12th 3rd party appeal

PL.16.207212

APPEAL BY

MICHAÉL Ó SEIGHIN AND OTHERS

FURTHER APPEAL FORM

SECTION 26		SECTION 37	

Appeal No: PL 207212

Lodged: 26/5/04 **Case Type:** 03

O.H. Request Date: _____ **P.A. Decision Date:** _____

Appellant: Micheál Ó Seighin & Others

Adress/Agent: Ceathrú Thaidhg, Béal an Átha, Co. Mhaigh Eo

Ms Cranwell

1. **Acknowledge with:** BP01 HM

Merge:

(1) psplit ☐ (4) omitdoc ☐

(2) msplit ☐ (5) overpay ☐

(3) revplan ☐ (6) xmas ☐

2. Issue appeal to:

(a) P.A: _____

(b) Applicant: _____

(c) Other: _____

_____

_____

3. Return appeal with: _____

4. Return to prepare exp.ltr: _____

Comments:

Please insert date of cross circulation on control sheet

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_____

EO: K Doherty **AA:** Ros Cranwell

Date: 1/6/04 **Date:** 3/6/04

J:abp\forms

An Appeal to an Bord Pleanála against a Decision of Mayo County Council on April 30, 2004, to grant planning permission to Shell E & P Ireland Ltd., for the Development of a Gas Refinery/ Terminal at Ballinaboy and for a Peat Dump, Deposition Site, at Srahmore.

AN BORD PLEANÁLA
TIME 11 46 BY Hand
26 MAY 2004
LTR-DATED _____ FROM _____
PL _____

Ref. No. in Planning Register:- **P03/3343**

Appeal by:- Micheál Ó Seighin and Others.
Contact:- Micheál Ó Seighin, Ceathrú Thaidhg, Béal an Átha, Co. Mhaigh Eo.
Contact E-mail:- moseighin@eircom,net
Contact Phone:- 097/88961

Enclosure:- Record of receipt from Mayo Co. Co. of submission of objection against the granting of Planning Permission.
Relevant fee.

Further Request:- We ask An Bord Pleanála to grant us an oral hearing into these substantial matters.
Enclosure:- Relevant fee.

AN BORD PLEANÁLA
Received: 26/5/04
Fee: €290- cash
Receipt No. B 52215

Basis of Appeal:- It is our belief and contention that Mayo County Council is in error in its decision and that the proposed development, were it to proceed, would seriously injure the visual amenities and landscape character of the area, and would manifestly injure the amenities and property values of residential properties and farms in the vicinity, would be prejudicial to public health and the health of individuals, would endanger public safety especially and evidently in the construction phase, would seriously degrade the amenity value for tourists - especially those seeking outdoor pursuits, the only viable local tourist product - and locals alike, would introduce a risk environment where none has previously existed, would destroy the compromise by which the local community has prospered in this difficult environment and lead inevitably to its extinction, and would in these matters and in others be contrary to proper planning and sustainable development of the area.
In this our belief and our contention, we, citizens of this State and residents of this area, on whom and on whom alone the social, physical, financial, physical and mental health burden of this proposal will bear on a daily basis ongoing and so on, have due regard to the policies of the State and public bodies, and we believe the interpretation of these policies and decisions being advanced in this instance by MCC are in error, in that at the least they do not give due weight and cognizance to the rights and requirements of the local community and in this deficiency are negligent in their duty of treating all citizens equally and so discriminate against the local community for no good reason. We further believe that in the P03/3343 First Schedule MCC fails to discriminate between compatability on a macro economic level and gross incompatability on the micro human and socio-familial level, the level on which people in reality have no choice but to function: in this also M.C.C. are deficient in their care for the proper planning and sustainable development of this area.

Having due regard

- to national and Ministerial policy with regard to the development of natural resources and energy supply as expressed in legislation;
- to Ministerial statements and relevant official documentation that limit the true implementation of such policy statements;
- to the County Development Plan (CDP);
- to the evidence previously presented in relation to previous applications for this project that

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	C	Moving Bogs - Scéal na Móna.
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	E	Landslides & Blasting.
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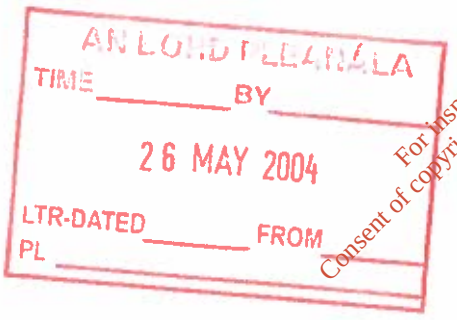
	AZ	Pipeline Structural Problems, Possibly.
		Submission of Objection to MCC on Planning Application.
		Submission of Objection to MCC on Further Information.

Receipt of Submission to Mayo County
on 28/01/04 and on April 1st, 200
in connection with File Register Number



Mayo County Council
Aras An Chontae
Castlebar

Ref No.: P03/3343

28/01/2004

Mr Michael O'Seighin & 5 Others
Carrowteige
Ballina
Co. Mayo

A Chara

I wish to acknowledge receipt of submission received from you on 28/01/2004 in connection with planning application by **SHELL E & P IRELAND LIMITED 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 BELLACELLY 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 at BELLAGELLY SOUTH SRAHMORE ATTAVALLY.**

The matters referred to by you will be taken into consideration by the Council before a decision is made on the application. Notice of the Council's decision on the

application will be given in accordance with the requirements of the Planning and Development Regulations, 2001. This may be in the form of:

(a) posting the notice directly to you; or

(b) publishing the notice in a newspaper circulating in the area where the proposed development is situated.

Please note that in the event of an appeal being lodged by you, An Bord Pleanala will require a copy of this letter of acknowledgement.

Mise, le meas

RUNAI CHONDAE

AN BORD PLEANÁLA
TIME _____ BY _____
26 MAY 2004
LTR-DATED _____ FROM _____
PL _____

MAYO COUNTY COUNCIL
RECEIVED
1 APR 2004
PLANNING & DEVELOPMENT

Comments on Response by Shell to Request for Further Information on File N0. P03-3343, relating to proposed Ballinaboy Bridge Terminal and Related Srahmore Peat Dump.

Submission: Micheál Ó Seighin and others.
Contact: Micheál Ó Seighin, Ceathrú Thaidhg, Béal an Átha.
Contact Phone: 097/88961
Contact Ríomhphost: moseighin@eircom.net

Réamhfhocal:- Dáil Debates, 4/11/1998. Minister Dr. Woods:

"We will not grant a foreshore licence unless we are satisfied that there is planning permission."

Ach thit an spéir ar Acaill ó shoin.

Ongoing Development of Context:- We note that Mayo County Council did not inform the M.L.V.C., of their worries regarding the instability of Glengad Hill et alia, or of its' history of landslides. Mayo Co. Co. had so briefed the developer.

The M.L.V.C. is a committee of experts whose brief it is to recommend that the relevant Minister grant a Lease, Licence or Permission in matters marine, in this instance the go-ahead for the offshore and on-shore (8 Kilometres of pipeline and accessories) project.
"The M.L.V.C. will only consider and assess an application when it is fully satisfied that all relevant information is provided." (Marine Institute Documentation).

We note also, that responsibility for matters above HWM lies with the Local Authority.

Transport Management Plan Item 1, Vol.1

This "plan" is in response to request No. 1 (Item No. 1). The preamble notes that it is a "living document", in other words a concept, not a proposal, and as far as its implementation goes, a blueprint for an ad hoc delivery of the required result. We do not believe that this is sufficient for a project of such magnitude where the risks are so great.

Overview:- Consideration does not include the disposal of excavated material from the 8 Kilometres of pipelines, from Glengad (Trá na n-Oistreach) to Ballinaboy. It is proposed to produce this waste to make way for a pipe of 500mm from the well, 3(I think) for the umbilical, and the outlet pipe taking waste water and its' passengers out to Erris Head. As well as the pipes themselves it is proposed to import some 50,000 cubic metres of fill (stones etc) presumably along the roads from Glenamoy to Rosport (Léana Mhianaigh / Seanmhachaire) and from somewhere to Glengad to replace the excavated material over 1 kilometre from Trá na nOistreach to Rosport. This necessitates the disposal of huge amounts of waste peat and soil, on the sloping land stretching along Sruth Mhada Conn, an SPA, and on a macaire etc. Or is it intended to be left where the

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In this our belief and our contention, we citizens of this State and residents of this area, on whom and on whom alone the social, physical, financial, physical and mental health burden of this proposal will bear on a daily basis ongoing and so on, have due regard to the policies of the State and public bodies, and we believe the interpretation of these policies and decisions being advanced in this instance by MCC are in error, in that at the least they do not give due weight and cognizance to the rights and requirements of the local community and in this deficiency are negligent in their duty of treating all citizens equally and so discriminate against the local community for no good reason. We further believe that in the P03/3343 First Schedule MCC fails to discriminate between compatability on a macro economic level and gross incompatability on the micro human and socio-familial level, the level on which people in reality have no choice but to function: in this also M.C.C. are deficient in their care for the proper planning and sustainable development of this area.

Having due regard

- to national and Ministerial policy with regard to the development of natural resources and energy supply as expressed in legislation;
- to Ministerial statements and relevant official documentation that limit the true implementation of such policy statements;
- to the County Development Plan (CDP);
- to the evidence previously presented in relation to previous applications for this project that

applies to this renewed application;

- to further scientific and other information not available during consideration of earlier applications, especially with regard to health and safety of workers and residents alike;
- to the relevance of environment to planning matters, which did not previously apply;
- to the character of the landscape
- especially to the continued thriving of the local vibrant community;

we believe the decision of MCC in granting this permission is perverse and wrong in planning, which we shall demonstrate to the satisfaction of An Bord Pleanála;

we believe, and believe it is self-evident that the proposed development if implemented :-

- must seriously injure the visual amenities and landscape character of the area, as laid down in the County Development Plan, changing catastrophically from a rural to an industrial landscape at one blow;
- must seriously injure the amenities and destroy values of houses and farms in the area, for who wants to move in next to a refinery/terminal on this scale, operating 24 hours a day, and emitting, by more or less, dangerous gases, with the admitted danger of a catastrophic occurrence;
- must be injurious to public health;
- must endanger public safety;
- does not sufficiently take into account the rights and the utility to them of the safe environment in which the community has lived for generations in mutual respect and nurture;
- would break the continuity of the local families and their identification with and shaping of the local dynamic environment by inserting a dominant presence that will stay long enough to break the culture, i.e. the way of living and its means of survival, of the inhabitants, but not long enough to put a sufficient base under the sustainability and survival of the community;
- and be therefore contrary to proper planning and sustainable development of the area.

Furthermore, in its use of the term "area" Mayo Co. Council, in its decision and supplementary commentary, fails in practice to define the physical or administrative or socio-family level, the functioning level, to which they refer, so that it is often unclear to what unit in reality it refers; so that multiple discriminatory and misleading applications result.

In our appeal that follows, we will refer to

- National policy with regard to energy and natural gas resources in reality;
- Mayo County Development Plan 2003-2009;
- the character of the landscape;
- report of the NHSA as on File P03/3343;
- Planning report and recommendation;
- other documents and reports supporting our contention that this concept of a project is indeed for the wrong place and for the wrong reasons and is inimical to sustainable development in this community and thus to proper planning, and that the scientific and technical knowledge underlying this application is faulty, incomplete and not in accordance with best knowledge and practice.

Mayo County Development Plan2003-2009

(quotations from plan are in italics.)

As this proposal, in so far as it refers to the terminal site, is largely the same as Application P01/900 of April 2001 and very similar to the application of November 2000 a short note on planning history is essential. In the draft phase of the previous County Development Plan 1992, a draft for the Erris area plan was drawn up and circulated. During the oral hearing held by An Bord Pleanála, February 2002, into the appeal against the granting of P01/900, the then Senior

Planner of Mayo County Council stated that the Erris area plan had never been presented to the Council for passage, because more important matters were prioritised, and so, in fact, no development plan for the Erris region was in existence. This situation was in effect until the acceptance of County Development Plan 2003-2000, and is an indication of the general regard in which this area is held and the predominant preconceptions within officialdom. AS the Mayo CDP now operational has come into effect since this project last came before An Bord Pleanála, and given the prominence rightly given to it in planning deliberations and decisions, we start our appeal with a look at what is a very fine plan, which will clearly show that in spirit and in letter this proposal and this planning consent is in breach of its aims, objectives and recommended mode of implementation.

1.2 The plan leads with the idea of sustainable development, which was given legs by Agenda 21, from Rio (1992). Under the Kyoto Protocol, governments, including Ireland, promised to limit greenhouse gases emissions to an agreed level by 2008-2010: The National Climate Strategy translates this into a program of action. Given the checkered history and ongoing uncertainty regarding Kyoto one questions the sense in hanging one's planning hat on the hope of its implementation. However, there is no material evidence that the fact of having another source of gas, apart from Kinsale and the 2 interconnectors, is going to advance the objective of Kyoto and the National Climate Strategy. The decisions to change from the more polluting oil and coal to the less polluting natural gas is not dependent on Corrib coming or going: this decision can be made at any time, and will be, dependent on the perceived realities and economics of individual industries and individual or industry-wide decisions made. However, no industry can access gas, until/unless An Bord Gáis builds the necessary pipeline - this and industry decisions is the decisive factor in the displacement by natural gas of more pollutant sources of energy.

There is no shortage of natural gas, now or in the foreseeable future, except such as the vagaries of a one-world market dictates. The Taoiseach recently in the Dáil made great boast that "we" would shortly be exporting gas to Britain and further afield through the second interconnector which is much surplus to inward requirements. (Source)
The annual Report of An Bord Gáis for 2002 makes this point clearly: -" *The E.U. forecasts that 60% of EU gas usage will be imported by 2010 and 75% by 2020, up from 45% in 2001.However* ***there are ample resources within reach of the EU.****"(p.38) "With supply of natural gas secured well into the future, our focus is now firmly on minimising gas procurement costs." (p.14) "The 238KM second sub-sea interconnector pipeline linking Ireland and Scotland ensures security of natural gas supply to the Irish market to the year 2025"* (script on illustration.). There is no consideration of the contribution of Corrib to this analysis and the accompanying map (p.39) shows only a single line from Craughwell to Ballinaboy with no spurs.(Source H)
Natural gas in its pipeline has passed through North Cork and Mid-Tipperary etc for 20+ years without influencing one jot the sources of energy used or attracting heavy gas users to the area. Reality is to be prized above all.
1.2.1 "*balanced regional development is a fundamental objective.*" The Corrib proposal as passed by Mayo Co. Co. does not advance balanced development and the lack of any contribution by this project to the attainment of this objective is summed up in the Report by the Bord Pleanála Inspector on the previous application for this project:- *"The exploitation of this very valuable natural indigenous resource is premature because, with a short 15-20 year life-span, the region would lose out significantly in the potential to expand the gas distribution network in the region, the potential to facilitate the region's energy infrastructure, and in the potential to create substantive socio-economic spin-offs for the region. The draining of this resource to a national network trough the West Region (outside of Galway) without tangible, definitive benefit to the region and to the North-West is unacceptable in the knowledge that such benefits could fall to the*

regions when appropriate commitments are in place to exploit this resource. There is only one clear commitment - to bring the gas out of the Region." (Inspector's Report 2003: p.60)

In the light of the availability of this analysis in the above report, there is little need to further expand on this fundamental fact - this proposal is not an agent of regional development: the development of Corrib in a different context, given a different legislative framework, a more focused State commitment combined with semi-State flexibility could be an agent of major development, but in the reality that is in place, this is not remotely possible. (see discussion on licensing terms p. 39 onwards.)

The proposed establishment is a monster on a green-field site, in the middle of a vast bog. The local gain is to be ca. 50 jobs, which are unlikely to be aligned with local skills availability: the local loss to fishing, utility of traditional environment, freedom from risk, freedom of movement is incalculable, nor has any effort been made to calculate such loss. The gain for the County depends on the possibility that An Bord Gáis will build a pipeline and distribution network to Castlebar/Westport - Ballina is definitely out of the loop: An Bord Gáis can do that at any time if it wishes, with or without Corrib. We are really tired of this obtuseness masquerading as clarity.

Sustainable Development:- *"that meets the needs of the present generation without compromising the ability of future generations to meet their needs"*
Corrib development as proposed

- makes no contribution to national or regional finances;
- the leases in force since 1992 ensure that a minimum return only is returned to the state;
- the present needs of a few guesthouses, quarries, property renters only will definitely be met;
- the life of the local population would be irrevocably shattered, by fear and noise, and emissions to a pristine environment;
- future generations will be left with empty pipelines from Ballinaboy or Castlebar to Glengad
- natural gas is not a renewable resource;
- the needs of future generations will be strongly influenced if not decided by the decisions of this generation in power - needs are imposed from the social and physical environment - wants are internal: unless the future generation at Ballinaboy exists it can have neither needs nor wants to satisfy.

"it is equally about the economy and quality of life and therefore relates to social economic and cultural sustainability". This project will obviously destroy the quality of life of this community, a quality we extracted in a compromise from a hard environment - risk etc. It would introduce a strong "push" factor to encourage young couples to move away while removing the very strong "pull" factors at present drawing the young to stay within this protective environment, and the possibility alone is doing so. It is the enemy of hard-earned sustainability. Such an enormous unrestrained power with its own cultural baggage and requirements, cannot help survival. The decision by MCC is ill-judged, ill-advised and a poorly understood interpretation of this reasoning : it does not "*meet(s) the needs of the present generation"* (of the community) while it compromises "*the ability of future generations to meet their needs*": if such a generation should indeed exist.
"central to the whole concept also are that development should allow future generations to enjoy a quality of life at least as high as our own, and should respect our responsibilities to the wider international community." Impossible under this proposal. We are respecting "*our responsibilities to the wider international community* " by driving through machaire, cSACs, SPAs, risking listed riparian systems, licensing blasting in breeding and nurturing areas of dolphin and whale, destroying the nests of sand martins? Endangering Carrowmore Lake Regional Water System,

paid for by European taxpayers. Respect? We are being sacrificed to an ill-judged, ill-advised and poorly understood interpretation of these fine sentiments.
"this plan embraces the principles of sustainability in addressing future growth and development." 1. the gas is not renewable; 2. nothing guaranteed for Mayo before gas runs out - unless Bethlehem Steel suddenly decides to build a major forge in Ballindine, though even that would hardly be up and running before gas runs out. No growth or development for local way of life and those who have created it and live it.
1.2.4 Development Trends. The increase in economic activity reported is not reflected in population figures.
Environment:- "*water quality in the county continues to decline*" But all lakes in Mayo classified as un-enriched for 'Water Quality Report 2002' Corrib would certainly contribute to the trend, especially re. Abhainn Mhór, Muincheann and Ceathrú Mór Lake. Given the pace of deterioration the report of 2002 is not relevant.

1.3 Key Issues
"*To halt the decline of population in the rural areas of the county.*" by making Ballinaboy etc less attractive as a place to live, and destroying the advantage there now is in living there, vis a vis urban or brown field areas.
"*an attractive built and natural environment.*" a structure of many heights, stretching to super-windmill height, with substantial night-lighting, and constant noise, all in sight of Ceathrú Mór and within the living environs of the local community? Is this what Ian Douglas considers to be 'an attractive built and natural environment'?
"*to provide alternative employment for farmers leaving agriculture and those moving to part-time farming*": comment is superfluous.

ERM Review of the EIS for the Corrib Field Development,
Final Report as consultants to the Dept. of Marine and Natural Resources
2.5 Impacts. *"no matching of skills to requirements of project."*

ERM Report to MLVC; Annex A.
3.4 "*there has been no original research into employment patterns and all judgements of significance are qualitative with little justification for impact predictions that were made".*
The reservations still apply.
It doesn't take a consultant to see how irrelevant this terminal proposal is to this sentiment of CDP.
"*to ensure a range of social and educational opportunities*" a few euro for an old folks party, and the sponsorship of a game of golf 12 miles away in Carn for Erris Tourism hardly qualifies.
"to ensure...other valuable natural resources including gas, forestry, fishing, aquaculture are developed to their full potential but in a manner that has due regard to environmental protection, bio-diversity conservation and the preservation of visual, scenic and residential amenities." We believe that all the issues here under 'due regard' are breached by this Corrib proposal: SACs and SPAs are breached, reclaimed farmland irrevocably savaged, the bio-diversity of the Munhin and Owenmore continues to be retarded (as per EPA and NWFB), and the amenities of the locality are undermined, at least for us who live here. The development to full potential of gas would be to develop it in such a way that the benefit to the community and to the tax payer is maximised, while the developer is also substantially rewarded. This is not the case. This issue does not mention people. The forestry development ongoing is a la Burma or the Amazon - extraction, full stop.

Infrastructure Deficiencies.
"major infrastructure deficiencies particularly in relation to strategic road and rail connections,

telecommunications and energy" what singular contribution would Corrib make to this mix? By rushing the gas out of Mayo? Intelligent placing of wind farms solves the energy as far as the region is concerned : if Bord Gáis build a pipeline for us rather than for Shell, natural gas can flow to where the demand is from where the gas is readily available, and at market price. We have been silly enough to believe that balanced regional development means that this region is as much entitled to a supply of readily available gas, as the horsey set in Kildare is to an indoor pleasure dome, a la Kubla Khan: or that giving an alternative supply of gas to a functioning system on the East Coast is not a contribution to Balanced Regional Development.
The effect on our roads locally, must be disastrous, when Mayo Co. Co. now allows all the HVT for the project on a road previously declared 'not suitable for heavy traffic': In the "*Corrib Field Development Planning Dossier - Terminal", 14/11/2,000*, on a map enclosed is written *unsuitable for heavy traffic*" on the L1204. Also written in the text: Section 8.4 : "*In addition to above* (i.e. roads from Ballina and Belmullet) *there is a possible cut-through for light vehicular traffic from the N59 to site via Glencullin Lower / Glenturk Beg.".*
Also, in *Ballinaboy Bridge Terminal EIS, April 2001*, referring to the L1204:- 15.3.3.2 "*its' low volumes of HGVs makes it less suitable to any increase in HGV movement resulting from the development."*

Key Issue:-
"The provision of a sound infrastructure base is of fundamental importance to the future development of the county"
Definitely: how does this Corrib proposal advance this? By importing raw gas to a bog site, introducing risks to the population, removing the impurities that no one else wants and leaving some for us while sending most back out to our sea, exporting the clean useful product that everyone wants out of Mayo and likely out of the country. (Even under the deal EEI did with Bord Gáis, only 27% of the Corrib production was destined for the Irish market, i.e. 60% of the share held by EEI, now Shell.) The 73%?.

Rural Housing:- *"rural housing plays pivotal role in sustaining rural communities and in maintaining the vibrancy of such areas*": is it likely that anyone will want to build in an area that was initially per this project, and until the oral hearing held by An Bord Pleanála in Feb. 2002, within an exclusion zone on the direction of QHSA?. Or downwind of the flaring stack and other chimneys? Is it likely that Mayo Co. Co. will take the chance of giving planning permission for housing in the vicinity of this refinery etc? The only vibrancy this project generates is the steady thud of the generators and pumping stations.

Infrastructure Map: Gas pipeline shown has no basis in reality - " I wish I had a shepherd's lamb". An Bord Gáis has ruled out Ballina as an item in its planning, as per conference in Galway,

Environment and Landscape.
Water Resources:- "*their importance cannot be underestimated*"..(sic). I know what is meant but in this form it is a Bertyism, which may reflect a previous planning attitude, reflecting society's concern!.

Key Issue:-
"to improve the quality of our water resources and avoid further decline in water quality resulting from eutrophycation as a result of excessive phosphorous input" : the peat removal hardly contributes to this objective.

Waste Management:
Key Issue:-
"The formulation of policies that will increase public awareness in relation to waste minimisation." By defining 450,000metres cubed of peat as 'waste', just because 'tis convenient

for Shell? By dumping this waste between the Owenmore and Munhin, by Carrowmore Lake? By thrashing the entire area for the benefit of Shell? Will this make children and others aware of the importance of 'waste minimization'?

Nature Conservation:
Key Issue:-
"How to provide for new development without compromising the conservation value of the designated sites'. The message being delivered is that designated sites are just a minor inconvenience, that can be turned into a convenience if it suits the establishment. Regulations state that pipelines cannot be driven through SACs SPAs etc: if it doesn't suit, as in this instance, we just bash ahead. The project is in complete breach of this K.I. in spirit and in letter: as the ordinary grunts in Iraq took a message re. humanity from their superiors, who transferred prisoners "abroad" for interrogation and refused recognition as human beings to Guantanamo guests, so the 'public' takes the message, subliminally or no, from what is done - not by what is said.

Landscapes:
Key Issue:-
"How to reinforce and enhance the traditional landscape character of the countryside." Even allowing for the fact that landscape is an evolving entity there must surely be a missing link if this project applies, building a refinery in an open bog site?
Key Issue:-
"how to accommodate new development without compromising one of Mayo's major economic resources, its landscape" slap bang next to Loch na Ceathrúine Móire?
Key Issue:-
"How to maintain and improve access to and enjoyment of the recreational amenities of the countryside." by permanently putting off-limits a substantial acreage that is no longer suitable for new forestry and so potentially a recreation facility.

Tourism:
"The growth in the number of holiday homes in sensitive rural areas and their impact on the landscape has the capacity to damage the tourist resources." Compare with the reality of this monstrosity in that it is totally out of place. Curiosity factor?

Town and Village Developments
Key Issue:- *"to enable the smaller towns and villages to develop*" - by renting a house in Bangor for 2 years?

Cultural and Architectural Heritage:- Contribution?

Islands and Gaeltacht Mhaigh Eo:
Key Issue:-
"The need to ensure that the population on the islands and in the Gaeltacht is stabilised in order that they remain viable communities." We could comment but would be crude.

Social Community and Recreation Facilities.
Key Issue:-
"To insure that the provision of Social Community and recreational facilities is fully integrated....sustainable development." Contribution?

2.1 Overall Strategy

Quite harmless general statements and the Corrib project as envisaged advances not one. It is only necessary to quote one "*To strengthen and enhance the county's urban structure and promote sustainable vibrant rural communities*" but not in Ballinaboy or Lenamore.

2.1.1. SOCIAL DEVELOPMENT AIMS

Fine aspirations but project irrelevant except "*with the long term effect of sustaining and enriching the quality of life of people in Mayo.*" Corrib proposal has opposite effect for us.

2.1.2 ECONOMIC DEVELOPMENT AIMS

Fine aspirations. "*To ensure the county's natural resources are managed and developed in a sustainable manner that will ensure they can be enjoyed by future generations.*" Under present regulations, which seem unchangeable even in the presence of political will, there will not be gas for future generations, and sustainability, where the return from an extractive industry is not substantially re-invested is a chimera. Everyone knows this!

2.1.3. ENVIRONMENT DEVELOPMENT AIMS

Very laudable. "*To ensure that the resource that is Mayo's diversity and variety of landscapes is utilised prudently and sustainable and that new development is integrated sympathetically into the landscape in a manner that the landscape can be handed on to future generations without being degraded.*" This illustrates perfectly how this proposed project is in direct breach of the County Development Plan. "prudent" "sustainable" ("best use of bog?) protection from "degradation".

"to maintain and enhance the quality of those physical elements such as air, water, soil, that contribute to the environment." To maintain, at best, the Munhin in the degraded state it is in? to enhance Carrowmore? to add pollutants to the pristine air?

2.1.4 TRANSPORT AND INFRASTRUCTURE DEVELOPMENT AIMS

The only possible relevance Corrib project has for this, apart from the havoc wreaked locally for the duration of the construction and after, is "*the expansion of energy supply*" which is not dependent on Corrib gas coming ashore in this manner or in any manner - it depends on the provision of a pipeline from the national grid. The gas will not leave its nest under the sea-bed on its own - not after the long Rip Van Winkle sleep there.The approach that this pipeline will only be built if we allow Shell to develop this, our resource, in the cheapest manner, is blackmail, pure and simple, and has no place in the planning process, however and by who so ever it is used.

2.2 A DEVELOPMENT FRAMEWORK FOR MAYO.

2.2.2. *"the 1992 plan ..all development was welcomed for the socio-economic benefits it brought to the county as a whole"* but it led to imbalances (which already existed.)

"What is required is a plan led rather than an ad hoc unstructured approach to development ..promote a spatial perspective". Absolutely! So why Corrib?

Rural Areas:

"policies aimed at protecting and conserving rural areas ... must be matched with policies which seek to maintain and support established rural communities"

"the importance of family ties and links to local areas ... essential element in reinforcing local community ties and networks and strengthening rural communities must also be recognised."

In this more than in any other way directly, this project is in conflict, directly, with the Co. Development Plan. The significance of this community is its "establishment" a viable organism having over generations achieved a modus vivendi with the physical environment, respected and

respectful. Rumpole would rest his case.

DEVELOPMENT FRAMEWORK Objective DF - 4
"To maintain and promote vibrant rural communities and sustainable patterns of development whilst ensuring that the environmental, natural and cultural heritage resources of the county are uncompromised and the character and amenities of the rural areas are maintained." Apart from "*the county*" and "*rural areas*" being made to seem interchangeable, this again illustrates the incompatability of this proposed project with the aspirations of the county development plan (CDP from here on.)

2.3 The Landscape:
The NSS calls for "*the wise management of all environmental resources.*"

The landscape : *"is composed of a complex mixture of natural and man-made elements that can also be an important part of the identity of an individual or of a community. It combines important economic social and cultural roles - as the location of agriculture, housing and history."*
The proposed project clearly breaches this and imposes a totally new reality suddenly, catastrophically. Culture, the sum of all human elements and interactions with the physical environment, conscious or instinctive, sums up this "wise management" or "wise use". The proposal to place this major industrial project in this place introduces a schizophrenic element into a sane and progressive and proven humanscape and landscape. Landscape in Ireland has never been static since the ice substantially departed: it has been constantly evolving, but seldom subjected to total upheaval, the catastrophic event - major earthquake-type scenario. The utter upheaval here proposed changes this.
The landscape objectives "*attempt to manage change to ensure that the effects of change are fair and proportionate - balancing individual needs against public rights, ensuring that the past remains visible to the future.*" There is no balance in the approval of this proposal which serves neither "individual needs" nor "public rights" properly delineated. A gamble on a possible financial/political decision is not a right.

LANDSCAPE SENSITIVITY MATRIX
is only a tool and so not directive. It is as useful as the professionalism and skill of its operation. It's application to this project is dealt with later and is of doubtful integrity.

SECTION 3

3.1.2 Economic Activity
We believe that we have shown in this glance at the aims and objectives etc of the CDP that the project proposed is in conflict with it. We will shorten our scrutiny of the rest, with some exceptions.

Fisheries:
EA - AF6 Sustainable management of inland fisheries? promote silting?
TI - HGV 1 "*To reduce the adverse effects of HGVs within the county*". By opening up a road previously deemed unsuitable for HGVs to intense battering from well over 1,000 HGVs a day, and this without any explanation of the U-turn? Oh, a limit of 800? Direct breach of the CDP and of much else more basic.

TI -E5:- "*To have a gas-powered generating station built in North Mayo.*" This project, already through the planning process, is hardly contrary to the CDP. It is strange that this one project is singled out - why not the sewage treatment plant at Muingmore, a very important facility,

nationally and regionally, and according to Mayo Co. Co, not requiring planning permission. What about a diesel powered power generator? Or the wind-powered one at Comhraic already being processed while the plan was being drawn up? Would such a proposal be contrary to the CDP. We wonder if this pre-emption of the process is in accordance with the guidelines for development plans, but of course that is not within our competence. Still, strange - no gas, no pipeline, but we want a gas-fired power station, because we've given permission for one already: but no commitment in the CDP to challenge the Government to supply the necessary infrastructure for such!?

TI - G1:- *" It is an objective of the council that it fully supports the realisation of the Corrib Gas Field find and any other gas find in the Co. either on or off shore".* (No one could find fault with that - nice and bland.*) "It also supports the provision of an onshore gas terminal in North Mayo and the related pipe network throughout the county to maximise the benefits for the county.*" This was inserted into the CDP while the project was already going through the planning process. Although contradictory -"*maximise benefits for the county*" by facilitating the export of gas out of the county, without any control over production rates or any rental or other income, - it definitely ensures that this individual project by a corporate developer, in which the public polity has no influence, is compatible with the CDP. This method maximises the benefit for Shell, Marathon and Statoil, yes. There is no indication what MCC is prepared to do to realise this "support" and as such is just rhetoric, but to tie the county resources to so retrograde a development option, with minimal benefits is inexplicable (Even Shell admits that the over-riding reason for the Ballinaboy option is to save money.) It speaks wonders for the suitability of the project that Mayo Co. Co. feel it to be necessary to so designate it, so as to fit it in somehow to the principles of good planning. While no affair of ours, it is a strange effort to subvert the planning process but childish.

HC - RA 7:- "*to recognise children's appreciation of the natural environment*" Children recognise the difference between what I say and what I do.

HC RA 15:- "*to require developers to provide for sport and recreational infrastructure proportionate to the needs of the proposed development, as an integral part of their proposals*" sponsor a game of golf in Carne (very recreational for us evacuees and displacees.)? A few euro for an old folks party? Surplus computers, with or without operating systems? A sponsored trip to Anjum? A good run when the danger siren goes off? Do the 50 proposed permanent staff not require services or is it accepted that they will not live in the area anyhow - the normal practice in Erris? The project as proposed does not help.

3.1.5 Environment, Heritage and Conservation:
EH-G1:- special character of county - not specifically any area.
EH-NH 11:-EU Water Framework Directive.

Landscape Character.
EH-LC1: appropriate development.
EH-VP1:- views and prospects from Carrowmore Lake (public realm).

Integrated Coastal Zone Management Plan.
EH-CZ1:- Doohoma or Broadhaven Bays not mentioned - strange that.

Air Quality
EH-AQ1:- "*to maintain and improve the air quality of the county through the monitoring of emissions from industry*" We did not realise that this was the responsibility of Mayo CO. Co. - if

so, it has implications for this project not addressed.
3.2.3 EU Directive 2001/42/EC: Our understanding of this directive was that the local authority was obliged to produce an S.E.A. describing the potential effects on the environment of implementing the plan, in force before 2004. Mayo CO. CO. has not done so re. Corrib proposal unless they have appointed Shell as proxy??.
Further, as Mayo Co. CO. has specifically identified one specific project, an onshore gas terminal, in the plan, and defined its spatial implementation as a requirement for an "onshore" development, then they surely require themselves to implement an S.E.A and to abide by P&D Act 2,000, Section 10/5. Since a decision is a matter for An Bord Pleanála in its wisdom and not for us, who at this moment consider that Mayo Co. CO. is in breach of this directive with whatever consequences the existing regulations demand.
P&D Act 2,000, Section 10/5 : "*a development plan shall contain information on the likely and significant effects on the environment of implementing the plan*".
"The purpose of S.E.A. is to ensure that the environmental consequences of policies, plans and programs are taken into account at the earliest stage in the process, i.e. that they are assessed during the preparation stage and before adoption."
As Mayo Co. Co. has adopted one specific project and its method of implementation, i.e. onshore terminal, it has bound itself: it cannot legally make this decision previous to S.E.A.

Environmental Goals.
All very laudable but this Shell project does not contribute to any. However, the final one "*encourage the efficient use of land*" is especially breached by this project. (Ravage 600 acres for a footprint of 40 acres?)

Strategic Objectives of Development Framework.
DF-4:- "*maintain and promote vibrant rural communities and sustainable patterns of development.*" Not in Ballinaboy.

The project is also in breach of the Economic Development Aims and the Environmental Development Aims, where prudence, sustainability, sympathetic integration and the obligation to future generations are highlighted.

SECTION 4.

4.2.2 Rural Enterprise:- "*the Council will consider*" does not include any reference to large-scale industry such as this proposal of Corrib; and in effect excludes such development by its use of "*will*" and not the normal "*may*".

Landscape Appraisal for Mayo.
"landscape policies generally ... try to continue the distinctiveness and character of each part of the landscape" *"ensuring that the past remains visible to the future."*

EPA Guidelines on Content of EIS.
"The first aspect to be considered is visual impacts, focusing on the extent to which the new development can be seen. The second aspect considers impacts on the character of the landscape, examining responses that are felt towards the combined effects of the new development". (noise, odours, ecology, history, risk/fear, curtailment of freedom). However considered, the project fails the test for sense and sustainability.

AreaC - NW Coastal Bog: "*Development can have a disproportionate visual impact in such a terrain, due to an inherent inability to be absorbed, physically and visually.*" The project fails in this respect also.

3.6. We fail to appreciate the logic behind scenic route designation: how come that along one side of Carrowmore Lake looking across the lake to Cnoc Maol, mostly towards bog and conifers is "scenic", while along the other side, looking across the same lake towards the impressive Knocknascollop it is not "scenic". We give up on this one.

Landscape Appraisal for County Mayo.

4.1.1 Policy Area 1. Montaine Coastal Zone.
"*a desirable setting for visitors and also particularly sensitive to inappropriate development*". The placing of the area within the plan is the work of Mayo Co. CO. and they are obviously in breach of their own decision in granting this approval for this, in reference to the CDP, very inappropriate development.

Landscape Area Sensitivity Index, The Development Impact Potential Index and **Landscape Sensitivity Matrix**, singly and finally in concert, depend on the right definition and recognition of catagories. The Senior Planner of Mayo Co. Co. assumes an industrial/commercial status for this complex, which gives a totally misreading of the matrix, for this project proposal has elements of windmills, quarrying, communication masts - all giving much higher negative readings than the assumed industrial/commercial, which relates to general experience of modern industry and industrial estates. I am very surprised at this misuse of what is in the final analysis nothing definitive - just an aid.

WE have felt it necessary to give more than a cursory glance at the relevance of this project to the county development plan, because of its use as a decision maker, rather than an overall vision. We believe, except where the plan is artificially and specifically inseminated with the Corrib project as proposed, this proposed development is markedly in breach of the County Development Plan 2003 - 2009, in spirit and in letter.

Trying to accommodate this project within the aims and strategies of the CDP 2003-2009 is as futile as the struggles of Cinderella's sisters not to overfill her slipper.

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PLANNING REPORT AND RECOMMENDATION.
Senior Planner,
Mayo Co. Co.

1. Introduction
We notice that the Senior Planner visited the terminal at Anjum, which is where Shell wanted to direct everyone towards, for some reason: selected public representatives from Mayo previously partook of the same generous hospitality. We are surprised that Mr. Douglas succumbed to Shell's importunities, as the terminal bears little relationship to the reality of the proposed project, sitting 80 miles from the well, requiring a slugcatcher etc.

3. Description of Development.
Overview: "*The landfall for the pipeline is at Dooncarton in Broadhaven Bay. The gas is then treated at the terminal* etc" when it has crossed 8 K of deep bog and farmland, itself reclaimed bog, crossed Sruth Mhada Conn SPA twice etc. The anomalous situation the unprecedented siting places the project in here repeats itself again, and will continue to do so, for the place is wrong.

Summary of the Process at the Terminal Site:- (b) "*small quantities*" = sufficient to facilitate the project, whatever that may be.
"*chilling by mechanical refrigeration*" a major building in its own right and an integral part of the project and for which planning is not sought. This pre-empts the planning process and even on the terms proposed by Mr. Douglas, is project splitting and in violation of Council Directive 85/337/EEC as amended.

Landscaping:- Screening at this height, in a rise in the middle of a basin, dependant on conifers growing on top of the bog is really a nonsense long term. It is pointless arguing about it. (Source N)

Construction:- 33,000 m cubed "*will be taken off-site for disposal*" to where, by what road? Why so coy? This is a substantial amount of waste.

Peat Reception:- Mr Douglas can repeat Haku trailers 'til he bursts, as if thus naming trucks used in the Haku method of milled peat management will give them an Oriental aura and mystic capacity. It won't: they are just dumpers.

Drainage and Overflow:- "*two proposed new settlement ponds* " to add to those already on site that don't work either, if to work is to save the rivers and bays from silting.
" The new drainage system will ensure that surface water run-off will be effectively treated before reaching the Munhin and Owenmore Rivers and to prevent excessive suspended sediment from entering the rivers." Is it excessive to pollute the Munhin, Owenmore and destination bays to the extent reported by the EPA, as quoted in the Srahmore EIS, causing significant species reduction and silting?. It never has worked: why should it work now?. (EIS Dec. 2003, Vol.2, Srahmore:- p.98 of 223 et al.)

Post Construction:- This is a bullet point that promises but delivers not. Source O).

5. Change in Planning Circumstances:- Apart from regulations there is a different level of knowledge now accessible.

6. Mayo CDP:- Infrastructure for Castlebar in the distant future - possibly when Corrib has been

drained - is to be paid for by the destruction of the cultural context of this area, the way of life of the individuals. The same argument was used for logging/ranching in the Amazon and for oil extraction in the Niger Delta etc etc. It is obvious who pays. Is Mr. Douglas making this choice for us? In good planning terms decisions advocating change beyond the evolutionary to the human habitat must be validated by the culture.

('*individuals have rights, and there are things no person or group may do to them without violating their rights.*" from ,"**Anarchy, State and Eutopia**", by Robert Nozick 1939-2002 , the pre-eminent free-market guru.)

EH-VP 1 "*views and prospects worthy of preservation and protection*" this is appalling arrogance: nothing is to be seen through the eyes of those who live here and have sequentially created this landscape, but a casual visitor is authorised to proclaim most of it unworthy! ("This fails to appreciate the difference between transient visitors and longer-term residents who may have more of an impact." Annex A EIS for the Corrib Field Development: Review Checklist. ERM., in MLVC Report to Minister for the Marine.)

