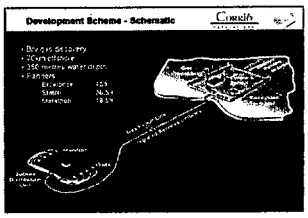
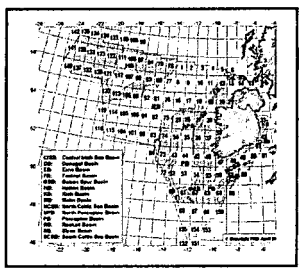
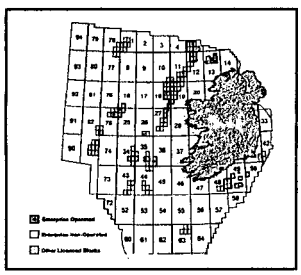
THE BRIAN COYLE OBSERVATION & OBJECTION REPORT







By Brian Coyle,
BE, CEng, MIEI, MIStructE

Chartered Consulting
Civil & Structural Engineer

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TO THE SITE CHOSEN FOR CORRIB GAS TERMINAL
THE PROPOSED CONSTRUCTION TECHNIQUES & ROUTES
THE PEAT DEPOSITION SITE AT SRAHMORE
THE UPSTREAM HIGH PRESSURE PIPELINE ROUTE

BASED ON ITS WORLD RECORDS

Should we allow the Corrib Gas Field to be Connected:

- ❑ To an Inland Terminal

And

- ❑ Becomes the only Inland Terminal In the WORLD?
- ❑ Surrounded in BLANKET BOG that can become unstable at an angle of 2degrees or more
- ❑ Connected from a Landfall at the Base of a Hill that is Unstable
- ❑ Residents as close as 60m to the High Pressure Untreated Pipeline
- ❑ Residents within the Explosion/Gas Vapour Exclusion Zone from the Terminal and High Pressure Pipeline
- ❑ Streams and Rivers within an exclusion zone feeding into a major drinking water supply
- ❑ The only World Wide Deposition of 450,000m3 of Acidic Blanket Bog
- ❑ Causing in excess of 100,000 traffic turning movements during its development
- ❑ Resulting in the removal and discharge of at least 400,000,000 litres (Four hundred million) litres of acidic base water to the North and South of Carrowmore Lake, the only drinking water supply for the entire region
- ❑ In an Area of Natural Ground Instability

Why should we?
- when all the other World Wide Authorities have done different

As We Are Lead To believe by the Applicant That There Are No Other Alternatives! When in fact there are!

Is it the lack of experience in our Representatives and Authorities that they do not know the difference between right and wrong?

We do not want an Erris EU Directive to be written similar to the Seveso II directive that was written following the disaster and the ultimate consequence to people in the small town called Seveso in Italy.

The Content of this report is written without prejudice

Index

See Next page for Appendices

Appendices

Appendix A

Appendix B

Appendix C

Appendix D

Observer and Objector

The observations and objections contained in this document are compiled and written by Brian Coyle BE, CEng, MIEI, MIStructE Chartered Consulting Engineer and are the observations and objections of many of my immediate family and friends that reside throughout the Erris community. These observations and objections are contained within the full text of this document and are supported with references from the applicant's application.

Proposed Development Planning Text

Bellagelly South & Srahmore Attavally Proposed Development.

PLANNING REFERENCE NO. 033343

LOCATION BELLAGELLY SOUTH
SRAHMORE ATTAVALLY

PERMISSION SOUGHT FOR

CONSTRUCT GAS TERMINAL FOR THE RECEPTION AND SERAPATION OF GAS FROM THE CORRIB GAS FIELD, AND FOR A PEAT DEPOSITION SITE, RESPECTIVELY. THE DEVELOPMENT WILL CONSIST OF THE CONCURRENT DEVELOPMENT OF TWO SITES LOCATED 11 KILOMETRES APART, APPROXIMATELY, AND IDENTIFIED AS THE SITE OF THE GAS TERMINAL FOR THE RECEPTION AND SEPARATION OF GAS FROM THE CORRIB GAS FIELD IN THE TOWNLAND OF BELLAGELLY SOUTH AND THE SITE OF THE PEAT DEPOSITION SITE IN THE TOWNLANDS OF SRAHMORE AND ATTAVALLY, BANGOR ERRIS. THE DEVELOPMENT AT THE BELLAGELLY SOUTH SITE WILL CONSIST OF: A GAS TERMINAL FOR THE RECEPTION AND SEPARATION OF GAS INCLUDING PLANT AND EQUIPMENT; PROVISION OF 4,935 SQ M (GROSS FLOOR AREA), APPROXIMATELY, OF BUILDINGS; ACCESS ROADS; 40 NO. CAR PARKING SPACES; AND ANCILLARY DEVELOPMENTS, OF WHICH 13 HA, APPROX, WILL BE DEVELOPED INRESPECT OF THE GAS TERMINAL'S FOOTPRINT. THE PROPOSED DEV. WILL OF THE BELLAGELLY SOUTH SITE WILL ALSO CONSIST OF; THE EXCAVATION AND REMOVAL OF 450,000 CUBIC M

Summary of Observations and Objections

I Object to the Proposed Site for the Gas Terminal Industrial Process at Bellagelly South, located to the North of the Catchment area of Carrowmore Lake, on the following basis.

- Health and Safety Risks that this development impacts to local residents. Engineering assessment on slope stability must examine slope stability prior to, during and after an explosion and also take account of Natural and livelihood events that are outside the applicant's control. The applicant has identified these events as one of the reasons for peat/land slides on slopes as low as 2 degrees but has not provided an engineering assessment, or a method of control for such events.

- Health and Safety Risks that this development impacts to Carrowmore Lake and hence the Erris community during construction, following construction or after an explosion. The applicant fails to identify how they can limit the consequences of events identified by them and in the Seveso II directive. The applicant has no control on the land use or the surface water runoff to streams and rivers that feed into Carrowmore Lake. These streams and rivers are outside the control of the applicant and can become contaminated with toxic chemicals.

- I object to the risk that the terminal imposes on the stability of the surrounding landscape including Dooncartoon Hill. The risks associated with the Gas Industry process i.e. explosions etc. will cause ground vibrations and hence ground instability. Remember that the applicant has identified in their submission that peat can become unstable at an angle of 2degrees or above.

- I object that economic analysis based purely on the Corrib gas quantity has formed the immediate basis of their decision for building an inland/onshore gas terminal. Gas/oil Hydrocarbons have been found and exploited in the Celtic Sea, the Porcupine Trough and in the Corrib Basin. These areas are mainly located off the west coast of Mayo, Galway, Clare and Kerry.

- I object to the excavation and the deposition of 450,000m^3 of Acidic Peat to the South of Carrowmore Lake (the only drinking water supply for the entire Erris People).

- I object to the increase in traffic turning movements associated with this proposed development and the impact that this has on local residents, emergency vehicles etc.

- The previous application identified approximately 7,600 traffic-turning movements. The current application will introduce A MINIMUM OF 82,000 TRAFFIC TURNING MOVEMENTS just to remove the Acidic Peat. The overall traffic turning movements associated with the proposed development will exceed 100,000 movements i.e. a truck will enter or

leave the site at least 100,000 times during construction.

