have local cumulative effect in terms of duration of disturbance when combined with the proposed construction activities at Glengad and Aghoos. Although each of the impacts are of a temporary or short term nature, it is acknowledged that there has been and will be presence of construction related activities in the area for various periods spread over several years..

Having regard to the above and provided that the mitigation measures set out in the EIS are implemented, it is predicted that the development of the onshore pipeline will not cause significant cumulative impact on ecology or the wider environment, and there will be no significant interactions arising from same.



**Consideration of Potential Modification**

As outlined in the evidence of Eamon Kelly and for the reasons set out therein it is considered that the Board may consider it appropriate to extend the laying of concrete slabs over the umbilical and associated services for the entire length of the pipeline between the LVI and the Terminal that is not proposed to be contained in the tunnel. The installation of same would not result in increased cumulative impact as it would not impact on the overall construction programme.

**Summary**

In summary, the current application relates to a modification to the route of the onshore gas pipeline from the landfall at Glengad to the Bellanaboy Bridge Gas Terminal including a proposed landfall valve installation at Glengad. The capacity of the facilities has not changed since 2001 and the project as a whole remains in accordance with the Plan of Development, which was approved in 2002 and for which an EIA was carried out for the whole project from the Corrib field to and including the terminal. Environmental Impact Statements have been prepared and an assessment of cumulative impact and impact interactions has been carried out in association with each of the main application processes for the Corrib development.

All but one element of the Corrib Field Development have been substantially completed, and if it granted permission, the modified onshore pipeline project with associated peat deposition at Srahmore will constitute the main construction effort in the area as scheduled to occur in 2011 and 2012.

The impact interactions and cumulative impacts associated with the onshore pipeline development have been considered in the context of the other elements of the Corrib project development. The main impacts associated with the onshore pipeline development arise from the construction of the pipeline and are of a temporary or short term nature. Accordingly, the majority of the impact interactions and cumulative impacts are temporary or short term.

In conclusion, this application and the concurrent applications to other statutory bodies for the Corrib Pipeline, SEPIL has actively sought to minimise any confusion arising due

to the numerous consent processes by means of submitting a robust and comprehensive EIS that addresses the proposed development in terms of its overall development context, and any likely significant cumulative effect or impact interactions on the environment arising from the development. The EIS documentation has been shared between the various applications, and the applications have, whenever possible, been made concurrently to enable to the greatest extent possible a holistic approach to the environmental impact assessment process.

The changes to the Corrib pipeline development that have occurred since 2005, including the latest modification to the onshore pipeline route, have resulted in significantly extending the period of disturbance associated with the construction of the pipeline, particularly in the Glengad area. Provided that the mitigation measures set out in the EIS are implemented, it is predicted that the development of the onshore pipeline will not cause significant cumulative impact on ecology or the wider environment, and there will be no significant interactions arising from same.



# **Corrib Onshore Pipeline –**

## **Cumulative Impacts**

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**(An Bord Pleanála Application Reference No.: 16.GA0004)**

Not to scale