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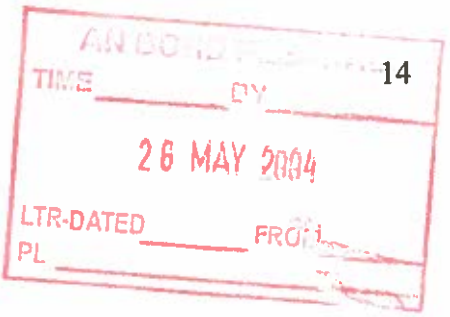
8. Differences between P03/3343 and P01/900, the Previous Application.

- Peat Management etc:-
- Re-use on site not "the" materials not suitable but "some".
- U-turn on roads, unexplained.
- Stabilisation using cement: piling.
- Dumping of peat now defined as waste.
- Issue of a waste licence for Srahmore without public hearing or specific notification.
- Reduction of Visual Impact:- By raising the building?

9. Implications of Decision on P01/900 by An Bord Pleanála.
An Bord Pleanála can hardly be said to have given a ringing endorsement to this project as proposed, and it is now even less attractive than before. Environmental considerations are now planning issues: the requirements for balance in regional development more definable. The professed "strategic" nature of the project is less convincing as is the ability of Shell to implement promises made, in view of recent reminders of doubtful past practices. The limited nature of the remit of the OHSA is becoming scary, which leaves the entire population along the pipeline from Glengad to the terminal boundary without statutory protection - in case of accident - which is par for the pipeline course - Shell seems to be the responsible body: the failure to address the implications of the high pressure umbilical alongside an electric power line and a reverse high pressure raw gas pipeline to the terminal boundary and through the terminal site to the terminal itself and the apparent lack of need to do so paints a new and scary picture. Even more information and the landslides of the past year bring even more into focus how little is known of the dynamics of massed peat. (Source K).

10. Adequacy of EIS.
We believe that the opinion of the Senior Planner of Mayo Co. Co. that the EIS as before the planners and the public is adequate to enable a decision to be made is wrong, discriminatory and lacking in sound basis, especially in the following respects:-

- scientific basis for stabilisation of peat on site is a work in progress; (Habib&Farrell)
- the risk inherent in the U-turn regarding the use of road L1204 from Bangor to Ballinaboy is not addressed let alone justified; (Source G)
- the task of upgrading the L1204 its pavement and its widening on peat foundations and its



maintenance is underestimated as is the inevitable inconvenience to the public;

- no consideration is given to the inevitable leaking of acid silt bearing water from the HVT on the L1204 in the Carrowmore SAC and to the lake itself, during movement of peat;
- the proposed use of sheet piling, a new and uncertain technology in peat soils, is neither questioned nor analysed; (Roos).
- the stability of incoming pipeline of raw gas on deep peat and within the site boundary, i.e. the establishment as narrowly defined by the OHSA; (Johnston, Source J & K)
- the dangers and unquantified risk to the working public outside and to operatives within the site boundary posed by the high pressure espc. liquid pipes outgoing, high pressure raw gas pipeline incoming and the power cable in close proximity to one another; the traffic and road pavement implications for the L1203, L12035, L52453-0, L52453-25 posed by the construction of the pipeline from Glengad to Ballinaboy, and the servicing of same, including disposal of waste material extracted as a necessary result of the operation; (Source K)

(*Ballinaboy Bridge Terminal EIS Nov. 2000*:- referring to the same wells, same gas, same technology: 4.9.2. Umbilical: Low pressure hydraulic fluid to sea wells 210 BARg: high pressure hydraulic fluid to sea wells 610 BARg.

- the well known history of pollution by silting from Bord na Móna operations locally and throughout the country; (Source T)
- the lack of precedent for this method of handling large volumes of peat;
- the unjustified and unjustifiable equating of milled peat operations with operations involving exclusively raw peat sludge;
- the equating of piling fresh raw peat in ridges with windrowing of milled peat from a peat surface dried over a minimum of 8 years, is untenable;
- the unsupported proposition that the common good is being served;
- the assumption, evident in practice, that the common good is served by ignoring their interests and needs and real risk to the local population, entirely without their consent.
- the contradictions between what is here in many cases presented in the EIS and what is said previously in previous EISs, dealing with the same physical and site reality, are ignored, for example the probable consistency of the excavated and much agitated peat, an issue of major importance: in the answer to the request by MCC for further information, the developer objected to our opinion that there was a danger that the multiple handling of the peat, from bog to Srahmore could cause it to "slurry": however in the *Offshore EIS 2001*, 19.3.2.13.7 "*moving peat alters its physical and chemical properties and excessive handling can turn peat into a 'mushy soup' with poor restoration potential.* (this of course is an argument for not moving the peat off-site: the objection to 'slurry' is an argument for moving the peat off-site, but it hardly improves the scientific status of the produced EISs.

11. Reports.

Geotechnical Consultant:- Terms of reference of this report from Fehilly, Tomoney & Co. were to prepare a report on part of the EIS - not on the project itself. They were not required to realise the reading by site studies and they did not do so. I understand that the work was done in fact on a sub-consultant basis by Dr. Michael Creed, who carried out his terms as requested. Source B) Mr. Douglas is selective indeed in the quotation he uses from the report "*that reasonable care ...surrounding the site.*" Fehilly/Timoney also state "*The letters from the regulatory authorities ... make no reference to the structural stability of pipelines constructed in deep peat soil and, as such, do not provide the written confirmation requested in Item 2.*" (Item 2 of further information requested.) Also "*While there is no explicit reference in the EIS to the installation within the boundaries of the site..*" (Are we correct in our belief that if further information requested by the authority is not forthcoming, the application fails?) (Source J)We will treat further of this report later.

Dept. of Environment, Heritage and Local Government:-
The concern is how resourced the proposed monitoring and implementation systems are. There is no confidence in the system where the inspection is sporadic, on the basis of advance warning to the operators, and dependent on information supplied by the developer. The history of default is damning and there is no virtue in pretending otherwise, even if such awareness has not been politically correct.

OHSA:-
The limitations of its brief in this instance are frightening and will be discussed later, in context of the Health & Safety Report.

Irish Aviation Authority:-
Given the restrictions imposed on flight paths in the vicinity of flare stacks in other jurisdictions, we are surprised at the blasé response.

12. Third Party Submissions.
WE are surprised that the grounds for objection advanced by third parties and listed by Mr. Douglas do not include the following at least:-

- Unexplained U-turns of significance;
- HVT to and from Rosport;
- removal and disposal of non-peat waste;
- mystery of the bottomless bog-hole that disappears most of the water from the terminal site and disappears, in the context of the very shallow but strategic Carrowmore Lake.
- the plague-like avoidance of any consideration of the umbilical/pipeline complex.

Dept. of the Environment Heritage & Local Government
3. No effort is made to establish the role in the overall site drainage of the bottomless bog-hole which drains most of the site presently. There can be multiple and layered iron-pans on site: hoping that buried bog-wood spirits the water away is ridiculous, as were that the case, the oxygenated water would have demolished the wood within the last 5,000 years. We still have no idea how this obviously major drainage feature fits into the overall drainage of the area, inside and outside the site.
4. "*There is no quantification of the volumes of water released from this peat but the volumes are expected to be small*". If so, it contradicts the important, indeed vital suggestion on which the proposal to lorry out the peat depends, that large volumes of water will free-drain from the peat. There is direct conflict here: while we are inclined to believe the suggestion made here that little water will in fact free-drain from the peat at this part of the cycle, the opposite is the orthodoxy by Bord na Móna in this instance on which the concept depends for meat in the sandwich. Both can't be right in the real world.
"*This matter can be dealt with by a condition requiring the implementation of an agreed monitoring plan with mitigation measures*" only if the power, authority, will, resources, structures and back-up are provided to monitors with real penalties as bite. This optimism is a tall order in the real world we inhabit.
5. Can Settlement Ponds Deliver?:- **Settlement ponds are**, by their very nature, **full** to the outlet **at all times**, barring a very high evaporation rate in a dry warm summer of clear skies. They are just holes in the ground where water gathers, and as long as there is water higher than them in the surrounding land, they will be full. The capacity of a settlement pond to take a surge of water from a sudden down-pour without a) stirring the pot; b) letting the inflow straight through, warts and all, is nil.
A settlement pond accepts drainage water produced gradually from the drainage system, natural or man made in its basin. The water and silt accumulates in the pond where the silt gradually

settles. (Let's ignore the fact that milled peat particles tend to float.) At some point in time the water fills the pond to the level of the outlet and the water in the top of the pond at that time - one could almost say the water floating on top of the other water in the pond - flows out to the receiving drains or rivers or floodplains or sea shore, i.e. the receiving environment. Except in exceptionally dry circumstances, the pond will remain full to the outlet forever, from then on. (Where can it go?)
The top water, outflow, carries with it whatever silt and other impurities present in it, in suspension or in solution: these silts and impurities are likewise deposited in the receiving environment.

In theory and in practice as described above, very little silt should be carried from the settlement ponds and deposited, in the case of Srathmore, in 2 rivers and in Tullahan and Blacksod Bays.

HOWEVER

The ballpark changes when the flow of water to the settlement ponds speeds up after heavy rain - the kind we get normally. Once the soakage, if any, in the surface layer is taken up, the water run-off charges into the silt ponds, carrying large amounts of silt because of increased erosive power: these ponds are already, by definition, full to the outlet. The new rushing water agitates the existing pond water disturbing the silt or some of it, and the flow from the outlet becomes laden with silt, and on to the receiving environment - on the beaches of Tulahan or elsewhere or upon temporary floodplains.
This is why Bord na Móna silting has always, and continues to be a problem, because two physical realities, two different scenarios defined as one: one answer to two questions. The ponds handle one scenario very well, theory and practice correspond, but do not at all cope with the other.
The real situation, well known to fishermen and to the NW Fisheries Board when they are prepared to tell the truth, as in the report from the Western People, March 24, 2004, where the NW Fisheries people celebrate the demise of the Oweninny bog-works: *" The ending of peat harvesting by Bord na Móna in the Oweninny River catchment, is likely to have a beneficial effect on fisheries in the area." "Later in the year, work will commence on cleaning the spawning gravels which have been affected by peat silt over many years and further coring work will indicate progress in cleaning up of the river bed." "On a broader front, it is hoped that the end of harvesting .. will result in a dramatic fall-off and, ultimately, cessation of silt deposits from the formerly worked bogs to the adjoining rivers."* Source T)

Mr Douglas says "*concerns about the water quality can be dealt with by a condition*" and so underlines the misunderstanding inherent in his approach: he cannot change physical reality by a "*condition*", whatever "*monitoring*" he suggests may be done, which ultimately, however well intentioned, is, anyway, outside his control. Since Moses, there have been no changes of the kind he proposes: Bord na Móna settlement ponds have always failed to control silting because they are the answer to a different problem to the one that really exists.

6. Water quality in Srahmore:-
Monitoring proposals make no practical difference: resources, will, power to impose realistic penalties, independence from vested interests and system back up do make a difference, a real difference.

NWRFB:- The real position, as against the politically correct one given here, is the newspaper report (Source T) and on-going activity in conjunction with it.

EPA:- Mr. Douglas States *"the EIS appears to comply with the regulations as far as the risk of environmental pollution is concerned*" meaning that the EPA finds the environmental pollution reported by the EPA itself and quoted in the EIS acceptable and compliant with the regulations?

Does it also mean that the EPA considers that it does not matter about the carcasses from Ballinaboy bog burials of unknown toxicity, mentioned by the EIS and widely acknowledged - a few toxins here and there aren't really up to much - if they're there "inseoidh siad scéal ortha féin. Good! (The mushy soup could do with a few more solid ingredients.)
OHSA:- Does not deal with dangers from high pressures in umbilical and gas incoming pipe with power line, inside and outside the "establishment", a major occupational risk. No one does - Shell? (SourceK)

15 Third Party Submissions on Further Information.
List not complete: removal of non-peat waste and storage and traffic implications of same, espc. in Rosport area.

16. Assessment.

National & Regional Policy - Ongoing Applicability of Bord Pleanála Reasoning.

p.32 National and Regional Policy:-The statement by the Minister of the Marine and Natural Resources on the 15.7.2003 that it was "**vital**" to "**our national interests**" that we produce as much energy from "**indigenous resources**" as possible is a re-statement of what has been national policy for a long time and is largely acceptable. However, what is not acceptable nor true is the equation of the development of Corrib gas in a specific way with this long held national day-dream, for such it is. 1. **VITAL** The arrival of Corrib gas to the market would not, could not, change one jot the use or price of gas in the Irish economy. Bord Gáis has its suppliers sourced long term (Source H) and generally for prices lower than the present market price (H1) by sensible purchasing policies and the remains of the Marathon deal, which gave a price discount to the Irish market. Other entrants to the market, entitled to sell to major customers, allowed under the breakup (partial) of Bord Gáis monopoly) can buy their gas from Corrib, either from Shell, Statoil or from Marathon.They, and An Bord Gáis may choose to buy from Shell United Kingdom or Holland, or from Statoil Norway or Sri Lanka, or from Marathon Kazakstan. The gas bought from Shell UK will cost exactly the same as that bought from Shell Corrib, with one opt out - because the conditions attached to Irish leases, Shell is obligated to supply gas to the Irish market at market rates only - no discount - that is to Irish State customers - so, if you want it, Ireland, you must pay for it and give us market rate, even if that rate can be undercut substantially in the market. It is not likely to come to that for two reasons 1. There is no shortage of gas for the foreseeable future. (Source H) Of course a non-renewable resource will run out sometime, but it is more likely that the use of hydrocarbons will end because of pollution long before the well runs dry. 2. The market for oil and gas is an open market, experiencing the same difficulties that the Irish very open economy faces in controlling its market.
In 1973 ,when the world panicked in the face of the Arab oil embargo and caused chaos in the economies of the developed world, our own included, Dr. M.A. Adelman, prominent establishment economist of Cambridge , Massachusetts, angered the economics establishment by his blithe reaction "*If the Arabs won't sell to us someone else will.*", and he predicted that the oil embargo would have no effect. He was right - but the panic did damage.
In Nov. 8th, 2003, Dr. Adelman, in a letter to the Economist returned to the subject as follows:- "*sir, You correctly quote my prediction of 1973 that an Arab oil embargo would have no effect. But there was a wider moral. The embargo was a non-event because there was only a single world-wide market. No country could be isolated for punishment or favour. Hence national self-sufficiency is, then and now, pointless and irrelevant to any consuming nation's security. Money spent for more self-sufficiency was and is a waste.*" (Source X)
Dr. Adelman was making his initial judgement just before Kinsale gas came on-stream. Given the

panic and economic and financial problems existing at the time it was indeed logical to assume that Kinsale etc was vital for us. That is no longer the case. Furthermore, the deal made then with the producing company in Irish waters, included some royalties for us taxpayers, a substantial reduction in price to Irish users from the market price,(H1) a condition that in case of emergency Marathon would be forced to sell to the Irish State, if the State so wished, and other conditions limiting the freedom of the multi-national in the interests of the Irish taxpayer. So doing has saved the taxpayer millions in hard times. This situation no longer applies so where is the "vital"?. In what way will the State be advantaged if Corrib - or any other gas supply under present conditions - flows in to Ireland? We have asked the State consistently to commission a cost - benefit analysis of this and any other similar developments to back up the applicability of the discourse of 1973, during and after the OPEC embargo to the Corrib project: one is not forthcoming. In being advised that the Corrib gas on-stream is vital to the Irish State or whatever, the Minister is being wrongly advised, using an obsolete paradigm. While respecting the right of a Minister to have an opinion, right or manifestly wrong, he owes it to the tax payer and to the public to advance an informed opinion: there is only one who claims the right of ex cathedra declamation.

2. **national interests:**

- No royalties (going out of fashion, replaced by more sophisticated accountancy.) or other taxes on production (not going out of fashion.).
- no obligation to supply gas to Ireland, even in an emergency;
- the State has no power to insist that oil companies increase production if gas gets temporarily scarce or to reduce production if there is a glut: i.e. to respond to the needs of the State;
- as all licences issued since 1992, apart from Corrib, are frontier licences, there is no obligation on the licence holder to dig a well until way into the future and, even then, licences can be given back rather than dig a well; (Source S3).
- no capital gains tax on sale of prospect (Enterprise Oil to Shell) or on sale or lease of leased assets;
- the costs allowable against profits are "not well-specific" , whatever that means?;
- if good prospects show up, the owners of licences must be given access to the surrounding blocks at the original cost, not at market value, much enhanced by a neighbouring strike;
- one licence and one set of "obligations" covers many blocks - number seems to be unlimited; (S3)
- An Bord Gáis had a deal to purchase only 27% of the production from Corrib, i.e. 60% of the Shell share. Where/what/how in the national interest was the other 73%?
- in order to save production in heavily taxed fields, within the Euro-Asian-Middle Eastern pipeline network, the production from Corrib can and will be maximised for the short-term benefit of Shell, Marathon and Statoil and their strategic requirements. This is sensible behaviour for the corporate good of the companies involved, their shareholders and the State of Norway, and can extend the life of more taxed fields and be a negotiating ploy for lower taxes.
- The Minister is badly advised - obsolete paradigm.

3. **indigenous sources**

We do not wish to engage in word games but the fact is that indigenous just means from a certain place: and so, there is no doubt but that Corrib gas is found within the Irish section of the Continental Shelf. There is a tendency in the discourse of this project to ascribe all sorts of meanings to "indigenous", and this has not helped clarity or judgement. In the case of turf, another indigenous resource, the State controls the entire development, at one remove. In the case of wind power, the State controls, not the wind, but the permission to use it. In the case of hydrocarbons, once an exploration company declares a find "commercial" the State, through the Minister of the day, has **no choice** but to license the development and **assist** in its realisation! The exploration and development leases as collated in 1992 ensure that 'indigenous' in relation to

hydrocarbons, means just that and narrowly that i.e. it means the status of Guantanamo Bay, leased for a song by the Cubans in perpetuity to U.S.A., not part of the U.S.A. (American law need not apply) but in every way an American installation (owned by Cuba)! This meaning of "ownership" is quite outside the lexicon of ownership law and mocks the concept. It effectively means "possession is nine tenths of the law" as the old tired adage insists.
The Minister is badly and incorrectly advised - obsolete paradigm except in Guantanamo Bay.

Because of the importance in planning matters of national policy, we have been forced to deal at length with this issue. We will later deal, in a section apart, with the terms of the leases issued since 1992, in a more systematic way, but here we have one more point to make: even if the above discourse were not the case, the positioning of the refinery, and the dangerous placing of the incoming pipeline would still make this specific proposal misguided, dangerous, bad planning and in the wrong place. We would still be forced to oppose the siting of this establishment, even though we support the replacement of coal/oil by natural gas (which of course is not dependant on Corrib) or better and the development of the reservoir for the benefit of the local,Mayo and Irish/European people, but using best available technology and planning.

The Minister further "*It has been Government policy since the start of offshore exploration in the early 1970s that Ireland should become self sufficient to the greatest extent possible in supplying its own energy. This policy has been vindicated since that time by the occasional uncertainties in the energy markets including the oil crisis of 1973 and 1979.*"
To be self-sufficient one must have control of a resource: to be self-sufficient in food a country must be able to produce most/all its own food: were this to depend on the decision of some other, the concept of self-sufficiency did not exist. The oil companies, legally licensed to find and remove gas from our off-shore, can then do what they like with the production - let it into the international pipeline network and sell it to whom they will (except for Statoil, who must consider the national interest of Norway.): to Bord Gáis, to Alcan, to the ESB, to British Steel, to another gas company to resell or to tanker away as LNG, to Marathon, if a surplus emerges, to store in the lowering reservoir of Kinsale. All these possibilities have one thing in common - they do not contribute to Irish self-sufficiency. To repeat Aldeman "*national self-sufficiency is, then (1973) and now pointless and irrelevant to any consuming nation's security.*" *(SX)*
It is hardly necessary to point out that Kinsale gas was not a feature of vindication of Government in 1973.

And the Minister "*Ireland needs to develop its indigenous petroleum resources to counteract its present security of supply exposure.* " This is special pleading, dishonest, and unworthy of a Minister in any Government. There is no exposure to an insecurity of supply. An Bord Gáis are very clear in their analysis of their needs and the sources to satisfy them, and Corrib is not among them. (SH). No potential distributor of gas in the Irish market has made a case that supply is not available: pipeline shortage, infrastructure deficiencies yes, but gas itself, whether priced according to $10 a barrel or $40. The second interconnector is largely idle, but the Taoiseach hopes it will be used to export gas out of the jurisdiction, which is the likely destination of at least 73% of Corrib, should it produce. (Source Z)
Marathon from its Kinsale well, does provide a "**security**" of supply, for whatever its worth, in that it is still regulated according to the earlier and more realistic licensing terms of 1975, which gives the State access to the supply in case of emergency, and which does not guarantee a market price. Marathon are entitled, by the rules of 1992, to change their operating terms to those of 1992, but as the SourceP indicates, it really isn't worth their while, for an anomaly ensures that they get back whatever payments they make to the state on an annual basis! Irish solutions abound: like electronic voting and the Mad Cow on stilts.
The Minister again: "*indigenous competitively priced gas*": is not on offer - the legal position excludes it. The market however defined decides, which is what happens with any open economy.

The use of the discourse of the distracted does not change reality.
When the Minister announced that he was thinking of changing the terms, he was shot down quickly

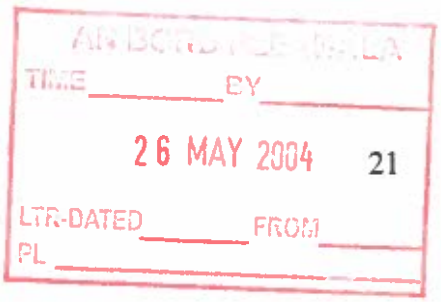
"Fahy tried, but the OOA said
"Back off, boy, it ain't your play". (with apologies to Calvin Trillin).

The Minister is indeed badly advised. (Source S1, S2)

p.33
"*The development of the gas field*" whatever that can be taken to mean, will not necessarily contribute to "*the potential economic and social regeneration of Mayo and the North West Region and to the sustainable development of the area*", but of course "*potential*" can be made to cover anything. Even if it did, this version of the project up for decision would not. The "*natural gas network*" is already extended to the west of Ireland to Galway, and only the political will and a political decision prevents it from extending to Castlebar/Westport. (Ballina is not in the planning viewfinder of An Bord Gáis.) The provision of gas from any source and the necessary pipeline infrastructure could "*facilitate the improvement of the regions infrastructure*" but the landing of Corrib gas **as proposed** is not something that is not already available. The "*electricity supply*" can of course be increased if new power stations are built, using fossil fuels or renewable energy, as the wind farm at Comhraic, now gone through the planning process. The building of a gas pipeline network to the major towns would of course enable major energy using industries to turn to natural gas, if the terms were financial viable - nothing lacking but the political will to finance the pipeline from the national grid 65 miles to Castlebar.
"*significantly increased local employment*" 1. No effort made to see if the permanent 50 jobs at the terminal would match the available skills;

2. How many of the ca. 500 construction jobs will be available to the locally available unemployed workforce, and what is the skills' match for these temporary positions? 3. Would the Minister consider the decentralisation (say) of even 500 jobs (say to Davitt House Castlebar) for 2 years maximum to be 'sustainable development' ? The contractors must know how many temporary workers they would need - business cannot survive with ad hockery. Language that seeks to muffle the underlying reality does no good service to the Minister or especially to his advisors who presumably are experts in their fields.

p.33 We agree with Mr. Douglas that of course that "*national policy is to develop the Corrib offshore natural gas resource*" because this is the decision made. A refinery is essential to get that done, but it does not have to be on-shore, it does not have to be in the most unsuitable site imaginable, but must be subject to proper planning. Mr. Douglas concludes "*therefore, development subject of this application will advance stated government policy*" and in this, his logic again falls short of what is required in this complex situation, for "*to develop*" the source is indeed Government policy; but not even a Government committed to this outmoded approach has added the next step and said that it is Government policy to develop the Corrib source without regard to the sustainability of the local community or their continued safety and physical and economic security: or that it is Government policy to have our offshore gas resources developed in a way that will minimise the return to the tax-payer in the short-term, maximise the production in the short-term, deprive the next generation of a chance to overturn the mistakes of 1992, and have the gas refined in the most unsuitable site and situation, physically and socially possible to find. The planning issue is to advance Government policy in a safe sustainable way, to maximise the benefit to the community locally and nationally: this proposal falls down sharply in this regard.



The bringing of Corrib gas ashore to this proposed terminal is not a sine qua non for the expansion of the natural gas network to the NW. It is evident from Bord Gáis pronouncements that Ballina is out, and that Sligo will eventually be serviced from Derry, but no guarantees are being given and 20 years is not a mighty long time when a gas resource is being exploited within a narrow perspective of the corporate good. An alternative supply of gas does not contribute on its own to balanced regional development, nor bring gas in usable form to Western towns or industries, because, as Mr. Douglas says in the same paragraph, "*that is a political matter for government and outside the remit of this planning application*". However in the next sentence Mr.Douglas again parts company with normal consistency: "*without the presence of a gas terminal in or close to the county the case for extension of the gas network to towns in Co. Mayo is* severely *weakened*": did this apply to Dublin in 1973? or London 1974? Must we justify the neglect by Central Government of the regions, if neglect it be? Must we ourselves bring up our dishes, Oliver Twist wise for our porridge, and not dare ask for more? 'Come up with your own gas and we'll authorise a pipeline (even tho' it is not commercial in the normal commercial sense?)'. Is "*the opportunity to redress the imbalance in regional and sub-regional development to the benefit of Mayo*" dependant solely on the building of a terminal/refinery complex in the wrong place and for the wrong reasons? (Even Shell admits that money is the main reason not to refine the gas more suitably at sea.) Mr. Douglas says it is a political decision - of course it is: he is thus implying that unless we do what Shell wants, the Government will not make the political decision to enable An Bord Gáis to extend the national grid to Mayo in accordance with Regional policy and The Spatial Strategy? Maybe he is right? What a poor opinion of Government! Maybe the political imbalance is so skewed against the West of Ireland? Maybe? An Bord Gáis has already bought the pipes and is storing them in the atmosphere along the route from Galway? Is Mr. Douglas saying that An Bord Gáis will have to sell the pipes as scrap unless the planning process gives Shell what Shell wants, and we must save them that embarrassment? Surely not? "Anyone for old pipes. Never used. As new. Slightly rusted on the flanges?" Talk of a GUBU.

This planning application is for permission to build a raw gas refinery in the middle of a bog close to dwellings 5 miles from the sea, changing utterly and forever the risk status of the area (SK) and its habitat ethos: Mr. Douglas says that this contributes to or furthers stated national policy? This development on this site, which is the issue, with its breach of obligations to the safety of the community and to the internationally designated sites, cannot surely "*be in compliance with national policy on development of gas resources*?" The jobs to be lost in the fishing and dolphin watching surely contribute to regional development or at least local development. They will join sea-angling as a memory if this project is advanced. Of course this issue is relevant to this planning application, but as An Bord Pleanála noted previously in its judgement, it is not necessarily the optimum way available to develop the resource: why should we be forced to accept a jerry-job?

The policy as promoted by the Minister as quoted is a continuation of pre 1992 policy. The language of this promotion is also the same and has not been modernised to reflect the changed reality imposed by the changed exploration terms of 1992 and the Finance Act of that year. This omission has left consecutive Ministers using a discourse that is out of date and no longer relevant, and open to ridicule by politicians abroad and oil industry executives more sophistically briefed. Because of this self evident fact, even as the bringing ashore of the gas is in accordance with Ministerial discourse and therefore to be given due recognition in the planning process,

(i) this version of the project would not necessarily be so;

(ii) the discourse and therefore the policy is not reflective or consistent with economic, financial or spatial reality that now is and for the future will be.

Available Alternatives.

In a written answer to Parliamentary Question N0. 74, dated 15 February, 2001, Reference No. 4339/01 The Minister for M&NR thus "*Yes, I am aware that technology exists to exploit petroleum at deeper and more unfavourable environments than that which pertains in the Corrib field.*" (Source A)

Also to Parliamentary Question No. 73 on the 15, February, 2001, Reference No. 4338/01 : "*Technology is available to process gas offshore on a gas field such as Corrib.* " "*Offshore processing for the Corrib Gas Field is not the preferred development, as it would mean that production would be weather sensitive and there would be greater capital and operational expenditure compared to a sub-sea development.*" (SA))

Similarly to Parliamentary Question No. 140, March 20, 2001, Ref. No. 7478/01: "*The cost effective and optimum development system for Corrib is a sub-sea development with processing at a terminal on-shore.*" (Source A) A financial issue - pure and simple.

At the oral hearing into this matter it was made clear by developer's experts that the Minister was indeed correct and that the technical obstacles to off-shore refining are in the nature of problems to be solved rather than an end-game.

This proposed refinery could indeed be an element in a gas infrastructure regime but an element only: there is no need to take unnecessary risks with the local population's safety and health to achieve a different gas supply, that does for the consumer exactly the same job as before. Much more important is (i) the supply of gas, available in the network from Sakhalin to Kinsale -one undivided internet, a world wide web of gas: how else could the gas standards that suit An Bord Gáis apply to the 73% at least of gas to be exported to wherever through the interconnector (We are being simplistic for the gas network works on the principle of the clearing house - none may physically "export");

(ii) the political will, as identified by the Mayo Co. Co. Senior Planner, to treat all children of the nation equally (or as equal as 'some are more equal than others' realism allows.). As a political matter, the opportunity is in place: the only obstacle is the lack of political will and commitment; this is independent of the existence or no of Corrib: this lack is in breach indeed of national development aims and spatial policy.
The reasoning of An Bord Pleanála vis a vis this issue previously is of course valid but incomplete.

County Development Plan.

p.34
The use of the Landscape Sensitivity Matrix is not valid in this instance: wrong weighting.

We do not accept the "*strategic nature of the proposed development*": no serious economist has tried to justify it in strategic terms nor even in 'tactical' terms in the context of the world wide economy of hydrocarbons. (We did hear Moore McDowell on radio saying off the cuff that it was marvellous, the oil companies would pay their royalties and all that and we'd all be rich! Hanrahan redux!.)

An Bord accepted that the structure as presented previously is obtrusive but not decisive in the context of a "major, strategic development". Regulations changed since. The change would "*result in less visual impact*" says the planner - by building a structure that sticks higher in the sky "approx."?

Health and Safety.
Further information is now available and oversights and omissions have become evident. No treatment of the umbilical, with its complement of acids under very high-pressure (345 BARg + or 610 BARg according to *Ballinaboy Bridge Terminal EIS, 2000*, 4.9.2) and power-line, raw-gas high-pressure pipeline etc. The more this matter is studied the more frightening it becomes - See Source AZ1 for caution from H & Safety Laboratory, U.K. re. natural gas releases from High Pressure Pipelines; Source AZ2 being a caution from Dept. of Chemical Engineering, Loughborough University re high-strength steel piping; Source AZ3 being a caution re. the danger of induced currents, in an article presented to the Civil Division of the Institution of Engineers of Ireland, Dec. 3rd., 2003; and the "IPCC Guidelines For National Greenhouse Gas Inventories: Reference Manual." The experimental nature of this concept and thus its irresponsibility in a residential area become clearer daily.

Peat Removal.
Mr.Douglas proposes that the new proposals overcome the Boards considerations in refusing permission for the project previously on the basis that "*there will be no peat repositories at Ballinaboy or at the Srahmore site, and consequently no risk to the health and safety of people, road users or pollution of salmonid rivers.*"This extrapolation is not realistic. The evidence of the EPA itself as quoted in the Srahmore EIS (p. 98 of 223) is evidence of existing and on-going damage to the salmonid rivers and to the destination bays from existing Bord na Móna activities on this site and contiguous sites. There is no existing evidence or history that proves a better record for the proposals here advanced. The suggestion that there is no risk to road users, at least in the short term, is derisory and occupational health and safety issues in the context of Seveso II are by no means finalised.

EPA & Planning.
p. 35. The difficult statutory obligations of EPA are neatly illustrated: The EPA "*will consider the environmental emissions .. if and **when** they receive an application for an IPPC licence.*" and "*there **is** nothing contained in the observations from the EPA, in the matter of environmental emissions, that would lead Mayo County Council to conclude that the development is unacceptable on environmental grounds.*" Meaning what? Is it an "***is***" or is it a "***when***"?.

Response to Submissions in Support of Development.
Medium/long-term 50 employed: (i) What is the match with local availability and skills?
(ii) What is the loss in fishing, tourism and rootedness?

Construction employment up to 500:- (i) How many are staff jobs and how many casual and so available to locals? The contractors know their requirements but no effort is made to match them.
(ii) Skills match and availability of labour? The mushroom factory in Erris - recently deceased - had a workforce almost entirely of citizens of the Baltic Republics and the same is true of the tiny fish processing industry?

Mr.Douglas says this project as proposed is "*an economic alternative to the declining agriculture sector, (i) through the provision of sustainable employment: (ii) reducing out-migration from this rural area; and(iii) consolidating this local community.*"
(i) 50 specialist jobs to = an economic alternative to subsistence farming and inshore fishing? - this is advocacy that has completely lost its head.
(ii) Would Mr. Douglas accept decentralisation of a number of jobs for 2 years as the "*provision of sustainable employment*"? Would Mayo Co. Co. welcome with open arms a decision by the relevant Minister to decentralise even 500 jobs to Claremorris for 2 years as "*sustainable*

development" and "*in accordance with the spatial strategy*" and to be the provision of an alternative to "*declining agriculture*"?
(iii) How does this reduce "*out-migration*"? No match of jobs to those seeking work, long-term jobs likely (definitely mostly) specialist? No analysis of pull and push factors that comprises the out-migration mix or the changes from the pre-tiger 1980ies?
(iv) Adding a major push factor and reducing the attraction of the area as a living habitat for natives and visitors is "*consolidating*" the local community?

This is bilge in the form of rationalisation: no one is this rationally deprived.

p.36

The spread of the gas network and for what purpose to the towns (which one's?) of Mayo is indeed "*by no means certain.*" At a recent symposium in Galway, as reported by a Mr. Jackson, a P.D. candidate in the local elections for the Ballina area, and the only Mayo putative public representative attending, An Bord Gáis announced the possible extension of gas pipeline to Castlebar and Westport (time unknown): Ballina is not on its policy agenda.
The belief is, among those who believe they have access to the engine's of power, that the Minister for the Gaeltacht, Mr. Eamonn Cuív, has promised and is promising a spur from the downstream pipe to the hamlet of Belmullet or its environs - a marginal literacy in economic and financial matters questions the possibility (SourceL) but after all, we have all those voting machines. (To quote from *"The Economist": "Basic training in economics is needed to blind one to the absurdity of this assumption,").* When presented with correspondence between the 2 relevant Government Departments (SL) gently indicating the unlikelihood of such a scenario, he, the Minister mumbled "*Letters like that get written all the time,*" and something like "one just keeps on trying": but Ministerial opinions must be regarded in planning law.
The Government decision in 2001 *" in principle and subject to more detailed analysis*" has been overtaken again and again by developments (not least being the change in the price of oil from $10 a barrel to $40 a barrel.). An Bord Gáis gives no indication of servicing Sligo from the West.

How this terminal proposal will

- "*act as a catalyst for the extension of the natural gas network to the west of Ireland* "is a mystery to us, in the absence of knowledge of the elements on which the catalyst is expected to work this wonderful transformation: there is no shortage of gas - the pipes are stored on the way, CPOs acquired, etc etc. : what new elements will be transformed?
- "*remove a barrier to inward investment*" caused by weak infrastructure of electricity supply and distribution network. So the lack of a gas operated power station of 64 megawatts or whatever in Comhraic is holding up all this provision of infrastructure and inward investment! Forget about the huge wind-farm authorised for that site: no good, useless. Only a tiny power station, gas powered will do - investors will accept nothing less - wind-powered energy is suspect, has been known to fail to boil the kettle! Come off it, Mr. Douglas.

A terminal or refinery will not

- "*allow Mayo to connect to the global gas network into the future*", a pipeline will to the national grid, with or without Corrib Gas or this specific terminal at Ballinaboy with its overland approaches. Mr. Douglas admits that such provision is not a decisive issue for Mayo Co. Co. but a political issue - the lack of a terminal does not change or invalidate this. The
- "*significantly increase local employment*" is a canard that not even Shell is now using.

This advocacy is not discourse suitable for a planning discussion.

Project Splitting:-

WE do not accept the opinion of Mr. Douglas that Article 1(3) of Council Directive 85/337/EEC as amended (C. D. 97/11/EC) supports his interpretation of the matter of project splitting, We therefore request that An Bord Pleanála satisfy itself on the legal and legislative status of Mr. Douglas' interpretation in planning context. Furthermore ,it is not clear what "*competent authority*" has responsibility for the safety of the pipeline covered by the pipeline consent, i.e. the pipeline from the landfall to the terminal/refinery : in the event of an accident along this pipeline, consequent on normal leakages or catastrophic failure, what competent authority is obliged to come to the aid and succour of the injured party? (Source K: Minister Ahearn says "*These issues fall within the responsibility of Shell E & P Ireland Ltd., not covered by the terms of the planning permission granted by Mayo County Council."* Is it possible that the Minister is saying that no statutory has responsibility for the health and safety issues of the local population along this pipeline and inside the terminal boundary? Item 2 of 'Further Information'?) As this Consent is to the terminal boundary only, the issue of competent authority is even more pressing, as the danger and risk of danger posed is continuous through to the terminal, i.e. the interaction of the incoming high pressure raw gas pipeline, the outgoing high pressure pipes in the umbilical - up to 610 BARg - delivering fluids to the sub-sea manifold or such, and the power-line contained within the same umbilical, and all floating in a trench cut in a deep bog and covered by draining peat. (*Corrib Offshore EIS 2001*: 19.3.2.13.5:- "*When a section of the pipeline is laid directly over a peat substrate, there is the potential for problems with pipe instability* ***as the pipe will float within the peat.***").

Even Andy Johnson, in his expert report to the Dept. of the Marine preceding the issue of a Pipeline Consent makes it clear that the part of the pipeline and other works from the incoming terminal boundary to the terminal is to be the responsibility of the terminal EIS, which seems to us to point to Mayo Co. Co. as the competent authority-

" *Report on Evaluation of Onshore Pipeline Design Code* "...Andrew Johnston, 28 March 2002.

2.2 (page 5) "*It is recommended that the terminal QRA to be prepared as part of the terminal engineering is checked to ensure it addresses relevant gas releases from the pipeline in the terminal."*

4.5 (page 18) "*It is understood that the terminal QRA (prepared as part of the terminal design) will assess the risk to the terminal workers, and will consider the risks associated with all the facilities within the terminal site, including the pipeline facilities*." This, one concludes, was the brief received by Mr. Johnston from the Minister. (See Source K again)

In the "Geotechnical Note on EIS", Fehily Timoney & Co., Feb. 2004 - Supplementary Note, (Source B) commissioned by Mayo Co. Co. :

*"The letters from the regulatory authorities relate primarily to environmental matters and make no reference to the structural stability of pipelines constructed in deep peat soil, and as such do not provide the written confirmation requested under Item 2 (*of the request for further information*.)*

"While there is no explicit reference in the EIS to the installation within the boundaries of the site of the supply gas pipeline from the Corrib gas field to the gas terminal .."

We ask An Bord Pleanála to clarify this position, which is not a matter of semantics but a real issue of safety for the local population and the workers and thus of good or even adequate planning. It is far from vexatious to draw attention to another major loophole in this disastrous proposal, and one which seems to leave many people without protection except by the good will

of Shell, and therefore with no prospect of recompense. In short, what is the competent authority for the pipeline construction and operation from foreshore to terminal boundary and inside the boundary? Where is the ownership of and responsibility for the risk? As it is accepted that leaks are a normal part of operating a gas pipeline, has the EPA responsibility in law or has the OHSA or Shell? Even if, as Mr. Douglas seems to insist, the Second Article 1(3) applies, and even if it means (which we question) that national governments can circumvent its purpose to bring unity and closure to a multifaceted project, by ad hoc Ministerial directions, that cannot dispense the organs of the planning system from its duty of care.

The premise of this objection, is not as presented by Mr. Douglas, that" *the EIA for this terminal should encompass the EIA for several other projects*" but that, as submitted repeatedly by the developer, the project is **one**, from the sea-source to the terminal, or indeed possibly to Craughwell, but in that instance the pipeline from Ballinaboy to Craughwell is under the ownership of a different agent, An Bord Gáis. The developer presents the project as **one** with different parts and, indeed under **one** overall project management, not several projects as postulated by Mr. Douglas, and so outside the bounds of effective project management.

Thus in *Corrib Field Development Dossier 14/11/2000:-*
Section 1.2. *"The proposed development will comprise four elements*:

- *The offshore (infield) production facilities.*
- *The sub-sea pipeline to land.*
- *The onshore reception terminal which will be located at Ballinaboy near Broadhaven.('near' = 8Km.?)*
- *The onshore pipeline - to Craughwell. "*

It is worth noting that the pipeline on land from the landfall to the terminal did not figure at all, unless all 8 Km of it was to be included as landfall (which it was so intended.)

And thus in *EIS -Non-technical Summary Vol. 1 December 2003:-*
p. iv. "*The proposed development comprises three distinct elements.*

- *The Offshore EIS (field to terminal)*
- *The EIS for the Ballinaboy bridge terminal.*
- *The EIS for the gas pipeline from the terminal to Craughwell."*

We don't propose anyone is arithmetically challenged: it may be 3, it may be 4, but it isn't 1.