- At least 90% of peat is water. There is 1000L of water in a meter cube (m^3). I object to the removal of such a large volume of acidic water contained in the Blanket Peat. This blanket peat is going to be disturbed/removed and disposed in an area to the North and South of Carrowmore Lake respectively.

  The amount of acidic water contained in the blanket bog is AT LEAST 405,000,000 LITRES (FOUR HUNDRED AND FIVE MILLION LITRES OF ACIDIC WATER).

- I object to the traffic hazard imposed on local roads arising from the construction of the terminal, the removal of 450,000m^3 of peat and 50,000m^3 of mineral soil. The c.11km route chosen to dispose this material is inadequate in formation, width and alignment. This road will be destroyed and congested with trucks during construction and will impose a high risk to those people travelling to Castlebar General Hospital in the event of an emergency. This route is the shortest route available to Castlebar General Hospital for all residents in the North Erris area. Therefore, people's lives are at risk even during construction stage.

- I object to the location of the Gas Pipeline, Discharge Pipeline and Umbilical Line as identified under the Foreshore Licence. I also object to the Link between this infrastructure and the Gas Terminal on foot of the recent landslide of Dooncartoon Hill. The pipeline is also been laid on Blanket Bog which the Applicant has identified can slide at an angle of 2degrees or more. How do they intend to control Natural or Local livelihood events that have been identified (by the applicant) as one of the main reasons for peat/land slides? These landslides will undoubtedly fracture, shear the pipeline and can impact on the terminal and cause a catastrophic disaster in an area currently stamped with natural ground instability. In light of this new information the Minister for the Marine has power under the Foreshore Act to withdraw the Foreshore licence on the basis of non-observance by the licensee of all these events at the time the licence was issued.

- I object to the fact that insufficient Health and Safety assessment has not been provided for all the above events and their ultimate consequences. All Health and Safety aspects should be assessed at this stage. How do we intend to control and limit the consequences of these events if people involved cannot even provide a solution at this stage? It is unacceptable to conceal facts and realistic concerns associated with the proposed development.

LET US BE AN EFFECTIVE AND RESPONSIBLE NATION FOR ALL OUR ACTIONS

At the very least, if an onshore site is required then it should be:

- Outside the catchment of a major drinking water supply thus reducing the consequences of a Seveso II event.
- In an area with surrounding ground stability, where such large quantities of Peat should not have to be removed thus reducing a traffic hazard, acidic peat removal and 400 million litres of acidic water.
- Where most of the raw materials can be quarried on site for hardcore fill and concrete etc.
- In situations like this, the Health and Safety of livelihoods should take precedence over areas of special conservation and areas of scenic amenity. There are many other sites available in Erris and indeed in Mayo, where the high risk events and the potential consequences of a gas terminal is dramatically reduced.

Introduction

Ireland has one of the largest Offshore Oil and Gas exploration areas in Europe. Hydrocarbons have been found and exploited in the Celtic Sea, the Porcupine Trough and in the Corrib Basin. Refer to Appendix A for location of these areas. They are predominantly off the coasts of Counties Donegal, Sligo, Mayo, Galway, Clare and Kerry.

Elsewhere throughout the world Gas processing is carried out either at newly constructed Gas terminals or connected into existing gas infrastructure. The existing European Gas network infrastructure currently available is capable of delivering the Corrib gas to Africa and Russia.
Refer to Appendix "A" for the existing European Gas Network layout infrastructure.

The basis of my objection is outlined below and is supported with extracts and statements from the applicant's submission.

Facts and Figures

Gas is been extracted in water depths greater than 1000m. The Corrib gas water depth is approx. 200m
e.g. NANSEN BOOMVANG GAS FIELD is extracted from waters greater than 1000m deep.

Existing techniques exist for the transportation of untreated Gas from a well to a terminal either offshore or onshore for up to distances of 140m. This transportation distance is currently been quoted for SNØHVIT GAS FIELD, BARENTS SEA, NORWAY where a much more harsh marine environment exists than that in the Corrib field. Therefore, onshore sites can be considered in Counties Sligo, Mayo, Galway and Clare for an onshore/coastal terminal for the Corrib Gas Field.

Of all the gas terminals in the world none of them are inland.

At the hearing arising from the previous application it was determined with some difficulty that there would be 7,600 truck movements arising from the development. Truck turning movements arising from this recent application will now exceed 100,000 movements.

It is proposed to remove 450,000m^3 of Peat off-site. This is saturated blanket bog with approx. 90% moisture content. This cannot be compared to volumes of **dried** powder such as peat commonly transported by Bord Na Mona.

There is no evidence available to suggest that such a large volume of blanket bog has ever been satisfactorily excavated and/or satisfactorily deposited so close to a major drinking water supply without contaminating it.

At least four hundred and five million litres of acidic water (405,000,000L) is contained within this peat and has the potential to seriously pollute the only water supply for the entire region.

Gas and Oil pipelines fracture and burst throughout the world on a daily basis.

The safety aspect of the high pressure pipeline has not been properly reviewed.

Economic analysis based purely on the Corrib gas quantity is misleading.

Corrib gas quantity should not form the immediate basis of the applicant's decision to choose an inland terminal.

I object to the fact that economic analysis based purely on the Corrib gas quantity has formed the immediate basis of the decision for building an inland/onshore gas terminal. Inland and Onshore gas terminal will allow the applicant to expand for their own benefit.

The applicant has failed to provide in-depth site-specific information for the alternative sites investigated. The applicant has ruled against these sites on their own merits. A proper and site-specific documented list as previously requested by Bord Pleanala should be provided and examined by the local Authority in conjunction with the HSA and made available to the public for comparison purposes.

Based on the unexplored but already licensed exploration blocks in the Atlantic Ocean it is only a matter of time until the applicant will offer, use or share this proposed development infrastructure to process and export future oil/gas findings. The exploration licensed block areas are clearly shown on maps included in Appendix A.

The applicant has previously identified that the terminal has been designed to be the control centre for all the offshore (subsea) facilities in the Corrib Field and beyond. Refer to Page 14 of 377; An Bord Pleanala Report under the heading 'Design Life' for the recorded information.

The Applicant States in Section 4 "Alternatives" Subsection 4.2.2 "Reasons why alternative concepts were eliminated:"

> *"Economic analyses determined that the very high capital and operating cost of each of the floating or fixed platform options, combined with the requirement for extensive gas transport infrastructure, could not be recovered due to the relatively moderate size of the predicted Corrib reserves and envisaged gas sale price."*

This statement and the applicants decisions based upon this statement are misleading and inaccurate for the following reasons:

- The applicant bases their economic decision purely on the quantities of the Corrib Gas field and for the applicant's own economic benefits.
- Under the current legislation, the HSA should also examine, qualify and prepare a HSA Zoning for each site and participate in choosing the appropriate site.
- Offshore and Coastal Platforms have previously been built for such quantities and recent exploration findings use the previously constructed offshore/coastal platforms for a terminal connection (e.g. Canyon Express).
- The areas explored off the West Coast of Ireland is very small and already gas/oil findings have been made. Economic analysis based purely on the Corrib gas quantity should not form the immediate basis of the decision to build an inland gas terminal. Refer to Appendix A for other Licensed Blocks areas.
- The quantities of gas/oil in Irish Waters off the west coast of Ireland are likely to be greater than Corrib gas find.
- It was previously identified that metocean conditions in the North Sea, where offshore platforms are common, greatly exceed the average metocean conditions for Corrib field. Metocean conditions at Corrib suit an Offshore Platform.
- Economics for the benefit of a Multinational company should not be the deciding factor.
- Previous submissions to An Bord Pleanala by one of the applicant's agents from Granherne stated at the hearing that it is technically feasible to develop Corrib in a different way.