Need for the Project:-
Mr. Douglas deals with only one basis put forward for the objection that there is no "*need*" for this project. The major objection is to the use of the postulated "*need*" to imply that without this terminal at Ballinaboy some identified need is not and would not be met. In actual fact, from our perspective whatever "*need*" may be postulated for the terminal or even for the supply of gas from Corrib, can be met and is largely already being met, from other sources, existing means, without damage to the habitats or population of this area. The Corrib gas - and specifically the proposed terminal/refinery - gives no national advantage because of the changes to the terms of lease and the Finance Act of 1992: no price advantage, no security advantage, no control advantage, no revenue advantage, apart from a speculative possibility that can easily be side-stepped by competent company accountants and perfectly legally without the price of boardroom contortions. A Corrib gas supply or the terminal as proposed will not enhance or advance any national plan: it can be used in the implementation of a national or regional plan, as one source among many, but if the political will is present, the Corrib gas will present itself as a choice for the authorities and customers, not a decisive event, a tactical not a strategic issue. If there is a strategic advantage what is it?

We believe that Mr. Douglas has misinterpreted the core of this argument and its' validity. If, as Mr. Douglas says, "*the applicant sets out the need for the terminal based on the need for Ireland to put measures in place to ensure there is a sustained gas supply for the future*" then the applicant is mistaken: because of the licensing and legislative reality imposed mainly in 1992, the State cannot, repeat cannot, "*ensure a sustained gas supply* " on the basis of this proposal. No amount of repetition of what we would love to hear can change this reality; spin must not be allowed to obfuscate the simple clarity of the "market".

"limiting dependence upon gas sourced from outside the country thus reducing the net import of gas." BG or any end user of natural gas in Ireland buys from one of the multi-nationals. There are possible exceptions, but few and far between, for example directly from the Government of Libya or indeed from Statoil brokered by the Norwegian Government. It makes no difference to the customer where any gas bought was originally indigenous, whether Kuwait or Holland and, as mentioned earlier, the control of the distribution of natural gas is so sophisticated now that a clearing house system is required, which means that gas, ostensibly bought from a North sea source may actually and is more likely to have come from off Kinsale or elsewhere. Given the regulatory system in force in Ireland, gas from Corrib or Slyne is sourced outside Irish control: buying Corrib gas has the same effect as buying Caspian gas. There is one 'fainic' = reservation: Marathon, Shell & Statoil must, for the benefit of their corporate ownership, use the gas from Irish sources to service as much of their market as possible, so speeding away our silver lining. There is a "virtual" gain in the sale of gas from Corrib or any other source indigenous to Ireland in that the payment will be recorded as part of Irish exports, and will thus technically represent Irish exports in the Balance of Payments columns: it matters little whether the end user is in Ireland or in Marseilles. The substantive part of such "inflows", after expenses, will be repatriated by the controlling companies, and will add to the "black hole" in the Irish Balance of Payments. It is a virtual, temporary gain: not real as the money a tourist pays for a pint is real, or a customer in Boston pays for a bottle of Bailey's. This "virtuality" applies to Corrib, and puts paid to claims like Mr. Douglas' that the indigenous source has a positive impact on Irish realities.

It is false to claim that the supply from Corrib could/would act "*as a controlling mechanism for the cost of this form of energy to the country*" as the concessions of 1992 gave up any control or influence on the fiscal terms applying. (We enclose an analysis - no doubt An Bord Pleanála has access to the Terms!).

The satisfaction of the "*need for a gas supply at regional level*" is not dependent on Corrib - supply is no problem. "No Corrib" is not stopping it but in the meantime Shell is playing hardball with a nervous State that has not allocated sufficient resources to face up to what is effectively blackmail/hardball - what's the difference? The State meanwhile through An Bord Gáis - or visa versa - says we won't/can't build a pipeline from Galway to Castlebar unless the planners let Shell build a less than optimum recovery system. We must not forget that the "commerciality" of the second interconnector was not an issue when An Bord Gáis decided to build it: the justification was a strategic judgement that has so far proved inaccurate but that happens and is justifiable. If a supply of natural gas is of strategic importance to the west, then there is very little to prevent An Bord Gáis building it, for roughly the cost of the electronic voting scrapped machines, especially that the relaxation of competition rules that apply to Objective 1 Status still applies to the West, and balanced development is the operative principle of the Status.

Shell's "*need for the development of the gas terminal*" is well established, especially in the present corporate maelstrom, or "want" for Shell's need can be satisfied without loss to us residents. Security can be better served for the State, and for less, by accepting Marathon's offer and filling the declining reservoirs off Kinsale with off-peak bargain basement gas. The planning authorities are "*bound to have regard to the policies and objectives of the Government or of any Minister*" but one notes that it is the boy who shouted "The King is in his all together" who is honoured and not the implementers of official dogma to the point of imbecility. It is, of course, the prerogative

of An Bord Pleanála to decide whether the prerogative of the Minister extends to the choice of a definitive site and technology for a named project not in public or in p.p.p. ownership. Were this to be the case it were indeed true that the lessons of the corporate State could be said to have been unlearned.

Mr. Douglas admits to not pro-actively seeking an alternative, but to passively following Shell's suggested sites as alternatives and these only. If we propose the Mall in Castlebar as a possible site for an incinerator and then announce "We have examined the site and found it unsuitable, owing to the nesting habits of the Lucan crow" will anyone be surprised or will no one suspect that the real target is actually, say, Turlough?. This is pathetic reasoning.

Adequacy of the EIS.

We ate quite amused at the judgement call " *The deficiencies identified in the EIS relate to minor matters that do not affect findings of the EIS.*"

- U-turn on roads without explanation - an engineering not an opinion issue;
- contrary evaluation of likely consistency of peat;
- lorries from Ballinaboy to Bangor water-tight past Carrowmore Lake;
- no consideration of safety of incoming pipelines and outgoing umbilical of enormous pressures and complexity;
- mispresentation of the findings of EuroSoilStab project as regards peat reinforcing;
- higher means less visible;
- polluting record of Bord na Móna;
- no destination for non-peat waste;
- no reduction in value of properties;
- no traffic plan for Ballinaboy to Rosport;
- patching of L1204;
- thrashing the principles of the CDP 2003-2009.
- piloting nature of sheet piles in wet peat environment;
- lessons of Derrybrien ignored. All minor of course to big players.

Designated Haulage Route:-

Local Roads such as from Bangor to Ballinaboy, are not defined for this intensity of HVT.

p. 41. "*The development of the terminal does not involve the use of the Dooncarton-Glengad route for the haulage of materials.*" No, but the pipeline does and no planning permission has been applied for necessary road-building to facilitate it nor has the TMP been applied to it.

" *at no cost to Mayo Co. Co* " simplistic: surely the costing basis of work in Mayo Co. CO. is more real than this: were the work to be done by new staff or contractors the direct cost would not be great; but using existing Council staff and engineers there is a cost in the neglect of other vital routine work.

Ballinaboy Bridge Terminal EIS 2001:-

4.3: *To excavate all the peat and transport it off-site using the public road system would have a significant environmental impact due to the increased number of vehicle movements required. It would result in wear and tear of the public road infrastructure and would introduce road safety concerns for the local area. The method selected .. has the advantage of a short haul distance .. avoiding the use of public roads."*

4.3.1 "*there would also be a requirement for considerable quantities to be brought into the site with consequential and public road impacts."* But of course this was what suited the "preferred option then" the EISs provided have no credibility except as advocacy documents, given the extent of the double arguments used. The same tongue-in-cheek arguments explaining why partial peat removal was discounted:-

4.3.2
- lots of fill;
- significant peat removal and construction of temporary haul roads;
- the terminal would be higher;
- vehicle movements on public roads unacceptable;
- settlement in un-piled areas;
- containment problems of tapered wedges of peat;
- need for retaining walls;
- potential effect of settlement on ground drainage.

To where have all these decisive discounting realities gone?
4.3.1:- *"In the past, peat has been subjected to experimental improvement techniques but they have not been found to be successful." (?)*
15.3.3.2 The L1204:- *"Its' low volumes of HGVs makes it less suitable to any increase in HGV movements resulting from the development."(?)*

Minimising Disturbance:-
Very misleading presentation, that illustrates the slight of hand that project splitting facilitates and enables. To deal with disturbance, honestly and with transparency, the actual traffic burden imposed by the whole project must be input. To the 800 runs a day must be added the 36,000 tons of dry cement, ready-mix, pipes to the sea, piles and sheet piles, construction materials, non-peat waste removal etc etc, or such proportion of them as a major operation must have blueprinted for real time, as being required during the peat removal period. If such information is not to hand, the question arises as to the viability of the project management.
p.42. One item of HVT is not a sufficient treatment of traffic issue, and without a mention of the U-turn on the L1204 as *"not suitable for heavy vehicle traffic"*? And no mention of Rosport HVTs. This is a wink and a nod treatment and not worthy of a planning report.
In the *Ballinaboy Bridge Terminal EIS, Nov. 2000* we have;
12.8 *"Mayo Co. Co. require a 2 year period of settlement to take place before the completion of the permanent reinstatement."* of the L1204 - and that was before all this HVT was permitted.
Special pleading, inventing supporting arguments for the optimal decision for the moment already made, degrades the EISs and any decision based on their presentations.

Health & Safety:-
HSA conclusions apply to risk not to living working people in their own, until now, safe environment. HSA looks at the risk of a "major disaster" only:
- Severe distress to almost everyone;
- a substantial fraction requires medical attention,
- highly susceptible people might be killed.

Is no one obliged to calculate a minor danger or less catastrophic, as when severe distress afflicts some, when only 15% require medical attention and reasonably susceptible people suffer permanent lung damage?
Is the risk justified because we have not enough votes to be important?. We are shocked: this is an incredible measure to apply as sufficient protection for local people.
HSA did not consider the umbilical complex with the pipeline: nor did Johnston (SJ) nor Fehilly.

Peat Extraction & Peat Stabilisation:-
The Senior Planner fails to take seriously:-
- this is wet soggy peat, not milled peat that Bord na Móna deals in;
- the incredible scenario re. free drainage of water over 8 days;

- windrowing experience relates to dried milled peat - not to *'mushy soup'* peat;
- Settlement ponds and silt traps of Bord na Móna provenance have always been monitored and have always polluted riparian systems;
- information given re. bog restoration is defective and not based on BAA;
- windrowing - even this untried untested sort - is proposed in a hollow, shaded by conifers, that are supposed to provide screening for the terminal: this is real multi-purpose stuff.
- the planner ignores all submissions that do not concur with Bord na Móna;
- leakage from peat mush on road past Carrowmore Lake and through an SAC;
- stabilisation info given is selective and deceptive but accepted without question by Mayo Co. Co.

Risk of Water Pollution / Eutrophication of Carrowmore Lake:-
existence of unspecified carcasses in peat recognised by EIS in the context of biological laboratories next door: Mayo Co. Co. ignores implications;
"*the approach taken to site drainage is described as 'cautious' by MCC's geotechnical*". We presume the reference is to the Fehilly/Timoney report: we cannot find this reference but enclose a copy so that the Bord can find it and check it for significance;
the EPA and NWF have reported pollution by silt: the mitigation measures proposed are more of the Bord na Móna same and have always failed. Yet Mr. Douglas refuses to come to grips with this anomaly;
" Scéal na Móna", March 2004, the Bord na Móna magazine has an interesting article "*Moving Bogs - Part one.*":- (i) It gives an account of an extensive bog-burst near Killarney in 1896 as reported by Robert Lloyd Praeger, which deposited a huge amount of debris into the Lower Lake of Killarney. When, in 2001, a team from UCD took core samples in Loch Léin for an EU project "*they found a layer of peat silt that the bog-burst had deposited in the lake.*":105 years after, the bed of the lake is still silted. (ii) It gives an account of a bog burst in Tullywood, early this year: " *Obviously the Tullywood incident is totally different to those at Pullathomas and Derrybrien, since no incline is involved.*"
We believe that the decision of Mayo County Council in authorising this development is a risk too far, in the context of above facts and not consistent with good planning.
p.44
Landscape Designation & Adverse Visual Impact
Mr. Douglas has the best of both worlds: as Senior Planner of Mayo Co. Co. he presumably designates the proposed site as "Policy Area 1 Montaine Coastal" in the County Development Plan 2003-2009: but as this designation does not suit the requirements of this application, he decides "*that this site is atypical*", which promptly removes from consideration 4 of the seven (4:7) recommendations for planning in this Policy Area. Shades of "illegal combatants!.Very nice: have one yourself!.
We have elsewhere expressed disappointment at the improper use of the Landscape Sensitivity Matrix , (Source M) which equates the proposed refinery/terminal complex with an Industrial/Commercial development, when in reality it contains elements of much more severe visual impact, more like to windmills and "uglier" than windmills than to the normal modern Industrial/Commercial building intended by the matrix. Added to the treatment of the Montaine Coastal attribution in the previous paragraph, it paints an ugly picture of abuse of an ethically neutral analytical aid. We would be happy to accept a more benign explanation than what springs from what is presented.
p. 45. : "*reduced impact on the environmen*t" higher = lower. WE notice in published notices that the heights are approx. (Source E). We believe that the "*other benefits accruing*" are chimerical. The EIS states, in response perhaps to our contrary submissions, that the terminal is not placed in a basin. We enclose a computer generated graphic from the *Terminal EIS of April 2001* (SN) which should leave one in no doubt on this point, and also an extract from the Map "*Mayo*

*Landscape Appraisal :**Slopes and Ridgelines"** from the CDP 2003-200* (SN). We have likened the proposed structure en mass as a marble in a saucer, with serious visual and meteorological implications, especially inversions in calm weather with accumulation of emissions and probable funnelling towards Carrowmore Lake in high NE winds. The implications of this graphic for the visual are self evident: what locals see - the reminder of the underlying risk - is visible from every point around the terminal/refinery, and any screening is totally dependant on conifers or one bog fire.

Noise:-
It is obviously not believable that "*the predicted noise levels at the operational stage should not result in increased noise levels over the existing background noise at the nearest dwellings.*" We ask An Bord Pleanála with its access to this specific expertise to comment.
p.46
Risk of Landslides:-
The concern re. Dooncarton Hill and environs is also prompted by the advice given by Mayo Co. Co. to the developer, in the pre-planning stage, that the area had a history of landslides and that the hill was geologically unstable.(Source E1). This advice was not proffered to the MLVC (SourceU)when that body was considering how to advise the Minister on the granting of various permissions which necessarily involved substantial blasting at the foot of Donncarton and out through the Bay. Nor did Mayo Co. Co. seem to take its own reported concern into consideration when issuing permissions for blasting to the developer in the summer of 2002. We consider these facts as seriously damaging to the credibility of MCC, to the planning process, whose legitimacy is thereby compromised..
We will deal with this issue in a section covering also relevant technical information prepared in response to the Derrybrien disaster, but it suffices to say here:

- it is not anywhere proposed that rainfall alone caused the Dooncarton landslides;
- the 40mm/hr figure for rainfall on the night of the disaster (Friday) is based on a subsequent reading of a rain gauge in a national school outside the full force of the downpour on the margins of the rain path and is therefore inevitably not accurate or even relevant;
- the risk of bog bursts on the site at Ballinaboy is not covered;
- we cannot find the reference in the geotechnical report that the design of site drainage is "*conservative*" but accept Mr.Douglas' word for it;
- in the present terminal EIS, 3.5.8 it states "*Rock blasting will not be necessary*" a major advance on the position held in all EIS's since Nov. 2000: but in the conditions attached by Mayo Co. CO. to the granting of Planning Permission is the following:-

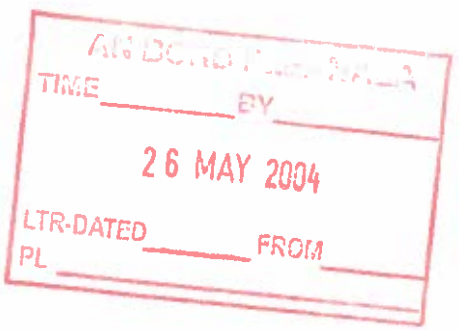
23. *" Blasting of rock on the site shall be designed and operated so that* .." etc
24. Similar. We do not know the significance of this apparent contradiction, nor why Mayo Co. Co. decided to grant permission for something the promoter did not require: or if the promoter requested this facility outside the planning file and the EIS. It is not a minor issue and is disturbing.

Pipeline Location & Safety.
"*The proximity of the pipeline to dwellings*" did not make any reference to the umbilical and its implications, emphasising the pilot nature of this project: apparently this problem did not previously arise in the working experience of the developer's experts. It is our understanding that the OHSA defines the area and its structures within the site boundary as being the "*establishment*", and this includes the pipelines and umbilical from the boundary incoming to the terminal. We have not been shown how this very dangerous section is excluded under Seveso, nor how the HSA is justified in abdicating responsibility for it.
If, as Mr. Douglas puts it " *the pipeline from the terminal boundary to the manifold is under the control of the Depart of Communications Marine and Natural Resources,*" then are we to

conclude that the pipeline and umbilical from the terminal site boundary to the terminal is not under the aegis of the same Dept. and therefore not subject to the Consent? The evidence Fehilly/Timoney and of Johnston, as previously quoted (SB, SJ) would seem to support this conclusion.
To add to the confusion Mayo Co. Co. now informs us "*The second issue arises from the Health and Safety Authority informing Mayo Co.Co. that the definition of establishment in this case did not include the pipelines into or out of the terminal plant*".
We have always held that the rush to push through this labyrinthine version of a project would inevitably give rise to legal and safety imponderables. This uncertainty involving a safety issue, a major safety issue, is not tenable. It is incumbent on An Bord Pleanála to sort out this mess dumped on them by a badly planned proposal, and to clarify once and for all where the responsibility lies - and of course the entire area "*from the terminal boundary to the manifold*" is also in question - and what authority is responsible in law if one of us gets hurt or is killed.

The applicant's response to Item 2 of the further information requested, is said by Fehilly/Timoney, the Consultants commissioned by Mayo Co. Co. " *do not provide the written confirmation requested under item 2.*"(SB) However, Mayo Co Co. accepts the developer's response as sufficient. As is evident from the last section above, the authority with responsibility for the item involved in Item 2 is a mystery, but obviously An Bord Pleanála must make a decision on it. The issue of pipeline stability should also involve the umbilical, which introduces acids & raw gas under high pressures, waste and a power-line within a single excavated trench with undefined implications. A cursory examination of the document produced by A. Johnston, Consultant to the Dept. of Marine and Natural Resources on, mainly, pipeline design, has brought to light worrying uncertainties, which further complicates this, for us, safety issue.We are informed by Mr. Daly of the Dept. of the Marine, that the Consents were issued on the basis of the details submitted by the developer and verified by Mr. Johnston, and Minister Ahearne (SK) seems to agree.
Is Mayo Co. Co. claiming that it does not have jurisdiction over the upstream facilities within the terminal boundary?.

Contrary to National Policy on Sustainable Development.
In saying that "*It is vital that Ireland vigorously promote its offshore oil and gas exploration programme*" it is implied that such a programme of work is sustainable. But it is not. It is not sustainable to burn this non-renewable gas for minimal or no return, gas that should contribute largely to national advantage, but does not, because of legislative decisions in force. Use it under present regulations and its gone with no contribution to sustainable development - and it makes full corporate and Norwegian State sense to exploit it fast and furious. To be forced to expound what is not true is torture, no matter how forced.
The "*security of supply implications*"are not spelled out and we have shown elsewhere that they are not relevant, in our regulatory environment. Gas is **The** Global Product: unless all sources are crippled at once, the market is decisive. (SourceX). The concerns about security of supply in this context is a virtual bogeyman, and any serious economist of hydrocarbons or energy recognises this. There are issues of strategic supply but Corrib cannot realistically contribute to their resolution. We have consistently sought an independent cost-benefit analysis to clear up this bogeyman once and for all: we are not afraid of it - we seek it: the Government has not responded.'Tis a simple matter: one of the international think-tanks, neo-con or neo-lib, or the Economist Intelligence Unit can be got to do a researched report on this, if the authorities want closure and progress on this. In the meantime this proposal cannot comply with national policy on sustainable development when it cannot contribute to sustainable development.



Above-ground Structures for the Pipeline:-
"*pipeline from landfall to terminal*" or to terminal boundary, is the subject of the relevant consent? For the sake of legitimacy, we believe that An Bord Pleanála must access relevant legal authority, to decide, if possible, whether or no the consents apply as far as the terminal or the terminal boundary only. As this project proposal is breaking new ground and advanced in an ad hoc manner, there are many uncertainties: we ask An Bord to get definition on this one.
p.48
NORM:
If such does occur in leakages from the upstream pipeline within the terminal boundary or other, who/what has ownership of the damage and responsibility for same?. (SourceK).

17. Conclusion and Recommendation.

We welcome the statement that "*sustainability*" " *encompasses environmental, social and economic concerns reflecting the integrated nature of man and his environment."*
It is evident that, as An Bord Pleanála said in its previous judgement of this project, that "*strategic policy matters with regard to the (i) nature,(ii) timing and (iii) terms of the development of the gas resource is the responsibility of the Minister for Communications, Marine and Natural Resources*." The exercise of this responsibility can only extend to what the Minister is legally empowered to do. The Minister cannot be held responsible for implementing that which he is legally forbidden to apply. If, as in this instance, the law does not allow the implementation of an action, then it is of no consequence if a policy discourse implies an obligation on the Minister to be in breach of the law of the land and the decisions of the Houses of the Oireachtas, and neither is Mayo Co. Co. "statute bound" to have regard to such contradictions.

In the matter of the strategic policy matters (i), (ii), (iii) quoted above:-
(i) The nature of the development is a matter for the planning authorities and the applicant - not for the Minister. It is the developer who designs the Plan of Development: the Minister has an option not to accept a specific shape of plan, but it is the developer in all cases who decides the nature of the development. Further the Minister in answering Parliamentary question No.137, March 20,2001, Ref. No.7475/01: *"This is a commercial decision by Enterprise Energy Ireland and one in which I have no function."* (SA)

(ii) the timing is decided by law -once a find is declared by the developer to be commercial, the Minister has no choice but to facilitate its development.
And in answer to Parliamentary Question No. 166, March 20, 2001, Ref. No. 8048/01 "*While I **must** approve the company's plans for the development of the Corrib gas field on a commercial basis having regard to environmental engineering and cost factors."* (SourceA)
(iii) the terms are fixed by legislation, and the Minister has no power to change them, in so far as they apply to licences issued under the 1992 terms, which incorporates Corrib project. (Source S1, S2.)

Furthermore, did Mayo Co. Co. follow Government Policy when it banned gold mining in Cruach Phádraig area or was it rather the Westport tourist lobby being too strong to be ignored? What was sacrosanct? It is common knowledge and experience and not challenged that the exigencies of electoral politics in multi- seat constituencies often precipitate decisions by Ministers and parties that fall short, when examined against the objective standards that the planning authorities must apply to the common good. Are we to be bound by such temporary even if 'strategic' requirements? Of course not.
The State has had 4 years since the first application for planning permission for this project to demonstrate the political will and commitment to allocate the necessary resources to realise the

promises and semi-promises to the towns in Mayo, and resource a natural gas network in Mayo. Not even 3 elections, the yeast of the representative electoral system, has drawn this practical expression of commitment, during which time when other commitments to recreation and other facilities of similar cost or more have been made and implemented. It is an unfortunate message, and not one Mayo Co.Co. is inclined to see: but the State machine is prepared to build a pipeline to bring Shell's little piggy to market but not to bring the market to the Mayo little piggy. Democratic politics is selective. The cost of this commitment would be little: we have Objective One status yet so little political capital need be expended. To have to pretend that the naked emperor is dressed in the glory of Solomon was supposed to be the hallmark of monolithic communism, not of market realism. This is a planning context matter and we disagree with the judgement of Mayo Co. Co.

The proposed gas terminal in Ballinaboy does not address the infrastructure deficit in Mayo, however defined, and thus is irrelevant to the Co. Development Plan. Our need is for individuals and families to be safe in their own area in their traditional familiarity and to have the same say in its destruction as we had in its construction from raw bog, which we consider superior to the want of the Co. Co. to run a gas pipe to Castlebar.

Mayo Co. Co. does not give a balanced interpretation to the various elements of the Co. Development Plan 1903-09, and puts perceived economic advantage for the few before the safety of the individuals who would bear the brunt of this development, and fail to give due cognisance to the fact that the purpose of the developer may be achieved by alternative methods that would not infringe the human rights of the local residents. It is worth noting that when this project was initiated oil was $10-$15 a barrell: it is now hovering around the $40, What value Corrib now?

P03/3343 Second Schedule.

Schedule of Conditions.

We note

- that the conditions are largely transcriptions of promises made by the developer in the EIS accompanying the application, apart from financial requirements of Mayo County Council itself.
- also, that the condition attached to the previous granting of planning permission to this project regarding a limiting of the hours of work during removal of waste and construction has been omitted, without regard to the local population.
- that no conditions are applied to traffic movements involved in the various construction and removal of waste activities from Ballinaboy to Rosport, and in the vicinity of Glengad.
- (16) that the local residents are deemed of no consequence in the matter of the monitoring of the rape of their own environment and only habitat without their consent.
- the physical impossibility for the developer of being fully compliant with condition 18.

We draw the attention of An Bord Pleanála to conditions 23 and 24, relating to permission to blast rock on the site. The Terminal EIS, 3.5.8, specifically excludes the requirement for blasting "*Rock blasting will not be required.*" This granting to the developer of a concession that has not been requested is very disturbing, and introduces a question of the transparency of the negotiations between Mayo Co. Council and the developer, before planning permission was granted.

- condition 29 relating to the nesting of birds and bring to notice the previous destruction by the developer of the nests of the sand martin and the lack of acknowledgement of the sand martin's presence in the literature provided.
- in the context of condition 30 the contradictions between the various stated positions espoused by the NWFB in the matter of pollution by silting from Bord na Móna workings.

- worriedly the derisory amount, 30,000 euro, required from the developer to update and make adequate the fledgling fire service in the Erris area.
- that the proposed environmental protections proposed are totally dependant on information provided by the developer, who alone has the resources and personnel in place to do so.
- that access to the site by Mayo Co. Co. personnel shall be only with the consent of the developer, which means also with prior notice.
- with relief, the requirement that the developer shall lodge a bond, prior to the commencement of the development, to ensure the prompt availability of resources to minimise the damage associated with abandonment of such establishments when economic working has ceased.
- however, that unless the sub-condition, "*Prior to the commencement of development*" be strictly adhered to, in the matter of the form and amount of security, the requirement is of no practical use.

Appendix 4.

FI Request and Response Submitted.

Volume 1:-

Item1:- Not adequate or complete.

Item2:- Not answered at all - Fehilly/Timoney agrees.

Item6:- Carcasses ignored.

Item13:- Not answered.

Item14:- Not done.

Item15:- No explanation attempted for the untypical behaviour of flow or intensity of suspensions/solutions in Drain 22 or higher levels of pollutants.The possible existence of sub-peat springs up-slope of surfacing of water suggestion is hardly scientific: a deus ex machina. Drain 22, and the existence of the bottomless bog-hole, adds to the mystery, incoherence of the hydrological dynamics, that has not been elucidated in spite of the application of substantial expertise, time and resources.

Item16:- Explanation incredible - running in the wind with sheets of plastic.

Item17:- No real explanation of route or destination or timing of removal of "unsuitable" excavated material: nothing tied down or ring-fenced.

Geotechnical Note on Environmental Impact Statement.
Prepared for Mayo Co. Co.
by Fehily Timoney & Co.February 2004.

(SourceB) The report merely involved a reading of a small part of the two volumes of the EIS, in accordance with the terms of the contract. As a result, it is essentially a document of "*it appears*" "*it was concluded*" "*on the basis of this interpretation*" "*very cautious estimates were used*". The report therefore was not in a position to question doubtful assertions regarding the reduction of moisture by free-draining or windrowing, or to question the applicability of windrowing to a non milled-peat vacuum harvested bog.

The use of sheet steel piles introduces problems that the report did not envisage, nor, it seems to us, are the authors fully aware of the fragility of present state of knowledge of peat stabilisation or strengthening using dry cement mixing; and although the authors refer to the most relevant report from the EuroSoilStab project (Habib & Farrell) we suggest, and will illustrate later, that they convey a substantially inaccurate picture of the findings and significance of this report, itself one of very specific engineering application and expertise.

The report is largely a paraphrase of the relevant sections of the EIS and so not largely significant, except where some few deficiencies are acutely observed, in particular in referring to the issue raised by Item 2 of the request for further information: "*there is no explicit reference in the EIS to the installation within the boundaries of the site of the supply gas pipeline from the*

Corrib field to the gas terminal" and again in the supplementary geotechnical note "*The letters from the regulatory authorities relate primarily to environmental matters and make no reference to the structural stability of pipelines constructed in deep peat, and, as such, do not provide the written confirmation requested under Item 2." (*Implication ?)
Referring to the Srahmore Peat Deposition Site the authors do not appreciate the vital distinction between the expertise of Bord na Móna in the harvesting of milled vacuum gathered peat and the unprecedented activity here proposed involving a completely different material dynamic, raw material that is proposed to be handled here, raw untreated peat, being the full profile of peat from the top of the acrotelm to the deepest catotelm, including substantial propagule material, indiscriminately mixed.
"*relatively thin*" is not what comes to mind in considering the great variety of depth of remaining catotelm in the Srahmore dump area .
The supplementary geotechnical note notes the real problem of differential settlement of the proposed re-constructed road from Ballinaboy to Srahmore, L1204. It is our opinion however, that the authors have not sufficiently appreciated the extent of the dangers inherent in this stop-gap measure.
Noting that it is a positive step on the part of the developers to involve the Swedish Geotechnical Institute, the report did not notice that this fine body has only been brought on board in the last stages of this proposal, and the results of that study are for the future and not available for our enlightenment or for the guidance of the planners.
The *"absence of experience in the application of dry deep mixing technology to Irish peat sites*" is well noted but hardly justifies the conclusion that "*there is good reason to be optimistic*" that the proposed dry mixing will be effective. We suggest, with respect, that, as we are to be on the receiving end of this optimism, we do not take comfort from it nor is it sufficient to justify planning permission for it. (Farrell & Habib)
Following on from the geotechnical report of Fehily Timoney, the following, from the *Corrib Offshore EIS,* submitted by EEI in support of the previous application for various licences and permissions:-
19.3.2.13.1 Peat Structure:-"*A blanket bog can be seen as having two functionally distinct zones from a hydrological perspective, i.e. the acrotelm and the catotelm. The integrity of both is required for the maintenance of the hydrological functioning of the bog"* The entire acrotelm and a large depth of the catotelm is removed from Srahmore.
19.3.2.13.5 "*The maintenance of peat stratigraphy as outlined above is essential to the maintenance of the hydrological functioning of the bog":* the layering, i.e. the stratigraphy of the quarried and transported mush is to be totally destroyed.
19.3.2.13.6 Pipe Lowering "*the pipe will float within the bog*" introducing the need to anchor artificially the pipe in bog: this is not dealt with in regard to Item 2, Further Info.
19.3.2.13.7 Backfilling:- "*Moving peat alters its physical and chemical properties and excessive handling can turn peat into a* ***mushy soup*** *with poor restoration possibilities*." It is strange that in the developers submission to the request for further information, our suggestion that the excessive handling - up to ten times - of the peat in the proposed manner - would make a **'slurry'** from the mix was indignantly dismissed.19.3.2.13.7 quote was used in the Offshore EIS to dismiss the possibility of moving the peat off-site, and so to bolster the case for its retention behind bunds on-site.

Deep Stabilisation of Peat Soils -

What the EuroSoilStab Project Has Actually Come Up With To Date.

EuroSoilStab is an EU project, carried out by a consortium of contractors in 6 countries. Each of the contractors works on the stabilisation of one type of soft soil using different binders: Trinity College Dublin was one of the laboratories involved and the following article published in the

Canadian Geotechnical Journal, Vol 40, 2003, gives an interim report on the trials and their results to date. This report, by Hebib and Farrell, is widely accessed and quoted in support of this project by the promoter in the EIS and by Fehilly and Timoney in their geotechnical report to Mayo Co.Co. and is a model of its kind. Like all such interim reports, it lends itself to selective quotation and use!

"Some Experiences on the Stabilisation of Irish Peats" .. Samir Habib & Eric R. Farrell
"Most of the data available on soil stabilisation projects relate to the stabilisation of soft clays with small amounts of organic matter." Peat studies are in their infancy.
"Even if successfully treated, the stabilised peat is a new material that has not been investigated previously, thus little is known about the mechanisms involved in its stabilisation."
"The main assumptions currently used in the design of deep soil stabilisation systems were initially developed for lime-stabilised soft soils, and their validity for soft clays, peat in particular, is still not known and remains to be verified."
In these experiments "*the peat was first mixed for homogenisation*".
"Strength achieved by stabilisation decreased with advanced decomposition."

Compressibility:- "*For the cement-stabilised peat, creep could be associated with structural breakdown.*":-lesson of Derrybrien.
Pre-loading:-"*The permeability of pre-loaded cement-stabilised peat was found to be lower than that of the original peat.*"
"*The stress state .. plays a fundamental role in the mechanical behaviour achieved.*"
"*A loading delay of 24 hours reduced the strength achieved to about 25% and 75% of that achieved with a delay of 45minutes*" (this was tested only it seems for cement-slag and cement-lime mixtures.)
Strength of Stabilised Peat in Lab.Test:- "*the strength varied along the column and was significantly **lower** than expected **near the base**.*" Implications for sliding espc. after removal of sheet piles, especially in context of suggested dynamic at Derrybrien (see Derrybrien Section.)
"*Some lumps of unstabilised peat were observed at the base of the stabilised column and this could account for the low shear strength measured.*" This bodes ill for mixing in the real field conditions of a commercial site, handling enormous amounts of peat: if the laboratory experiment, involving only 2 samples and confined within containers and fully homogenised comes up with this shear-strength problem, its application to the site must be moot, in the present state of play
Finite Element Back Analysis:- "The stiffness of the stabilised soil is very non-linear and dependent on the confining stress." (What happens when sheet piles are removed from road-side support?.)

"The experience gained from the six field tests performed within the EuroSoilStab project showed that the strength achieved in the field for stabilised columns in organic soils was much lower than that achieved in the laboratory." This also noted by Fehilly Timoney.

The foregoing indicates the very preliminary state of real research into the behaviour of peat under stabilisation: also the dangers of promiscuous use of such material to support a decision already made. We believe this report does not support the conclusions drawn by the EIS from it nor in general by Fehilly/Timoney, and note that it is initial research only and into two samples:the authors make no claims for it but allow the test results to speak for themselves. It is worth nothing, however, the remarkably different results achieved from the sample taken from the top of the bog including some acrotelm and the much less impressive results from the sample of deeper origin, catotelm only. As Hebib and Farrell report *"many questions remain to be answered regarding its mechanical behaviour in terms of compressibility, permeability and shear*

strength." Until they are answered, we should not be put at risk and the project should be refused. The Srahmore proposal is as yet science fiction.

Corrib Gas Pipeline Project
Report on Evaluation of Onshore Pipeline Design Code.
Andrew Johnson
28 March 2002

(SJ) This report was commissioned by the Minister and it is on the basis of this report that the pipeline consent was given. The 'J.P. Kenny' is the main designer of the onshore pipeline. The report seems to present anomalies and inconsistencies that are extremely worrying in reflecting extensive uncertainty in what is the major danger to the public about their business and to workers within the terminal site.

The report presents:

- an evaluation of those codes which are relevant to the design of the on-shore pipelines;
- an assessment of design and construction aspects which affect the integrity of the onshore pipeline section.

It seems from the report that the Primary Code is B.S.8010 - because of its flexibility, i.e. it's not too demanding: (not very encouraging!), and that where B.S.8010 is non-specific or ambiguous, reference shall be made to IGE/TD/1 or ASME B31.8. The guidance in the code for the transmission of methane is based on IGE/TD/1.

Flexibility: it allows different methods and procedures to be followed but risk analysis, as part of a safety evaluation is normally required to justify variation from basic code:

- **Corrib requirements are not normal.** "*The on-shore section of the Corrib Gas Pipeline operates under certain conditions which are unusual*" *i.e.* unprecedented.

Risk analysis should include:

- i. identification of all potential failure modes;
- ii. statistically-based assessment of failure mode and frequency;
- iii. a detailed evaluation of the consequences of failure from small holes up to full bore rupture including reference to population density;
- iv. prevailing weather conditions;
- v. time taken to initiate a pipeline shut down.

There is no indication that the hazards from ground instability in deep peat were ever recognised and certainly were not modelled.

The code does not specifically state maximum operating pressure but the illustrations imply a maximum of 100 Bar, especially for public safety - much lower than the normal operating pressure proposed for Corrib and lower still than the real intermittent maximums experienced. However it suggests, that higher pressures may be acceptable " *provided a more detailed assessment of potential additional hazards is made in conjunction with a safety evaluation.*" It is the only code to include a liquid phase and in this sense applicable to Corrib conditions.

Cover not less than 900 mm. Valves to be used on either side of an estuary or crossing, because espc. of vortex induced vibration.

Note:- Liquid accumulates in low dips in pipeline and is discharged during production. However, "*The high-momentum slugs are prone to cause high tensile stresses in piping and vessels unless procedures are developed to mitigate their occurrence or the system is designed to handle the resulting forces.*"

The supplementary code, IGE/TD/:- High Pressure Gas Transmission.

Covers only **dry** natural gas at maximum pressure of less than 100 Bar: therefore Corrib is outside its design parameters? So how can it be used to supplement primary code? Safety evaluation of whole pipeline is not meant to include crossing also.

States **strict limit** of 100 Bar (Corrib design pressure 345 Bar). Design implies a defect-free pipeline.

The supplementary code ASME B31.8. Transportation and Distribution.
This is an American code. Gas containing free water is considered corrosive = Corrib.

IS 328. Edition 3, 2000. Gas Transmission Pipelines and Installations.
There is something very odd about the treatment of IS 328. "*An Bord Gáis has adopted*(it)" as the *'the code of practice for gas transmission pipelines and pipe installations'*" for the construction of the pipeline from Mayo to Galway.
Johnson, p. 7 *"The project design basis states that where the primary code, BS 8010 is non-specific or ambiguous, reference shall be made to the ASME B31.8 code."*
p.9 "*The project design basis for the onshore pipeline states that IS 328 will be used as a supplement to BS 8010 where this is considered to be beneficial."*
but
p.7 "*The on-shore pipeline design basis document states that where the BS 8010 code is non-specific of ambiguous, reference shall be made to IGE/TD/1 and ASME B31.8.*
but
p.9 (Kenny Comparison) "*Pipelines under the Gas Acts should be designed using IS 328.*
and
Corrib Offshore EIS (incorporating on-shore pipeline) p.19-4:
19.2.3.1 *"The pipeline will be designed in accordance with IS 328 Code of Practice."*
Ní Thuigim: is this clear or is it clear ? It's about our safety?
but
IS 328
Covers onshore pipelines 16 to 100 Bar. Not intended for pipelines the main length of which is offshore - therefore not applicable to Corrib.
Gas must be dry at all times - therefore not suitable for Corrib.

Is our intelligence failing or does the above show that none of the codes used is applicable to the upstream onshore Corrib gas? In case a semantic distinction is made, this is equally relevant to Item 2 request for further information, and has not been adequately answered.

A Comparison of the Various Design Codes by Kenny is noted by Johnston:-

- Pipelines under the Gas Acts should follow IS 328. (Does Corrib?)
- Pressures proposed for Corrib are well above normal design pressures for on-shore pipelines.
- It is rare to transport unprocessed well fluid in the vicinity of inhabited buildings.
- The use of QRAs to modify codes is well established engineering practice to get over difficulties.
- BS 1801 should be used as design code for Corrib supplemented by IS 328. (how suitable to Corrib circumstances?)

Johnston's Opinion on Kenny's Comparison Conclusions:-

- No reason to disagree with choice of BS 8010 but
- Comparison gives no opinion on use of BS N 1594.
- Comparison does not mention where the primary code is non-specific or ambiguous.
- It is not normal practice to substitute sections of one code for bits of another. Note: we would have thought that safety matters would be inviolable?.
- More work needed to show high velocity slugs cannot affect allowable piping stress levels.
- The QRA should show justification for 0.72 design factor at crossings

- concern for corrosion especially of joints: water in pipe for a year long.p.18
- Pipeline leaks: (i) 70 metre distance from houses to be fixed not variable;
  (ii) failure frequencies of pipeline and pipeline fittings -valves - not modelled in QRA;
  (iii) No leak detection system provided;
  (iv) terminal QRA must address leakages at fittings within terminal boundary, including explosion and dispersion modelling. (It does not: the HSA specifically excludes it. This is again required in answer to Item 2 request for further information but has not as noted also by Fehily Timoney & Co.: HSA does not take responsibility for any part of the on-shore up-stream pipeline: is the Minister saying (SK) to leave it to Shell? this is a mess.)
- Interference: completely unaware of deep bog issue: crossings vulnerable to corrosion.

Recommendations by Johnston.

- QRA should (i) Justify design factor 0.72 at crossings of road and water courses;
  (ii) include the effects of leaks from valves etc at shore.
- Further analysis required of ability of piping to carry slugs.
- Confirm that erosion at watercourse crossings included in design.
- Operating and maintenance procedures to be checked to ensure monitoring is carried out.
- Confirm that hydro-test water in pipeline for one year will do no damage.
- Fix pipeline route to guarantee 70 metre separation distance.
- Provide leak detection system
- Terminal QRA to be checked to ensure it addresses gas releases from pipeline within terminal boundary.

WE have no idea what happened regarding implementation of Johnston's recommendations
This report presents some worrying aspects of this onshore pipeline, inside and outside the terminal:-
No consideration of umbilical complex in proximity to raw gas, and the opposition of two(three) streams of gas under v. high pressure in the field of a power line. In "*Gas Pipeline to the West*", P.J. Rudden, B.E., C.Eng., M.I.E.I., M.I.C.E., M.I.G.E.M., M.C.I.W.E.M.,R.Cons.E.I.: "*The pipeline had to be protected from induced currents such as overhead/underground power cables or electrified railway lines.*" (Paper presented to the Civil Division of the institution of Engineers of Ireland, 4th Dec., 2003.) Whatever the implications are, they obviously exist in an engineering context for gas pipelines: they are not even mentioned, not even in answer to Item 2 request for further information. This alone prejudices beyond redemption the safety claims of this project.
The low point of the on-shore upstream pipeline in Sean-mhachaire has a right-angle bend, as far as we know(?) and obviously that is where liquid will accumulate, for it is immediately followed by an up-hill stretch crossing the road (or so we gather from the various suggestions thrown out.) Then on inside terminal! The codes used do not suit the circumstances of Corrib.
The scrutiny of the codes by Johnson does not include from the terminal boundary to the terminal: p.5 2.2 *"It is recommended that the terminal QRA to be prepared as part of the terminal engineering is checked to ensure it addresses relevant gas releases from the pipeline to the terminal."*
p.18, 4,5 *"It is understood that the terminal QRA (prepared as part of the terminal design) will assess the risk to the terminal workers, and will consider the risks associated with all facilities within the terminal site, including the pipeline facilities."* Not done by anyone - no one responsible it appears?
p.5. 2.1 *"The pipeline is considered to meet public safety requirements as outlined in the selected design code, provided that the actions recommended in Section 2.2 are followed."* Even though neither pipeline stability nor the umbilical is considered? And Johnston has no control over implementation.
Confusion on design code to be implemented. This is a right mess.

The expansion of the role of this report not envisaged by the author, A Johnston himself, brought to light by the hide-and-go-seek on Item 2 Request for Further Information, puts a question mark over the bona fides applied in this project. It is imperative that this entire issue no longer be covered up, not least because of the over-riding safety implications for us and indeed for the project. There is not sufficient clarity to justify the granting of permission by Mayo County Council to this slip-shod project. We ask An Bord Pleanála to grant this appeal and save us from the curiosity value of a future disaster.

Other Concerns **not** addressed by Johnston.

These concerns are magnified given the complexity and potential dangers of the pipeline nests in the up-stream onshore. 1. New high-strength steel pipe where used, give considerable savings in transport costs. However, its ability to resist damage and limit a propagating fracture within the trench can be questionable.

2. A case study - *Natural Gas Releases from High Pressure Pipelines* by the U.K. Health & Safety Laboratory draws attention to a new insight into the behaviour of escaping gas, especially , as in the case of upstream Corrib, without and within the terminal boundary : "*In previous times it had been assumed that the leak would result in the formation of a quiescent cloud over the release point which would subsequently be dispersed by the wind. However studies have shown that the overall flow character is more like a high momentum jet. Modeling this initial jet phase is not straightforward as the jet is likely to remove earth from around the point of the pipeline failure forming a crater from which the gas will subsequently escape to the atmosphere.*" The significance here is that the very high pressure pipeline lies in the same trench in a bog as the flexible umbilical sheath, with its variety of high pressure acid conduits (up to 610BARg) and a (at least one) power line. As this project design is without precedent the real hazard here identified is unknown and uninvestigated. (http://www.hsl.gov.uk/case-studies/natgas.htm).

3. A five-mile overland pipeline with easy access is causing concern now that international motivated sabotage is causing panic, encouraged by political rallying now coming home to roost. It is a further blow to the confidence of the local residents already severely damaged by this proposal. But in reality, a 5mile raw gas pipeline at up to 345BAR pressure non-odourised, with 2 acid bearing lines going in the opposite direction under pressures up to 610 Bar, and including a handy power source all the way, with easy access from sea or by land, looks like a war-games scenario, at a time when a favourite anti-western pastime is blowing up pipelines. (What a great "*Mission Impossible*" scenario*!)* We have enough to be scared about without this. (Source K!).

The following is a tentative list of the normal discharges to be expected from a gas pipeline system during normal operation:-

Discharges from Process Vents, Chronic Leaks etc. These include:

- Emissions from pneumatic devices (gas-operated controls such as valves and actuators) depend on the size, type, age of the devices, the frequency of their operation and the quality of their maintenance.
- Leaks from system components are unintentional and usually continuous releases resulting from the failure of a seal or the development of a flaw, crack or hole in a component designed to contain or convey oil or gas. Connections, valves, flanges, instruments and compressor shafts can develop leaks from flawed and worn seals, while pipelines and storage tanks can develop leaks from cracks or from corrosion.
- Emissions from process vents, such as vents on glycol dehydrators and vents on .. and storage tanks resulting from normal operation of the facilities. However such process vents are minor methane sources in most gas production facilities.

- Emissions from starting and stopping reciprocating engines and turbines.

Further emissions result from
- Maintenance - pigs, blow-down;
- system upsets and accidents - surges, pressure release systems.

The request for information in Item 2 has not been answered and the implications and possible sources of hazard multiply with knowledge of the real operation of the proposed experimental system. This project must fall on safety grounds alone.

Risk of Spontaneous-combustion in Dried Sheltered Peat:-
In a lecture "Properties of Binders and Stabilised Soils" Ml. Esrig, for the Swedish Deep Stabilisation Research Centre (wwww.swedgeo.se/sd) the effects of the heat generated by the hydration of cement and lime are reported. Caution is suggested when stabilisation soil on or adjacent to slopes because of the likely short term destabilizing effect of the increased ground temperature.
The danger in an establishment such as this, of spontaneous combustion of the dried stabilised peat under piled buildings and concreted areas is not addressed. We do not know if stabilised areas under buildings will shrink because of their shelter from water flow or if this, to us, inevitable shrinkage, will leave a gap to funnel oxygen - wind - to any such initial combustion.

Sheet Pile Technique:-
Similar to deep stabilisation, there is substantial use and knowledge of the use of sheet piling in soft soils, but not for peat. The study is in its infancy and it is not justifiable to place major elements of safety at the mercy of what is effectively a new pilot-phase science/engineering. Yong Tan of the University of Massacheussets, Lowell, in his acclaimed report "Sheet Pile Wall Design and Performance in Peat" emphasises that very limited data is available regarding lateral soil stress measurements on sheet pile walls and practically none is known to be measured in peat.

The lateral pressures on the preloaded and stabilised peat will change totally with the removal of the sheet piles. Also the piles while in place up-slope of the piled roads in particular, will created a temporary new drainage reality, so that water must accumulate: on the other hand, down-slope the protection offered by the piles and stabilised peat will prevent access of water and so this peat will substantially dry out. The placement of loading increases the pressures on the in situ peat, adding a further complication.

We now know from the bog-slide at Tullywood, that loading on its own, even minor loading, is sufficient to trigger bog movement: no incline is needed: on this matter, we quote from an article previously referred to, "Moving Bogs - Part One", *Scéal na Móna*, March 2004, Vol. 13, No. 50, published by Bord na Móna:
(Referring to a bog burst recently at Tullywood Bog, Westmeath) " *The bog at Tullywood is a beautiful example of a raised bog, surrounded by evergreen forests where turf had been excavated (rather crudely using modern techniques) along a narrow front. This has obviously led to an outburst of pressure along that front since the bog is very wet.*
Obviously the Tullywood incident is totally different to those at Pollathomas and Derrybrien ***since no incline is involved.***"

Lessons Of Derrybrien.

In the AGEC report for Galway Co. CO. on the Derrybrien disaster:-

2.2 "*The head of the failure was located a few meters down-slope of excavation work for turbine base ..*"

2.2 "*The site access road was constructed as a floating road supported by geotextile and an underlay of brushwood and felled trees.*"

2.3 Ground Conditions :- "*The basal shear surface of the failure was within peat 200 mm to 400 mm above mineral soil*" (The mixing of peat and stabiliser in Ballinaboy must take place in situ, and the effectiveness and quality of mixing at the depths present in Ballinaboy must be questionable. The feasibility of avoiding this tiny loading on peat bordering the stabilised material, with its effect on shear strength is questionable.).

2.4 Failure Type and Volume:"*Detachment occurred along forestry plough/drainage channels.*" (The influence of drainage channels, even the faces of turf-banks in initiating bog movement is probable: results of research by Durham University on bog-bursts at Glengad will shed more light on this. This, in dynamic terms, also includes the upper face of bog, down-slope from compacted roads.)

3.3 "*An access track is located at the head of the failure. The additional load due to this floating track would have contributed to an increase in applied load.*" Very scary.

3(8). "*lines of potential surface weakness*"

3(6) "*there is a possibility that the excavation locally removed lateral support in an area of wet peat* " (a state that will be present down-slope of stabilised road bases.)

9.1 Recent Landslides and Ground Movements:-"*there are bearing failures below placed arisings, squeezing-in of recently excavated v-ditches & localised tension cracks.*" (The influence of weightings - placed arisings here - seems to be paramount, and the amounts in Derrybrien were not enormous.)

10.2. *Factor of Safety*:- "*Ground resistance is provided by the shear strength of the ground along an assumed failure surface.*"

10.4 *Stability Load Cases*:- "*Following placement of load there will be a reduction in Factor of Safety*". (10.2 and 10.4 together do not give rise to confidence - especially as AGEC are the authors.)

In the matter of access tracks to the site at Ballinaboy:-

- Access tracks are floating.
- Weighting reduces shear resistance at base and increase in water pressure;
- which leads to an increase in down-slope pressure on adjacent down-slope peat on removal of piles.
- Is there a weak zone of peat at depth?

Farrell and Habib point out the negative effect, even in laboratory testing of two (2) samples of the mixing and homogenising not being perfect.

The UCG consultants, John Mulqueen and Dr. Ml. Rogers, agree in their submission to Galway Co. Co. that the landslides were caused by construction activities.

In its decision Mayo Co. Council has not made any effort to apply the lessons of Derrybrien and this is the willful ignoring of relevant facts. Risk tolerability criteria in the aftermath of Glengad, Derrybrien, Tullywood and the Southern Shetlands(all 2003) are in all aspects negative and do not justify the decision of Mayo Co.Co. in granting this planning permission, which decision is then contrary to good planning.

Compare What Happened in Derrybrien with what the Experts expected and Believed.

Predicted Impacts of the Proposed Project :- (Derrybrien)

Saorgus Energy Ltd. of Tralee R.T.C. produced the EISs that enabled Galway Co. Co. and An Bord Pleanála to authorise the Derrybrien windfarm project, using the best information available to them.

Non-technical Summary:- p.4 *"No impacts of an exceptionally severe nature are possible through the construction and operation of this project."*
"The major negative effects of the wind farm at this site will be the limited and subjective visual impact and the traffic during construction."

p.26. b) " *Construction of turbine bases consists essentially of excavating a hole of approximately 15x15m down to competent bedrock and constructing the turbine base within this. The base is made of steel reinforced concrete with or without a fill of hardcore beneath to raise the level of the base sufficiently."* (Remind one of anything anywhere?)

p.29 "*The only impacts on the soil and bedrock of the site will be in the construction stage.*"

Saorgus Energy Ltd. EIS re. Windfarm Extension:-
p.6 "*No effects of a severe nature (e.g contamination of an aquifer, destruction of a unique habitat)are possible through the construction and operation of this project."*
p.29 "*The only impacts on the soil and bedrock of the site will be in the construction stage.*"
p.39 p.39 "*The main potential effect ... if run-off from earthworks brings large amounts of suspended solid matter into local streams. This risk is low.*"

It is unnecessary to labour the obvious - not enough real information is available on the dynamics of deep peat to enable its manipulation in the proposed way with any degree of certainty of the outcome. The available expertise was of course used by Saorgus Energy Ltd. when preparing the EIS, but it was not enough and it was wrong. The lesson for Ballinaboy proposal is obvious: there is no justification for allowing this project to be finalised as a refinery/terminal site at Ballinaboy - every indicator says no!.

Galway County Council no doubt approached the application for this huge development with extreme care, not alone because of the project itself and its site and location, but because it overlooked Lough Cutra, fed mainly by the Owendalullegh River whose tributaries drain the hills above Derrybrien - Pollduff, Knocknamona and Cushlaundrumlahan - where the windfarm was to be sited, a mountain acid bog area feeding into the alkaline source of the Gort water supply and the proposed Regional Water Scheme for the entire area, on which substantial human resources and capital had been expended. Somewhat similar to Carrowmore Lake scenario. p.12 "*The developers also consulted Galway Co. Co. before proceeding with the choice of site at Derrybrien."*

The experts were wrong: little is known about ever-changing bog dynamics: MCC has put the whole complex of habitats, human and other, at risk, even while the danger signals are there, by giving permission for this project. We believe the decision to be irresponsible and contrary to proper planning.

Further Items of Unease.

The Proposed Re-instatement or Restoration of Srahmore Dump Site.
As the continued and accelerated silting of the Srahmore will not directly affect us we refer to it here merely in passing and question some of the assumptions underlying the proposal.
Bord na Móna's record speaks for itself: a dog barks not brays.
Extract from " *Wetlands Ecology and Management II*": Kluver Academic Publishers 2003 (Netherlands). p. 105 (referring to vacuum-mined peatlands) "*We should however keep in mind that any spontaneous revegetation process is slow, and it can take decades or even centuries before a more typical bog vegetation community is being restored.*"

Stephen King, novelist, would warn with justification of the proposed scenario:
"All characters in this publication are fictitious and any resemblance to real persons, living or dead, is purely coincidental."

Re. Further Information Request by MCC on Item 2.

EIS of April 2001. Appendices.
13.7 (Rosport but also applicable to Item 2 further information): " *Some test pits have gone as deep as 3.5m without reaching mineral soil.*"
13.8.3.1. Wayleave Areas but also referring to Item 2 further information request 2004:
"*Unstable ground environments, such as bogland with a very high water content, will require the construction of hard standings such as substantial timber matting and geotextile material. In addition the pipeline will require a concrete weight coat in these wet areas.*" Implications for traffic plan for Rosport area which does not exist on file and also for failure to answer Item 2 request. How many miles of pipeline must be anchored by concrete? Impossible.

Marine EIS 2001.
19.3.2.13.6. Pipe Lowering:- *"When a section of pipeline is laid directly over a peat substrate, there is the potential for problems with pipe instability as the pipe will float within the peat."*

H.S.A. Land-use Planning Advice to Mayo County Council in Relation to the Construction of a Facility at Ballinaboy.
(P03/3343)

In the 1950ies and 60ies an effort was made in American Universities to find a better way on which to base decisions about the future than intuition:"Decision science"was born. The most memorable example of it is Robert McNamara's use of it in forecasting the progress and outcome of the Vietnam war - with not much success, obviously. The 'science' lost popularity!
Risks are different from uncertainty, which is unquantifiable. The establishment of priorities is a very subjective process and misplaced priorities is the single greatest reason for bad risk analysis: this is inclined to happen when regulators get too close to the creators of risk which is an ever-present danger espc. in a small country.
The budget of the Dept. of Homeland security in S.A.M. is this year $30,000,000,000: no one can estimate how many lives or none that will save: is it a price worth paying for the extra peace of mind it is supposed to give to American citizens at home?
The HSA use only one yardstick for risk "total wipe-out", or "extreme value analysis" as financial markets call it. They do not consider any possibility except the most extreme. Therefore its'

analysis is of no relevance to the day to day danger imposed by this project on the people of Ballinaboy and Léana Mór in particular, and down-wind in Bun Abhna. The risk of a slow accumulation of dangers is not considered: the short-of-disaster scenario that only kills one person or damages the lungs of only 2 people and permanently disables only 3 people are not within the terms of reference of HSA. Surely An Bord Pleanála cannot accept this report as an analysis indicative of the real dangers faced by the workers, farmers and local residents, short of Armageddon? The acceptance of this report as adequate, by Mayo Co. Co. is irresponsible and in breach of the terms of the Co. Development Plan 2003-2009 which enshrines proper care for the safety and security of the people as a central and key objective, throughout the different headings.

With the growing awareness of the cost of risks in an uncertain world, "scenario planning", pioneered by Royal/Dutch Shell initially, has regained its' popularity as the international espc. geopolitical risks escalate. Shell keeps track of at least 3 long-run forecasts but one, the ultimate, is sufficient for Ballinaboy. Microsoft keeps 7 or 8 different scenarios on track at any one time. Different cultures place different monetary value on human lives. In a Harvard study by Kip Viscusi, "*The economist*", the following figures present, based on workers' willingness to take a job that endangers life: in the U.S.A. $6.5 million; $4.1 million in Britain and so on to a mere $750,000 in Taiwan. In parallel with this is the real cost of lives saved by selected U.S. risk regulations, ranging from $100,000 per life saved by regulations governing child-proof lighters (1993) to $19,000,000,000 for each life saved by the drinking- water regulations(1992).(John Morrall, Office of Management and Budget, U.S.A.) These figures put into context the insignificant obligations put on the proposed operators of the Ballinaboy facility by the OHSA, and illustrate the value system being implemented.

It is accepted that "*regular inspection*" will take place, and one expects these inspections will be announced to the operator beforehand: this is stupid, even if it is normal practice. ('So, you don't trust us?: 'No, we don't have any reason to think that real leopards change their spots - as distinct from virtual leopardism')

2. Executive Summary:- "*Potential major accident*"*s* only considered. It is unthinkable that Shell or any major company should expect to get this kind of free passage on health and safety grounds from any sovereign government, nor would they expect it, nor would their insurance companies act accordingly, as is evident from the spate of "fraud on the market" type law-suits being threatened against Shell, where only loss of share-value is involved. The 3 X 10 to the power of x, y, or z means nothing to us in terms of the decline of our environment and the destruction of its utility by the imposition of a risk environment where none has previously existed. This matter has been extensively covered is our concern for the ongoing health of our people in what has been up until now a benign but challenging environment. And if these 50 jobs are going to filled by us ^ which no one believes then the occupational H & S is even more relevant. The are no schedule conditions to protect us. Is this all the HSA is qualified and empowered to do?

The Consultation zone started out as an exclusion zone, then it changed to a consultation zone of 1200 metres from the terminal, then it reduced again in time for the last oral hearing into this project (quite elastic) until this time there is no need for a consultation zone except inside the boundary. Do the HSA officials really think this is credible behaviour, or credible science? Did the project go-ahead as initially sized up by the HSA, it would be impossible to get planning for any domestic development in the villages around Ballinaboy: but because it was opposed, the requirements disappear. This is not a sufficient basis for planning permission, nor consistent with basic rspect for human life and limb and the uncertainties undermine confidence in a vital State service. In this context, the statement "*this area is greater than should normally be specified as a consultation zone"* begs the question of how "*normal*" was the initial scrutiny and authorisation?

3.1 The HSA did not consider for example a tanker of mercapton parked at the terminal while a fag is being smoked (We know it is illegal.) Nor the umbilical within the site, accepted as the establishment by HSA, in a channel with v. high pressure raw gas and impurities, itself the conduit for v.v. high-pressure acids in the opposite direction and a fine ignition source, a power-line to the sub-sea manifold? Giving a clean bill of health where such exclusions are imposed is criminal we believe. This does not fulfil the CDP's protestations of care. This is what risk is all about: everyone knows that one can be killed, but the HSA have left us uncertainty only.

Assessment of Global Stability:-
Nor is the danger imposed by the instability of the upstream pipe-line within the establishment, and umbilical and waste pipes, on deep bog considered by HSA, and still the diagnosis is clean bill of health?: this information was also required in answer to Item 2 of the Further Information sought by Mayo Co. Co. and was not supplied, as supported by Fehilly/Timoney. Johnston did not treat of the risks posed by this section in his analysis of pipe-line code safety for the Dept. of the Marine. This pipe-line complex passes through the fields and some commonage in Rosport where some test pits have gone as deep as 3.5 metres without reaching mineral soil. (*EIS April 2001 Appendices*,13.7). Surely if the establishment is the area within the boundary then that is the establishment? Or is only a butcher,s knife available for organ transplant work?. By exclluding this part of the establishment, the HSA has rendered its function redundant.

Key Assumptions for Analysis:- The absence of treatment of the umbilical/pipe-line complex emphasis the experimental nature of this development and we are the guinea pigs. There is a ready source of ignition buried power-line. Forestry, all the way to the houses in Bun Abhna, is an ideal agent of congestion especially during high pressure conditions in what is, despite the developers protestations, a basin. (SourceN). When the umbilical complex and other exclusions are considered, there is little basis for the conclusion that the assumptions overestimates the level of risk.

3.3.1 The rate of release modelling does not consider the possibility of build up of gas in ground channel, which has the potential to be a drainage channel.

3.3.2 Scenarios Selected for Modelling:- It is evident, not least from the report by DNV following, that leaking is a normal part of the operation of a high-pressure pipe system: yet, the HSA does not consider it.
Normal operating pressure 150 Bar?

3.3.4 The risk from the mercaptan mix, although classified as highly flammable, is not modelled because of its safe storage at the terminal : so the terms of reference conveniently rule out consideration of the danger from a tanker at the terminal. This is not science nor sufficient grounds for permission.

3.4.3.2.1 Spontaneous or other combustion of dried peat, especially stabilised and sheltered from the elements under some terminal constructs is an obvious danger but not to the HSA. As peat sinks as water is drained out and inflow of new water prevented, air tunnels will develop under such structures, to fan any flame source.

3.5.4.5 Why not BAM, Best Available Means, instead of recommended best practicable means, a much lower standard, and I suppose good enough for us. We point out that the HSA judges do not have to live in the vicinity of this refinery complex.

5.4 Control of Ignition Sources:- no thought of the power line very vulnerable in its bed and the implications for induction of the complex. This is not a complete report.

6 WE believe from our own knowledge and the report supplied by the HSA, based on information supplied by the developer and an analysis of it by consultants DNV, that there is not sufficient justification for the decision that "*The Authority does not advise against, this proposed development.*".
Neither do we believe, on the same basis, that, if operational, the risks posed by this establishment (would be) tolerable.(Appendix 3.)

2.1 Establishment.
The jigging and side-stepping required to justify the approach chosen by the HSA regarding this project, makes clear the necessity for a unitary treatment of major projects and an end to project splitting. We fail to understand how this supplied definition of establishment can be narrowed to exclude the dangerous substances that are common and continuous inside and outside the terminal fence, as well as the ignition source and an induction system of 2 contrary streams of high pressure liquids of undefined electrical characteristics. Details of the discussions between the authority and EU commission officials and representatives of other EU states should be available to the public and to An Bord Pleanála to establish the extent and details of information supplied and analysed. Where lies the responsibility for this decision?

Report by Det Norske Veritas for Amec/Shell E & P Ireland Ltd.
Basis for HSA Report.

An extreme event only considered ^ *no other scenario is envisaged* "*sufficient to cause fatalities in .. the most vulnerable*1%."
2. The Terminal
The Corrib field contains a dry sweet gas: Andrew Johnston in his report to the Dept. of Marine insists that the gas cannot be considered dry and that therefore it is corrosive. No hydrogen sulphide has as yet been discovered in Corrib but other wells to come on-stream from area could be sour.
2.2.2 The odorant,a mercaptan mix, seems to us from figures supplied by the developer to amount to 8750 cfd, a not inconsiderable amount (at a rate of 25ppm.).Toxic, flammable, it is only 25m from security fence.
3.3 The justification for reduction of predicted failure frequency is not evident. The failure of tankers of mercaptan is not modelled in spite of its danger.
3.4 Where did DNV get their "*The import pipeline will be supported on firm ground, the export pipeline support may be enhanced by mini-piles"?* This is the information required in respect of Item 2 of Further Information requested : it was not supplied. (Fehilly/Timoney). Catastrophic failure of a road tanker: no inclusion of mercaptaan? Mayo Co. Co. has not made its permission dependent on thee assumptions of safety, unfounded as they may be.
3.8 Domino:- The interpretation by both DNV and Mayo C.C. must be wrong: if the establishment is within terminal boundary only, the upstream pipeline incoming is a proximate and continuous installation under the terms of Seveso II, and therefore the domino effect is indeed relevant. This problem which An B.P. must solve, makes apparent the lack of substance in the argument by Mayo Co.Co. justifying project splitting in this instance. The Gobán Saor's requirement of 'An Chraiceann agus a luach' is often sought but seldom granted.

X.5 An extreme flooding event did not occur in Derrybrien:conclusions must be founded on fact and good research not on discursive requirements.

X.6 Mining - quarrying is required to take place: stability of site is problematic. (See Derrybrien section.)

The OIR 12 Database: This risk assessment process is questionable, as the authors admit: in a conflict with reality as here, reality must prevail.

Final Comment:- The bottom line is that

- it is **normal** for holes to occur in high-pressure gas pipelines, and DNV seem to accept this as fact.
- An umbilical is not a **normal** accessory to a pipeline as envisaged by regulators and is ignored with its implications both by the HSA and DNV in spite of the dangers inherent in such a dynamic set-up.
- The horizontal release from a hole in the upstream pipeline is not considered with its difficult modelling, lying next to the umbilical with its babies. The premise is that
- a small number of deaths or/and damage to a number of people less than death is acceptable almost the logic of the inevitability of friendly fire casualties in war.

It is not acceptable to us. This is our place and we do not ask for this intrusion - nor do we believe should it be acceptable to the planners.

- The conclusions here are based on off-shore experience. Why?

Other Issues Left in Limbo because of Project Splitting and Bad Project Planning

1 The main one remains the dangers posed by the pipeline and umbilical and waste outlet complex. The terminal technology has little changed since the first application in November2000 as it would seem that all machinery etc was bought in the belief that planning permission was a doddle and that the natives were harmless. It was an outrageous business gamble and did not pay off. The design pressures given in the *Ballinaboy Bridge Terminal EIS of November 2,000* are:-

4.2.3. Pipeline Design Pressure 345 BARg.
MNOP 150 BARg.
4.9.2. Umbilical low pressure hydraulic fluid to sea wells 210 BARg.
high pressure hydraulic fuel to sea wells 610 BARg.
Methanol injection 20 bbl/hour.
Produced Condensate 70 bbl/hour.

Add to these enormous pressures some right-angle bends in the overland upstream, which of course is not the establishment according to HSA, but the dangers apply to the pipeline complex, the subject of Item 2 query for further information and is not addressed. The uncertainty alone make this proposal a gamble with our health and safety. We object to this being given planning. And don't forget the alignment of these contra pressures and the handy positioning of the power-line.

(*Health and Safety Laboratories: Case Studies.*) S.AZ1)

2. HSA has not treated of the likelihood horizontal escape of gas under pressure in the trench within the terminal site. Research by H.S.A.United Kingdom indicates that previous assumptions regarding the dispersion of gas from a leak are erroneous and this is not taken into account by HSA. "*In previous models it had been assumed that the leak would result in the*

formation of a quiescent cloud over the release point which would subsequently be dispersed by the wind. However studies have shown that the overall flow character is more like a high momentum jet. ... the jet is likely to remove earth from around the point of the pipeline failure forming a crater from which gas will subsequently escape to the atmosphere."

Given the placing of a longtitudinal live electric cable within the trench, filled with drying/draining peat in conjunction with a possible accumulation of gas and given the fragility of the umbilical coating protecting streams of acid under very high pressure, it is evident that Risk Tolerability Criteria are breached and the Precautionary Principal not applied. It is hard to accept that BAT is here being applied or that our monitoring people responsible for our safety are fully aware of the requirements of the project.

3. "*Gas Pipeline to the West*" P.J. Rudden B.E., C.Eng., M.I.E.I., M.I.C.E., M.I.G.E.M., M.C.I.W.E.M., R.Cons. E.I.: from RPS-MCOS Projects - Technical Papers "*Gas Pipeline to the West*:"

"*The pipeline also had to be protected from induced currents such as overhead/underground power cables or electrified railway lines.*"

The risk, apparently a real one, has not been modelled by any safety agency or by the promoter's consultants, where the raw physical circumstances are so much more dangerous and unprecedented than a simple cross-country pipeline.

4. The more we learn of this proposal the crazier it gets.

Are the Licensing Terms for Hydrocarbon Exploration and Development in the National Interest?

During 1992 the licensing terms for offshore oil and gas exploration and development were changed from the "Justin Keating terms" of 1975, or rather changes already put in place by the Ray Burke regime were brought together along with final fiscal terms in the 1992 Finance Act, putting into effect a new statutory regime about which Egil Andresen, Statoil's general manager in Ireland said **"Yes, the tax conditions are the best in the world."**

The effect of the change was to allow the oil companies to alienate large territories for long terms with little or no commitment to digging wells. Up to 1999 twenty two licences were issued - 21 as Frontier Licences, and one - the first one issued - as a Deep Water licence. All the Frontier licences are for an initial 15 years plus extras if required. Since then, there have been very few wells dug: no one in the business is surprised, for this is what happened wherever the regulatory regime allowed it. However, all the promising areas are sewn up for little cost, until the licence holders decide to use them or not, i.e. to suit the oil majors' strategic interests, not ours.

Two Realities - the real world out there!

1. On the **first of January, 1993** - the first day the new terms came into effect - Enterprise Oil were issued a deep water licence for Blocks 18/25, 18/29, 18/30, 27/4, 27/5, 27/9. **This is Corrib gas** - what luck - even Moses wasn't that good a dowser!. Coincidence. However, given the claims of the Petroleum Affairs Division of the State, that they are given immediate access to all relevant information in the possession of the oil/gas explorers we must ask if the PAD officials had any inkling as to the potential of the area so immediately in demand and still proceeded with the new terms. If they did not know, there is obviously another question to be asked.

The PAD, (Petroleum Affairs Division) is a section of the Civil Service with overall responsibility for the regulation and development of the oil and gas industry. The division answers to whatever Minister of the day leads the Department to which *they are allocated.*

The second licence issued in this period, post 1992 exploration terms, happened to be the now admitted promising prospect, Duiske, off Donegal.(12/2, 12/3, 12/7, 12/8.): another coincidence? The fourth is an area called, by oil interests, Cong.

2. (From Irish Times 7/5/01) - Lorna Siggins. (SourceS1)
Enterprise Energy were very enthusiastic about their well 100 miles off Donegal.They brought Minister Fahy out to the drill ship, the West Navion, with TV crews etc. Fahy on the trip got excited and said he would review the fiscal terms of 1992 if the year was a good one. The reaction was immediate: 1. Enterprise plugged the well saying they had reached the planned depth and it was dry. 2. Fergus Cahill, on behalf of IOOA told the Minister he would not be allowed change the terms already issued because they were a contract etc.(S2)The Minister, Fahy, immediately renounced publicly any such lunatic intentions.(S3)(There is nothing like an independent democratic state. 'Tis good to have people of the calibre of Fergus Cahill and the Irish Offshore Operators Association to keep our senior Ministers on their toes and sufficiently humble as befits their subservient condition and to save them the embarrassment of being found to have notions beyond their station.)

The only conclusion we can draw is that the fiscal terms must be tied as the other terms are; i.e. the Minister for Finance has no control over this aspect of taxation. We are not aware of any similar situation in any independent state, but our Minister likes to please and back in 1992 he was Bertie Ahearn. (The Dept. of Finance and other possible Department tell us under FOI that they do not have any reference to any such document(s) to prove or disprove our assertion. (SourceS4)

Remarkably, the dry well has been revisited, is still very much a prospect and at the AGM of Royal Dutch Shell 2003 in London, Sir Philip Watts, the capo of all the capos announced it as a bright light in Shell's firmament - admittedly not now a very bankable reserve!

Realities 1 & 2 illustrate that oil companies are serious, appreciate our resources & play hardball.

Keith Robinson, chief technical officer of PAD, (ex we believe) is on record (video) as saying that the British regime is largely like ours - only 30% tax on profits etc. Apart from the 30% being wrong, he forgot the Petroleum Revenue Tax, which the Government introduced when it considered that Shell and others were making too much money - although Shell had paid £21.1 million up front for one concession. He is also on record saying that the Government cannot

dictate to the multinationals. This is the quality of advice being given the Government in our benighted Ireland and, as far as our badly served Government is concerned, this is good enough.

The recent history of the Corrib/Slyne gas field, illustrates the contrast between the professional painstaking approach of the oil companies to the enormous potential entombed there, their close attention to the detail of maximising their returns as best suits company policy and the amateurish "Yes, Minister" attitude of those whose job it is to look after the national interest and maximise the benefit accruing to the tax payer over the long term.("But I am the Minister" "Sorry, Minister!") It is implicit in the documentation supplied by the Petroleum Affairs Division of the Department of the Marine and Natural Resources that the Corrib "adventure" began in 1996, with the blunt statement "The Corrib field was discovered in 1996" (Information seminar, Geesala,Wed. 25th July, 2001), when in actual fact there had been substantial activity and some drilling in the area in the 1980ies by Santa Fe, on behalf of Chevron. But the impression given by the PAD is clearly that the activity in Corrib happened as a consequence of the new exploration terms 1992..

The following chapter -"Licensing Terms For Offshore Oil and Gas 1992"- looks at the changes made to the Oil/Gas licensing regime in 1992, and their implications for the present and future of this great **potential** national/European resource. Some of the matter is quite technical but the underlying reality is simple: **we have given away, alienated, huge swathes of potentially rich territory, for 15 years plus, with minimal drilling obligations, and if the oil majors eventually decide to develop territory, the legally copper fastened fiscal terms ensure that the tax payer will not benefit.** (The Section References are to the terms as published by the Dept. of Marine and Natural Resources.).This analysis or a related cost-benefit analysis of the Corrib project is essential to an evaluation of the claims of the catalystic potential of bringing the Corrib gas ashore to join the national grid including interconnectors. The facts make such claims risible.

Licensing Terms for Offshore Oil and Gas Exploration & Development 1992

1. It is fairly clear that when these terms were being drafted, the oil companies had gone through the 1975 terms (prl 4510) with a fine comb, with a view to enhancing their position in every conceivable way and diminishing the rights and powers of the State. Nearly all the cards are now in their hands. When the terms were published in 1992, was there any detailed explanation given for the departure from the 1975 document on a section by section basis, or was there any debate?. If this were a piece of legislation the issues involved are so vital that every provision, every change and every omission would have been taken item by item and explained to the Oireachtas.

2. We are well aware of the pressures which had been maintained since the late seventies, to relax the fiscal regime applying to petroleum exploration, the companies' case being based primarily on the fact that drilling results achieved since 1975 had not been as successful as they had hoped. (The same case is presented re. every prospect, good or bad, whether in Ireland or anywhere else.) However, the new fiscal regime, consolidated in 1992, which involved the complete abandonment of royalties and participation rights and the introduction of extremely generous tax provisions, has been criticised by experts with experience in the oil business, as being favourable beyond all reason to the exploration companies. Comparable terms are not, apparently, to be found in any self-respecting (or anywhere else) democracy and their ultimate effect is to leave practically nothing for the people of Ireland who own these resources.
The argument has been put forward that, while we may get little in the way of financial return from discoveries which may be made under these terms, we will have the comfort of reducing our dependence on foreign supplies. It is clear, however, that this does not hold a great deal of water,

as it is beyond doubt that, *in the event of an emergency*, the new terms will enable any producers in the Irish offshore, to charge *prices* in Ireland *equivalent to* those prevailing in *the emergency market*. So, in the matter of **price**, there is no real benefit from having our own indigenous supplies of gas or oil. Furthermore, in regard to **access to supplies in an emergency**, it is hardly realistic to expect that, under any sharing arrangements devised by the E.U. or other international agencies, we would be entitled to retain for ourselves any petroleum produced in our domain, while at the same time claiming the right to share in supplies arising elsewhere. No doubt Statoil would serve Norwegian National interest. **It is also relevant to note that the powers which the Minister had under Sections 32 and 33 of the 1975 terms in regard to landing of petroleum in Ireland, controlling gas contracts, satisfying Irish national requirements, placing all produced petroleum at the disposal of the Minister during emergencies and regulating production in the interests of the State, have all disappeared.** We are given to understand that the powers given to the Government to control supplies during fuel emergencies are not on a par with these 1975 provisions.

3. Whatever may be said about the need to relax certain features of the fiscal regime to provide a "kick start" to revive exploration work in the Irish offshore, there are many features of the1992 Licensing terms which give grave cause for concern, as the overall effect appears to be that, even if substantial discoveries are made, ***very large tracts of Irish prospective territory will have been alienated to the oil companies into the far distant future*** and not even a new Government will be able to rectify matters, as its hands will have been tied. With the great incentive provided by the new fiscal regime, was it necessary to give everything else away?

4. In this connection there are certain statements in the introduction (pages 1&2) to the licensing terms published in 1992, which are of interest. Under the heading "An Integrated Approach" it is stated that

"There is a direct link between the Licensing Terms and Ireland's statutory petroleum taxation regime. Companies committing to activities offshore Ireland, can, therefore, be assured that they will be operating in an integrated environment with appropriate linkages between fiscal and non-fiscal elements."

Has it ever been explained what this means? Does it mean that the tax regime cannot be changed during the lifetime of an authorisation, as the IOOA says.? It would be highly unusual to bind the hands of Government in the matter of taxation in this way, as was done under the old Marathon agreement, and under the 1975 terms, care was taken to ensure that this did not happen. We note that in May 2001 the Minister indicated that he might, at the end of that year, review the fiscal regime set in 1992. However, the oil companies claimed this could only be done in respect of future licensing rounds as the contracts between the Government and the explorers would not allow it to be done in respect of existing licenses. A similar claim was made by the oil companies in an RTE program around that time, and the Minister's response to queries on the subject was not as clear as it might have been. We should now be given the full facts. It is of interest to note, that in the texts and exchanges alluded to above, what is being referred to as "the fiscal regime". This goes beyond taxation and would cover also royalties and other charges. (Royalties no longer feature.)

In a move which seems to be calculated to deceive, the oil companies have recently been suggesting that "All we need is one very good find to transform the Irish offshore scene." This seems to be intended to convey the notion that if such a find is made, we can revert to more respectable offshore terms. But how can this be the case, if, as the oil companies maintain, everything, fiscal and otherwise, is bound during the whole life of all authorisations which can last into the distant future?.

5. There is no further elaboration on this subject in the 1992 licensing terms or in the 1999 reprint. Under the heading "The Incentive" in the introduction to the 1992 licensing terms, it is stated that the greatest taxation benefit will accrue to those who make early commitments to the drilling of wells, but no explanation of this is given and it is difficult to relate it to the claims being made by the oil companies.

6. In this same paragraph there is a somewhat oblique reference to **market prices** and it is to be inferred that a commitment has been given to the oil companies that, no matter what the circumstances may be, they will be paid the full market price for any gas or oil produced in the Irish off-shore. It would be interesting to know in detail what precisely this means, but, on the face of it, it raises the question whether there is any benefit at all in finding our own oil and gas? There will be **no tax, no royalties, no State participation**, but at the same time **we must pay through the nose for any petroleum produced,** if the oil companies decide to sell to us. Could we end up paying more for our own oil and gas than for imported products? There does not seem to have been any public discussion on this radical change in policy. It will be recalled that, under the initial agreement with Marathon in regard to pricing for the Kinsale gas, the State undertook to pay only heavily discounted prices and this resulted in savings and dividends for the State amounting to many hundreds of millions over the years. In the penultimate paragraph of page 1 of the 1992 introduction, it is made clear that the holders of earlier authorisations could, if they wished, opt for the new terms. Was it open to Marathon to change the Kinsale gas price regime by availing of this option and did they avail of it if so? Note also that the effect of this particular clause was to enable any consortium which had already accepted the 1975, terms to set aside the obligations which they had assumed without undertaking any compensating commitments to the country.

7. We will now proceed to offer some comments on the individual provisions of Part 11 of the 1992 terms but it may be necessary, where appropriate, to relate these back to the strategic considerations dealt with earlier on.

Sections 6/9 Petroleum Prospecting Licence.

8. These provisions appear to cover the most basic form of authorisation which, we understand, is generally used to carry out seismic and related activities. It does not give any rights to drill or produce. Moreover, it should be noted that it does not give the holder the right to carry out any activities in areas which are covered by other forms of authorisation. This has some relevance to the breadth and scope of the areas covered by such authorisations and the adequacy of the exploration work being done by the holders. Presumably this exclusion is subject to the later Section 15(2) but the need for it is not at all evident, as it seems to accord an unnecessary privilege to the holder of other authorisations.

Sections 10/14 Licensing Option

9. According to experts with experience in the oil exploration industry, the fundamental requirements of a prudent licensing regime are:-
1. to *avoid alienation of large tracts of territory for unrealistic periods of time;*
2. to ensure that when territory is allocated to a licence holder he *will carry out meaningful work leading to a drilling of wells at an early date and in proportion to the size of the territory.*
Licensees must not be allowed to "sit on territory" as it then becomes inert and sterilised to the disadvantage of the State.

When these basic rules are not observed, the State can easily end up with a situation in which it has lost control of territory with no discernible advantage to itself, has deprived itself of the power to rectify weaknesses in its regime, which have become apparent, and has placed impediments in the way of more aggressive exploration companies who might put the territory to better use for the benefit of the citizens who "own" such resources as may lie within it.