Incorrect Assessment of Alternative Sites

The applicant has ruled against alternative sites on their own merits. It is obvious once again from reading the current application that Economic Analysis on the applicants' part seems to be the main deciding factor in choosing the proposed site which is the only inland gas terminal site in the world. Under the current Planning and Development Act, the local authority including the HSA should be determining the Land Use Policies for an area especially an Industrial Area.

Mr. Kevin Moore of An Bord Pleanala previously stated on Page 74 of his report dated April 2003:

> *"that the landfall options in the Killala area were dismissed because (a) the location considered*

suitable in the Bay was a designated Special Area of Conservation and Natural Heritage Area and (b) the best landfall locations to the west of the Bay are designated as being of Special Scenic Importance.

I wish to highlight that the landfall location at Dooncarton for the proposed Corrib Field development is a proposed Candidate Special Area of Conservation. It is also a designated Area of Special Scenic Importance. Sruwaddacon Bay, through which the pipeline from landfall to terminal would go, is a Special Protection Area and a proposed Candidate Special Area of Conservation. Beaches on both sides of this Bay are designated Areas of Special Recreational Importance. The pipeline would also traverse Glenamoy Bog Complex, a Special Area of Conservation."

P75 & P76

The criteria used to determine a suitable route for the pipeline from landfall to terminal have been seriously breached in my opinion.

It is apparent that the development concept that has been decided upon has limited the serious consideration of alternative landfall locations, restricting landfall to the Dooncarton area in general. Following on from this, the selection of the terminal site some 8km inland has created a very limited spatial corridor through which a pipeline would have the ability to traverse. This narrow assessment of alternatives is seriously deficient in my view. Once again, I would stress the importance for the Board to give serious consideration to each of the alternatives to onshore processing as each alternative concept clearly determines the type of facility which would be developed onshore and, obviously, the potential routing of a raw gas pipeline, if any, from landfall to terminal site.

In conclusion, I would draw the attention of the Board to a response by Mr. Taylor in cross-examination by me at the Oral Hearing when asked is the crossing of an untreated gas pipeline, umbilical system and discharge pipe through a terrestrial corridor of 8km or more unprecedented. He submitted that it is the only one of a kind that he is aware of.

Mr. Moore states that;
It is my submission to the Board that:

- *From a strategic planning perspective, this is the wrong site;*
- *From the perspective of Government policy which seeks to foster balanced regional development, this is the wrong site;*
- *From the perspective of minimising environmental impact, this is the wrong site; and consequently*

From the perspective of sustainable development, this is the wrong site.

Coupled with all of the above is:

- the recent Dooncarton Hill landslide
- a new location for the peat
- additional 82,000 truck movements
- and 405,000,000 litres of acidic water contained in the peat.

Therefore, the impact of the proposed development has got larger.

The applicant has failed to demonstrate and/or confirm the stability of Dooncartoon Hill either before or after an explosion (an event that the applicant agrees is possible) arising from the offshore pipework or the landfall to gas terminal pipework or from the terminal itself.

Traffic Hazard

At least 82,000 more truck journeys introduced to the public roads compared to the last application.

This proposed development is introducing a further 82,000 truck journeys to the public roads.

Refer to Page 267 or 377 of the An Bord Pleanala Inspector Report based on the previous application.

It was concluded that

"there would be at least 17,374 two-way HGV trips" associated with the construction works arising from the previous application and the Planners comments based on these numbers were;

"There would be a vast increase in the volume of heavy vehicles using this poor public road network during the construction phase. The adverse implications of the extensive volumes of HGV traffic would be compounded by the range of abnormal loads, which would relate to the development of the terminal on the platform. The destruction of these public roads, the need for ongoing maintenance of these roads, the consequent need to utilise local roads in the event of regional road repairs, the inevitable necessity to reinstate the haul roads, and the constant obstruction to existing road users would be intolerable."

It was previously proposed to store the peat on site in the previous application, now it is proposed to remove the peat to the Srahmore Site.

The volume of Peat to be removed is approximately 450,000m^3, this does not include any peat removal along the pipeline route. There is no evidence to show that such a large quantity of peat has ever been successfully excavated and deposited like this before.

It is also proposed by the applicant to limit the carrying capacity of the truck to eleven tonnes (11t)

The density of Peat varies from approx. 800kg/m3 to approx 1200kg/m3.
Assuming an average bulk density of peat to be 1000kg/m3 i.e. a cubic meter of peat will have an average mass of One Tonne (1t).

11tonne equates to a volume of 11m3.

Therefore;

450,000/11 = 40,909

Therefore, it will take almost 41,000 truck journeys (one-way) to complete the peat removal. It is almost unbelievable to think that a truck will have to visit the site at least 82,000 times just to complete the Acidic Peat removal alone and deposit it on the other side of Carrowmore Lake.

The 82,000 truck journeys including traffic turning movements do not include the importation of hardcore, concrete, steel etc. required for the construction stage.

This volume of traffic combined with previous estimates for the construction phase of the project suggests that there would be at least 100,000 HGV movements associated with this development.

The proposed development will overwhelmingly increase traffic movements compared to the last application. This will introduce a major traffic hazard especially during construction. The public roads will be damaged and congested on a daily basis during the course of the project.

The intensity of traffic along a specific route, where the route in substandard in width and alignment, will congest the local public roads and will undoubtedly produce a traffic hazard for all local users.

This congestion will delay/prevent vehicles from getting to a destination on time especially in the event of an emergency (medical, fire, labour etc.). Therefore, people's lives are at risk.

Increasing the HGV movements of the development from 17,374 to at least 100,000 has now further reinforced the planners concerns. These numbers do not include car trips to and from the site, which was previously estimated to be 262 trips during Peak hours i.e. 524 trips per day for the duration of the project.

I would suggest that a site be chosen where peat is limited, where there are sound foundations and where the raw materials for the development can be quarried on site. This would dramatically reduce the HGV movements to less than 4000.

Control of Ground Movement and Slope Stability has not been Fully Assessed.

The applicant has failed to consider Ground Movement and Slope Stability following Man Interference, Natural or Explosion Events. They only consider ground static stability.