10. Ireland should surely have learned some painful lessons in this matter from the Marathon exploration agreement of the 1960ies which involved the surrender of practically the whole of the national territory and its' offshore for many decades with no mandatory obligation to drill. Other countries made similar mistakes, though not on such a dramatic scale, and they were quick to change things when the opportunity arose. When the realities of the Marathon agreement became apparent to the public in the late sixties there was a huge outcry but nothing worthwhile could be done because so the story goes, its provisions had been drafted with great care to copper fasten the rights and powers of the company, while minimising those of the State. It is little wonder that, when difficulties arose in its relations with the State, Marathon were happy to point out that it could simply sit on the territory as long as it liked and do no further drilling.

11. It was inevitable, therefore, that when the wider offshore and Continental Shelf was opened up in 1975, the State would learn from this experience and ensure that its new offshore terms would adequately protect its interests, especially in regard to the surrender of control over its territory. Regrettably, in1992, the State abandoned many of the 1975 safeguards and now seems set to create a situation which in material respects repeats the mistakes of the Marathon agreement.

12. Bearing in mind the criteria enunciated above, it is difficult to see what advantage there is for the State in the Licensing Option provided for in Section 10 et seq. It may well have been mentioned in the Act of 1960 Marathon agreement as claimed in Section 1, but it does not appear in the 1975 terms, for obvious reasons. Clearly there is no question of wells being drilled under Section 10(b), and exploration work other than wells could just as readily be carried out under the Prospecting Licence granted to the company under Section6. The main purpose of the option provisions seems to be to give the holder special privileged rights to procure an Exploration licence under Section 15. He can thus stymie any other explorer, even one who is prepared to commit to far more burdensome and beneficial exploration programmes under an Exploration Licence for the blocks in question. Alternatively, he can exact a price for his own pocket from any other explorer who is interested in the territory. It is therefore simply a mechanism which enables the option holder to put his name on territory at little cost.

13. It is noted that a minimum period of 12 months is indicated for an option but there is no maximum and the period can also be extended. This has some relevance to the overall period during which control of territory is surrendered and will come into the reckoning again in our consideration of other forms of authorisation.

Sections 15/21 Exploration Licence

14. First of all, an interesting point arises in connection with Section 15(2) which provides for limited exploration activities within the licensed area by parties other than the holder of the licence. This is similar to a provision of the 1975 terms (Section 15) but that provision specifically *enabled the Minister to authorise a State agency to undertake scientific research* in the licensed area. This ministerial power *has been deleted* in the 1992 terms and our own experience would lead us to conclude that the omission is all of a piece with the desire of the companies to keep the State, the owner of the territory, as much at bay as possible.

15 As regards the three catagories of licence set out in Section 16, it appears that, with the advances which have taken place over the years in exploration technology, a depth of 200 metres is hardly appropriate as a cut-off point for Deepwater blocks. It may have been relevant in 1975, but great changes have taken place since then. Section 17 deals with the Standard Exploration Licence, in other words, the licence which is available for blocks with less than 200 metres depth. The licence period is six years which is the same as under the 1975 terms, but it should be remembered that the effect of the earlier provisions relating to exploration options can be to extend this to a very significant degree and also put off the date of the first well.

16 Section 17(2)(a) provides for the exploration programme which is to be carried out but it seems clear that the one well referred to does not have to be drilled during the three year period, and this interpretation appears to be supported by the drafting of other provisions in the 1992 document. More importantly, the 1975 terms provided for the drilling of one well per block during the initial three years whereas the single well mentioned in Section 17(2)(a) is enough to satisfy drilling requirements for the whole territory covered by the licence. It would be interesting to know how many blocks were covered by the licences which have been issued; anything more than three blocks per well would be extremely generous, especially taken in conjunction with other provisions of this section.

17.Under Section 17(2)(b) provision is made for a further work programme. There is no reference here to the drilling of wells, but under subsection (3) however, the licensee is required to surrender 50% of the area unless a second well has been *commenced* by the end of the fourth year.

18 The net effect of all this is that even in shallow waters the licensee can hold on to half the area for six years by drilling one well only and he can keep his name on the whole of the area for six years by "drilling" two wells. Bear in mind that all of this generous regime applies no matter how extensive the licensed area may be (5, 10, 15 blocks?). Note also that if he has taken an option on the blocks for, say, four years, the period for which control of the blocks remains with him becomes ten years. This is quite unnecessarily liberal treatment and can hardly be regarded as a fair balance between the rights of the State and the interests of the exploration companies.

It appears that no Standard Exploration Licences have been issued under the 1992 terms.

19 The rules for deepwater blocks are set out in Section 18. Bear in mind, first of all, that anything over 200 metres water depth qualifies for this treatment. The period of 12 years seems very generous, considering the nature of the exploration requirements envisaged which are covered by subsection (2). Here again, it appears that the one well referred to; in (2)(a) does not have to be drilled within the four-year period, while no wells are provided for under (2)(b) and (2)(c). Note also, that the exploration activities proposed by the licensee refer not to a single block but to an offshore area of perhaps vast dimensions.

20 Subsection (3)(a) requires that 50% of the licensed area be surrendered at the end of the fourth year but this does not apply if the licensee commits to commence a second well before the end of the seventh year. Under (3)(b), surrender of 50% of the area then held must take place at the end of the seventh year. This will not apply if the company commits to commence a third well but there is no indication when this well is to be commenced or completed. Finally, (3)(c) provides for the surrender of the licence at the end of the eighth year unless a second well has been commenced by that date. It seems clear that the second well envisaged by (3)(a) would satisfy this requirement and surrender would not then be required until validity had run out.

21 The net effect appears to be that, no matter how extensive the alienated territory may be, the licensee can hold on to it all for 12 years by committing to three wells and can keep his name on large parts of it by committing to one well or two wells only. And if he takes an option on the territory for say four years before the issue of an exploration licence, the **period for which he has control can be** as long as **sixteen years**, and this will apply to a large part of the territory even if there is only one well. This is very liberal treatment for such meagre exploration obligations. (Committing is not always drilling.)

Until and including 1999, only one Deep-water Licence was issued under the 1992 terms: that was the first

=

Corrib.

22 Section 19 applies to Frontier Licences. It provides that the validity period for such a licence shall be **not less than fifteen years**. For some reason which is not evident, a minimum of fifteen years is specified but there is no indication of the maximum period. The Minister could, if he wished, grant a licence for thirty or even fifty years! These frontier areas are defined in Section 16(1)© as ones in which special difficulties apply, but the logic of these provisions is very difficult to understand, bearing in mind that the territory is to be alienated for these extraordinarily long periods, that the licensee will have exclusive rights to whatever resources lie within it, and will have only the most meagre exploration obligations to discharge.

23 Subsection (2)(a) provides that during the first phase of the licence, presumably about a quarter of the overall period, an agreed work programme is to be undertaken, but there is no reference to wells. Subsection (2)(b) requires a work programme for the second phase to be proposed, including one exploration well, but there is *no indication when this well is to be drilled*. Subsection (2)(c) provides for the work programmes to be submitted for subsequent phases, but again there is no reference to wells.

24 Subsection (3) deals with surrender of territory. At the end of the second phase, 50% of the acreage must be returned. Although the duration of the phases is not defined, subsection (1) prescribes a maximum of four phases, for a licence period of 20 years this suggests phases of about 5 years each. This means **no return of territory need occur** until some ten years have elapsed but this can be put off for another five years, in return for a further well which does not have to be drilled **until the end of the fifteenth year** - which can then be aborted. Subsection (b) provides for surrender of 50% of the area held at the end of the third phase unless there is a commitment to commence a third well, but the date for this well is not specified. Subsection(c) clarifies some of the ambiguities of the earlier provisions as it indicates that, in return for one single well, very large amounts of territory can be retained for more than fifteen years. We note also that whereas (3)(a) speaks of a second well being completed before the end of the third phase, it is not clear what penalty will follow default.

25 Even in the absence of precise details of the number of years licence validity contemplated for these frontier blocks, or the size of the area to be granted under each licence, there is enough data here to enable us to conclude that these provisions are truly horrendous. They are attractive to the oil companies, but they show little respect for the peoples' property. ***Vast areas*** *of our offshore* (there is no limit) can be ***given away*** under these provisions for ***periods of time*** which are again ***without limit*** and the oil company can keep it in its control in return for one or two wells. Remember that these are **exclusive** rights and that another party cannot, because of Section 7, even carry out seismic work in the area. And as pointed out in respect of other provisions, the

situation will be even worse if the licensee has availed of the option provisions before taking out the exploration licence. At this stage, it seems appropriate also to draw attention to the provisions of Section 20. Subsection (2) simply provides that *the Minister can further extend all these amazingly long periods* **without** even the requirement that **further drilling** must take place.

26 It may be argued that it is in our interest to encourage scientific research in frontier areas, but why should we seek to do it at such a huge cost? Similar research is going on in other parts of the world better resourced and we will have the benefit of that anyway. Prudent exploration policies adopted elsewhere accept the principle that if territory is at the frontier of prospecting techniques or presents difficulties or risks in so far as production is concerned, the right thing to do is to keep it in the bank and await developments.

- What the 1992 provisions do is to **enable the oil companies to put the territory in their bank!**
- It makes no sense to alienate whole swathes of offshore for incredibly long periods in return for meagre work programmes. These provisions will undoubtedly be looked on by the oil companies as suitable mechanisms which will enable them to sit on territory, with very little pressure to carry out exploration work commensurate with the extent of the property and the period of alienation.
- Indeed it has been pointed out to us that, as these provisions are drafted, they can be counter-productive, as they will keep other explorers at bay, or simply provide the licence holder with the means to extract a price in one form or another, in return for allowing other interested parties to become involved in the benefits of the licence. (There is no capital gains tax payable on such farming in.) *And, if scientific research is so important, is it not odd,* as we point out in paragraph 14 above, *that a clause in the 1975 terms, enabling the State to carry out research, was specifically deleted in the 1992 terms?*

Sections 22/25 - Lease Undertaking.

27. Although the drafting of some of these provisions is not very clear, there is no difficulty in establishing the overall intention. Like almost everything else in the 1992 terms, the object is to increase the powers of the oil companies and diminish those of the State. Although referred to in the Act of 1960 (see Section 1) it was not included in the 1975 terms for reasons which seem obvious.

28. As regards Section 22(1), it may be pointed out that the obvious thing to do if you have an interesting discovery, is to carry out more exploration, which usually involves the drilling of further wells. If the licensee is worried about the approaching end-date of his licence, there are ample provisions for seeking an extension. But it may not suit the oil company to behave in this logical way, so we have this concoction of Sections 22/25 to enable it to organise things more to its liking. You may read Sec. 22(1) several times and you won't find any other sense in it. The one thing you can be sure of is that it is not in the interest of the State, since the rules of good management of an offshore province dictate that if you have a find, you proceed to development as soon as possible, in the hope of getting some *benefit* out of it *for the people who own the resources.*

29. One of several questions that come to mind is, having got the undertaking, what if production does not go ahead? The answer is that the undertaking goes on and on, even if economic and strategic circumstances change and the Minister (or a subsequent Minister) no longer concurs with the opinion of the oil company. This interpretation is borne out by the very peculiar drafting of Section 23. It states that the effective date of the lease envisaged by the undertaking is
(a) in the case of a gas discovery -

- eight years after the notification referred to at the beginning of Section 22(1);
- six years from (presumably "after") expiry of the exploration licence (which might be decades away);
- an earlier date:
- whichever date the oil company may choose.

30. The first indent is clearly a **postponement of real activity** for a period of eight years, while the oil company busies itself elsewhere. It isn't doing the right thing with the property as a diligent licence-holder would do, but this is not going to be held against him.
The second indent is even more alarming since it will be seen from our earlier comments that **exploration licences can go on for decades..**
The third indent provides that **the licensee can pick any other earlier date that may suit** him. Does this mean that he can pick a starting date for the lease, long before the time when the Minister is able to assess the find properly, not only in relation to economics but vital issues like environment, health and safety? Section 23(b) sets out similar rules in relation to an oil discovery, and the same queries arise.

31. The terms and conditions of the lease undertaking are set out in Section 24, but there is no solace to be derived from them since they do not rescue anything from Sections 22 and 23. Note that under Section 24(d) the licensee is required to merely use his best endeavours (whatever that may mean) to establish commerciality. The special emphasis in 24(f) on confidentiality (which is covered anyway by Section 46) is intriguing and causes additional worries about the meaning and purpose of Section 23 and 24. Finally, we come to 24(g) and the mystifying requirement that the holder of the undertaking must always be the holder of a Prospecting licence. It would make more sense to require that he be the holder of an Exploration licence, but that, of course, would not fit in with the odd provisions of Sections 22 and 23.

32. These provisions look extremely dangerous and, as is the case with many other 1992 terms, they seem designed to bring about a reversion to the good old days of the feckless Irish and the banana republic type Marathon agreement.

- The oil companies can lay their hands on huge chunks of the Irish offshore for little exploration outlay,
- they can hold on to it for donkeys' years, can sit on it even after the expiry of their exploration licences, and
- are not, effectively, required to diligently develop any discoveries they may make without penalty as to surrender and
- can stymie, or milk, any other explorer who shows an interest.
- One begins to wonder whether one of the purposes of the oil companies in putting forward these provisions was to tie the hands of any future Government?
- Finally, do they wish to put themselves in a situation where they can refuse to develop a find unless the Government agrees to **pay them more than market price?** Our reflections on these provisions helps to remind us, too, of the arrogance with which we, in the West, the mere Irish, were treated by the oil companies and those who were so keen to advance their interests.

33. Before going on to deal with sections 26 et seq., relating to Petroleum Leases, we think it would be appropriate at this stage to point out that we have been unable to identify in the 1992 terms any provision which could be regarded as the equivalent of Section 14 of the 1975 terms, which simply provides that where a licensee fails to carry out his exploration obligations, the Minister can demand payment of the cost of any unfulfilled requirements (which would, of course, include wells.) There must be some good reason, from the oil companies' point of view,

for securing this deletion. There is no point in drawing attention to Section 67 of the 1992 terms, since this has its counterpart (S.50) in the 1975 terms anyway. Among other things, it raises worries about the Minister's real intentions in regard to the enforcement of even the feeble exploration requirements of the 1992 terms. Our understanding is that, with financial provisions like those set out in Section 14/1975, drilling obligations could not be forgiven without going through certain Government accounting procedures. When Section 14 is deleted, this difficulty disappears, and the Minister can be as generous and understanding as he wishes.

Sections 26/33 Petroleum Lease.

34. Obviously the comments which we have made earlier in regard to exploration licences, options, lease undertakings, etc., have to be borne in mind in considering Sections 26/33 relating to Petroleum Leases. Whatever expressions of alarm may be uttered in respect of the individual chapters of the 1992 terms, it is the cumulative effect of all of them that really matters in trying to figure out how far removed these terms are from the criteria which ought to define a responsible and prudent offshore exploration regime.

35. Now, according to our industry friends, the really significant thing in exploration work, is the **drilling of wells**. This is how petroleum (gas or oil) is actually discovered, and when a discovery is made, one expects to come across provisions which allow and require production to take place if it is commercial.

36. Let us ignore for the moment, the huge holes which are made in this concept by the effect of lease undertakings and other provisions of the 1992 terms and look at Section 27 as it stands. It is clear that, despite references to the duties of the licensee and the duties of the Minister, this section gives far more power to the former than to the latter. The **licensee** must apply for the lease, but he **is entitled to rely on his own data and his own plans** in assessing commerciality. On the other hand, **the Minister** must grant the lease if it is requested, but in considering the case he **is confined to the licensee's data**. This is very different from Section 15 of the 1975 terms, which did not confine the Minister in this way. Under the 1992 terms, the licensee is in the driving seat all the way. He can in effect put off development (to the loss of the State and the political embarrassment of the Government) unless the Minister agrees to whatever demands the oil companies may wish to make; or he may simply want to allow the find to lie fallow because he has other fish to fry.

37. Apart from any comparison with the 1975 terms, there is a very special problem which arises in connection with these provisions against the background of licences which cover large areas, last for long periods of time and have inadequate drilling requirements. In the case of more prudent licences it may be good enough to relate the circumstances covered by sections 26, 27, 28, to "when a commercial discovery has been established." But we know from experience that a well may produce very promising results and still not be a commercial discovery until further wells are drilled. Under the 1992 terms which we have been discussing there is no pressure on the licence holder to follow up the initial discovery and his next obligatory well may not be due for a very long time. In the face of the grim realities of the 1992 terms common sense would surely have required that a clause should have been inserted hereabouts to the effect that when a promising discovery is made, the licensee must proceed diligently to appraise the prospect in accordance with measures approved by the Minister and that this obligation transcends any earlier approved work programme.

38. Section 29 deals with the period of the lease and here again a significant change has been made in the 1975 terms. Under Section 19 of 1975 the lease period is 28 years. This can be

extended under Section 18, but only on such terms and conditions as the Minister may specify. The logic of this is that 28 years is clearly more than adequate to reward the explorer for his endeavours. Great changes may have taken place in the world scene and it is appropriate therefore, that the Minister should have the right to review things at the end of that period. The 1992 terms change all this, as it appears that the Minister must include the whole production period in the lease.(S.29(1)) Despite this, Section 29(2) goes on to provide for an extension of the lease period but, in contrast with S.17/1975, on terms and conditions to be agreed between the Minister and the licensee. Here, as elsewhere, the guiding principle is "Leave the Minister with nothing."

39. Section 34 deals with Reserved Area Licences. Section 1 reveals that this is encompassed by the 1960 Act, but it was not provided for in the 1975 terms for obvious reasons. Like so much elsewhere in the 1992 terms, it is obviously founded on a hankering to re-create the old Marathon scenario. If anyone is going to profit from the development of the Irish offshore, it is certainly not going to be the Government or the people of Ireland.

40. The section gives to the holder of a lease, the right to put his exclusive name also on any promising adjoining territory which has not been granted to other parties, and there is no restriction whatever on the total size of the additional area to be so alienated. The terms applicable will be the same as those for an exploration licence and the price to be paid to the State is merely the area fee for such a licence.

41. It is well known, that where a commercial field has been discovered, the adjoining territory may be extremely valuable and the State could do handsomely in the matter of exploration terms and otherwise, by opening it up to competition. Some states have auctioned off such blocks at great profit. This is completely precluded by Section 34, as the only entity given any rights to the territory is the lessor of the commercial field. This is real Marathon stuff. None of this makes sense, but the object is clear and in keeping with the entire approach of the 1992 terms. There is no point in drawing attention to the fact that Section 34 is not mandatory. The wording of subsection (2) in particular, together with the whole tenor of the 1992 document and the Minister's performance to date, must prepare us for the worst. Note that, apart from depriving the State of benefits which it might otherwise enjoy, this provision is hardly fair to other progressive explorers.

42. We are reluctant to try to summarise our comments on Part II of the 1992 terms in view of the risk that this would deflect attention away from some of the horrors to which we have drawn attention. We may be off the beam in our analysis of some of these provisions but surely it was the duty of the Minister to insure that misunderstandings could not arise. Indeed, we do not think it unfair to observe that the drafting of some of these provisions is so opaque that they tend more to obfuscate and hide than to enlighten. There is also the possibility that the situation may be even worse than we have been able to make out, bad and all as that may be. The object, however, is quite clear - *to bring about the alienation of the Irish offshore by devious means and on bead-traders terms*. By whatever means, the Irish State and its citizens must not be allowed to get any notions of dignity or status which other countries have had the courage to take unto themselves.

43. Our interest in this business was sparked off by our environmental and safety battles in connection with the landfall for the Corrib Gas Field, and by the "Croppy Lie Down" arrogance which we had to endure on behalf of the people of Mayo, and which seems to be acceptable to certain so-called leaders and public representatives. When we look at the 1992 terms we begin to see where this arrogance came from. The absentee landlord and his local agents are alive and well in the West of Ireland. It was not an easy task for us lay people to take on this burden and we

were amazed that we were not able to discover any worthwhile documentation on this subject, whether coming from the State, politicians, or journalists. We hope the case will now be taken up by others.

44. Before going on to examine the remaining perhaps less dramatic terms of the 1992 booklet, we feel obliged to draw attention to a vital political point recently made to us by oil industry personnel, experienced in the exploration and production area. They pointed out to us, first of all, that, from the beginning, even though the companies were left with no option but to do business on the 1975 terms and drilled many wells in compliance with these terms, *their sights were set for strategic and economic reasons on the provisions relating to* ***State participation***. These have now disappeared, as have royalties and other provisions of what is referred to as the "fiscal regime". Having made enormous concessions in this area to provide what was to be an immediate fillip to exploration, *the State then proceeded*, under the 1992 terms, *to abandon all the principles of good offshore management*, in the very many respects to which we have drawn attention, *including the binding of the fiscal regime, the alienation of vast amounts of territory, for incredibly long periods in return for insignificant exploration commitments and the transfer of power and rights in so many matters from the Minister to the oil companies, creating by now a situation in which* ***the State effectively may no longer be the owner and landlord of its own offshore territory***. *Under these terms,* ***the oil companies will be the new proprietors***. *They can put their name on the territory, refuse to drill (as Marathon did) and allow other interested parties to become involved in the blocks only on their terms, usually by requiring a carried interest for themselves, while the newcomers bear most of the exploration burden.*

45. For all practical purposes then, these new landlords stand in the shoes of the State and whether in the matter of carried interest or other rights which the State sought to enjoy under the 1975 terms, these rights will in future be transferred to them. We note from press reports that several deals have already been done on this basis, so that privatisation, without payment, is already underway. We also note other reports which indicate that the oil companies, having already degraded the fiscal regime to practically nothing, are now seeking to reduce even the area fees and are supported in this by major Irish-born multi-national investors, cap in hand. **Will no one shout "STOP"?**

Part III - General Provisions Relating to All Authorisations

46. Section 39 deals with the charter and constitution of the authorisation holder. It requires changes to be **notified** to the Minister, whereas Section 53/1975 required that the **approval** of the Minister must be given.

47. Section 40 deals with assignments or transfers of interest. Its counterpart in the 1975 terms (Section 54) empowered the Minister to appoint a person to carry out enquiries into these matters but this and other features seem to have disappeared in the 1992 terms.

48. Section 44 enables the Minister to increase all money amounts from time to time. The 1975 equivalent is Section 64/1975. However, that section contains an additional clause enabling the Minister to initiate a review of the terms of a lease after five years of commercial production, but we can find no such power in the 1992 terms.

49. Section 48 provides for the training of persons nominated by the Minister. This is a repeat of Section 58 of the 1975 terms. Those terms also stipulated conditions (Section 62/1975) relating to the purchase of Irish goods and services, but we cannot find their equivalent in the 1992 terms.

Likewise, we cannot find any equivalent for Section 53(2)/1975, which requires that management be exercised from within the Republic of Ireland.

Part IV. Other Provisions.

50. Section 65, which deals with navigation and fishing, appears to be the counterpart of Section 41/1975, but it includes a restriction on the rights of other people to carry out fishing operations, which is not included in the said Section 41.

51. Section 67 appears to be the equivalent of Section 50/1975, but as pointed out earlier, the provisions of Section 14/1975 seems to have disappeared. This also seems to be the case with Section 51/1975 which provided rights of distraint to the Minister.

52. Section 70 deals with measurement of petroleum. It replaces Section 26/1975 but the Minister's powers seem to have been restricted in certain respects.

53. Finally, we are unable to locate in the 1992 terms, any equivalent for the provisions of the 1975 terms (Section 32) regarding: i the landing of petroleum in Ireland:
ii prior approval of the Minister for all contracts for the sale of gas:
iii and the power of the Minister to require delivery of petroleum to specified purchasers, to satisfy Irish National requirements.
Similar comments apply to the powers given to the Minister under Section 33 of the 1975 terms, in regard to iv control, during emergencies, of supplies of petroleum:
v the regulation of production in the interests of the State during emergencies:
vi and the curtailing of excessive production which is not in the national interest.
So much for the argument that the really worthwhile benefit to us of having petroleum produced in our own offshore is security of supply to meet our own needs!. There is also a clause in Section 34 of the 1975 terms, empowering the Minister to require that pipeline facilities shall be owned in part by persons other than the licensee, which seems to have been deleted in drawing up the 1992 terms.

A real beauty appears in the 1992 legislation and mentioned by the Minister in answer to Parliamentary Question No. 149, 12th June, 2001, Reference No. 16732/01:

"exploration costs are also deductible,
which need not necessarily be field-related,
provided they have been incurred in the 25 year period immediately prior to the commencement of field production.

Whatever that means.

ALLELUIA.

A Few Questions Arise, o Knocknagoshel

1. Did Marathon transfer to new terms as offered? Why should they - the royalties they pay are returned to them every year. (Source P): ("*An element of theatre*" according to the Secretary of the Dept. of Finance giving evidence to a Dáil Committee of Public Accounts.)
2. Was there debate, publication,justification of new terms in 1992?
3. Did Enterprise group purchase our data or get it free?
4. Are we subsidising the landing & transport of gas - Coillte, Bord na Móna, State facilities, Co. Co. time and facilities, Bord Gáis credit facilities and executive time?
5. What is the real value to us of a find?

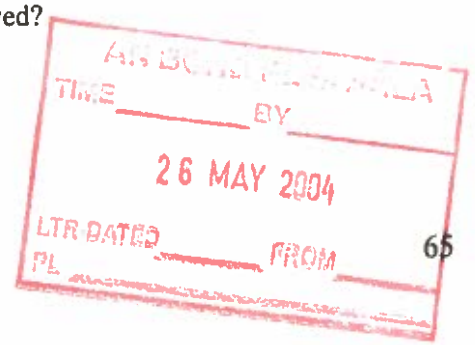
6. What "security in emergency"? Is it credible that the EU would allow us 100% access to "our" gas if there was a European shortage? And no other "emergency" is imaginable?
7. Are any other country's terms comparable to ours?
8. What are the linkages between fiscal and non-fiscal terms? What is the separate guarantee re. Tax?
9. Have Shell or/and other companies availed of "options"? Options are a contradiction of the purpose of the terms which is to get wells dug, not to alienate territory for aeons.
10. Who is now landlord of our seabed? Who has the power to sublet?
11. Why give away acreage that is too difficult to dig? If it is too difficult it should be kept by the State until such time as technology makes it viable to benefit our people in the future.Sustainable?
12 If it can't be developed why lease it or why take out a lease on it?12. Who came up with the notion that it is deepwater at 200 metres? This is **ridiculous and was in** 1992.
13. Is **there no limit to the amount of territory that can be alienated in one licence:** One Frontier Licence issued 4/6/1997 has 12 separate Block references?.Reference to "wells" means a well per licence, not per block - the opposite to '75 terms?.
14. In granting a lease can the Minister use only the data supplied by the applicant? (I think so!)
15. Are companies required to land petroleum in Ireland? (I don't think so!)
16. Must the Minister give prior consent to contracts of sale? (I don't etc)
17. Can the Minister direct that oil/gas be sold to satisfy a specific need - eg. to Bord Gáis?. (No!)
18. Why can't we - Ireland Inc - do some work on our own - drill a few wells, if the majors wish to stall? Make majors think we are alive? Find out if PAD really exists? (As a concept, yes.)
19. Who gets access and under what terms, to the data from the Continental Shelf Survey, which puts Ireland in a very strong position in this regard? We did pay for it.
20. What means "appropriate linkages" between fiscal and non-fiscal terms?
21. What means "market prices" or is it defined? (Great parliamentary draftsmen.)
22. What means "commence a well"? (I can think of some earthy illustrations of the possibility of acts of incompletion..)
23. Under the 1960 Petroleum and Other Minerals Development Act, Section 57, the Minister must lay before each house of the Oireachtas, every six months, an account of his stewardship of this industry. Does he do so?
24. Why cannot the PAD see that activity in itself is of no advantage to Ireland? Wells dug are the only activity that are relevant. Anything else is froth. Are the members too long in the job? A bird in the hand is worth two on the bush only if it can be eaten or otherwise enjoyed. (We like singing.)
25. What data did the PAD get from Santa Fe as a result of the wells drilled in the Slyne/Corrib field in the late eighties? If none, why none? If some, were other exploration companies supplied with the data and under what conditions?
26. If the Irish offshore is as unpromising as the oil majors and the PAD say - talk of *mura mbíonn agat ach pocán gabhair bí i lár an aonaigh leis* - why are the majors taking out so many frontier licences in the Irish offshore? (Answer: They like to own a little bit of the oul sod.).
27. Why can/will no Government Department verify under the Freedom of Information Act either the Government or Minister

- has given a guarantee to the lease holders under the 1992 terms that the financial/fiscal terms cannot be changed for the duration of the licences;

or

- (b) has not given such a guarantee? (Source...)

28. Why have we no monitors on the drilling rigs, as is allowed?



29. Can we still say without cringing that

- the construction of an up-stream v. high-pressure pipeline for 5 miles through farmland and deep bog,
- the building of a terminal/ refinery in Ballinaboy and thus
- bringing the gas, owned by Shell, Marathon shareholders and the Norwegian State into
- the Irish National Grid and
- export interconnector to the Eurasian Network
- with the inevitable dangers, risks and disturbances

contributes to national energy self-sufficiency, to balanced regional development, to security of energy supplies, to strengthening and stabilisation of local communities, to the proper planning and development of Erris, Mayo and the Border and Western Region, and to the building of a prosperous healthy community, in accordance with the aims and objectives of the Mayo County Development Plan 2003-2009 and the National Spatial Strategy.?

Cultural Heritage Context.

In response to a previous application for Planning Permission for this project (File P01/900) we found it necessary to present our understanding of culture to the Board, in the context of this proposed project.
"Culture," we presented "*is how we live, what we do, how we mould our environment to cope with the struggle of living and rearing a family: how we and our sometimes harsh environment come to a compromise that enables both to thrive in a modified spatial and attitudinal context."*
"it is the 'dlüth & inneach' (waft and woof) of our existence, allowing for all the elements, god and bad, of our existence, presently, historically and even evolutionary element."
"Culture is the public manifestation of how we live, in the sense that our culture is what e are seen to be, both by ourselves and from an external viewpoint. The view forms the latest pair of shoulders in the evolution."
We do not need to further argue the strength of our case in this, because the County Development Plan 2003-2009 incorporates much of the mind-set we then advanced in its awareness, not previously expressed, of the interconnectedness of human habitat and physical and historical surroundings, conscious and sub-conscious. Suffice it to say that we can safely let the discourse, in spirit and in letter, of the CDP speak for us.
We note, however, the destruction of that interconnectedness that this gross, unprecedented, blind, uninvited guest would inevitably and catastrophically bring about.

The Visual Landscape.

It is obvious that this proposal, higher above sea-level (or Carrowmore Lake level) than the last by approximately some metres, would be grossly obtrusive in its lack of proportion with the local presence. Its' dependence on conifers growing on the top of a bog for screening is not to be seriously considered - a case drawn up to support a decision made. That it is proposed to build this series of structures in a basin is well illustrated by Source N: i. the graphic from the *Terminal EIS, 2001,* and especially ii. the 2 map extracts from the County Development Plan 2003-2009. Not alone built in a basin, but one whose meteorological dynamics incline most readily over Carrowmore Lake and secondly, in different air-stream, over Sruhwddycon. (what an awful massacre of a perfectly normal name!)
It is futile to suggest that this proposal is in some way isolated from Carrowmore Lake or that Carrowmore Lake is in someway insulated from the proposal.

From Our Submission on the Visual to the Oral Hearing December 2002:- Still applicable. "*It is obvious that the local community perspective was effectively ignored: the view of choice was that of a casual visitor or tourist not a local from Muing Engáin, but it is locals who are exposed to the accumulation of physical, social and psychological effects. It is not possible to forget that the HSA recommended a 3Km. exclusion zone (* around this proposed series of structures) *before changing its' mind and that the terminal got planning permission on this basis."*

"*The relevant visual effect for local people is quite different to that for tourists who are not a permanent feature on the landscape. For local people what I (*we*) choose to call 'The Titanic Principle' applies - call it 'The Iceberg Principle' if you wish. Much or little that is seen on the surface, that is above the trees where there are trees, serves as a constant reminder that there is potential danger. The statistical chances are irrelevant on this level. The visual is the trigger reinforcing the fact that a permanent risk environment has been imposed where it had not existed previously.*
The poignance of the' Ballad of Reading Jail' *illustrates the triggered response where, for the inmates, the "little patch of blue' is effectively the entire sky. Because how the lived environment is seen becomes totally changed - utterly - this is, I (*we*) believe a planning manner, as much as more commonly considered material concerns. The destruction of the utility of the lived environment for the local community is thus addressed."*

In the new reality imposed by the CDP2003-2009 the above is without doubt a planning matter, and has been ignored by Mayo County Council in its decision. This we appeal.

The loss of utility to the local population were this project at Ballinaboy to go ahead is obvious, even though its' full extent in its' gut-wrenching reality must be felt only by a few. Whether or no, no effort has been made by the developer to quantify the loss to the local residents of their use of their inherited and nursed environment, although there are sophisticated formulae available to the accountancy practitioners for pricing hedonic values regarding the loss of landscape values on the local residents and potential tourist economy, as a result of this pristine area undergoing forced industrialisation without balancing benefit. While we are aware that an economic analysis is not required by legislation, such an analysis is purportedly submitted here by the developer in support of this proposal to justify the need for and sustainability of this project, and so a comprehensive matrix of environmental economic/financial factors should be identified and assessed, in complement with a real cost/benefit analysis, in accordance with the "polluter pays" principle; so as to eliminate the possibility of a rhetoric only based and unjustified impression of need, responsiveness, viability, sustainability and catalystic priming.

We the undersigned, hereby having presented our appeal to An Bord Pleanála against the decision by Mayo County Council on April 30th, 2004, to grant Planning Permission to Shell E & P Ireland Ltd., for the development at Ballinaboy, Co. Mayo, of a gas terminal, refinery, and also a peat deposition area at Srahmore, Co. Mayo, this peat defined as 'waste' for the purpose, and ancillary works and activities, especially bearing on the heavy vehicle traffic (HVT) generated by the developer and his agents in the implementation of this project, request An Bord Pleanála to accept the validity of our submissions and accordingly uphold this our appeal.

We suggest that it is self-evident that there is no demonstrated need for this project: it has not been demonstrated by the developer that any item of local, regional or national policy and/or development is being obstructed by the lack of this project or its delay, which was specified to produce gas in 2003 for whatever market it was destined to, in the short to medium term. Nor has it been demonstrated that the realisation of this project and its' outcome would in any way further enhance the provision of energy infrastructure, in the first instance nationally, there being no shortage of supplies at market price available to the relevant service providers in this State or others, a condition attested to by no less authority than An Taoiseach and also by An Bord Gáis in its' annual report 2000; nor is the option of a supply of natural gas for less than market price on offer, as the conditions of the leases, relevant legislation and so on by which the production of gas from the Corrib Field and other such is regulated, allows for and enshrines the right to market same gas at market rates, without further definition or limitation. Furthermore, in an open market economy such as we proudly advertise, as it is official policy to uphold and promulgate Ministerially as being nearer to Boston than to Berlin, it is evident that a further source of gas materially owned by the same suppliers, a limited number including among the most powerful actors Shell, Marathon and Statoil, into the world-wide and therefore Irish national market cannot influence or over-rule the existing supply or improve the satisfaction of its' needs nor sublimate existing dynamics. As John Vickers, Chairperson of Britain's Office of Fair Trading (OFT) wrote in his address, ("Competition Economics") in the annual public lecture to Britain's Royal Economic Society 2003: *"There is no inconsistency in regarding competition as beneficial but vulnerable to being undermined - for example by cartel activity."* to which the limited number of suppliers and the control of production exercised by the mighty and strategic reserves of OPEC and the voracious demand for energy by the US economy is akin.
In the second instance there is no identified local need for this project or its product .The only credible identified market for its output locally is the proposed tiny gas-powered power station permitted for Comhraic, a project while welcome, of less than strategic import. The limited and unbalancing effect of such employment as the project may bring is not considerable and for which the price to pay is too big. The supplying of piped town gas to the tiny towns of Mayo is really not on the agenda for the life-time of Corrib.

On this ground of need, therefore, we ask that An Bord Pleanála does not approve this project, especially since it has been previously established that the advantage given by a disruptive project should and must outweigh the disadvantage to the local community and individuals, who must without any responsibility for input, bear the brunt of the inconvenience and harm. Furthermore, on the 19/11/2003, An Taoiseach in the Dáil is recorded as saying:- "*At the moment we are at the end of a pipeline that gives us access to almost unlimited amounts of gas from Russia. If this resource works effectively, .. we could be exporting gas to the UK.*". Facts have overtaken expressed Government policy based on the memory of the 1975 Conditions and the parroting of same to consecutive Ministers. As of the end of May 2004, the new agreement between Russia and the EU signed on behalf of the EU by An Taoiseach has removed any possible quibble about the security of gas supplies from Russia for the foreseeable future.

As the Irish and EU economy is indeed and avowedly an open market economy, whose driving force and imperative is competition, we ask An Bord to consider if this project will in any way promote competition in the energy market: pundits tell us that the first question to ask of any existing microeconomic policy or of any new one is simply whether it promotes competition. The answer as is so often the case is no. We fail to see how Shell will be encouraged by this supply to compete with existing Shell sources, or indeed Marathon, or that Statoil will use its share of Corrib output to compete with itself for markets in Ireland and elsewhere. Again in this, we believe that no such benefits as flow from competition can arise from this project, and that the suggestion widely mooted that the supply of gas from Corrib, enabled by this proposal for

Ballinaboy would encourage competition, could rather at best, have a neutral effect on the competitive situation in the Irish market, and is therefore of little or no consequence.

The site in question is totally without merit, as is the location - an unprecedented 8Km. of no-man's-land from the landfall and the foreshore, which exposes people and environment to severe and totally unnecessary risks: as it is well established that this project can be, and normally similar projects are realised in other ways, the only premium factor in this instance being that 'tis a cheaper option. The Senior Planner of Mayo Co. Co. states that he did not view any alternate sites other than those proposed by Shell: nor did Shell show in the EIS provided that they had seriously researched alternative sites. Also it must be noted that the pipeline and umbilical complex enters the establishment not from the foreshore but from a forgotten land for which no authority wishes to claim responsibility but that presents serious danger to workers and public alike. Likewise there has been no safety analysis of the pipe complex from terminal boundary to the terminal, a serious omission, and in itself an obstacle to planning, for in Item 2 of Further Information, Mayo Co. Co. specifically requested that such a decision from the relevant Proscribed Body or Authorised Authority be provided.

We believe that we have shown in this submission that the project as devised is totally and completely in violation of the aims and objectives, spirit and letter of the Mayo County Development Plan 2003-2009, except in the one instance where the project is specifically and unusually inserted into the text, totally out of context. On this ground we ask An Bord to grant this appeal.

From our own and our inherited experience we believe that the development works proposed for this site would introduce risks and hazards that are not acceptable, especially now that the mid-autumn bog bursts of 2003 in Glengad, Derrybrien, Shetland and Tullywood have made clear the real presence of such unpredictable dangers in bog areas.
The matter of blasting on the site is quite sinister, as the promoter has not requested such a facility.

The history of Bord na Móna settlement ponds tell clearly what is in store from the Srahmore site. The support of NWFB is not credible, in view of their own admission. We believe that we have shown in our submission that the development of this site is not viable and in the interests of developmental sanity and reputation our appeal should be granted.

We believe we have shown the effect on the road network of this appalling proposal. We find the un-explained U-turn regarding the usage of L1204 bewildering, and as no explanation has been given for this engineering about turn, we ask that our appeal be granted on the basis of this important decision being a falsification of earlier information provided.

We believe that we have adequately shown in our appeal that the impact on residential amenity is such that An Bord Pleanála must uphold our appeal. The admission of environmental factors as a planning issue makes this our case even stronger.

We welcome the acknowledgement by Mayo County Council that the bonding of de-commissioning is necessary, but unless implemented strictly in accordance with Schedule 2 of the planning permission given such a decision would be empty.

We have pointed out in our submission many aspects of the EIS that render it inadequate, and we disagree with Mayo County Council in this regard.

- the peat to be removed is now solid where it was in a previous EIS "*mushy soup*", not a mere

semantic point but an issue of intense practicality, if one considers (Source W) that much of the heaviest daily totals of rainfall occur in summer and early Autumn, and not necessarily in accordance with perceived wisdom. Derrybrien and Glengad bog-bursts and the destruction of Glencullin Bridge happened in Summer and Autumn - not in Winter!

- The unexplained U-turn on using L1204.
- Lack of up to date knowledge on sheet piling in peat.
- Fuzziness of knowledge presented on re-establishment of Srahmore.
- No record of experience of Bord na Móna works, especially settlement ponds.
- The bog-hole that swallows and does not re-gurgitate.
- Drain 22 and its magic qualities including unsourced phosphate levels.
- No information of the process by which bog will cope with run-off from alkaline stabiliser.
- Inadequate presentation of EuroSoilStab findings.
- No treatment of safety of upstream pipeline/umbilical complex within the boundary of the establishment, even as requested by MCC.
- No treatment of the HVT movements involved in the construction of up-stream pipeline and their social and physical implications.
- Ignoring the implications of the very high levels of phosphate in the terminal site - up to 11,000 times the recommended limit of safety: no real suggestions to cope with these limits. The answer given to Item 6 in request for further information make the situation even more untenable.
- No awareness of slope instability from blasting or the instability generated by heat from chemical reactions of stabilising mix.
- Enough.