The applicant states in Section 4.5.1 of the EIS report;

"*that **minimal** differential movement of the ground **is essential** because*

- *for safety and operability, particularly for equipment operating under high pressure, piping and equipment require very tight tolerances on differential settlement.*
- *Piperacks, **piping** and equipment design and installation would be very complex in a plant subject to differential settlement.*
- *excessive settlement would create operability difficulties for equipment such as pumps, turbines and compressors*

The applicant has admitted in Section 8 Soils, Geology and Hydology Subsection 8.4 Potential Impacts that:

*" its not unusual for **Bog failures** with man interference have occurred on slopes as shallow **as 2 degrees**. Both **natural** and **man-made** drainage measures have also often been identified as a contributory cause of some failures. The use of **trackways** across peat land can also impose additional loads, which could contribute to slope failures."*

The applicant has only considered the ground stability outside the site under its current use and status, and this is not enough.

They fail to realise that the applicant has no control of the land use outside their boundaries. Bog failures with man interference, trackways and drainage can occur outside the site boundaries thus destabilising the surrounding ground that ultimately can impact on the proposed terminal building.

Therefore, the entire peat land surrounding the site should be in the control of the applicant so that human interference, trackways and drainage cannot occur.

The proposed pipeline is laid in vast quantities of surrounding peat. These ground instability problems as identified by the applicant design team, i.e. destabilising peat at slopes as little as 2 degrees can also occur along the pipeline, where there is vast volumes of peat at much large slopes. Such failures will rupture the pipeline; will cause pollution and more than likely explode thus affecting the entire community.

The applicant should be in full control of all slopes and all activities that can ultimately impact the terminal and pipeline.

Also, the above extract taken from the applicants submission has also identified that peat slopes have failed at angles as little as 2 degrees arising from natural events.

The applicant submission has identified a well-known engineering scenario that cannot be controlled - natural ground slope instability.

The applicant has no control of natural events and therefore the surrounding sloping ground can become unstable thus impacting the terminal and/or pipeline. These events have occurred in this area as recent as September 2003.

It is therefore not surprising, that the applicant has requested a flat level site for the benefit of fire fighting. The applicant acknowledges in Section 4 "Alternatives" subsection 4.5.1 of the EIS report that fires are possible and hence explosions can occur, when they state that one of the reasons for a flat site is

" to facilitate fire fighting around storage tanks."

The consequences of fires around highly flammable and explosive substances and the cascade affects to surrounding landscape, residential and public areas are inconceivable. The applicant has failed to identify control measures and the environmental consequences of such events.

The applicant has failed to examine and/or provide control measures for the stability of the surrounding landscape (including Dooncartoon Hill) following an explosion at the terminal or along the pipeline. Peat slopes can become unstable at angles of 2 degrees or greater. The surrounding landscape contains peat at angles much greater than two degrees.

Therefore, this development with its associated High Risk events can cause surrounding ground instability thus more landslides etc.

Failure of structures and fractures in pipelines arising from differential or natural ground movement, is one the main modes of civil and structural failure and it's not surprising that this is one of the biggest insurance claim areas.

I object to the proposed site as it is located in an area surrounded with natural ground instability, contains blanket bog at angles greater that 2 degrees, with current and future land use outside the control of the applicant.

Land use together with natural ground movement/instability can ultimately have an impact on the terminal and visa versa i.e. the terminal events can have an impact on the surrounding landscape in terms of slope stability after an explosion.

Shortcomings in the Applicant's Investigation

Considerations were given to a Gas Terminal close to the landfall at Dooncartoon Hill.

The shortcoming in the applicant's investigation into natural ground movement is a matter of great concern. It is somewhat disturbing to realise that the applicant even considered the construction of the terminal and the installation of the high-pressure pipeline at the foot of Dooncartoon Hill (where the landslide occurred in September 2003).

This is evident in section 4.4.4 of the current EIS report when it states:

> *"..that a terminal location near the landfall was considered. This site was located to the South West of Pollathomish at the bottom of the hill. Given the scenic nature of the area and the conservation status of the bay, this location was discounted as it was considered that the terminal would be intrusive".*

It is obvious from this statement that the only reasons why this site was discounted was because the terminal would be intrusive within an area of scenic natural beauty and the conservation status of the bay. The stability of Dooncartoon Hill was not considered.

Specialists recently employed by Mayo County Council have already voiced the possible reoccurrence of the landslide of Dooncartoon Hill.

How can the applicants now conclude that the landfall location and route for this pipeline is safe when it was concluded only a few weeks ago that the Dooncarton Hill is only "Probably Safe" and some areas are still at "High Risk"

Therefore, the proposed development is taken place in a zone of natural ground instability in an area above and adjacent to the longest landfall to terminal connection in the world.

If the terminal was located offshore or on a coastal region then it would be quite easy to carry out visual inspections of the pipeline under the water. Natural ground movement would be less intrusive on the high pressure connecting pipe work. The water surrounding the pipeline would not resist lateral loading, and thus not cause differential lateral movement of the pipeline and would be less likely to fail than when buried in the ground. This is one of the reasons why all other worldwide connections are made either offshore or to a coastal-based terminal.

The landfall location (for the high-pressure untreated gas pipeline network) is at the foot of Dooncarton Hill. Following the September 2003 landslide, this hill has only recently be classified by consultants employed by Mayo County Council as been "Probably Safe" and the Landfall is located in an area of "High Risk". A landslide can rupture and shear the high-pressure untreated gas line and umbilical line resulting in extreme human and environmental catastrophic disasters.

Health & Safety Implications Associated with the Proposed Development have not been fully addressed or controlled.

The Proposed Development Fails to Comply with Seveso II Directive [96/82/EC]

Current legislation requires that the planning process for new developments take into consideration the risk from industrial facilities that present a major accident hazard. Planning authorities are required to seek technical advice from the Health and Safety Authority (HSA) in relation to proposed and existing affected development.
The HSA must consider and advise on, the anticipated types and quantities of materials, the developing and changing processes associated with all industries.

Shortcomings in the applicant's submission into preventing, controlling and excluding personnel and the environment from High Risk Events are evident throughout the application.

The proposed Development is a Seveso II High Risk Event Industry with Local Residents residing within the Construction Sound buffer zone

The Environmental Risk Assessment of the Effects associated with the Key Hazard Scenarios are listed in Section 17 "Mitigation and Impacts Summary and Impact Interactions" in Table 17.5. The applicant has identified that the release of Flammable Liquid, Condensate, Product and Wet Methanol is possible.
The applicant has also stated in Section 4 "Alternatives" subsection 4.5.1 of the EIS report that fires are possible and hence explosions can occur when they state that one of the reasons for a flat site is " *to facilitate fire fighting around storage tanks*". They have also identified that when these materials are associated with a fire, that the Overall Risk Category is High.

Imprudently, the Applicant only provides information in relation to the "bunding / catchment" containment of such materials without the effects of fire, i.e. prior to explosion.

The quantity of explosive material on site indicates that this establishment is a "Seveso II High Risk Industry". Local Residents are so close to the proposed development that even the applicant has identified in Section 17 "Mitigation and Impacts Summary and Impact Interactions" in Page/Table 17-6) that they will be affected by the sound arising from construction works.

It is therefore, quite obvious that the residents are not far enough away from the development or the events and consequences that can arise in a Seveso II High Risk Event Industry.

The Applicant has failed to fulfill the Aims of the Seveso II Directive [96/82/EC]

Lets be clear, the aim of the Seveso II Directive is for the:

"*prevention of major accidents which involve dangerous substances, and the limitation of their consequences for man and the environment, with a view to ensuring high levels of protection throughout the Community in a consistent and effective manner.*"

The applicant has purposely ignored how to effectively control the consequences arising from a High Risk Category as the land associated with Vapour Exclusion Zone (Gas Cloud in atmosphere arising from a gas leak prior to explosion) or the Thermal Exclusion Zone (Heat given off from an explosion) are outside the site boundary and hence outside the applicant's control.

The proposed gas terminal development is sited on the catchment, streams and rivers carrying water supply to Carrowmore Lake and hence a High Risk Category event will have a consequential effect on these streams and rivers. Therefore man and the environment will be affected since Carrowmore Lake is a major water supply for the entire Erris Community.

Therefore, the aims of the Seveso II directive are not adhered too. The applicant fails to limit the consequences arising from a major accident and has not provided the high level of protection required under the aim Seveso II Directive.

The Anticipated Presence of Substances have not been verified or properly addressed as required under the Seveso II directive

The Applicant fails to include and identify all products/substances associated with the Gas Processing Industry and therefore the anticipated presence of dangerous substances cannot be properly addressed.

The applicant is requesting permission to:

"CONSTRUCT GAS TERMINAL FOR THE RECEPTION AND SEPERATION OF GAS FROM THE CORRIB GAS FIELD..."

The text of the applicant's application does not identify the **type** of gas to be received, separated or processed. There is no verified independent advice to identify that the Corrib Gas is a "Dry Gas". Depending on the source, the by-products of a natural gas processing plant vary and are more explosive than the process of "Dry" Gas.
The foreshore license has been awarded for a period of up to 99 years.

Future exploration and gas finds can be connected/linked to the Corrib gas zone and then brought ashore using this proposed development infrastructure without further planning implications, similar to other world wide gas terminal developments.

It is very unlikely (even after a HSA assessment) that a project worth a half a billion euro will be refused to process other types of gases! If the infrastructure is there then use it!

"Ireland has one of the largest offshore Oil and Gas exploration areas in Europe. Hydrocarbons have been found and exploited in the Celtic Sea, the Porcupine trough and in the Corrib Basin.Ramco, Enterprise Oil and Providence Resources have exploitable reserves".
Text taken from
http://www.tradepartners.gov.uk/oilandgas/ireland/profile/overview.shtml

Refer to Appendix A for the location of these areas.

With advances in mechanics, chemistry and technology any modifications necessary to treat "alternative gas types" can take place within the proposed building footprint or within some minor extension.

The Seveso II directive requires that;

*"the 'presence of dangerous substances' shall mean the actual or **anticipated** presence of such substances in the establishment, or the presence of those which it is believed may be generated during loss of control of an industrial chemical process, in quantities equal to or in excess of the thresholds"*

The anticipated presence of a substance within an establishment and the consequences of its effects must be assessed to comply with the Seveso II Directive. The anticipated presences of other dangerous substances associated with the Gas Industry cannot be ignored and must be addressed now **regardless if the presence** of this anticipated substance requires a future planning permission or not. Permission is currently being sought for a GAS TERMINAL.

The Seveso II directive **does not state nor does it allow** that the, "anticipated presence of a substance" can be dealt with at a later stage under a separate and/or future application. A more highly explosive substance with more highly explosive chemicals, than what is currently proposed can be brought ashore to produce natural gas e.g. the recent gas explosion in China affected a 25sq km area and was labeled a "Death Zone"

Therefore, in adherence and compliance with the Seveso II directive, the HSA zoning criteria for this proposed establishment must consider the anticipated presence and the processing of all types of gas (e.g. "Dry" and "Wet") and their products, as different gas types other than "Dry" can be brought ashore and processed.

The applicant must supply and include all the types and cumulative quantities of the anticipated products/byproducts used in the gas processing industry. These types and quantities should be independently verified. That is what the development is intended to be; an Industrial Gas Processing Plant. The HSA must consider the 'anticipated' presence of dangerous substances associated with all types of gas processing otherwise; the proposed development will not be in compliance with the Seveso II directive.

The Government, Local Authority and Applicant has failed to Comply with Article 8 (Domino Effect) and Article 12 (Land-Use Planning) of the Seveso II Directive

To further comply with the Seveso II directive under Articles 8 and 12

[Article 8: Domino Effect]

"Member States shall ensure that the competent authority, using the information received from the operators in compliance with Articles 6 and 9, identifies establishments or groups of establishments where the likelihood and the possibility or consequences of a major accident may be increased because of the location and the proximity of such establishments, and their inventories of dangerous substances."

The applicant fails to consider the "Domino Effect" arising from a leak/explosion that can occur at the terminal site and consequentially travel along the high-pressure pipeline. Therefore, I request that all authorities especially the HSA must assess this possible scenario and limit its consequence.

[Article 12: Land-Use Planning]

"*Member States shall ensure that the objectives of preventing major accidents and*

limiting the consequences of such accidents are taken into account in their land use policies and/or other relevant policies. They shall pursue those objectives through controls on :

a. *the siting of new establishments,*
b. *modifications to existing establishments covered by Article 10,*
c. *new developments such as transport links, locations frequented by the public and residential areas in the vicinity of existing establishments, where the siting or developments are such as to increase the risk or consequences of a major accident."*

In considering the proposed terminal site:

The government shall ensure that the local Authority, using information received from the applicants, must identify sites or groups of sites that are possible candidates for the presence of dangerous substances in accordance and in adherence to the aims of the Seveso II directive.

Thereafter, the member state (Government) shall ensure that the objectives of preventing major accidents and limiting the consequences of such accidents (especially the consequences of community livelihoods and the environment) are taken into account in their land use policies.

In considering/granting this terminal site all relevant local and state authorities will fail to conform to the objectives of Seveso II Article 12 Land-Use Planning Policy as there are many more available sites in the Mayo area including Erris that are more appropriate under the directive than that of the proposed site. The development is taken place in close proximity and within the catchment of Carrowmore lake, where streams and rivers connecting to the lake will not be protected in the event of a major accident and hence pollution of the only water supply for the Erris Area.

HSA Zoning for Alternative Sites not Provide

HSA Must examine "Alternative Sites" and compare them to the Proposed Site in order to comply with Article 12[Land Use Planning] of Seveso II Directive

A site-specific analysis of all possible alternative industrial sites must be carried out by the HSA in order to advise the Local Authority on the best-suited sites for this industrial development in order to comply with Seveso II directive.

The HSA has not provided a compressive and comparative analysis of the alternative sites under the specific criteria of the Seveso II Directive, Pollution and Traffic Acts. The applicant has ruled against other establishments (sites for the terminal and pipeline) on their own merits, mainly on the basis of potential economic gain.

I request that alternative sites be examined which should be outside the catchment area of a major drinking water supply for the local community (in this case the entire Erris Area). This information should then be made available to the public for observation. In failing to do so Article 12 "Land Use Planning" has not been properly addressed by the HSA.

The Health, Safety and Welfare of a community (in this case the Erris Community) in close proximity to an Industry associated with the proposed Industical Gas processes, including the Storage and distribution of Explosive Substances should be accessed on the basis of the:

- Seveso II Directive
- Pollution and
- Traffic Safety

These criteria under the HSA heading should take precedence over Special Areas of Conservation or Areas of Scenic Amenity etc.