We are concerned that the *"Report of the Task Force on Port Estates in Commercial Harbours"* established by the Minister for the Marine in February 2001, with a very high-powered membership reports that "*Under the existing system, all structures above the HWM require planning permission from the local authority.*" "*In the case of a development that straddles the HWM, planning permission must be in place before a foreshore licence application will be processed by the Department.*"

As the pipeline/umbilical complex into the terminal establishment straddles the HWM, and as road construction and cliff breaking has already taken place, we ask An Bord to clarify the real position and to determine if the entire pipeline up-stream from the terminal is indeed exempted development or is it another no-man's land. We in this appeal say that this uncertainty is not acceptable. In the event of these matters being ambiguous we appeal to an Bord Pleanála to set in train the judicial process by which clarity may be achieved.

We also notice that under the Planning and Development Act 2000 and the Planning and Development Regulations 2001, planning permission is now required for development on Foreshore, not required previous to 11th March, 2002. We ask that An Bord gets closure on this issue, and make a finding on whether or not this is indeed exempt development as the development crosses the HWM and extends to the terminal.

While the HSA has identified a hazard in the possible slope instability, but avoids responsibility by saying that it does not have the necessary in-house expertise. Under Seveso II it is incumbent on the competent authority, in this case the HSA, to identify the establishment where major accidents could occur. As the upstream pipeline is the place identified where an accident with the worst consequences can occur, the verdict of the HSA that such an event is unlikely is totally insufficient and an abrogation of responsibility under Seveso II. Such an event, unlikely or no, whatever 'unlikely' means in the world of to-the-power-of-x, could not be spatially limited in its consequences to the establishment as defined by the HSA for this project and must spread beyond the establishment as defined. This uncertainty in the matter of safety is unacceptable in planning.

We, the undersigned, object to the supportive use of comparison with accepted standards, when in fact this is a new venture with no precedents for implementation:-

- there is no recognisable need for it - except for the project co-developers, Shell, Statoil and Marathon;
- the site and location is a deranged choice, in the middle of a deep bog, 8 Km. from landfall and foreshore;
- the up-stream gas with its very high pressure, presents a major hazard, in a trench with umbilical fluids in reverse direction under even more intense pressure and a power-line;
- the ecological impact is unfathomable, but Carrowmore Lake is a mere 2.5 meters deep and it is unusual to say the least to plough through European designated areas;
- it is obviously contrary to the CDP 2003-2009, and equally unprecedented, specifically mentioned in the CDP 2003-2009;
- it ignores the nature of the farm-land, reclaimed bog, through which it ploughs;
- it requires an engineering U-turn;
- it requires intense HVT on bog-based roads;
- it confers no measurable benefits on the local residents;
- what is usual or precedented about it?

We ask An Bord Pleanála to accept our appeal and reject this proposal now before it. and refuse it permission. We hold that it is not acceptable in terms of land use, environmental and human impacts , where 600 acres is permanently put out of use to make way for a foot-print of 40 acres. and 450,000 cubic meters of peat is made officially waste, without compensatory payments on the principle that the polluter pays. The development is not compatible with the recognition by the CDP 2003-2009 of MCC of the inter-dependence of human habitats and natural environment, and the rights of community and individuals to protection and to support for the development of their potential in their own place. The granting of this permission will not advance any national policy in reality or the National Spatial Strategy, in fact nothing but short-term corporate interests.

Micheál Ó Seighin
Micheál Ó Seighin, Ceathrú Thaidhg.

Uinsionn mac Graith, Ros Dumhach.
Uinsionn mac Graith
Treasa Ní ghearraigh
Treasa Ní ghearraigh, Ceathrú Thaidhg.

Uinsionn Mac Graith
Uinsionn mac Graith, Ceathrú Thaidhg.

Caitlín Uí Sheighin
Caitlín Uí Sheighin, Ceathrú Thaidhg.

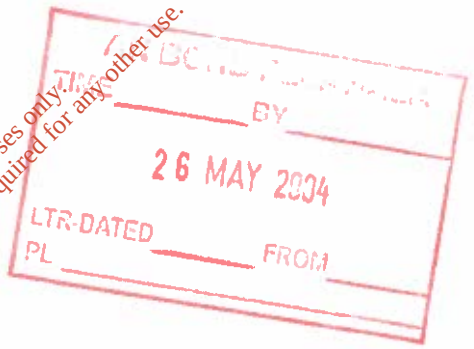
Bríd Ní Sheighin
Bríd Ní Sheighin, Ros Dumhach.

We accept that our submissions of objection to Mayo County Council on the Application, P03/3343, and on Further Information are before An Bord Pleanála and included in this appeal.

Dated:- 25th May 2004.

Source A.

Parliamentary Questions
Nos. 73, 74, 137,140,149,166.



PARLIAMENTARY QUESTION NO. 73

Dail Eireann

To ask the Minister for the Marine and Natural Resources if technology is available to process gas from the Corrib Gas Field, off the Mayo coastline at sea, rather than building a gas processing terminal covering 60 acres in a highly environmentally sensitive area.

- Michael Ring.

For WRITTEN answer on Thursday, 15 February, 2001.

Ref. No. 4338/01

REPLY

Minister for the Marine and Natural Resources

(Mr Frank Fahey, T.D.)

Technology is available to process gas offshore on a gas field such as Corrib. However this would not eliminate the need for an onshore terminal and such a terminal would have all the essential features of a terminal in circumstances where there is no offshore processing. These features would include a flare stack, provision for storage of liquids, provision for installation for compressors and facilities for discharging produced fluids (although the volume of produced fluids discharged from an onshore terminal where there is offshore processing would be much less). Offshore processing for the Corrib Gas Field is not the preferred development option, as it would mean that production would be weather sensitive and there would be greater capital and operational expenditure compared to a subsea development. In addition there would be increased safety concerns as the offshore facilities would have to be manned.

PARLIAMENTARY QUESTION NO. 74

Dail Eireann

To ask the Minister for the Marine and Natural Resources if his attention has been drawn to the fact that technology to recover and process gas at greater depths and harsher sea conditions that those found in the Corrib Field is already employed by a company (details supplied) and other companies in Norwegian waters.

- Michael Ring.

For WRITTEN answer on Thursday, 15 February, 2001.

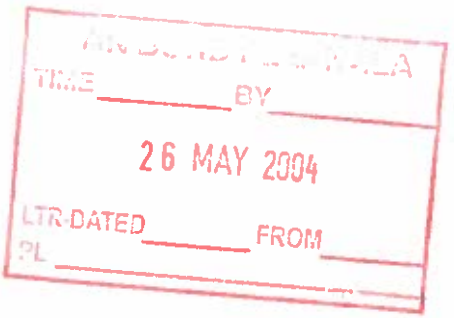
Ref. No. 4339/01

REPLY

Minister for the Marine and Natural Resources

(Mr Frank Fahey, T.D.)

Yes, I am aware that technology exists to exploit petroleum at deeper and more unfavourable environments than that which pertains in the Corrib Field.



PARLIAMENTARY QUESTION NO 137

Dail Eireann

To ask the Minister for the Marine and Natural Resources the reason the farmers of Rossport, County Mayo are required to supply Enterprise Energy Ireland with a 40 metre wide working strip through their small greenland holdings for a 20 inch pipe when Bord Gais Eireann only require a 30 metre wide working strip for a proposed 30 inch pipe from the Ballinaboy Gas Cleaning Terminal in North Mayo to Craughwell in Galway.

\- Michael Ring

For WRITTEN answer on Tuesday, 20 March, 2001

Ref No: 7475/01

REPLY

Minister for the Marine and Natural Resources (Mr Frank Fahey, T.D.)

This is a commercial decision by Enterprise Energy Ireland and one in which I have no function.

PARLIAMENTARY QUESTION NO 140

Dail Eireann

To ask the Minister for the Marine and Natural Resources the reason an inland 60 acres gas processing terminal is required for the Corrib Gas Field located off North Mayo, which is anticipated to be two thirds the size of the Kinsale Field, the latter of which is processed at sea.

- Michael Ring

For WRITTEN answer on Tuesday, 20 March, 2001

Ref No: 7478/01

REPLY

Minister for the Marine and Natural Resources (Mr Frank Fahey, T.D.)

The Kinsale Head Gas Field is located in 90 metres of water 45km from shore whereas the Corrib Gas Field is located in about 350 metres of water 65km for the coast. The Kinsale field was developed in the 1970s at which time there was not the possibility of a subsea development. It has two platforms fixed on the sea bed. If it was to be developed today the preferred cost-effective system would be a subsea development without field platforms. The cost effective and optimum development system for Corrib is a subsea development with processing at a terminal onshore. If processing were to take place in field it would require deployment of floating facilities which, as indicated in my reply to Parliamentary Question No. 73 of 15th February 2001, would mean that production would be weather sensitive (a serious drawback in the hostile environment at Corrib). Increased capital and operational expenditures would be needed which could make the development uneconomic and it would have serious safety implications.

PARLIAMENTARY QUESTION NO. 149

Dail Eireann

To ask the Minister for the Marine and Natural Resources the monetary benefits which will accrue as a result of the Corrib Gas Field; and the benefit it will be to the people of north Mayo.

- Michael Ring.

* For WRITTEN answer on Tuesday, 12th June, 2001.

Ref No: 16732/01

REPLY

Minister for the Marine and Natural Resources

Mr Frank Fahey, T.D.

The current fiscal terms for exploration and exploitation of petroleum offshore Ireland are governed by the provisions pertaining to petroleum contained in the Finance Act,1992. Under this Act, Corporation Tax at a rate of 25% will apply to profits from gas production under the petroleum lease for the Corrib Field. The Corporation Tax will be payable after the deduction of allowances. These allowances relate to capital and operating expenditure and abandonment costs for the field. In addition, exploration costs are also deductible, which need not necessarily be field related, provided they have been incurred in the 25 year period immediately prior to the commencement of field production. The Corporation Tax accruing will depend on a number of factors including those referred to above,and the amount and price of the gas sold.

The benefits to the people of North Mayo will include employment during the construction phase of the development and permanent employment at the Terminal when it becomes operational. It is understood that up to 500 persons will be employed during the construction phrase and up to 50 persons permanently at the terminal when it becomes operational. Enterprise Energy Ireland anticipate that Irish contractors and suppliers will feature prominently in the Terminal construction team. It is anticipated that the development will also provide more localised benefits for the duration of the construction period. These include increased trade in local shops and service industries and accommodation providers as well as indirect employment.

The Government is committed to ensuring that the necessary pipeline infrastructure is in place to bring gas to customers, both domestic and commercial, in the West. I understand that Bord Gais are at present considering the feasibility of making gas available to towns in the west & north of the country. The existence of this infrastructure should make the western region more attractive to inward investment.

PARLIAMENTARY QUESTION NO 166

Dail Eireann

To ask the Minister for the Marine and Natural Resources the reason Enterprise Energy Ireland do not land the gas from the Corrib Gas Field on the Mullet peninsula; if he or his Department have suggested or discussed this option; if this option is not viable, if he will supply a copy of the consultant' s reports verifying same.

- Michael Ring

For WRITTEN answer on Tuesday, 20 March, 2001

Ref No: 8048/01

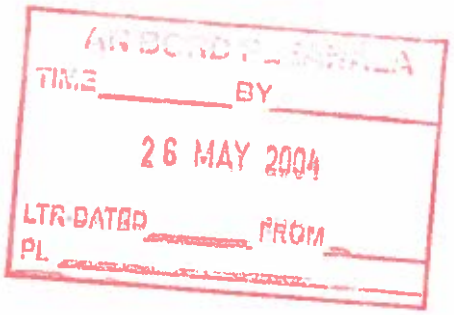
REPLY

Minister for the Marine and Natural Resources (Mr Frank Fahey, T.D.)

While I must approve the company's plans for the development of the Corrib Gas Field the actual plans are decided by the company on a commercial basis having regard to environmental engineering and cost factors.

Source B.

Geotechnical Notes for Mayo Co. Co.
Fehilly Timoney & Co.



Proposed Bellanaboy Bridge Gas Terminal, Bellanaboy Bridge, Bellagelly South, Co. Mayo

Geotechnical Note on Environmental Impact Statement

Prepared for

Mayo County Council
Áras an Chontae
Castlebar
Co. Mayo

Prepared by

Fehily Timoney & Co.
Core House
Pouladuff Road
Cork

February 2004

Proposed Bellanaboy Bridge Gas Terminal, Bellanaboy Bridge, Bellagelly South, Co. Mayo

Geotechnical Note on Environmental Impact Statement

User is Responsible for Checking the Revision Status of this Document

Rev. No.	Description of Changes	Prepared by	Checked by	Approved by	Date
0	Issue to client	MJC	[illegible]	[illegible]	24/02/2004

03/3343

TABLE OF CONTENTS

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1. INTRODUCTION

This geotechnical note has been prepared by Fehily Timoney & Company (FTC), further to a request from Mayo County Council (MCC) to provide an independent commentary on geotechnical aspects of an environmental impact statement (EIS), relating to the proposed Bellanaboy Bridge Gas Terminal, at Bellanaboy Bridge, Bellagelly South, Co. Mayo, with particular reference to issues relating to the influence of the proposed works on the general stability of the extensive peat deposits, which are known to exist in the immediate vicinity of the works.

To facilitate the preparation of this geotechnical note, MCC has supplied FTC with a copy of the EIS, comprising:

- Volume 1, which relates to the proposed gas terminal at Bellanaboy Bridge and contains four books, the main EIS in one book and Technical Appendices 1, 2 & 3 in three separate books
- Volume 2, which relates to the proposed Srahmore Peat Deposition Site, at Bangor Erris, Co Mayo

As the request to FTC from MCC was to provide geotechnical comment on issues relating to the influence of the proposed works on the general stability of the extensive peat deposits in the vicinity, this note is based on a detailed reading of only a limited part of Volume 1 of the EIS, namely:

(a) the Non-Technical Summary, in order to obtain an overview of the project
(b) Chapter 3: Construction Parts 3.1 to 3.6
(c) Chapter 8: Soils, Geology & Hydrogeology, all parts
(d) Technical Appendix 1: Geology, Hydrogeology & Global Stability, all parts
(e) Technical Appendix 2: Earthworks, all parts

Geotechnical commentary on Volume 2, which relates to the Srathmore Peat Deposition Site, is based on a detailed reading of Chapters 1 to 3 and Chapter 8 of Volume 2.

2. BELLANABOY BRIDGE GAS TERMINAL SITE

The soil and ground water conditions at the proposed gas terminal site have been summarized briefly in Chapter 8 of the EIS. This summary is based on Technical Appendix 1, which comprises a detailed analysis of the site investigation data, the development of a suitable soil and ground water model for the site and consideration of the implications of this model for the proposed terminal development activities on the site, with particular emphasis on the implications for stability of the peat in the general vicinity of the site. Technical Appendix 2 considers in some detail the design and construction of all geotechnical structures associated with the proposed terminal, including the presentation of detailed design calculations, together with a detailed summary of the proposed sequencing of construction activities.

3. BELLANABOY BRIDGE GAS TERMINAL SITE – TECHNICAL APPENDIX 1

The site investigation fieldwork was quite extensive and appears to have been sufficient to provide a comprehensive picture of the soil and ground water conditions on the site. It revealed a soil profile comprising 1m to 5m of very soft or soft peat, overlying not more than 3m of mineral soil, overlying head and weathered schist bedrock, overlying intact schist bedrock.

A considerable quantity of field data was acquired on both the permeability of the different strata and the level of the groundwater table. The interpretation of ground water conditions on the site is particularly significant in the light of the proposed development. While the ground water table in the peat was found to be generally close to the existing ground surface, numerous ground water table observations within the rock provided strong evidence that the ground water table in the bedrock was generally significantly below the ground surface over much of the site, that it was consistently at a level below the proposed level of the terminal platform and that it came close to the water table in the peat only in the vicinity of the southern extremity of the terminal platform footprint. The field permeability measurements indicated that the permeability was uniformly low within the head and highly weathered bedrock at the higher levels and within the unweathered bedrock at lower levels. Within the moderately weathered, highly fractured bedrock (core recovery in the range 75% to 90%), the measured permeability was consistently about an order of magnitude greater than at the higher and lower levels. On the basis of this interpretation, it is expected that any significant flows of ground water within the bedrock will occur in the moderately weathered zone.

Global stability of the peat has been considered in Chapter 10. On the basis of a historical review of mass movement of Irish bogs, it has been concluded that the prevailing slope angles in the vicinity of the site are such that natural failures would not be expected to occur. However, it was acknowledged that there was historical evidence that uncontrolled interference by man has led to bog failures on sites, where the slope angles were only 2°, which is only marginally greater than the very modest slope angles prevailing on the present site. On the basis of a morphological study of a 20 km^2 study area surrounding the site, it was concluded that there was no evidence of slope instability, except due to river erosion of peat slopes in the floodplain of the river. Sliding wedge stability analyses were carried out on a number of cross-sections through the site.

be specific

movement requires a trigger

Very cautious estimates of the undrained shear strength of the peat, corresponding to the very lowest values measured in field tests, were used in these analyses, which yielded calculated factors of safety of 2.3 or greater.

such art does this mean?

4. BELLANABOY BRIDGE GAS TERMINAL SITE – TECHNICAL APPENDIX 2

Technical Appendix 2 considers in some detail the design and construction of all geotechnical structures associated with the proposed terminal, including the presentation of detailed design calculations, together with a detailed summary of the proposed sequencing of construction activities.

to what?

The basic construction strategy for the terminal platform is to remove all peat from the footprint of the terminal platform, to reduce its moisture content by windrowing on site and to transport it to a peat deposition site at Srahmore. Elsewhere on the site, it is proposed to leave the peat in place and to improve its geotechnical properties using dry deep mixing technology.

what the hell is that?

It is proposed to leave the peat in place and to improve it using dry deep mixing along all access roads, within the footprint of the administration building and warehouse car park, within the footprint of the temporary construction facility and around the perimeter of the settlement ponds. While dry deep mixing using a cement binder to improve the geotechnical properties of soft soils is a well-established technology in Japan and the U.S.A., and to a lesser extent in Europe, particularly in Scandinavia, it is new to Ireland. While an outline proposal for the execution of the deep mixing has been included in the Earthworks Report (Technical Appendix 2), it has been acknowledged that field trials will be required to finalise the design. Such field trials would be normal on any large contract, even where the technology is well established. A more detailed note on dry deep mixing of peat is included below. It is proposed, probably as a precaution against local failure near the edges of the improved peat, to install steel sheet piling along the perimeter of all improved peat. The use of steel sheet piles in addition to deep mixing is indicative of a cautious approach to site development. In the case of the perimeter road around and between the settlement ponds, the improved peat will be contained on either side by a steel sheet piled wall, to form a cofferdam around the settlement ponds, which will be created by excavating peat to an appropriate depth.

for what purpose?

The terminal platform is proposed to be 9m below existing ground level at its north-western corner and 3m above existing ground level at its south-western extremity. The peat is between 1.5m and 3.6m thick under the footprint of the terminal platform, increasing in thickness generally from north-east to south-west. It is proposed to remove all of the peat from this area. Most of the perimeter of the terminal platform will be in cut. It is proposed to retain the peat along this cut perimeter using gabion walls, founded at a depth of 0.9m below the top of the mineral soil. The design calculations for these gabion walls (in Chapter 4) indicate that a cautious approach has been taken in estimating the lateral loading from the retained peat. It is proposed that the gabion walls be installed in advance of mass excavation of the peat and that only a short face of peat be exposed as the gabion wall construction advances. It is also proposed that the peat immediately uphill of the gabion wall be strengthened by deep mixing and/or supported by a temporary steel sheet piled retaining wall to ensure that the peat is temporarily retained during construction of the gabion wall. Again, this is indicative of a cautious approach to the construction.

At the southern part of the terminal platform, where the proposed levels are above existing ground levels, it is proposed to strengthen the peat using deep mixing and to install a steel sheet piled wall to retain the peat outside of the excavation area. In order to minimize the impact of groundwater flow from the mineral soil and the underlying bedrock into the excavation through the peat, it is proposed to install two rows of deep wells well in advance of the peat excavation works and to use vacuum assisted pumping to draw down the bedrock water level. In addition to drawing down the bedrock water table, it is hoped that this will also induce under-drainage of the peat with a possible beneficial effect of reducing its water content in advance of mass excavation. When the peat has been removed right up to the sheet piled wall, it is proposed to bring the fill up to existing ground level using a vertically faced geotextile reinforced soil embankment, to ensure that the fill will be self-supporting and not exert any lateral pressures on the peat when the temporary sheet piled wall is removed at the end of construction.

The strategy of windrowing the peat on site before transporting it to the peat deposition site at Srahmore is predicated on being able to remove the peat from the north-eastern corner of the terminal platform and transporting it directly to Srahmore without windrowing, so as to create an initial platform for the windrowing activities. It is stated in the report that it is the advice of Bord na Mona that the thinner peat stratum in this part of the site will be sufficiently dry and fibrous to facilitate its transport immediately upon excavation to Srahmore.

While there is no explicit reference in the EIS to the installation within the boundaries of the site of the supply gas pipeline from the Corrib gas field to the gas terminal, a methodology for the installation of a 900mm diameter piped drain from the terminal area to the settlement ponds has been described at the end of Chapter 6 of Technical Appendix 2. It is proposed to improve the peat by deep mixing along the route of this pipe, to facilitate the construction of a temporary haul road, and to install the pipe in a sheet pile supported trench. It is proposed to use ground anchors to tie down the polyethylene pipe so as to resist uplift buoyancy forces on an empty pipe. The proposed approach is stated to be based on experience of installing gas pipelines in peat elsewhere in Ireland. The strategy should serve to minimize the impact of the construction works on the peat and constitutes a cautious approach to the work.

In Technical Appendix 2, there is a consistent design strategy of improving the peat in places where it is to be retained and of minimizing the impact of the construction of the terminal platform on the surrounding peat. Detailed consideration has been given to the management of surface and ground water flows, both in the short term and in the long term. The outline of the sequencing of construction activities in Chapter 11 indicates that detailed consideration has been given at this stage to the orderly execution of the works.

5. SRAHMORE PEAT DEPOSITION SITE

not entirely — a spade is not a shovel

The deposition works at Srahmore comprise the partial re-filling of cutover peatland using the windrowed peat from the gas terminal site. It is proposed that all of the peat deposition work will be undertaken by and supervised by Bord na Mona personnel, who have considerable expertise in handling peat and detailed local knowledge of working the Srahmore site. This should ensure that the transport, deposition and spreading of the imported peat within the cutover peatland will be carried out effectively.

→ why should it?

A new main access road to the Srahmore site is proposed from the R313. Probing of the peat has indicated that the peat along the proposed route of this access road varies in thickness from about 6m at the R313 to about 0.6m in the peat reception area. There appears to be no quantitative site investigation data in the area of the site access road where the peat is thickest, close to the R313. It is proposed to construct a geogrid reinforced road pavement directly on the peat. If further site investigation were to indicate that the peat were too soft and compressible to sustain the proposed road pavement in a serviceable condition over the duration of the deposition project, the peat could be improved using the deep mixing technology proposed for the gas terminal site.

?

is this proposed.

As the remaining peat cover in the proposed peat reception area appears to be relatively thin, the proposed reinforced concrete slab in this area should prove serviceable for the duration of the project.

6. IMPROVEMENT OF PEAT BY DRY DEEP MIXING

While dry deep mixing using a cement binder to improve the geotechnical properties of soft soils is a well-established technology in Japan and the U.S.A., and to a lesser extent in Europe, particularly in Scandinavia, it is new to Ireland. Even where the technology is well established in the treatment of organic soils, there is very limited experience of treating peaty soils, which are almost 100% organic. There are two publications of particular significance in the context of the proposed works at Bellanaboy. An international collaborative research project, EuroSoilStab, funded by the European Union, on the development of design and construction methods to stabilise soft organic soils, led to the publication of the very informative "Design Guide: Soft Soil Stabilisation" in 2000. The research work on Irish peat, which was undertaken at Trinity College Dublin as part of the EuroSoilStab project, has been presented in some detail in a recent paper, "Some experiences on the stabilization of Irish peats", in the Canadian Geotechnical Journal (Hebib, S. & Farrell, E.R., 2003).

The proposed dry deep mixing of the peat at Bellanaboy should be designed and executed in accordance with the design guide and should be informed in particular by the findings of Hebib and Farrell (2003) on Irish peat. While different combinations of cement, gypsum, blast furnace slag, pulverised fuel ash and lime have proved to be effective in soft soils with organic contents up to 30%, the design guide advises that only cement alone, cement + gypsum, or cement + blast furnace slag should be considered for peat. The laboratory-based study by Hebib & Farrell (2003) on two Irish peats showed that, while a combination of blast furnace slag and gypsum was very effective when applied to one Irish peat, it was entirely ineffective in improving the geotechnical properties of the other one. A cement binder was shown to be effective in both cases. The study also showed that it was extremely important to place a surcharge load on the stabilized peat as soon as possible following deep mixing.

does anyone know how much?

The design guide recommends that, particularly where local experience of deep mixing is lacking, an initial laboratory study should be undertaken to evaluate the effects of deep mixing on the soil under ideal laboratory conditions. On the basis of experience, it is estimated that the shear strength capacity developed under mixing conditions in the field is typically only 20% to 50% of the shear strength of comparable laboratory mixed soil. When the laboratory study has been completed successfully, it is imperative that field trials be conducted in advance of the main project and that these trials be guided by what has been learned in the laboratory.

In the case of the Bellanaboy site, it would be reasonable to expect that a laboratory study of the effectiveness of dry deep mixing on the peat from the site be carried out in advance of any field trials and that field trials be executed in advance of any other site work on the project to demonstrate the effectiveness of potentially suitable dry deep mixing field strategies.

Euro Soil Stab: Design Guide: Soft Soil Stabilization. European Union, CT97-0351, Project No. BE 96-3177

Hebib, S. & Farrell, E.R. (2003) Some experiences on the stabilisation of Irish peats. Can. Geotech. J. 40: 107-120.

KET Ltd Corrib Offshore EIS :-

19.3.2.13.1. Peat Structure:- (V.imp. section)
"A blanket bog can be seen as having two functionally distinct zones from a hydrological perspective, i.e. the acrotelm and the catotelm. The integrity of both is required for the maintenance of the hydrological functioning of the bog."
19.3.2.13.5 "The maintenance of peat stratigraphy as outlined above is essential to the maintenance of the hydrological functioning of the bog." etc.
19.3.2.13.6 Pipe Laying: "the pipe will float within the bog"
19.3.2.13.7. Backfilling: "moving peat alters its physical and chemical properties and excessive handling can turn peat into a mushy soup with poor restoration potential." etc

7. CONCLUSIONS

The site investigation fieldwork described in the EIS, was quite extensive and appears to have been sufficient to provide a comprehensive picture of the soil and ground water conditions on the site.

In developing a construction strategy for the complete removal of peat from the footprint of the terminal platform, consideration has been given to minimizing the impact of the construction on the peat at levels both above and below the terminal area.

In all other parts of the site where any construction work is envisaged, it is proposed to stabilize the peat using dry deep mixing using a cement binder. In addition, it is proposed to construct sheet pile retaining walls around the perimeter of the improved peat, to minimize the impact of any site activities on the in situ peat outside of the stabilized areas. Here again, consideration has been given to minimizing the impact of the works on in situ peat immediately adjacent to the works.

While field trials are proposed to enable the development of an appropriate dry deep mixing strategy, it would be reasonable to expect that such field trials be preceded by a detailed laboratory study on the effectiveness of dry deep mixing on the peat from the site, particularly in the absence of experience in the application of dry deep mixing technology to Irish peat sites. On the basis of recent laboratory studies on peat from other Irish sites, there is good reason to be optimistic that the proposed dry deep mixing strategy will prove to be effective.

The proposal to use the expertise of Bord na Mona to enable the removal of excavated peat from the site and its controlled deposition at Srahmore appears to be sound. It appears to be recognized in the EIS that the need to dry the peat at Bellanaboy before it can be transported to Srahmore will have a controlling effect on the rate of development of the Bellanaboy site.

Consideration has been given in the EIS to the need to control all water flows on the site and to direct them to the settlement ponds in such a way as to avoid any possible adverse impact on the in situ peat surrounding the works.

what is that?

In summary, from a geotechnical viewpoint, reasonable care has been taken in assessing the geotechnical characteristics of the site and in proposing a workable strategy for construction, which will minimize any impact on the in situ peat surrounding the site.

1. INTRODUCTION

This supplementary geo chnical note has been prepared by Fehily Timoney & Company, further to a quest from Mayo County Council (MCC) to provide an independent commentary n geotechnical aspects of a response, dated 11 March 2004, to a further information quest from Mayo County Council, relating to the proposed Bellanaboy Bridge Gas T rminal, at Bellanaboy Bridge, Bellagelly South, Co. Mayo. This note addresses just th ee of the items, on which further information was sought, on the basis that only these th e items relate directly to the stability of peat deposits.

To facilitate the prepara on of this geotechnical note, MCC has supplied Fehily Timoney & Company wi a copy of the response, comprising two volumes, of which the first contains the re onses to the requests and the second contains a detailed transport management pla

2. ITEM ONE - TRAFFIC M ANAGEMENT PLAN

The transport management plan recognizes the need to upgrade the existing public road network between the Bellanaboy Bridge site and the Srahmore site, to facilitate the transport of c. 450,000 m^3 of peat between the sites. The proposed road improvements are described in Chapter 4 of the plan. It is proposed to widen the existing pavement locally to provide a minimum paved width of 5.5m, to carry out minor horizontal realignment locally to improve sight distances, to replace two small bridges and a piped culvert and to strengthen the pavement using a geogrid reinforced overlay over the entire length of the route.

The plan recognizes that, where the pavement is widened, either by widening into existing verges or by constructing a low embankment on compressible soil, differential settlement may develop between the existing and new pavement during the course of the peat transportation. It is acknowledged that the ensuing difference in level may require maintenance during peat transportation and will in any event be made up on completion of the haulage works as required.

The detailed proposal in Chapter 4.2 for the construction of the reinforced overlay has been agreed with MCC. It should result in an overall improvement in the road pavement in the longer term, following completion of the works.

3. ITEM TWO – STRUCTURAL STABILITY OF GAS PIPELINES

Item Two in the further information request required written confirmation from the relevant regulatory authorities that the design of the proposed gas pipelines from the terminal compound to the site boundary is suitable to ensure the structural stability of the pipelines constructed in deep peat soil

The letters from the regulatory authorities relate primarily to environmental matters and make no reference to the structural stability of pipelines constructed in deep peat soil and, as such, do not provide the written confirmation requested under Item Two. The response refers to design details submitted to the relevant authorities, but does not include these details.

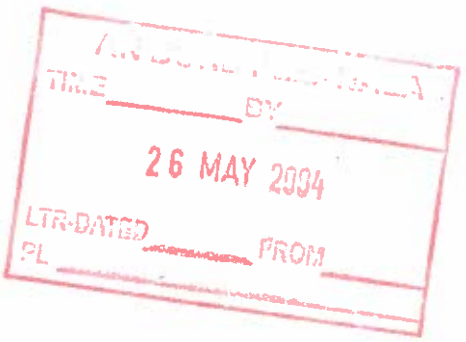
4. ITEM ELEVEN – ECOLOGICAL IMPACTS OF CEMENT BINDER

Item 11 required information on the possible impacts on water quality, aquatic ecology and surrounding peatlands arising from the use of the highly alkaline lime/cement binder to comparatively small parts of the site. The information was to include technical information and assessments to support the use and appropriateness of this method of peat improvement in this location.

The response to this request is comprehensive. It demonstrates an awareness of case histories of the successful use of deep soil mixing in the stabilisation of peaty soils and of the recent research work on the stabilisation of Irish peats at Trinity College, Dublin. It is quite explicit in stating that cement is the preferred binder, possibly with the addition of a small quantity of sand, depending on the outcome of ongoing laboratory testing and proposed field trials.

It is particularly significant that the advice of the Swedish Geotechnical Institute (SGI) has been obtained in the preparation of the response and that the SGI has been retained as a consultant to provide technical support for the proposed stabilisation works on the peat. The SGI is recognized as a world leader in the research and development of soil stabilisation by deep soil mixing and has a wealth of experience in the field.

The environmental impact of the proposed stabilisation works has been addressed in detail in the response. On the basis of U.K. and German sources, it is stated that leaching of cement from the stabilised peat will not occur. While environmental impacts are expected to be minimal, monitoring proposals have been outlined.



Source C.

Moving Bogs - Part one

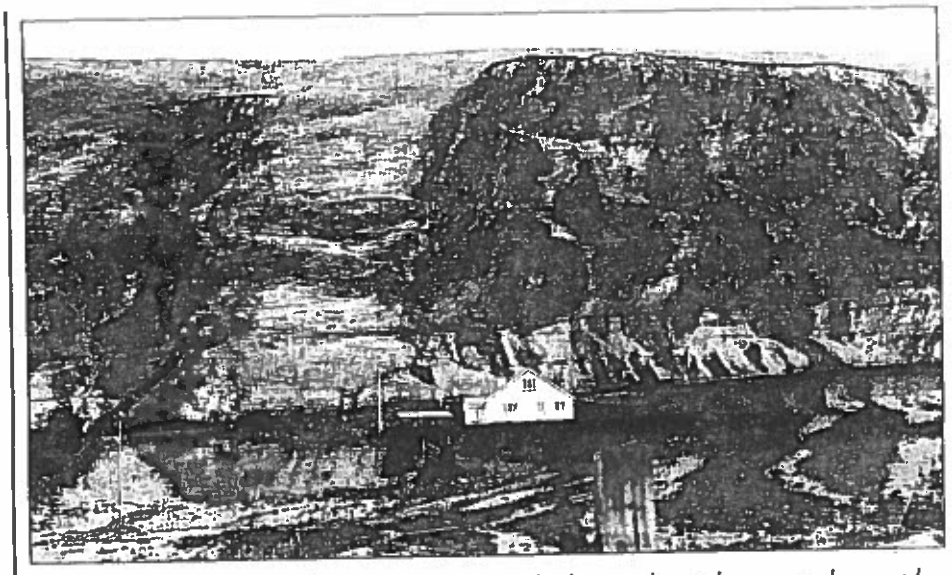
Scéal na Móna

MOVING BOGS – PART ONE

Tony Mara of Tullywood, Baylin, Co Westmeath, recently informed Scéal na Móna that he once heard someone describe the appearance (when walking) of a very large woman as "like a moving bog". Indicative perhaps that the concept of moving bogs wasn't at all alien to ordinary Irish midlanders, which is understandable when we realize that at least 40 cases of bogs moving or "bursting" were recorded in the last century. This has recently led the Geological Survey of Ireland (GSI) to set up a national "hazard" database that will outline the possibility of such future occurrences as bog slides is potentially hazardous areas throughout the country. That would mean that future planning submissions, etc., may have to take the possibility of such environmental impacts as bogslides into account. The GSI interest had been aroused by the two major 2003 bogslides (see Photos) at Pullathomas in the blanket bogs of Mayo in the North East of the country and at Derrybrien (and the Slieve Aughty Mountains) in the east Galway.

How hazardous moving bogs can be is shown by what happened in 1896 outside Killarney in Co Kerry, when the only known Irish fatal incident associated with such shifting bogs occurred. Robert Lloyd Praeger, the famous Irish botanist who died in 1953, explained in his monumental book, "The Way That I Followed":

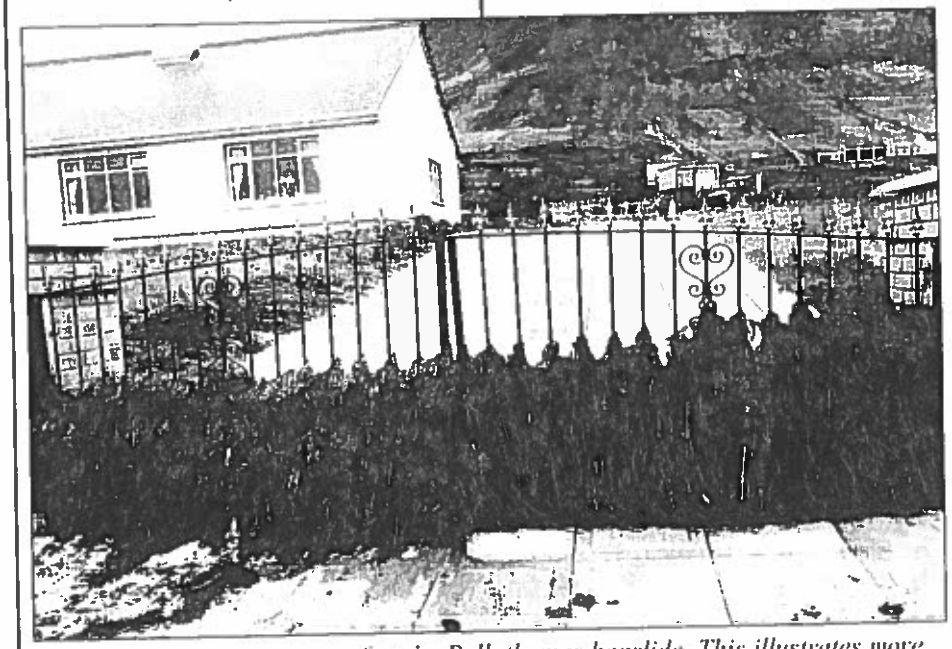
"It was on peat-covered hills near Gneevegullia, out to the north-east of Killarney, that there occurred, three days after the Christmas of 1896, and extensive bog-burst that attracted much attention on account of the tragic circumstances accompanying it, a family of eight persons [who were asleep at the time], their home and their livestock, having been carried away and buried... A vast mass of peat and water precipitated itself down the valley, the flood ceasing only when it entered the Lower Lake of Killarney, fourteen miles distant". Evidence of the environmental impact of this occurrence still exists: when Wayne Trodd and Dr Declan Murray of UCD took core samples on Lough Leane in 2001 for an EU project they found a layer of peat silt that the bog burst had deposited in the lake.



A section of the bog slide at Pullathomas, the house shown here was damaged and had to be evacuated.

Praeger, who had been sent by the Royal Dublin Society to investigate the incident, explains how bog bursts generally occur. "In certain conditions, the lower layers of a bog may become so highly charged with water that under the pressure of the superincumbent mass they gush out at the lowest point of the floor, dragging the wreck of the more solid upper levels after them. If the bog be large and deep, a great flood of semi-liquid matter may be ejected; and should the slope below the point of ejection be steep, a devastating torrent may result".

It has been suggested however that this year's Irish bogslides were caused by the blanket bogs being desiccated by the unusually dry summer weather, to the extent that they were later vulnerable to the heavy rain which dislodged them. The GSI also suggests that both events occurred in areas of poorly permeable bedrock. The "flood of semi-liquid matter" associated with the Derrybrien bogslide made excited television viewing, since for the first time ever RTE Newsreels captured footage of an actual moving bog!



Debris left on a gateway after the Pullathomas bogslide. This illustrates more than words the difference between the material that moved in Pullathomas compared with that at Derrybrien.

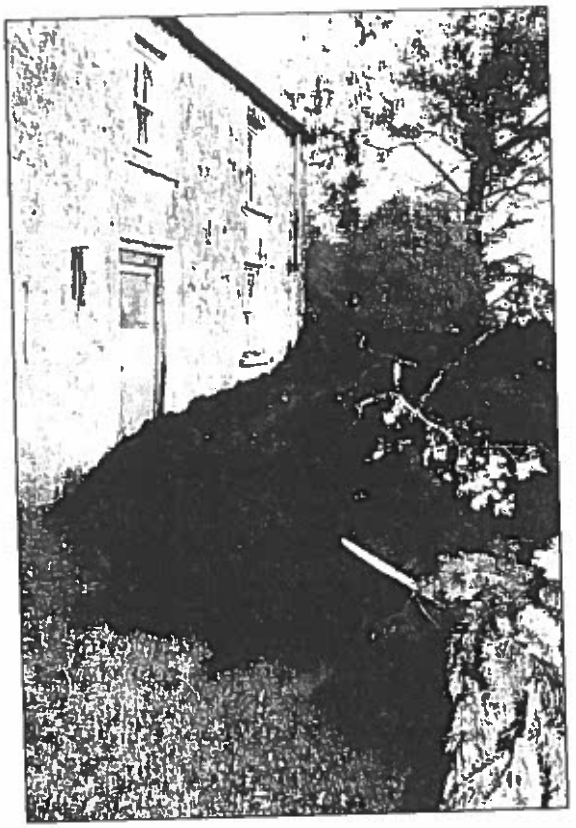
Thankfully there were no fatalities associated with the 2003 bog slides, but both will now result in massive compensation claims. The Derrybrien bogslide has been referred to in the media as an "own goal" for the Irish green lobby in that it occurred on a mountain where a new windfarm is being constructed by Hibernian Wind Energy, a subsidiary of the Electricity Supply Board (ESB). The Government has stated that if the windfarm is found to be responsible for the bogslide the local residents will be compensated. Mayo County Council has recommended a €5 Million remedial plan to offset the damage caused by the Pullathomas bogslide, and locals in that region have been blaming work associated with the Corrib Gas terminal site for causing that avalanche. Proposals to construct the terminal at Bellanaboy, some two miles from the site of the bogslide, were initially turned down by An Bord Pleanála since peat disturbance at the site would cause environmental problems. Bord na Móna and Shell E&P Ireland Limited are presently investigating the option of removing 650,000 cubic metres of peat from the Bellanaboy 15-hectare site and spreading it over cutover bogland at Srahmore near Bangor Erris as part of a rehabilitation process. Concerns have been expressed however that this operation may lead to the siltation of nearby Carrowmore lake, a local reservoir, and Mayo County Council specialists have stated that had the Corrib pipeline already been in place it would have been severed by the Pullathomas bogslide and a "catastrophic disaster" would have occurred. Concerns have also been expressed that the actual site below Dooncarten hill chosen by Shell for its terminal is also surrounded by blanket bog and potentially unstable.