Thereafter, the basis of economic gain etc. should apply.

The Seveso II directive applies to all areas within an Establishment.

The term 'ESTABLISHMENT' under the Seveso II directive includes the Upstream High Pressure Landfall to Terminal Pipeline and therefore a HSA Zoning around the pipeline must be applied in order to provide the appropriate health and safety for local residents, which was also previously identified as a Health and Safety Hazard.

The term 'establishment' under the Seveso II directive includes the High Pressure Landfall to terminal pipeline that was previously ignored by the Applicant and the HSA.

Extracts from the directive

Article 1; The Aim of The Directive

This Directive is aimed at the prevention of major accidents, which involve dangerous

*substances, and the **limitation** of their consequences for man and the environment, with a view to ensuring high levels of protection throughout the Community in a consistent and effective manner.*

Article 2; Scope

*The Directive shall apply to **establishments** where dangerous substances are* present *in quantities equal to or in excess of the quantities listed in Annex I….*

*For the purposes of this Directive, the 'presence of dangerous substances' shall mean the **actual** or **anticipated** presence of such substances in the **establishment**, or the presence of those which it is believed may be generated during loss of control of an industrial chemical process…*

Article 3; Definitions

*'establishment' shall mean the **whole area** under the **control** of an operator where dangerous substances are present in one or more installations, including common or related infrastructures or activities*

- The directive applies to the whole area under the control of the applicant.
- The applicant is the only person who controls the flow in the pipeline and therefore the area of the pipeline.
- Under the foreshore license the applicant has the authority to enter, use and occupy the licensed area for the purpose of constructing, installing, locating, operating, maintaining, inspecting, testing, repairing any of the facilities. The applicant has principal control of the land when their activities are associated with the pipeline.
- The pipeline is also a common or related infrastructure.

It is therefore obvious that the pipeline from the Gas Field to the Terminal and especially that section of pipeline from the landfall to the terminal is **within** the "Establishment" as defined by the Seveso II directive.

Article 4; Exclusions
This Directive shall not apply to the following:

*d. the transport of dangerous substances in pipelines, including pumping stations, **outside establishments** covered by this Directive;*

THIS IMPLIES THAT PIPEWORK AND PUMPING STATIONS **WITHIN** ESTABLISHMENTS ARE UNDER THE SEVESO II DIRECTIVE

Therefore, the HSA must apply the Seveso II directive to the pipe work defined as 'Gas Pipeline, Control Umbilical and Discharge Pipeline under the foreshore license and determine an appropriate HSA Zone (separation distance) away from them.
Alternatively, they must assess the long-term health and safety aspects of the pipeline. If health and safety aspects cannot be addressed now, how can they be addressed in the event of a catastrophe? It is not acceptable to hide behind the risks and consequences of this terminal and pipeline in their proposed locations. People's lives are at risk.

A point of Information;
The separation distance from residential properties to a small-scale sewerage treatment plant to avoid odour and noise, in accordance with EPA Guidelines is a minimum of 50m.

The separation distance from residential properties to a high pressure untreated explosive gas pipeline like that coming from the landfall to the terminal should be at least a high multiple of 50m away. A more realistic figure of 500-1000m or greater should undoubtedly be provided. This is not the case and it was previously pointed out that some residents are less than 70m away from the pipeline.

Non-Performance or Non-Observance by the licensee implies that the Minister for the Marine can now withdraw Foreshore Licence

The Applicant has not identified/observed common risks associated with the proposed pipeline infrastructure route as shown on the Foreshore Licence.

Under the terms of the Foreshore Act 1933, Section 3 Par 5 the Minister has the power to '*terminate such licence on breach, non performance, or non-observance by the licensee*'. The following is a list of items that should have been considered/ observed during the application of the Foreshore Licence.

- The applicant has failed to investigate, observe or consider the stability of the surrounding landscape including Dooncartoon Hill either prior to, during or after an explosion event occurring at the terminal and/or anywhere along the Gas Line. Vibrations in the ground following an explosion can destabilise the already unstable high risk Dooncartoon hill (one of the highest hills in Erris). The applicant's submission now identifies these events as well.

- The Applicant fails to address how they intend to monitor, control and prevent landowners/trespassers from disturbing/digging the only inland high pressure untreated gas line in the world, together with the *Discharge pipeline* and *Control Umbilical*.

- The applicant fails to identify how they intend to support the Gas Pipeline, Discharge Pipeline and Control Pipe (as defined in the Foreshore Licence) and prevent them from excessive deformation and hence failure especially when the pipeline infrastructure is supported on Peat.
  Does the applicant intend to remove all the peat under the pipeline?

- As previously discussed in this submission and as identified by the applicants design team, Peat has failed on slopes as low as 2 degrees. The pipeline route is through an abundance of peat. The applicant has failed to identify how they intend to protect this pipeline from such events.

- The applicant fails to address how they intend to prevent surcharge loadings on the ground arising from common general/agricultural use on the Gas Pipeline, Discharge Pipeline and Control Pipe (as defined in the Foreshore Licence) infrastructure servicing the gas terminal. The surcharges can either arise from heavy farm machinery or stock piling in a specific area. These effects can cause the pipelines to fail.

- The foreshore licence was granted without assessing the land policies in accordance with Article 12 of the Seveso II Directive. A site should have been chosen based on the *prevention of major accidents, limiting their consequences for man and the environment and ensuring high levels of protection throughout the community*. The proposed site does not meet the aims of the Seveso II directive. Therefore, the licence for the pipeline is not valid.

- Incorrectly, the previous Minister believed that this was the best site and issued a licence upon false and misleading information.

- The overwhelming impacts of the terminal on the landscape following High Risk Events arising at the terminal and/or along the pipeline as identified in the applications submission and collated in this report identifies that this IS the wrong site.

- The proposed development is;
  - Within the catchment area of Carrowmore Lake the only drinking water supply for the entire region.
  - The only inland terminal in the world.
  - In a landscape of natural ground instability.
  - Surrounded with Blanket Bog that can fail at 2 degrees, in an area of ground outside the applicant's control.

The Seveso II directive was written following the events and consequential affects thereafter, in the town of Seveso, Italy in 1976.
The local community do not want the Erris EU Directive for a similar future disaster. Major events will happen if this site is chosen for this development. There are better sites available in Erris and indeed in Mayo.

If the above events cannot even be addressed at this stage, how do we expect them to be addressed when they happen? It is no good hiding behind reality.

Therefore, I request that the Minister must enforce the powers he has from the Foreshore Act and terminate this licence as the applicant has failed to observe, identify and control the above events. Failure to address these events will undoubtedly have a major consequential impact on human beings and the environment.

Otherwise, I request that the Health and Safety Authority assess the location of the landfall and high-pressure pipe work that contains the untreated gas as the landfall and pipeline will cause a serious human and environmental risk in its proposed location.

Previous Reasons for Refusal still Valid

First Reason for Previous Refusal Still Valid

> *...The proposed gas processing terminal, forming part of a subsea tie-back development concept, would be sited in a remote, rural, unserviced, inland location some 8km from the landfall and away from centres of population in the region.*
>
> *The siting of the proposed development, with its significant tie-back constraints, would be contrary to the strategic planning of infrastructural development for the Border Midlands West Region.*
>
> *Furthermore, the proposed large industrial development would be located in an elevated and unspoilt rural setting in an area of scenic and ecological value lacking in public services and essential facilities. The policy of the planning authority, as set out in the current Mayo County Development Plan, is to protect the natural environment, to enhance the amenities of the county and to ensure that the availability of infrastructural facilities is not a limiting factor in the promotion of industrial development. In addition, it is an objective to strictly control development which might prove injurious to the amenity value of the Carrowmore Lake area of special scenic importance.*
>
> *The proposed development would conflict with the policies of the planning authority by reason of:*
>
> *(a) the imposition of a large industrial development in a remote inland rural location that is seriously deficient in public infrastructure to serve the development;*

This statement is still true and valid and forms a basis of my objection.

> *(b) the visual obtrusiveness of the development when viewed from the west and the visual intrusiveness when viewed from the south, from local roads to the north-west and north-east, and from Carrowmore Lake by virtue of the siting of a large industrial complex on a prominent, open and exposed bogland hill, resulting in a significant deterioration of the landscape character of the area;*

This statement is still true and valid and forms a basis of my objection.

> *(c) the irreversible alteration of this landscape arising from the site development works proposed;*

This statement is still true and valid and forms a basis of my objection.

> *(d) the degradation of the fragile ecology of the area arising from the intensive industrial activities of the construction and operational phases of the development;*

This statement is still true and valid and forms a basis of my objection.

> *(e) the environmental and public safety implications derived from the construction works; and*

The applicant has increased the environmental and public safety risks with the recent application. The proposal of excavating and removing overwhelming quantities of acidic blanket bog North of Carrowmore Lake and transporting it by road to the water lodged deposition site at Srahmore, South of Carrowmore Lake.
This proposal has greater implications and the previous reason for refusal is now reinforced and is true and valid and forms a basis of my objection.

> *(f) the significant increase in traffic volumes and HGV movements at the construction stage onto a road network that is substandard in width, pavement and alignment.*

Traffic volumes and HGV movements have dramatically increased compared to the previous proposal. There are eighty two thousand (82,000) more truck movements required to transport the peat to Srahmore.
This statement is still true and valid and forms a basis of my objection.

- The constraints of this site have not changed.
- The traffic movements arising from this recent application will dramatically increase (compared with the last application) arising from the Excavation and removal of at least 450m3 of Blanket Bog
- The Environmental and Public Health and Safety implications are more severe as the disturbance of acidic blanket bog South of the neutral water source of Carrowmore Lake, and the deposition of such large quatities of disturbed acidic blanket bog at a waterlogged site at Srahmore South of Carrowmore Lake. There is 405,000,000 litres of acidic water contained in the peat.

Second Reason for Previous Refusal

Having regard to the likely instability of the proposed containment bunds and the waste peat to be stored in the peat repositories arising from the failure to design an effective surface water drainage system to ensure the integrity and retention of waste materials stored in the permanent repository structures on a slope above Regional Road No. R314 and in close proximity to watercourses draining to the Glenamoy River and Sruwaddacon Bay, the consequent safety risk to the local community and the pollution risk arising therefrom, it is considered that the proposed development would endanger the health and safety of the general public in the vicinity of the site, would seriously injure the amenities of property in the vicinity, and would adversely affect the use of the regional road. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

The applicant is just transferring and adding to the problems encountered in the previous application to a waterlogged site at Srahmore. The volume of excavated material and the volume of traffic associated with the construction works have dramatically increased with this recent application.

An **additional 82,000 truck movements** are introduced to the public road by removing the peat to Srahmore some 11km from the development site. This route is the shortest route available for all residents in the North Erris area, travelling to Castlebar General Hospital in the event of an emergency. The route is inadequate in formation width and alignment for overtaking traffic movements.

The applicant has now spread the environmental impact by excavating and depositing huge quantities of acidic Peat containing at least **405,000,000 L i.e. four hundred and five million litres of acidic water** to a site at Srahmore close to a major source of drinking water supply for the entire region (Carrowmore Lake).

The context of the second reason for refusal is still valid but the environmental impact spread has increased. These works are now taking place to the North and South boundaries of Carrowmore Lake, the only public water supply for this region.
The recent application will now largely affect four areas - Bellinaboy, Srahmore, Mountain face quarry at Bangor Erris and the Mountain face Quarry at Glencastle.

If an onshore facility is ultimately required then, a coastal site should be chosen where, the ground is stable and where most of the raw materials can be processed on site (i.e. quarry the rock on site to produce the hardcore required for fill and to make concrete etc). This would dramatically reduce construction traffic on public roads and contain the development to one specific location. A site should be chosen outside the catchment of a major drinking water supply for a region. The health and welfare of individuals should take precedence over special areas of conservation and scenic amenity.

The second main reason for the previous refusal as identified above is enhanced based on the recent application and is a further reason for refusal.

Estimated Quantities:
As with the previous application, there are significant variations in the material quantities being estimated once again by the applicant. The application requires planning for the excavation and removal of 450,000m^3 of soil, however, Section 4 "Alternatives" subsection 4.5 of the Environmental Impact Statement states " 450,000 m^3 of Peat and 50,000 m^3 of mineral soils will be removed." Disposal of disturbed soil will also take up more volume than its current insitu volume.

Difficulties associated with Total Peat Removal (Previously Quoted by the Applicant):
Continuing inconsistency and contradictions in the applicant's submissions (previous and current) is a matter of great concern. In this recent planning application, the applicant has now concluded that the removal of all the peat is now the best and preferred option.

The applicant now states in Section 4 " Alternatives" subsection 4.5.7 of the EIS report that

> *"...total peat removal would present the best practical option for the terminal both for its construction and operation."*

I believe the above statement to be false and inaccurate for the reasons previously submitted by the applicant and stated on page 251 of An Bord Pleanala's report.

It is known that existing drainage from previous land use; either cut into, or installed below, the skin of the upper peat can affect the pore pressures in the main body of the peat. When drainage is taking place the pore pressures are reduced and this helps stabilise the peat, but when they are rapidly saturated and drainage is blocked, the build up in pore pressures can destabilise the peat. The site at Srahmore becomes water lodged in periods of prolonged rainfall.

The applicant previously ruled against the removal of the peat as there were many disadvantages associated with this work.

The disadvantages noted by the applicant include:

- *A large volume of peat would have to be removed thus increasing the quantity of peat to be stored.*
- *The removal of all peat would require trenches up to 4.5m in depth in peat, major temporary works would be required including use of heavy piling plant, and*

there would be additional safety risks for ground workers.

- *The excavation of trenches would pose a safety risk to the workforce.*
- *The excavations would fill with water and dewatering would be required and the water disposed of.*
- *There would be construction and safety difficulties in placing fill and working under water if dewatering was ineffective.*
- *Trafficking and disturbance of adjacent peat surfaces, possibly causing a reduction in strength, would result.*
- *A large volume of fill would have to be imported onto the site.*
  Mineral soil embankments may form a migration path for run-off into the underlying mineral soil and bedrock.