While this article was being finalised a bog burst occurred in Tullywood Bog not far from Patsy Mara's residence in Westmeath. Media accounts suggest that some 48,000 tonnes of bog moved forward in this slide, but perhaps this is a conservative estimate since a few hundred yards of the upper bog (highbank) there slipped forward to push the lowbanks ahead of it in a similar occurrence to what happened in Kilnaborris (Blackwater) Bog in County Galway in the 1930s and Clonfert Bog near Banagher in the first decade of the last century. Children (including the editor's father) who travelled to Esker schoolhouse the morning of the bog slide were amazed to find a new bend in the road, caused by the Clonfert bogslide, on their way home. Val Hough, who lived beside and cut turf on Kilnaborris said the bogslide there rendered a large portion of the bog useless for cutting turf (with the slane) since the bog was "all mixed up".

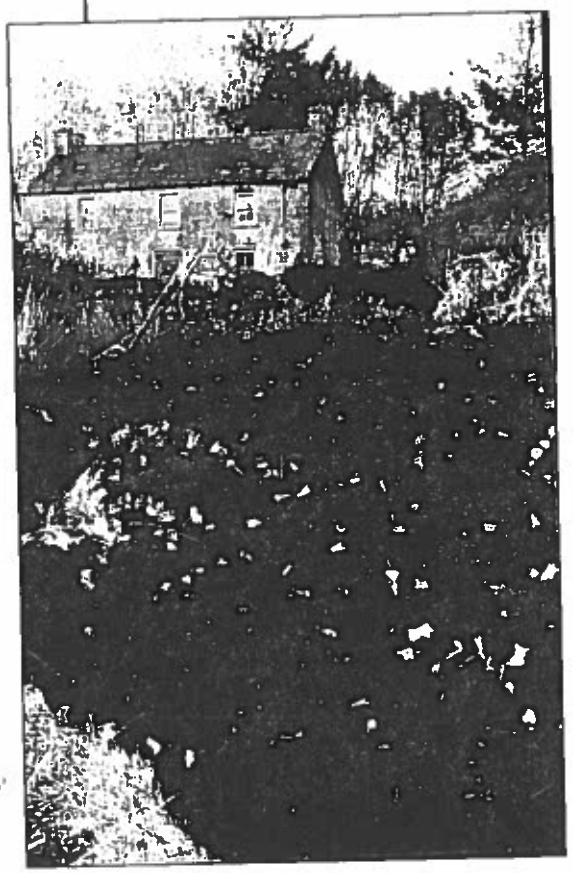
The bog at Tullywood is a beautiful example of a raised bog, surrounded by evergreen forests where turf had been excavated (rather crudely using modern techniques) along a narrow front. This has obviously led to an outburst of pressure along that front since the bog is very wet. Obviously the Tullywood incident is totally different to those at Pullathomas and Derrybrien, since no incline is involved. The pressure at Tullywood results from the natural raised mound of the raised bog above the surrounding mineral soil.

The Irish Environmental Protection Agency (IEPA) recently reported that the bogs of Ireland are in danger of drying out as the temperature rises due to global warming. An IEPA climate report states that "in just 30 years, peat formation could fall by a quarter from current levels, as a temperature increase of just 1 to 2 degrees can have a significant impact."

The situation is so critical that researchers at Trinity College Dublin believe that one species of heath [not specified] may disappear altogether within 50 years. Is this suggested desiccation associated with global warming responsible for in particular the Pullathomas bogslide - can we expect further such occurrences in the future?



The moving bog at Derrybrien pours past an abandoned farmhouse.



Continuing onward the Derrybrien bogslide engulfed everything before it - this heavy material has the dangerous consistency of quicksand.

Source D.

Petroleum Taxation in Ireland

Irish Hydrocarbon & Irish Exploration companies.

This is a summary of the terms from the point of view of the OOA, PESGB and other oil interests. It has already been submitted to Mayo Co. Co. and was on file. It is complementary to discussion of national benefit if this project at this time in this place in this way.

Introduction

This directory was produced initially in 1997 primarily to back up our concession map series on West Britain and Ireland and to provide ready answers to our map user's questions. This issue is a low cost part revision of the original directory. I have had to cut it back a bit due to a general lack of money in the Industry. Hopefully when things get better I will be able to expand it again.

The current low in the oil industry which has begun to hit Britain since the begining of the year does not seem to have hit Ireland yet. We are still a 2-4 wells a year province and is expected to remain so for a couple of years. Interest in the sector is still high judging from the number of delegates attending the Petroleum Affairs Division(of the Department of the Marine and Natural Resources) Conference on the Irish Sector at the end of April 1999. Indeed, the recent awards of acreage in the South Porcupine Round to Elf and Agip were possibly beyond industry expectations considering the current state of the industry. The high cost, high risk, difficult working areas like the west coast of Ireland and the "Atlantic Fringe" are among the first areas to suffer when oil prices are low.

As we do not have year round activity offshore Ireland we do not have a full time exploration servicing activity with the exception of Cork where the Kinsale Head platform servicing operation is carried out from. The part time servicing operations of other service ports are in danger due to labour disputes. Enterprise's decision last year to largely service its west coast exploration programme out of Ayr in Scotland due to Irish labour disputes sets a dangerous precedent.

On a more positive note there are at least two interesting developments since the last edition of this directory. Firstly, it is great to see that there are Irish companies researching, manufacturing and providing services to the international exploration market in the marine technology area and getting active support from the Marine Institute. Secondly, about sixty to seventy people turned up for the first meeting recently of what is to be known as the PESGB -Irish Branch (Petroleum Exploration Society of Great Britain). This is was a great turnout considering the number of oil exploration offices in Dublin. Meetings are to be quarterly and the next meeting is in June 17th (1999) and will be hosted by the P.A.D. Anyone is welcome to come along. Further information is available from Ian Wilson (Enterprise oil plc).

I would like to thank everyone who contributed information and the advertisers to make its publication possible.

John Coleman

Editor

April 1999.

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Petroleum Taxation in Ireland

Summary Fiscal Terms for Exploration and Exploitation

by Dermot Corcoran, (Petrogal Energy Services Ltd.), April1999.

The current fiscal terms for exploration and exploitation offshore Ireland, are governed by the provisions, pertaining to petroleum taxation, contained in the Finance Act, 1992. The key elements of the fiscal regime are as follows:

- **CORPORATION TAX** - a rate of 25% applies to profits from oil and gas production on petroleum leases (awarded subsequent to declaration of commerciality) issued before specified *dates. A standard rate of corporation tax (32% at present) applies to profits from oil and gas production on petroleum leases issued after these specified dates.

With respect to the 25% corporation tax rate, the relevant petroleum lease must be issued before the following dates:

- 1st June 2003 for field discovered under standard exploration licence (< 200m Water)
- 1st June 2007 for field discovered under deepwater exploration licence (> 200m Water)
- 1st June 2013 for field discoverd under frontier exploration licence (*Frontier area is designated by the Minister of Energy)

- **DEVELOPMENT COST ALLOWANCE** - the allowance for field development outlays (CAPEX) is 100% in the first year of commercial production with unlimited carryforward for unused allowances.
- **OPERATING EXPENSES** - operating expenses are 100% deductible.
- **EXPLORATION COST ALLOWANCE** - exploration costs can be written off immediately (i.e. 100% write off in Year 1 or as early as possible thereafter). This write off rule relates to all exploration expenses, including those exploration costs that are not field relevant, provided they have been incurred in the 25 year period immediately prior to commencement of field production.
- **ABANDONMENT COST ALLOWANCE** - allowances and loss relief, with respect to abandonment expenditures, are available.

Other key elements of tlhe fiscal regime and the revised licensing terms, for offshore oil and gas exploration and development, include:

- **STATE PARTICIPATION**- None. **ROYALTIES**- None. **SPECIAL TAXES**- None.
- **RING-FENCE** - a ring fence pertains to all upstream activities. However, a limited breach of this ring fence permits onshore minerals losses to be offset against offshore petroleum profits.
- **EXPLORATION PERIOD**
  Standard Exploration Licence - 6 years (divided into 2 periods of 3 years).
  Deepwater Exploration Licence - 12 years (3 periods of 4, 3, and 5 years).
  Frontier Exploration Licence - 15 years Min. (variable with max. of 4 phases)
- **MINIMUM WORK PROGRAM BID**
  Standard Exploration Licence - to include 1 well in first 3 year period
  Deepwater Exploration Licence - to include 1 well in first 4 year period
  Frontier Exploration Licence - agreed work program only, in first phase

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Licence Types - Terms and Conditions

Licence type	**Petroleum Prospecting Licence.** (Geophysical/Geochemical)
Duration	one, two or three years
Renewal	renewable for a further 2 years or longer if you are a "lease undertaking" holder
Obligations	none
Note:	Allows the holder to do geophysical or geochemical work anywhere in the sector except on acreage held under all other licence types.
Cost	£5,000 per annum

Licence type	**Licencing Option.** (Geophysical/Geochemical Licence)
Duration	Normally one year
Renewal	renewable for a further 1 year on the agreement on a further work programme or longer if you are a "lease undertaking" holder
Obligations	1. has to hold a Petroleum Prospecting Licence. 2. complete agreed work programme
Note:	Allows the holder to do geophysical or geochemical work in the area covered by the licence and gives the holder first right during the life of the option to an exploration licence over all or part of the the area covered by the option.
Cost	£15,000 per block for the first year, £25,000 per block on the 1st anniversary of the option grant.

Licence type	**Standard Exploration Licence.**
Duration	6 years (2 phases, year 1-3, year 4-6)
Obligations	1. In the first three years complete agreed work programme to include one exploration well. 2. before the end of the 4th year propose a work programme for the remaining 3 years of the licence for approval by the Minister. 3. At the end of the fourth year surrender 50% of the acreage unless a 2nd exploration well has been commenced by that date.
Note:	1. Issued where water depth does not exceed 200m 2. Gives the holder the exclusive right of searching for petroleum (including drilling) over all the area covered by the licence.
Cost	£120 per Sq.Km per annum. £240 per Sq.Km on retained acreage after year 4.

Licence type	**Deepwater Exploration Licence**
Duration	12 years (3 phases, year 1-4, year 5-7, year 8-12)
Obligations	1. In the first 4 years complete agreed work programme to include one exploration well. 2. before the end of the 4th year propose a work programme for the 5th, 6th and 7th year of the licence for approval by the Minister. 3. At the end of the fourth year surrender 50% of the acreage unless a 2nd exploration well has been committed to by that date.This second well to be commenced before the end of the seventh year of the licence.

Tel: +353-1-2847914 Fax +353-1-2826311

Licence Types - Terms and Conditions

	Deepwater Exploration Licence (continued)
	4. before the end of the 7th year propose a work programme for the remaining 5 years of the licence for approval by the Minister 5. At the end of the 7th year surrender 50% of the acreage then held unless a 3rd exploration well has been committed to by that date. 6. At the end of the 8th year the licence shall be surrendered unless a 2nd exploration well has been commenced at that date.
Notes:	1. Deepwater Exploration licences are issued in respect of an area, any part of which the water depth exceeds 200 metres. 2. Gives the holder the exclusive right of searching for petroleum (including drilling) over all the area covered by the licence.
Cost	£60 per Sq.Km per annum. £120 per Sq.Km per annum on retained acreage after 1st surrender, £240 per Sq.Km per annum on retained acreage after 2nd surrender, .

Licence type	**Frontier Exploration Licence**
Duration	15 years (4 Phases, Phase 1, year 1-4, other phases by agreement.)
Obligations	1. In the first 4 years complete agreed work programme 2. before the end of the 4th year propose the area to be retained and a work programme for the second phase. the work programme to include an committment for one exploration well. 3. At the end of the second phase surrender 50% of the retained acreage unless a work programme has been approved including a committment to a 2nd exploration well to be drilled by the end of the third phase. 4. At the end of the third phase surrender 50% of the retained acreage unless a work programme has been approved including a committment to a 3rd exploration well to be drilled by the end of the third phase. 5. At the end of the third phase surrender the licence unless a 2nd exploration well has been commenced by that date.
Note:	1. Frontier Exploration Licences are granted WRT an area with special difficulties related to physical, environment, geology or technology and are defined by the Minister as "Frontier". 2. Any work performed in excess of the requirements of an agreed work programme may be carried forward to be credited in respect of a later period. 3. Gives the holder the exclusive right of searching for petroleum (including drilling) over all the area covered by the licence.
Cost	£20 per Sq.Km per annum during 1st phase.£40 per Sq.Km per annum on retained 2nd Phase acreage

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Licence Types - Terms and Conditions

Licence type	**Lease Undertaking**
Duration	2 years
Obligations	1. the operator must use his best endeavours to establish commerciality and supply the minister with a report annually 2. The holder of a Lease Undertaking shall be the holder of a Petroleum Prospecting Licence during the full period of the Undertaking. 3. Having established the discovery to be commercial, the holder of a Lease Undertaking shall formally apply to the Minister for a Petroleum Lease;
Note:	1. This type of licence allows the operator to appraise a discovery which initially is non commercial and come up with a development plan. 2. Lease undertakings have to be applied for 3 months before the expiry of the exploration licence
Cost	£800 per Sq.Km during 1st year, increasing by £100 per sq.km in each subsequent year.

Licence Types - Terms and Conditions

Licence type	**Petroleum Lease**
Effective Date	Gas 8 years from notification of discovery or 6 years from expiry of exploration licence Oil 5 years from notification of discovery or 3 years from expiry of exploration licence
Obligations	1. Within 2 years of the date of issue of a Petroleum Lease the lessee will be required to submit a detailed plan of development, in a format specified by the Minister but including a detailed production profile for the life of the field, for the approval of the Minister. An Environmental Impact Statement of the likely effects of the development on the environment shall also be required.
Duration	1. A Petroleum Lease will be valid for such period as the Minister shall decide and specify in the Lease having regard to the likely production profile. 2. The period of a Petroleum Lease may be extended on terms and conditions as may be agreed by the Minister and the lessee. An application for extension shall be submitted at least one year prior to the expiry date.
Leasehold rentals	The lessee will pay to the Minister an annual rental fee calculated on the basis of £1,600 per sq km until the date of first production. The annual rental fee shall be calculated on the basis of £ 2,500 per sq km from the date of first production and every subsequent year for the remainder of the Lease term. These rental fees will be revised with effect from 1 January 1994 and annually thereafter in line with the Wholesale Price Index as published by the Central Statistics Office.
Licence type	**Reserved Area Licence** A lessee may at any time apply for a Reserved Area Licence in respect of a specified area adjacent to or surrounding the leased area and which is not the subject of an authorisation other than a Petroleum Prospecting Licence granted to a person other than the lessee. Provided the applicant has observed and performed the obligations required under the Petroleum Lease.
Duration	Similar to Exploration Licence
Obligations	Similar to Exploration Licence
Costs	Similar to Exploration Licence

Health And Safety

The National Authority for Occupational Safety & Health (the Health and Safety Authority) is the government body responsible for offshore safety under the Safety, Health and Welfare (Offshore Installations) Act, 1987 and the Safety, Health and Welfare at Work Act, 1989. These Acts apply to all offshore installations, exploration and production. A number of Statutory Instruments have been issued under the 1987 Act.

In addition, all offshore installations are required to be certified as fit for purpose. Forbairt, the Irish Science and Technology Agency, has responsibility for certification matters.

Regulations made under the 1987 Act provide for the notification of appointment of installation managers, emergency procedures, operational measures to be taken for the safety and the protection of the health and welfare of persons on specified offshore installations and life saving measures to be followed.

Amongst the details contained in the regulations are requirements for:

- the provision and maintenance of Emergency Procedures Manuals;
- the provision and maintenance of life-saving appliances;
- written safety instructions;
- the identification of hazardous areas and areas containing explosives and dangerous substances;
- procedures for the maintenance, examination and testing of equipment, plant and appliances;
- the provision of equipment and operations for radio communication;
- procedures for notifying accidents.

The regulations also contain provisions relating to food, drink, hours worked, medical requirements and the operation of transport facilities in relation to offshore installations.

Safety and Training

Cork City Fire Brigade
Fire Brigade Headquaters, Fire Station, Anglesea Street, Cork
Tel : 021 966333 Fax : 021 310745
Contact: J. Ryan, Asst. Chief Fire Officer.
Provide fire fighting training for the Marine and Offshore industry. Developed an offshore fire fighting emergency course tailored to suit the needs of the offshore

FÁS (Foras Aiseanna Saothair)
Rossa Avenue, Bishopstown, Cork
Tel : 021 544377 Fax : 021 346349
Contact : Niall Reardon.
National Agency - Training & employment authority and safety certification of offshore personnel in Irish waters.

National Authority for Occupational Safety and Health
Head Office: 10 Hogan Place, Dublin 2
Tel: 01-662 0400 Fax: 01- 662 0417

National Authority for Occupational Safety and Health - Regional Office
4th Floor, Government Buildings, Sullivans Quay, Cork
Tel: 021-964900 Fax: 021- 961663
Contact: Mr. Donal O'Shea
National agency for offshore safety.
See "Health and Safety" above

Environmental Provisions

The Minister for the Marine and Natural Resources has specified certain requirements to be observed by operators in carrying out their activities. These include:

- the maintenance of apparatus etc., in good repair and condition and the use of good oil field practice;
- the preparation of an Emergency Procedures Manual;
- compliance with international conventions relating to dumping of wastes at sea, and in particular prohibition of disposal of oil, oil based drilling fluid and drill cuttings containing oil into the sea;
- control and removal of pollutants, caused by licensee's operations, at licensee's expense;
- reporting procedures for oil spills.

The Irish Marine Emergency Services of the Department of the Marine and Natural Resources has responsibility for marine search and rescue and marine pollution, casualty and salvage response. There is close liaison between operators, the Petroleum Affairs Division and IMES to ensure that environmental requirements are satisfied.

Under the Continental Shelf Act, 1968, as amended by the Sea Pollution Act, 1991, the Minister for the Marine and Natural Resources can make regulations prohibiting or regulating the discharge of oil or other substances from a petroleum expioration or production operation or pipeline.

A development plan submitted to the Minister for approval for the production of petroleum under a petroleum lease must be accompanied by an environmental impact statement. The Minister will take into account this statement and any observations received in connection with it when making a decision on the plan.

Marine Emergencies

Irish Marine Emergency Service (IMES)
Department of the Marine and Natural Resources
Leeson Lane, Dublin 2
Tel: 01-6785444 Fax : 01-618628
Contact: Captain Liam Kirwin

IMES runs the Marine Rescue Coordination Centre and Pollution Response Services.

The Following Numbers are for emergency use only

Marine Rescue Coordination Centre
Dublin (Day & Night)
Tel: 01-662 0922 and 01-662 0923
Fax 01-6620795

IMES has stocks of Pollution Response Equipment Stockpiles at Dun Laoghaire, Co. Dublin; Killybegs Co. Mayo and at Castletownbere, Co. Cork.

Each harbour authority is obliged to maintain a supply of pollution response equipment whilst County Councils in marine counties are obliged to keep materials for clearing beaches.

The main contact numbers are the same for a marine emergency and a marine spillage.

Future Activity

Future Licensing
At the moment (April 1999) the oil exploration Industry is experiencing one of those cyclical downturns and therefore it is difficult to talk of future licencing in the Irish Sector. It is expected that there will be one or two blocks converted from options to full licences and some acreage taken up under the "Open Door Policy" this year. I would expect that there will be no rounds announced this year. The Petroleum Affairs Division of the Department of the Marine and Natural Resources did well in getting acreage licenced to Agip and Elf in the South Porcupine Round awards announced last month.

The Option and Open Door Systems could be important to the Irish sector in the short term in getting some new acreage licenced as the only significant areas which are currently open for licencing are in the Celtic Sea or Irish Sea, areas which are shallower and cheaper to operate in than the Atlantic West Coast.

Future Seismic
In comparison with previous years seismic activity in 1999 and 2000 will be significantly lower.

Future Drilling
Now is a relatively cheap time to drill for those companies who have committments. The current downturn in the industry should not have any significant effect on drilling levels in the Irish sector. Ireland should still see an average of 2-3 wells a year over the next three years, with the major players still being Enterprise and Statoil. However as far as I am aware there are still commitment wells to be drilled by Chevron, Sherritt International/Frontier, and EDC (European Development Corporation. Exploration or appraisal drilling by Providence Resources in the Celtic Sea is planned between and the end of 2000. Looking beyond that is crystal ball gazing at the moment.

Development
Marathon are still the only operator in Ireland producing hydrocarbons. The Kinsale Head and Ballycotton Fields are producing well above expectations. It is understood that some further activity will take place this year with a projected tie back from S.W. Kinsale.

Providence (formerly part of Arcon) has a lease over the Helvick dicovery (49/9)and an option on the Ardmore discovery. A lease is a licence to produce hydrocarbons. Providence has put out to tender development plans for Helvick which were developed in the their lease appraisal period. Helvicks reserves have been upgraded to the 15-18 million barrell mark, however this is still quite small and a cheap and innovative production system will be required to make a profit. 1999/2000 will see some activity on the lease.

The major prospect at the moment is Enterprises Corrib prospect offshore Mayo. This gas discovery is to be further appraised this year. A new gas field is what the country needs. However the demand for gas in Mayo is low and some infrastructure will need to be put in place if the product is to reach the end user. I would expect it will be the new Millennium before Enterprise has a good idea of Corrib's size and reserves.

Government Departments and State Bodies

Department of Marine and Natural Resources- Petroleum Affairs Division
Beggars Bush, Haddington Rd, Dublin 4.
Tel: 01- 6199200 Fax: 01-660 4462
Promotion, regulation and monitoring of the exploration and development of oil and gas in onshore and offshore Ireland. The Petroleum Affairs Division is divided into two Sections An Administrative Section and a Technical Section.

Administrative Section:
Administration, Licence Applications, Well drilling applications:
Mr. Pat Ryan, Principal Officer
Tel: 01-6199567 Fax: 01-6604462
E-mail: ryanp@tec.irgov.ie

Ms. Carmel Murray, Ass. Principal Officer
Tel: 01-6199572 Fax: 01-6604462

Mr. Rory Boyd, Ass. Principal Officer
Tel: 01-6199547 Fax: 01-6604462

Liam O' Brien, Higher Executive Officer
Tel: 01-6199571 Fax: 01-6604462
E-mail: obrienl@tec.irgov.ie

Malcolm Taylor, Higher Executive Officer
Tel: 01-6199570 Fax: 01-6604462
E-mail: taylorm@tec.irgov.ie

Mr. Cormac Judge, Executive Officer
Tel: 01-6199542 Fax: 01-6604462
E-mail: judgec@tec.irgov.ie

Ms. Marion Salmon, Executive Officer
Tel: 01-6199564 Fax: 01-6604462

Technical Section:
Mr. John O'Melia, Clerical Officer
Tel: 01-6199568 Fax: 01-6604462

Dr.Keith Robinson,
Sen. Petroleum Specialist
Tel: 01-6199568 Fax: 01-6199578
E-mail: robinsonk@tec.irgov.ie

Petroleum Affairs Division (Continued)

Petroleum Specialist-Geophysics
Mr. Peter Croker
Tel: 01-6199574 Fax: 01-6199568
E-mail: crokerp@tec.irgov.ie

Petroleum Specialist- Geology
Mr.Noel Murphy
Tel: 01- 01-6199575 Fax: 01-6199578
E-mail: murphyn@tec.irgov.ie

Commissioners of Irish Lights
Head Office: 16 Lr Pembroke St 2
Tel : 01-6624525 Fax: 01-6618094
Contact: Mr Mel Boyd.
The Commissioners have a responsibility to ensure that proposed activities do not pose a hazard to navigation.

Forbairt
Offshore & Coastal Engineering Unit.
Glasnevin, Dublin 9
Contact : Gerard Keane,
Emer Butler, Brendan Dollard
Tel: 01-8082264 Fax : 01-8368139
Certification of offshore installations, environmental downtime studies for offshore explorers & products systems. Advice to Irish companies who wish to service the offshore industry

Irish Marine Data Centre
80 Harcourt St., Dublin 2
Tel : 01-4757100 Fax : 01-4757104
Contact: Bronwyn Cahill
The Irish Marine Data Centre is the National repository of Marine data.

Irish Aviation Authority
Scotch House Hawkins Street, Dublin 2.
Tel : 01-671 8655 Fax: 01- 679 2934
Contact: Mr. Fergus O'Connor
The Irish Aviation Authority is the safety certifying authority for helicopter companies operating offshore Ireland .

Source E1 & E2.

History of Landslides on Glengad Hill and Blasting.

E1:-

The experience of Tullywood (Source C) puts paid to the optimism that a level or 2 degree slope is not sufficient to acomodate the bog.

MCC also gave permission to commence blasting in the summer of 2002 just under the hill of "instability " and with a "history of landslides", and out into the bay, under the hill.

Mayo Co. Co. has now given permission to the developer to blast at the terminal site, although the same operator states in the EIS that blasting will not take place.

Mayo Co. CO. did not make known to the MLVC their concerns before they made a recommendation to the Minister to authorise the project.

E2:-

The "history of landslides in the area" was not addressed in the "offshore EIS or anywhere else that we can find.

Landslide adds to Co

THE €2 billion Corrib gas project is set to be delayed further after a massive landslide caused millions of euros worth of damage to the Pullathomas area in Co Mayo where a proposed refinery is to be situated.

Enterprise Energy Ireland (EEI), the main partner in the project, said last week that plans to route a gas pipeline under the mountain where the landslide occurred had already been shelved earlier this year after local objections.

The proximity of the landslide is certain to give more ammunition to local protesters who forced the re-routing of the pipe some time ago after forecasting a possible slide. Geologists are still conducting tests on the area and about 40 homes have been evacuated.

"There are no immediate plans to move the pipeline further away but we have been in contact with the relevant agencies since the unfortunate events and they are keeping us up to date with developments," EEI said.

"Given the history of landslides in the area, which we addressed in our offshore environmental impact statement, we took the decision to move the pipeline 500m away from the base of that mountain.

"The pipeline now runs 1,000m before turning left to land at Rossport on the other side of the bay, where it will continue eastwards before completing a second bay crossing and running south towards the proposed terminal at Bellanaboy Bridge.

"The Department of Communications Marine and Natural Resources has granted all the necessary offshore approvals for this route and should the Corrib project proceed, this pipeline route will not change."

Des Crowley and Douglas

E1.

New Corrib Gas application likely before Christmas

By Joan Geraghty & ElishaCommins

IT is likely that a new planning application will be made for the Corrib gas terminal at Bellanaboy this side of Christmas, pending consultation with local residents, according to a spokesperson from Enterprise Energy Ireland.

One hundred and fifty letters were sent out to residents on Friday last to discuss the implications of the group's peat removal plans at the site and any concerns that residents may have, inviting them to meet with Enterprise Energy's representative in Bangor Erris, Mark Carrigy.

Survey work in the vicinity of the proposed terminal site, which began in early August, will continue for the next four weeks.

"We are now looking at removing the peat from the site and we are talking to Bord na Mona on how best this can be achieved," a spokesperson for Enterprise Energy Ireland said.

Mr. Andrew Pyle, Managing Director of EEI, has said: "Together with our advisors, we have been looking, in particular, at ways of addressing An Bord Pleanala's stated concern regarding the safe deposition of peat adjacent to the terminal site. We are seeking to minimise the volume of peat to be moved on the site. We are also examining if the peat can be relocated on the site or removed and deposited at a suitable and safe off-site location."

As part of this review, Enterprise Energy have said they are currently undertaking a survey of local roads to establish their capacity to accommodate the transport of peat from the Bellanaboy site.

Enterprise Energy has denied that the recent landslides in Pullathomas have any implication for the Corrib gas project.

A spokesperson reiterated that peat instability was not a concern because the slope on the terminal site was only one degree and therefore virtually flat, whereas the landslide occurred on a steep hillside.

Enterprise Energy Ireland have also pointed out that there had been some confusion locally in relation to the proposed gas pipeline route. While it was originally to be routed along the Pullathomas Road up behind the cemetery which was ravaged by the landslides, this route was ruled out after they were made aware of the history of landslides and the geological instability of the area by Mayo County Council.

The proposed pipeline was then re-routed across Sruwaddacon Bay onto the grasslands on the other side of the bay, according to an EEI spokesperson.

A meeting was held earlier this month between the Taoiseach and Enterprise Energy Ireland to discuss the future of the Corrib gas project. EEI was seeking clarification on whether the proposed Critical Infrastructure Bill would be in place within a reasonable time scale enabling EEI to avail of its provisions.

Following the refusal of planning permission for the Corrib gas project by An Bord Pleanála earlier this year, momentum gathered for the implementation of the proposed Critical Infrastructure Bill to speed up the planning process for projects deemed to be of "national importance."

Although the Taoiseach announced plans to fast track the planning and delivery of national infrastructure projects at the Fianna Fáil Ard Fheis last weekend, it is unlikely the Corrib Gas project will benefit from such legislation, which is still only at the drafting stage.

However, the Corrib gas promoters were assured by the Taoiseach that additional resources were now in place in An Bord Pleanála to speed up planning appeals.

Following the meeting, Taoiseach Bertie Ahern announced in the Dáil that a further investment by Shell in the Corrib Gas project was unlikely unless there was a reasonable prospect of overcoming the planning difficulties surrounding the project.

The final decision will be taken by EEI and its project partners (Statoil Exploration Ireland Ltd and Marathon International Petroleum Hibernia Ltd) within the next month whether to submit a new planning application for the construction of an onshore gas terminal for the Corrib gas project. An off-shore gas processing terminal is still firmly ruled out on economic grounds and also on safety grounds.

It is understood there is to be an approach by a number of Pullathomas residents to Enterprise Energy Ireland to seek their assistance in the reconstruction works in Pullathomas area following the recent landslides. A final decision has yet to be taken on the matter, pending the full agreement of all members of the Dooncarton Landslide Committee, before a formal approach is made.

A spokesperson from Enterprise Energy Ireland has said that they sympathise with the people of Pullathomas and would look at all proposals from the local community, but that they were not in a position to give any guarantees due to the difficulties they've had to date in securing planning permission for the gas terminal.

Despite being refused planning permission by An Bord Pleanála, Enterprise Energy Ireland have engaged in an extensive sponsorship programme over the past year including sponsoring computers for a local school and last summer's Humbert Summer School in Ballina.

Source F

Notice of Planning Permission.

Real measurements have been replaced with approx. which seems to make a mockery of any discussion previously entered into regarding the visual effect of this project.

COMHAIRLE CHONTAE MHAIGH EO
MAYO COUNTY COUNCIL

Excellence Through People

PLANNING AND DEVELOPMENT ACT, 2000

Notice is hereby given that Mayo County Council has on the 30th April, 2004 decided to Grant Permission to Shell E & P Ireland Ltd., Corrib House, 52 Lower Leeson Street, Dublin 2 for the following development.

CONSTRUCT A GAS TERMINAL FOR THE RECEPTION AND SEPARATION OF GAS FROM THE CORRIB GAS FIELD, AND FOR A PEAT DEPOSITION SITE.

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, Bellanaboy Bridge, County Mayo (the Bellagelly South site) and the site of the peat deposition site in the townlands of Srahmore and Attavally, Bangor-Erris, County Mayo (the Srahmore site), respectively. 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, approximately, will be developed in respect of the gas terminal's footprint. The proposed development of the Bellagelly South site will also consist of: the excavation and removal of 450,000 cubic metres, approximately, of peat from the Bellagelly South site, off site, to the Srahmore site; civil works, inclusive of foundations and piling; the provision of a single storey control building with a gross floor area of 400 sq m, approximately, inclusive of a control room, offices, equipment rooms, kitchenette, locker room and toilets; the provision of a single storey administration building with a gross floor area of 1,015 sq m, approximately, inclusive of a gatehouse, offices, a conference room and an emergency response room, canteen, kitchenette, laboratory, archive room, first aid room, store rooms, lockers, changing rooms and toilets; the provision of a maintenance building with a gross floor area of 800 sq m, inclusive of a warehouse, stores, mechanical workshop, welding and fabrication shop, instruments and electrical workshops, a plant room, toilets and a maintenance vehicle shed; a weighbridge; and a lattice antenna structure of 22 m in height, approximately, for site-wide radio communications. The development of the Bellagelly South site will also consist of: a diesel storage tank of 75 cubic metres capacity, approximately; a nitrogen generation unit; an air compressor package; a utility area (for plant); a power generation and switchroom building with a gross floor area of 525 sq m, approximately, for the production of electricity for the proposed gas terminal, to include 3 no. generator sets each with a capacity of 1.3 MW; an emergency generator with a capacity of 650kW; 1 no. emergency generator diesel day-tank and 1 no. diesel distribution pump; a high pressure and low pressure flare tower of some 40 m in height, approximately; a ground flare with a stack height of some 12 m, approximately; a transformer building with a gross area of 410 sq m, approximately, to include a 400v switchroom; a heating medium heater with a stack height of 20 m, approximately; 3 no. flare knock out drums; 2 no. low pressure gas compressors; a methanol recovery system comprising of 1 no. methanol still of 33 m in height, approximately; a heating medium storage tank with a capacity of 40 cubic metres, approximately; a sales gas compressor building with a gross floor area of 890 sq m, approximately, to include 2 no. sales gas compressors, each with a 7.7 MW ISO rated gas turbine driver; a gas-to-gas heat exchanger; a corrugated plate interceptor; effluent feed/treated water sumps; a water treatment building with a gross floor area of 235 sq m, approximately, containing a multi-media filter, ultrafiltration and nanofiltration membrane units, ion exchange beds, an activated carbon filter and a sludge treatment facility; 3 no. condensate storage tanks, of 10 m each in height, approximately, and 10 m each in diameter, approximately; 2 no. product methanol tanks of 8.4 m each in diameter, approximately, and 10 m each in height, approximately; 3 no. raw methanol storage tanks 13.5 m each in diameter, approximately, and 10 m high, approximately; a fire water pond with a capacity of 7,200 cubic metres, approximately; a used firewater pond with a capacity of 5,000 cubic metres, approximately; a firewater pump building with a gross floor area of 660 sq m, approximately, to include 4 no. fire water pumps, each with capacity of 600 cubic metres per hour, approximately, and 4 no. diesel engine drivers, each rated at 265kW (absorbed), approximately; a finger type Slug Catcher an inlet pig receiver with a withdrawal footprint of 15 sq m, approximately; a sales gas metering unit with a footprint of 200 sq m, approximately; an odorant tank with a capacity of 10 cubic metres, approximately; a sales gas pig launcher with a loading / withdrawal footprint of 15 sq m, approximately; an Onshore Terminal Termination Unit (OTTU) measuring 2 m long by 1 m wide by 2.5 m high, approximately; an electricity substation; a Road Tanker Loading / Unloading area; a waste storage area occupying an area of 990 sq m, approximately; the provision of a number of pipetracks and piperacks joining elements of plant together; the provision of 2 no. settlement pond and associated drainage arrangements; landscaping works; stock proof fencing around the perimeter of the proposed development; security fencing around the terminal and settlement ponds inside the stock proof fence; paved internal access roads; provision of vehicular access to the R314 via an improved forestry access road and the provision of entrance walls and gates; the reconfiguration of the existing entrance from the site to the R314 to include the widening of the entrance and the provision of a deceleration lane; realignment of the R314 to the south of its current location, at the site entrance, over a length of 115 m, approximately, to the west of the centreline of the existing site entrance and over a length of 80 m, approximately, to the east of the centreline of the existing site entrance (over a total length of 195 m, approximately); an emergency vehicular access road to the county road running between Pollatomish and the R314 via; an improved forestry access road; a new maintenance access and maintenance road from the R314 to the 2 no. settlement ponds; and all other site development works and landscaping above and below ground.

The development will simultaneously consist of the development of a peat deposition site of 117 ha, approximately, at the Srahmore site. The development of the peat deposition site will consist of: the construction of a hardstanding peat reception area of 5,112 sq m, approximately; the provision of a temporary administration building with a gross floor area of 108 sq m, approximately, inclusive of offices, canteen and toilets. The development of the peat deposition site will also consist of: the provision of a new entrance and access road to the peat deposition site from the R313; the construction of internal circulation routes the construction of a surface water swale along the southern and western boundaries of the site; the provision of 5 no. surface water settlement ponds (2 no. ponds of 800 sq m each; 3 no. ponds of 400 sq m each, approximately). Deposition of peat will take place within an area of 63 hectares approximately. The peat deposition site will also entail the provision of a controlled overflow area of 12 hectares approximately; an oil interceptor; a settlement tank of 28 cubic metres approximately; the provision of a temporary weighbridge and a temporary wheelwash. The development of the peat deposition site will also consist of 5 no. car parking spaces located adjacent to the administration building and 20 no. parking spaces for haulage vehicles at the peat reception area at a site of 160 ha, approximately, in the townland of Bellagelly South, Bellanaboy Bridge, County Mayo, and a site of 117 ha, approximately, in the townlands of Srahmore and Attavally, Bangor-Erris, County Mayo.

A valid planning application was received on the 17/12/2003 and the Reference Number in the Planning Register is P03/3343.

An appeal against the decision of Mayo County Council may be made to An Bord Pleanala within the period of 4 weeks beginning on the date of the decision by Mayo County Council.

John Condon
County Secretary,
Mayo County Council,
Aras an Chontae,
The Mall,
Castlebar,
Co Mayo.