The above disadvantages previously submitted by the applicant still are relevant.

There is no known example of where successful large deposition of saturated blanket bog has taken place. I object to the removal of such large quantities of acidic peat and deposition of same close to a major neutral water supply for the Erris Area.
I also object to the 82,000 traffic movements this work will incur.

Third Reason for Previous Refusal Still Valid

Having regard to the provisions of Directive 96/82/EC ("Seveso II") in relation to land use planning (Article 12) and Circular Letter PD 6/99 from the Department of the Environment and Local Government and having regard, in particular, to the submissions from the National Authority for Occupational Safety and Health, the designated Central Competent Authority for the purposes of the Directive, the Board is not satisfied, on the basis of the submissions made in connection with the planning application and the appeal, that the proposed development could not, due to the risk of a major accident or if a major accident were to occur, lead to serious danger to human health or the environment. The proposed development would, therefore, give rise to an unacceptable risk to members of the public due to the proximity of the terminal site to residential properties and areas of public use to which the Directive applies and would, thus, be contrary to the proper planning and sustainable development of the area.

This statement is still valid and the events and consequences associated with this directive affect areas that are within the catchment of Carrowmore Lake on land that is outside the control of the Applicant.
Surface water, streams and rivers discharging to Carrowmore Lake can become contaminated with chemicals arising from events as identified by the applicant and in the Seveso II directive.

Therefore, the aim of the Seveso II directive is not fulfilled, as the consequences of an event cannot be controlled and limited.

Some Recent Explosions and Pipeline Burst Events

Explosions

Country	Date	Explosion	Area affected
Moomba	Jan 2004	Gas	6 sq miles (Plant)
China	Dec 2003	Gas	25 sq miles (Well)
Umtata	Sept 2003	Gas	12 sq miles
Ughelli	April 2001	Gas	Entire Community (Plant)
Illinois	Nov 1998	Gas	4 sq miles (Pipeline)
Lfd, Victoria	Sep 1998	Gas	Within the Plant
WILL, Ohio	July 2000	Gas	4 sq miles (Plant)

Pipeline Disasters

Note: Implying that pipelines do burst. This development is no different

Louisiana	Jan 21	Equilon **offshore** pipeline **spills 94,000 gallons of crude oil** off coast of Louisiana.
Winchester KY	Jan 27	Marathon Ashland pipeline near Winchester KY spills 900,000 gallons of gasoline, **almost reaching Kentucky River, major drinking water source**.
Knoxville TN	Feb 9	Colonial pipeline ruptures near Knoxville TN, spilling 53,550 gallons of diesel fuel **into Tennessee River**.
Greenville TX	March 9	**Explorer** pipeline at Greenville TX spills 564,000 gallons of gasoline into creek, **upstream from main drinking water supply of Dallas**.
Piney Point MD	April 7	Potomac Electric pipeline at Piney Point MD spills 140,400 gallons of fuel oil, **polluting creek and Patuxent River**.
Houston TX	May 20	Pipeline in Houston TX spills 84,000 gallons of gasoline, some into Hall's Bayou, tributary of Houston Ship Channel.
Blackman Township MI	June 7	Pipeline in Blackman Township MI spills 100,000 gallons of gasoline on ground and into Grand River.
Carlsbad NM	August 19	El Paso gas pipeline explodes in fireball near Carlsbad NM, **killing extended family of 12 people on camping trip**
Abilene TX	September 8	Propane pipeline near Abilene TX explodes in fireball, **killing motorist, injuring woman** who saved self by diving into a swimming pool.
Vaquillas TX	November 30	Natural gas pipeline explodes in Vaquillas TX, **killing backhoe operator, inuring another**.

Reproduced extracts from An Bord Pleanala

Dated April 2003
Prepared by Kevin Moore
Senior Planning Inspector

"I do not accept that offshore risks would be significantly high as the shallow water fixed steel jacket option would address the applicant's concerns relating to water depth, harsh environment at the field location and other geographical parameters."

I put forward the observation that pipelines constitute one of the least costly items identified in the applicant's schedules of costs.

the applicant's agent from Granherne stated at the hearing that it is technically feasible to develop Corrib in a different way.

While one of the main economic arguments for not developing an offshore platform is based around this lack of infrastructure, it is significant that this same issue on land is one of the main material matters that emphasises how remote the inland terminal site really is and places a material and significant planning constraint on the proposed development. Furthermore, regarding references to other proposed tie-backs, the siting of their terminals in coastal areas, whether close to urban areas, near shipping lanes, etc., makes these other tie-backs materially and significantly different proposals from that now before the Board. The proposed development would be a remote terminal in a rural area, some distance from the landfall, and not associated with the coastal area, shipping, or existing gas infrastructure.

The proposed subsea tie-back would be the second longest in the world. It will also be the only tie back that links the gas well to an inland terminal.

"The root cause of the problem is that the site chosen for the Gas Terminal is unsuitable."

It is evident that the significant environmental cost that would result from the development being sited in a location that comprises a vulnerable, remote, unserviced, rural landscape confirms it be the wrong site.

Page 222 of 377 of the Planners Report from An Bord Pleanala report stated that for the previous submission the "storage of methanol for the proposed development was considered excessive by the third parties and was offered as an indication that there are plans or intentions to greatly expand the terminal".
Reviews of other licienced gas/oil block areas off the west coast of Ireland certainly reinforce the above statement made previously by An Bord Pleanala. These blocks scatter and extend beyond Northern Ireland and to the South of Kerry and extend to an area approximately 200miles off the west Coast.

Also, and extremely significant, is that while a subsea pipeline to shore is common to all options, offshore processing would allow dry conditioned gas to be transported long distances (over hundreds of kilometres as described by the developer). This would be a significant advantage in considering alternative locations for landfall as it would eliminate the concerns of transporting gas that has not been conditioned over a lengthy distance of 92km to a terminal onshore. Furthermore, I note that a significant constraint factor influencing landfall selection, and thus influencing terminal site selection, is the need to minimise the length of the subsea umbilical in order to avoid, if possible, the need for subsea joints, which as the applicant has highlighted can be a source of failure. The development as proposed will have a joint at the landfall to keep the subsea continuous length of the umbilical to a minimum. It is admitted that the umbilical proposed for the Corrib Field would be one of the longest umbilicals in the world. The option of a shallow water fixed steel jacket would significantly reduce the length of this umbilical, thus reducing the need for subsea joints, thus limiting a source of failure.

The land at Asahi is zoned for industrial use.

No considerations in terms of cost, safety or the environment appear to be given in any detail to the cost of the risk environment that would be imposed on the local community.

The development of a gas processing terminal at Ballinaboy is not inherent in any local, regional or national policy

documents, inclusive of the National Spatial Strategy.

The proposed subsea tie-back would be the second longest in the world.

From the details provided by the applicant on existing subsea tie-backs around the world that are regarded as similar in principle to Corrib, all are tied back to offshore processing platforms, not land-based terminals. This is notwithstanding varying available reserves.

What is known of proposed subsea tiebacks, their proposed processing terminals on land would be sited in coastal areas and not inland in remote rural locations.