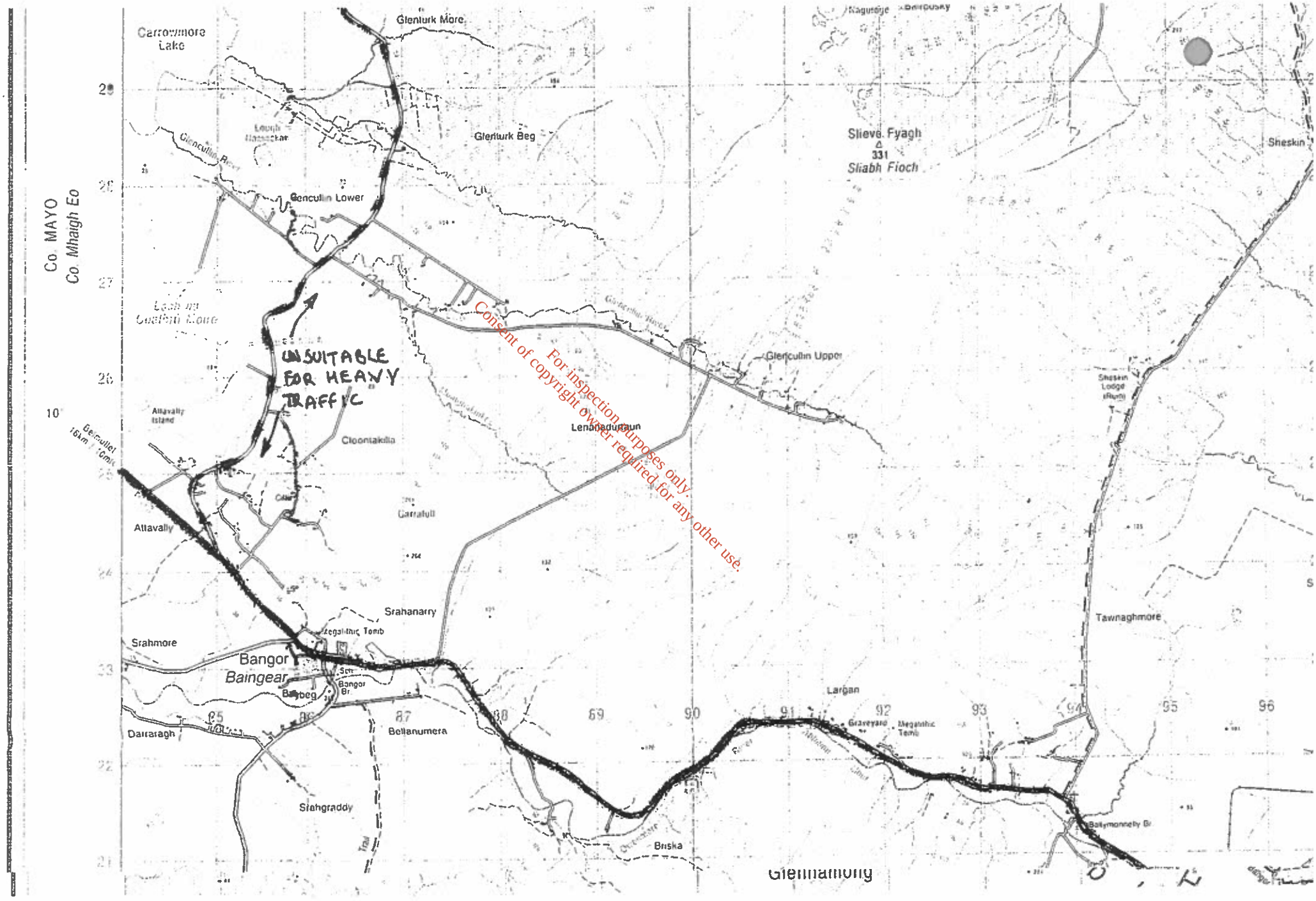
Source G

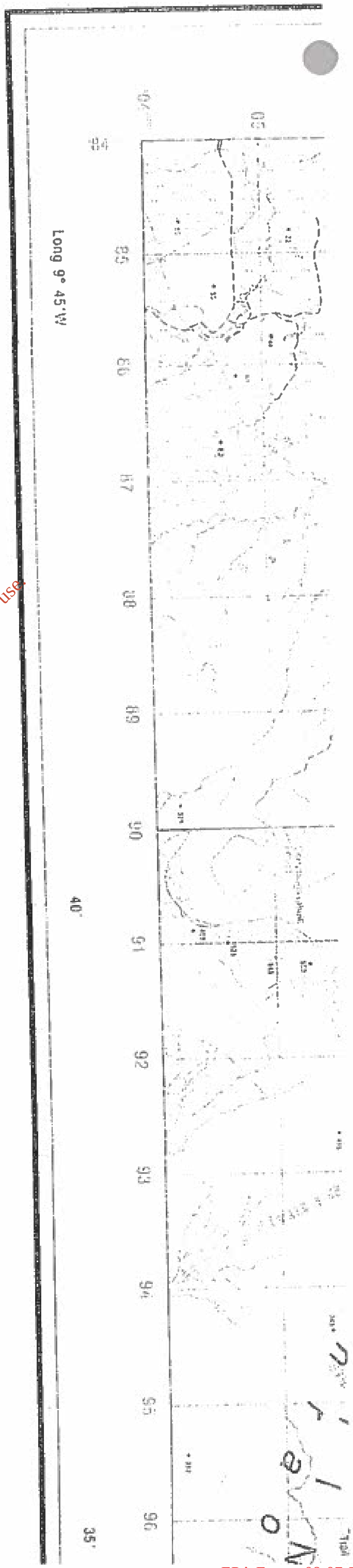
Copy of Map of L1204 taken from

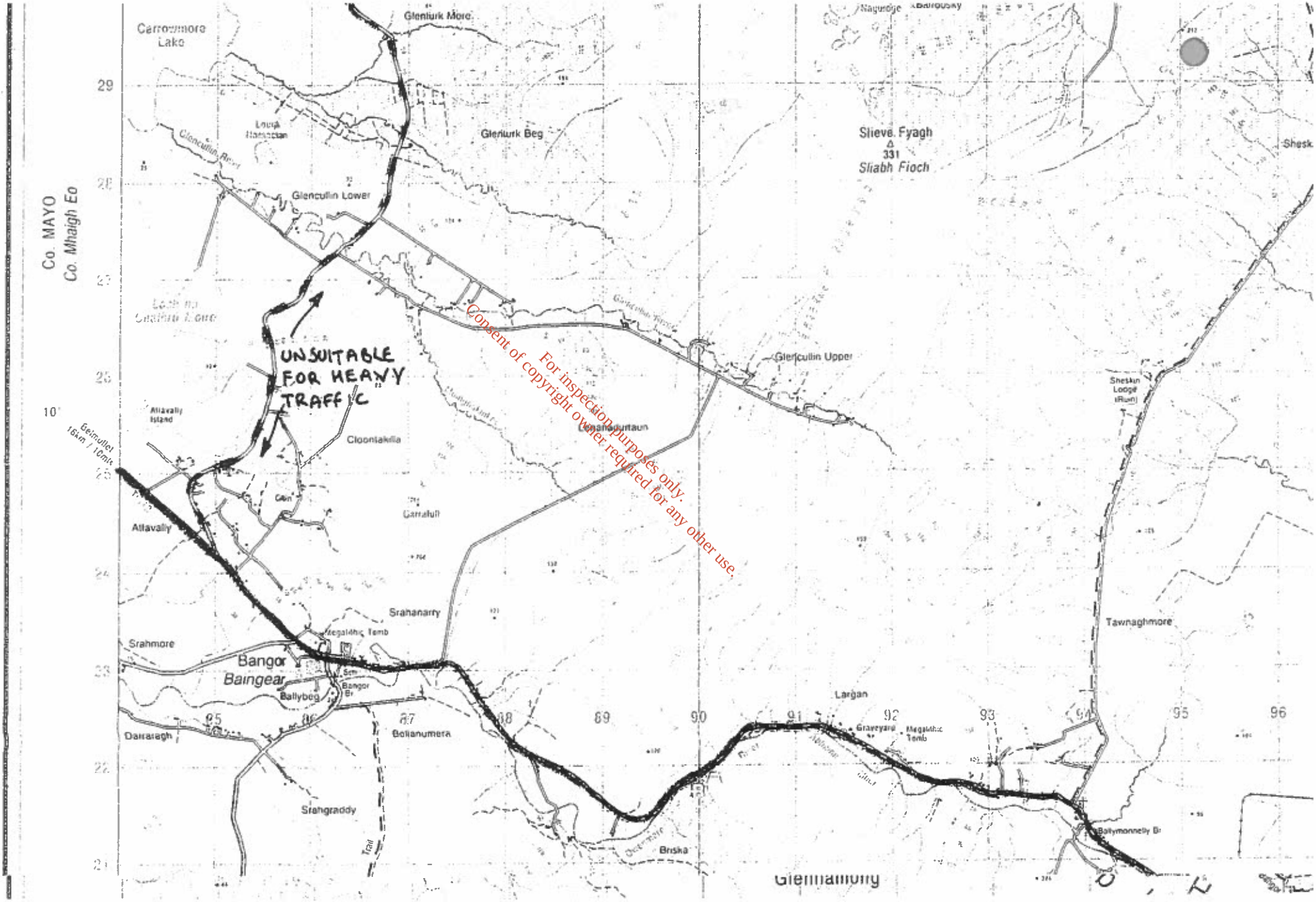
Corrib Field Development Planning Dossier - Terminal

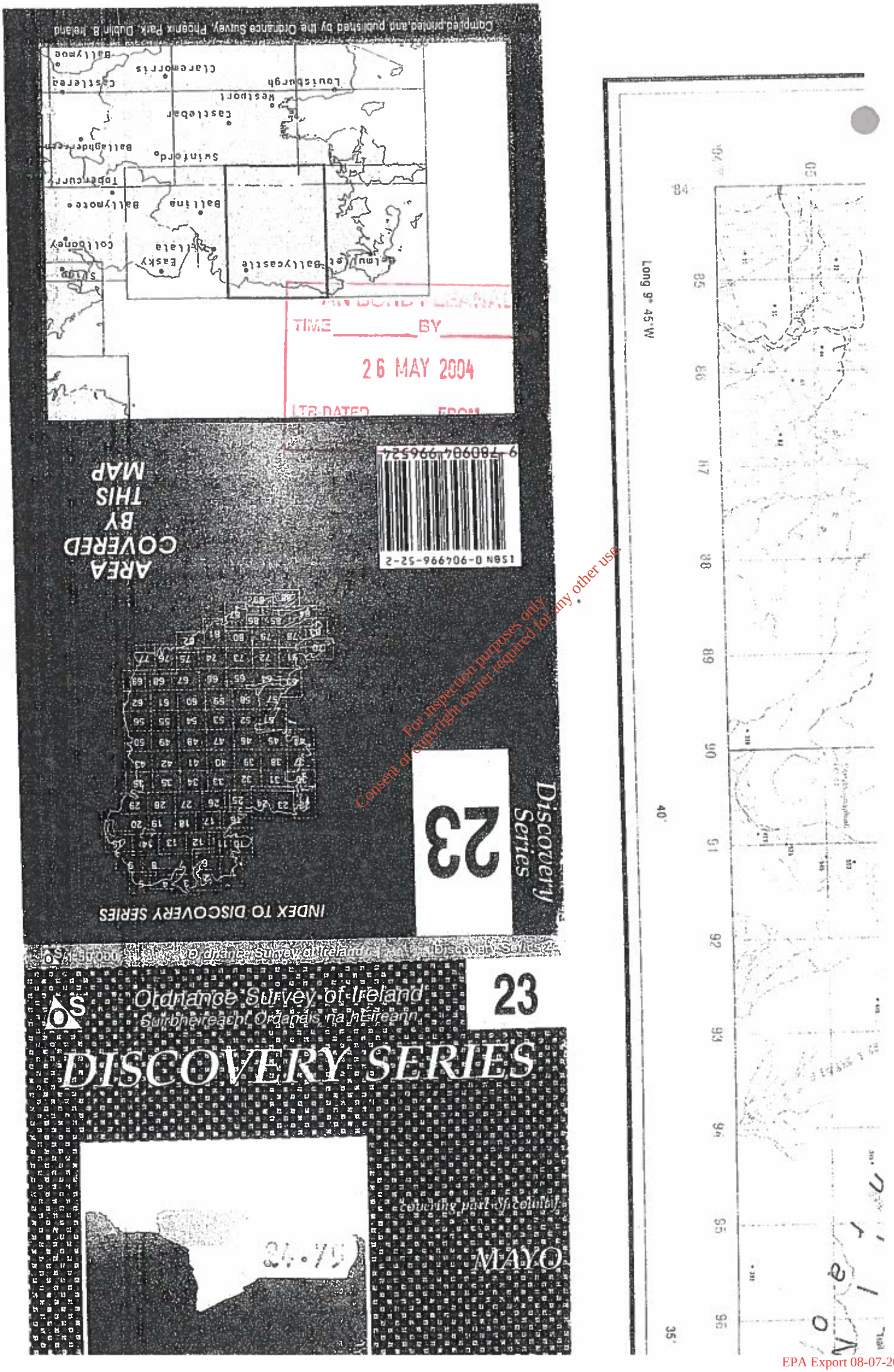
14/11/2000

The U-turn on this road is an engineering matter and is not explained: it must be or the decision has no credibility - just a gamble to please Shell or some other authority. If there is another explanation why is it not forthcoming?









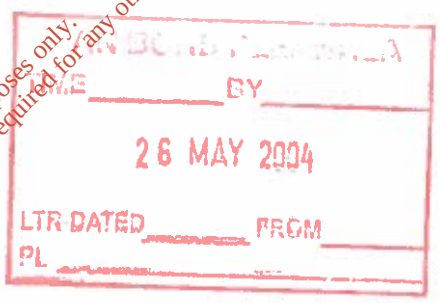
Source H

Extract from An Bord Gáis Annual Report 2002

It makes clear that An Bord Gáis is not waiting longingly for Corrib to deliver its gas : in a normal competitive An Bord Gáis and other suppliers have sourced their gas to way into the future - to 2025 in the case of An Bord Gáis.

Of course they have: one gas is the same as another and there is only one market but many suppliers.

It is important to factor in the fact that Statoil etc Ireland will not be nor is in competition with Statoil UK for customers - 'tis one market, but a few suppliers.



Gas prices likely to rise, warns regulator

Charlie Weston

RETAIL gas prices are likely to rise because of moves to have Bord Gáis Éireann's costs move closer to market costs, the energy regulator warned yesterday.

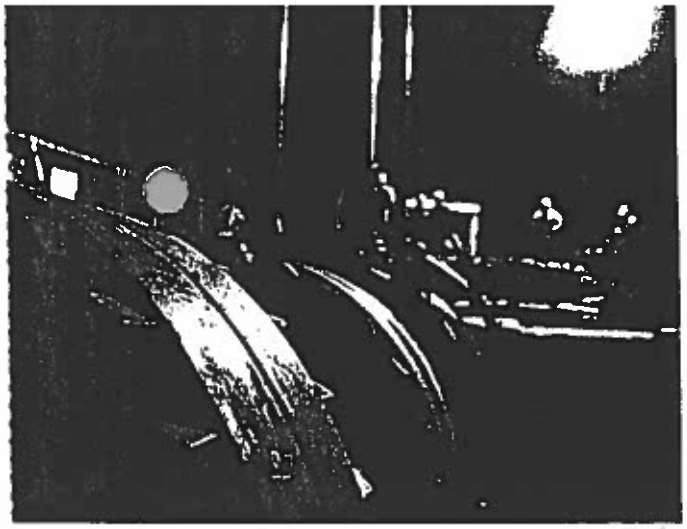
At the moment, Bord Gáis supply costs are lower than the market cost of gas, because the semi-state has entered into long-term contracts to buy gas.

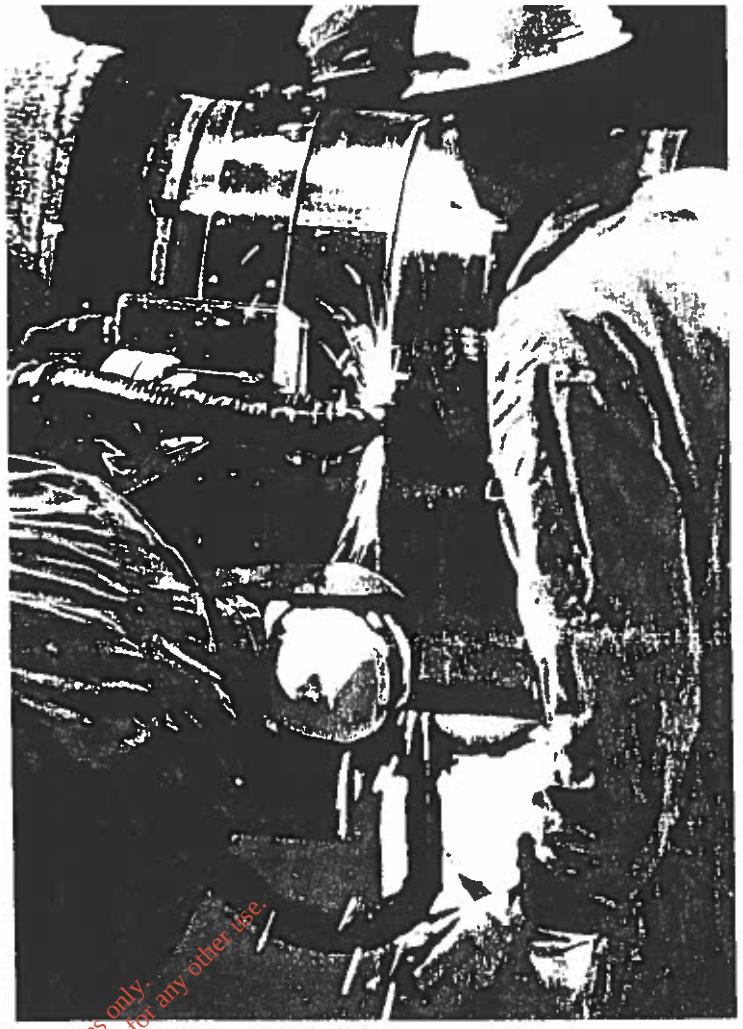
But a consultation paper from regulator Tom Reeves's office warns that these contracts expire in 2006 and Bord Gáis will need to replace them.

"Thus, over time, Bord Gáis Eireann's costs will approach market costs and it is likely there will be upward pressure on natural gas supply prices, particularly in the franchise market," the paper noted.

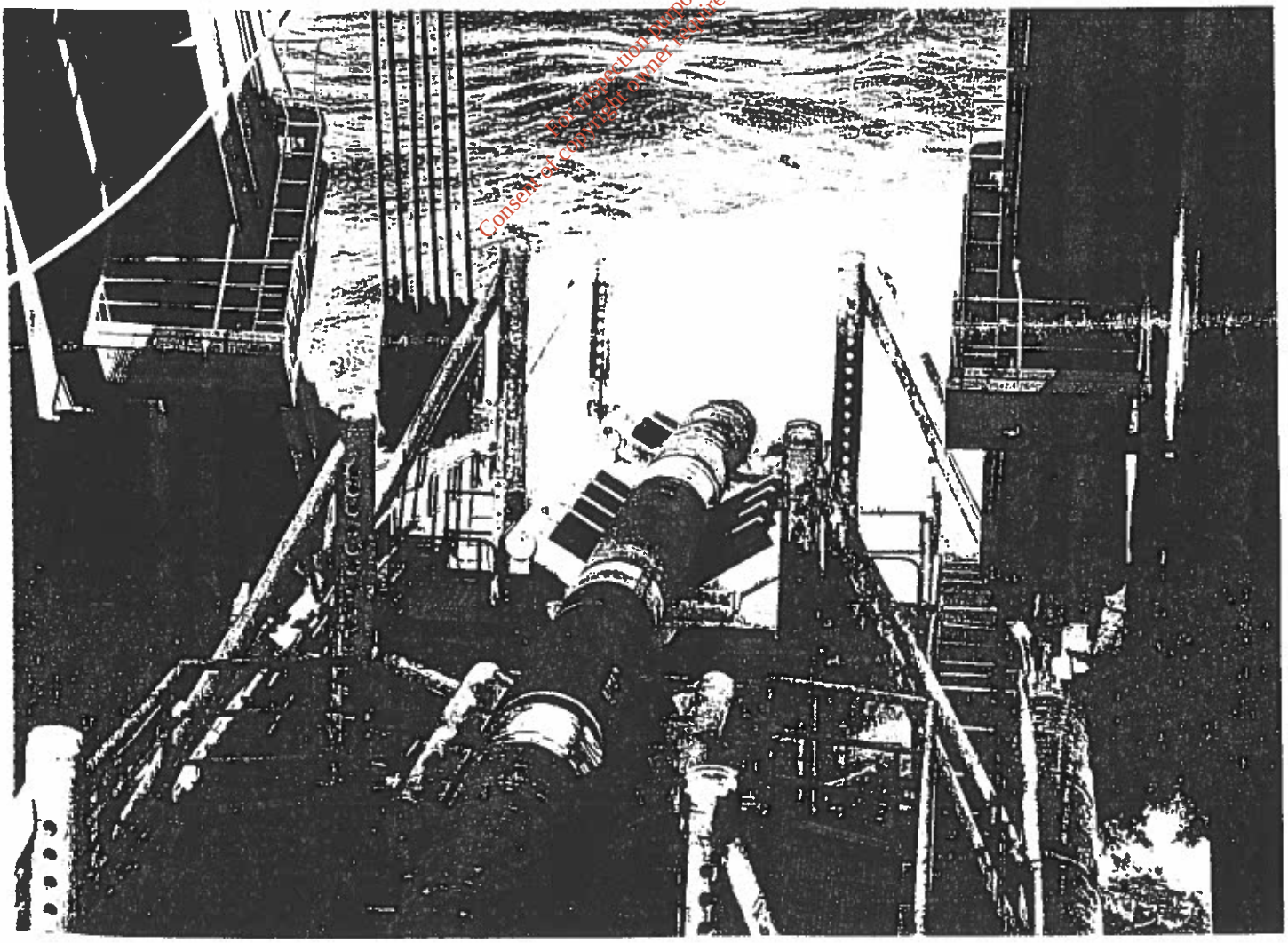
In the meantime, a way of dealing with any windfall gains to the semi-state will have to be found.

Charges that reflect the costs of supplying gas will have to be introduced as part of plans to fully open up the gas market to competition, Mr Reeves said.





The 238km second sub-sea interconnector pipeline linking Ireland and Scotland ensures security of natural gas supply to the Irish market to the year 2025



European Gas Market

Natural gas had a 24% share of the EU's primary energy consumption in 2001 (source: Eurogas) This percentage is expected to rise to 25% in 2010 and 28% by 2020. This increase is due to demand for gas in power generation, particularly in Spain, Portugal, Greece and Italy and fuel switching from less environmentally friendly fuels.

The European Union forecasts that 60% of EU gas usage will be imported by 2010 and 75% by 2020, up from 45% in 2001. However, there are ample supplies within reach of the EU. The majority of these supplies are likely to come from Russia, Norway and Algeria, the EU's current principal import sources. New sources such as Libya, Egypt, Nigeria and the Middle East are also likely to play an increasing part in the EU's gas supply.

The European Commission has progressively increased the level of liberalisation in European gas markets. The current level of market opening varies from 35% in Denmark to 100% in the UK. Ireland currently has over 80% market opening. (Portugal and Greece are exempt) In November 2002, the EU agreed to market opening in all markets except residential by 2004, and full market opening by 2007. Energy Regulators have been put in place in most European countries.

In addition, there has been an increasing level of overlap between the gas and electricity markets in Europe.

In addition, a cross-country pipeline, also completed in 2002, was extended from Dublin to Galway and Limerick, connecting into the national grid and completing, for the first time, a robust national ringmain. This pipeline was designed to bring the benefits of this clean, economical and efficient fuel to thousands of homes and businesses in the midlands and the west of Ireland; to assist the development of potential new gas finds off the west coast and to facilitate the development of gas-fired power generation. It also creates increased competition by providing greater access to natural gas at market prices and enhances security of supply to the south of the country. Both projects were completed within a remarkably tight timeframe.

According to one of the recommendations of the National Climate Change Strategy for fuel switching to gas and renewables, launched in 2000 by the then Minister for the Environment and Local Government, the conversion of some of Ireland's coal and oil fired power stations would make the largest single contribution to the reduction of greenhouse gas emissions in Ireland. Not only is natural gas one of the most environmentally friendly of all fuels, it is also one of the most cost effective fuels on the market and Bord Gáis will aggressively target this market over the coming years.

With supply of natural gas secured well into the future, our focus is now firmly on minimising gas procurement costs, maximising gas throughput on our pipeline asset network, thereby reducing transportation costs, while making gas prices more competitive relative to other fuel sources.

We also continue to aggressively grow our customer base, improve our customer service and endeavour to provide excellent value relative to competing energy suppliers. To assist this process, the Board has approved some organisational changes that provide the company with the optimum structures to meet these objectives.

Business Review

Natural Gas Network

Bord Gáis is the owner and operator of the transmission and distribution asset network in Ireland. At year end 2002, Bord Gáis had 1,850km of transmission assets and over 7,000km of distribution assets, representing 98% of the company's total fixed asset base. Within the liberalising market, Bord Gáis is charged with providing third party access to the transmission and distribution networks to enable eligible customers that purchase natural gas independently, to transport their gas through the Bord Gáis network. Bord Gáis has actively facilitated this process over recent years.

During 2002, €564 million was invested in expanding the existing transmission and distribution networks and €18 million was invested in renewing the existing distribution asset base. As a consequence of this investment, the enhancement and extension of Ireland's natural gas infrastructure increased significantly during 2002. This leaves the company well positioned to deliver the benefits of natural gas to an ever increasing number of residential, commercial and industrial users. It also provides for the exploitation of offshore gas reserves; underpins security of gas supplies and facilitates compliance with our Kyoto obligations by enabling fuel switching to environmentally friendly natural gas.

Our capital expenditures in 2002 were included in our regulated asset base and are therefore already reflected in the current tariff directives issued by the CER. Agreement with the CER provides for Bord Gáis to earn a fixed 6.5% real return (after tax) on investments in our regulated pipe network.

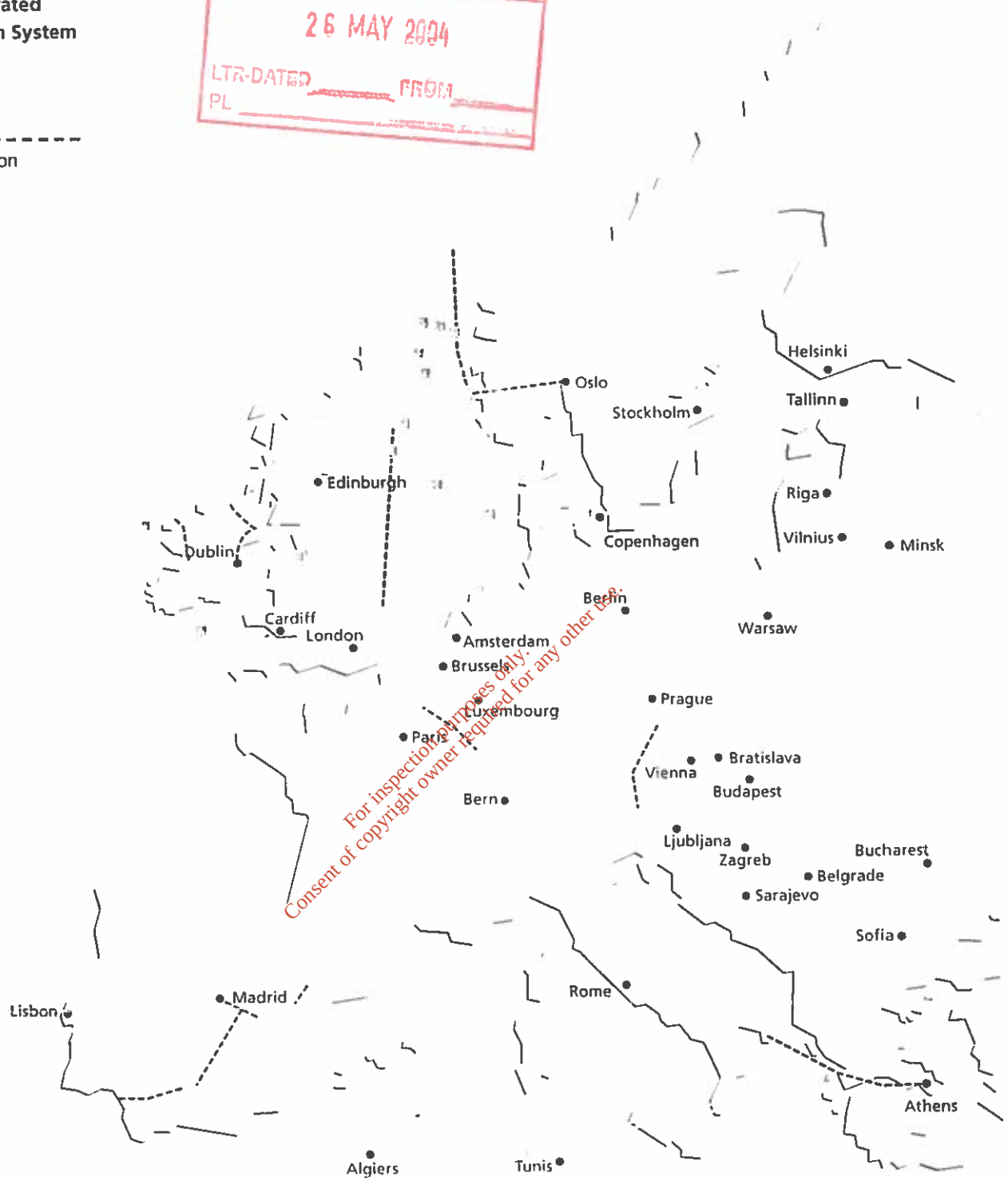
Total gas transportation revenue during 2002 amounted to €282 million, comprising €88 million from third parties and the remainder from the Energy Supply division of Bord Gáis.

Pipelines Integrated in the European System

existing network

under construction or planned

natural gas field



Indicative network map. Not to scale

Source J

The Johnston Report.

on Evaluation of Onshore Pipeline Design Code

Very very important: and apparently given fresh legs from a Dáil question to Minister Ahearn recently. The issue now is who is responsible for the safety and health that may be affected by the up-stream complex: Mr. Ahearn would seem to have implied that it's Shell!

See source K.

Corrib Gas Pipeline Project

Report on Evaluation of Onshore Pipeline Design Code

Report prepared by:

Andrew Johnston

28 March 2002

Corrib Gas Pipeline Project

Report on Evaluation of Onshore Pipeline Design Code

Table of Contents

Corrib Gas Pipeline Project

Report on Evaluation of Onshore Pipeline Design Code

1.0 Introduction

Enterprise Energy Ireland Ltd is developing the Corrib Gas Field located approximately 65 km offshore from the County Mayo coastline. The gas is transported from the offshore facilities to the onshore terminal via a 91 km long 20" pipeline, 9 km of which is routed onshore from the landfall to the terminal.

The onshore section of the Corrib Gas Pipeline operates under certain conditions which are unusual, and consequently it is important that careful consideration is given to the selection of the pipeline design code, to ensure that the design takes into account best public safety considerations.

In order to investigate both the applicability of the selected design code, and how the Corrib Gas Pipeline design and operating conditions conform to the code requirements as well as internationally accepted design and construction techniques, this report presents the following:

- An evaluation of those codes which are relevant to the design of onshore gas pipelines, and
- An assessment of design and construction aspects which affect the integrity of the onshore pipeline section.

In doing this, the report identifies the following key aspects of pipeline design and construction which have particular relevance to the Corrib Gas Pipeline, and comments on how the design accommodates them, taking into account the specified code requirements:

- Design methodology
- Operating conditions
- Pipeline corrosion
- Public Safety
- Welding and testing
- Pipeline material quality
- Protection from interference

The report addresses the whole length of the onshore pipeline, from the landfall point to the terminal, including the two crossings of Sruwaddacon Bay, and the road crossings. The limits of the onshore pipeline are from the mean low water level to the first valve upstream of the pig receiver at the terminal and this section of pipeline includes a valve station near the landfall.

The report uses as a basis design documentation prepared by Enterprise Energy Ireland Ltd., J P Kenny Ltd. and Granherne/Allseas, and

- information gathered at the meeting of 6 February 2002 in J P Kenny offices. A list of these references is contained in Section 5.

2.0 Conclusions and Recommendations

2.1 Conclusions

The following conclusions are drawn from the report:

- The pipeline design code has been selected in accordance with best public safety considerations and is appropriate for the pipeline operating conditions.
- The design of the onshore pipeline is generally in accordance with the code selection and best national and international industry practice, provided that the actions recommended in Section 2.2 are followed.
- The pipeline is considered to be adequately protected from third party interference by burial to 1.2 m and provision of marker tape above the pipeline.
- The pipeline is considered to meet public safety requirements as outlined in the selected design code, provided that the actions recommended in Section 2.2 are followed.

2.2 Recommendations

The following recommendations are made:

- The QRA should contain justification for the use of a 0.72 design factor at road crossings.
- The QRA should include the effect of leaks from valves and small bore pipework at the beach valve station.
- Additional transient analysis should be carried out to ensure liquid slugs can be safely accommodated in the onshore piping.
- Consideration should be given to running an intelligent pig during or soon after commissioning to provide a benchmark for future surveys.
- It is recommended that the terminal QRA to be prepared as part of the terminal engineering is checked to ensure it addresses relevant gas releases from the pipeline in the terminal.
- Confirmation should be obtained that erosion of watercourse crossings has been accounted for in the design.
- Operating and Maintenance procedures should be checked when available to ensure that CP monitoring, coating surveys and watercourse inspection is carried out at appropriate intervals.
- Confirmation should be obtained that leaving hydrotest water in the pipeline for approximately one year will not be detrimental to the pipeline and fittings.
- The pipeline route should be fixed near inhabited buildings to ensure a minimum 70 m proximity distance is achieved.
- The provision of a leak detection system should be considered.

3.0 Applicable Codes

3.1 General

This section discusses the pipeline codes which are generally adopted for the design and construction of onshore gas pipelines. In order to understand the rationale behind the codes, a brief description of the development of the individual code is presented in this section, as well as the main requirements and qualifications relevant to the Corrib Gas Pipeline.

The documents discussed in this report are variously described as Standards, Codes or Codes of Practice. This report takes all of these terms to be synonymous, and for ease of presentation the report uses the term Code to describe all such documents.

The Codes discussed are the following:

- ASME B31.8, 1999 Edition, Gas Transportation and Distribution Piping Systems
- BS 8010, 1989 Edition with Amendments of August 1993, Part 1 Pipelines on Land: General, and Part 2.8 Steel for Oil and Gas
- BS EN 1594, 2000 Edition, Gas Supply Systems – Pipelines for Maximum Operating Pressure over 16 bar – Functional Requirements
- ISO 13623, 2000 Edition, Petroleum and Natural Gas Industries – Pipeline Transportation Systems
- IGE/TD/1 Edition 4, with Amendments of May 2001, Steel Pipelines for High Pressure Gas Transmission
- IS 328, Edition 3 2000, Code of Practice for Gas Transmission Pipelines and Pipeline Installations

The codes ASME B31.8, BS 8010 and IGE/TD/1 have generally been followed for most onshore gas transmission pipelines in America and Europe, and all have a long track record. Since their issue in 2000, the ISO 13623 and BS EN 1594 codes are now being recognised, although for completeness, the codes are often supplemented by other codes. The IS 328 code has been in existence for some 13 years and has been used for design and construction of onshore pipelines in Ireland.

Other pipeline codes are used in some countries; these are not discussed in this report because they tend to be specific to conditions in the countries concerned and they are not considered to be relevant to pipelines in Ireland.

Most of the codes discussed in this report emphasise that they are not design guides, and that following the code does not eliminate the need for careful design or for competent engineering judgement. Some oil companies and operators publish engineering procedures or standards which although based on these codes, contain more detailed guidelines. It is beyond the scope of this report to discuss such guidelines, but where appropriate, current engineering practices not mentioned in the codes are discussed.

3.2 ASME B31.8

ASME publishes several sections of the B31 piping code, including gas pipelines, liquid hydrocarbon pipelines and station piping. The ASME B31.8 code specifically covers gas transmission and distribution pipelines (i.e. high and low pressure pipeline systems) and originates from a code first published in 1935. Since that time, the code has been refined to accommodate new developments and design and construction techniques, and has become probably the most widely used code for gas pipeline systems.

The code has been prepared under the direction of the American Society of Mechanical Engineers, whose committee also publishes several Interpretations of the code in response to technical enquiries regarding the code. Where the current Interpretations have direct relevance to the Corrib Gas Pipeline, they are discussed in Section 4 of this report.

The project design basis states that where the primary code (BS 8010) is non-specific or ambiguous, reference should be made to the ASME B31.8 code.

3.3 BS 8010

The BS 8010 code contains several parts, covering onshore oil and gas pipelines. The code has been developed over a period of more than forty years and several revisions have ensured that the engineering practices are current. The guidance in the code regarding the transmission of methane gas is based on the philosophy and guidance contained in the IGE/TD/1 Code, although there are some differences and these are discussed in Section 4 of this report.

The code permits more flexibility than some other codes in that it allows alternative design methods and procedures to be followed provided they can be shown to achieve comparable safety levels. A risk analysis is normally required as part of such a safety evaluation, and should include the following:

- Identification of all potential failure modes
- A statistically based assessment of failure mode and frequency
- A detailed evaluation of the consequences of failure from small holes up to full bore rupture including reference to population density
- Prevailing weather conditions
- Time taken to initiate a pipeline shutdown

The design of the Corrib Gas Pipeline has been based on the primary use of this code and a safety evaluation based on the above. The onshore pipeline design basis document states that where the BS 8010 code is

non-specific or ambiguous, reference shall be made to IGE/TD/1 and ASME B31.8.

3.4 BS EN 1594

The BS EN 1594 code is the first European code for gas pipelines and came into effect in June 2000. It is part of a suite of pipeline codes covering all parts of the gas supply system, and covers high pressure gas pipelines over 16 bar. The code cautions that it is not a code of practice and additional national or company standards describing the details are needed.

The code states that in its preparation, it was recognised that the suite of relevant European standards is incomplete, and reference should be made where appropriate to international, national or other standards until relevant standards are available. It further states that requirements for all unusual conditions can not be specifically provided for, nor are all engineering and construction details provided.

3.5 ISO 13623

The ISO 13623 code is the first international code prepared for liquid and gas pipeline transportation systems, and came into effect in April 2000. It was prepared in order to try and reconcile the differences in areas of public safety in previous pipeline systems. The code allows individual countries to apply their national requirements for public safety and protection of the environment. The code describes the functional requirements of pipeline systems.

ExxonMobil has recently proposed ISO 13623 as its model for its Project Specific Design Code (PSDC) for pipelines in Russian and Japanese projects. In Russia, the PSDC is at the Ministry level for review and endorsement. In Japan, a series of discussions with an expert panel of university professors is in progress regarding the acceptability of this standard versus national requirements.

A note in the IGE/TD/1 code states that ISO 13623 is not being used in Europe for natural gas transmission on land. It is not clear why IGE/TD/1 states that the code is not used in Europe, but it is reasoned to be because its principles differ to IGE/TD/1 (and IS 328), and ISO 13623 is considered to be less conservative than the other codes in certain areas.

3.6 IGE/TD/1

The IGE/TD/1 code originated as a 1965 IGE Communication covering recommendations on the installation of steel pipelines. Since that time, additional recommendations and guidance have been progressively added. The code states that the current edition can be used to provide detailed recommendations to support BS EN 1594.

The code allows some design relaxation in areas such as road crossings and proximity distances, provided a full risk assessment is carried out. An Appendix in the code provides guidance on the techniques and criteria for assessment of risk. The Corrib Gas Pipeline design includes a Quantitative Risk Analysis (QRA) which generally follows these criteria.

The project design basis states that where the primary code (BS 8010) is non-specific or ambiguous, reference should be made to IGE/TD/1.

3.7 IS 328

The IS 328 is a recent code which has been prepared to cover onshore gas pipelines in Ireland operating between 16 and 100 bar, although the code refers to gas pressures greater than 100 bar when discussing proximity.

The code states that the requirements are not intended for pipelines the greater part of whose length is offshore (therefore not directly applicable to the Corrib Gas Pipeline). The code states that it is intended that the code should be applied in conjunction with the new European standards for gas pipelines and installations, including EN 1594.

The project design basis for the onshore pipeline states that IS 328 will be used as a supplement to BS 8010 where this is considered to be beneficial.

3.8 Summary

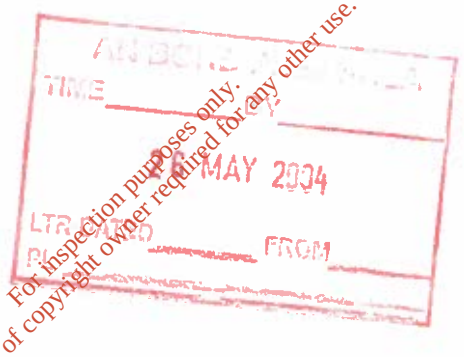
The scope of the pipeline detailed design undertaken by J P Kenny Ltd. included the preparation of a document comparing relevant onshore gas pipeline codes, in order to select the code best suited to the project. The findings of this comparison are as follows:

- Pipelines under the Gas Acts should be designed using IS 328
- The Corrib Gas Pipeline is well above the normal design pressure for onshore gas pipelines
- It is rare for an onshore pipeline to transport unprocessed well fluid in the vicinity of inhabited buildings
- The use of Quantified Risk Assessments (QRAs) to both confirm designs produced using stress based codes and to modify designs where stress based design codes are too conservative is now well established

The recommendation made in the above comparison document is that BS 8010 is used as the design code for the onshore Corrib pipeline with note to be taken of IS 328 where this is seen to supplement BS 8010 rather than substitute it. This is considered to reflect one of the stated intents of IS 328 which is to provide a design code suited to specific conditions in Ireland.

Having reviewed the codes and considered the operating conditions of the Corrib Gas Pipeline, this report can find no reason to disagree with the above recommendation, although it should be noted that the comparison document does not state an opinion on the use of the BS EN 1594 code. Additionally, the comparison document does not mention the areas where the primary code is non-specific or ambiguous and where reference should be made to ASME B31.8 and IGE/TD/1.

To investigate further the differences between these codes, certain key aspects of the design and construction of the Corrib Gas Pipeline are "tested" for all of the above codes. This will allow these aspects of the onshore pipeline to be judged on best national and international industry practice. Section 4 of this report presents this investigation.



4.0 Discussion

4.1 General

In order to investigate how the pipeline design takes into account certain potential hazards and consequences, this report identifies key aspects of design and construction and comments on them. This is done by comparing the requirements or recommendations of the various pipeline codes for these aspects, and then commenting on how the design of the Corrib pipeline accommodates them. Where appropriate, currently adopted good engineering practices not mentioned in the codes are also noted and discussed.

It is not normal practice for sections of one code to be substituted by sections from another; however, to undertake a meaningful comparison and comment on the main aspects affecting pipeline integrity and safety, it is considered appropriate to compare the requirements or recommendations of the various codes for these key aspects.

The pipeline design included a Hazard Identification Exercise (HAZID) to provide the starting point for the Quantified Risk Analysis (QRA), by identifying those hazards to be included in the QRA. A review of these hazards has been undertaken and where it is considered that they should be further discussed and compared with the code requirements, they are included in this review.

4.2 Key Aspects of the Corrib Gas Pipeline

In order to understand the potential hazards of operating a pipeline such as the Corrib Gas Pipeline, the pipeline design has been studied with a view to identifying the critical conditions affecting pipeline safety. As a result of this, certain key aspects of the Corrib Gas Pipeline have been selected for discussion in this section, taking into account the specific circumstances of the pipeline. The circumstances include the fact that the pipeline has an unusually high design pressure and transports unprocessed well fluid, which is a wet gas and therefore corrosive when combined with carbon dioxide (CO_2) in the gas.

The pipeline has been designed based on a design pressure of 344 bar (g), although during normal operation, the onshore section of the pipeline will be operating considerably lower than this, with a maximum arrival pressure of 110 bar (g) at the terminal. It is only during a shut down situation where an offshore well valve does not close tightly that the pipeline pressure can rise above normal operating pressure. The pressure of 344 bar (g) is the maximum well head pressure, and this pressure will only be seen in the early production years because the field pressure decreases with time.

Some pipeline design codes limit the design pressure to 100 bar, and because the Corrib Gas Pipeline design pressure is considerably in excess of this, special consideration is given to the implications of this high

pressure. Section 4.3 addresses the implications of a high pipeline design pressure when discussing the pipeline design methodology and operating conditions.

The pipeline design takes into account the corrosion rate of the carbon steel pipeline due to the presence of carbonic acid (CO_2 dissolved in water). The corrosion rate increases as a function of the carbonic acid concentration, which depends on the amount of CO_2 in the gas. Corrosion inhibitor injected into the pipeline should be effective in preventing corrosion where the wall is water wet. The corrosion rate is related to temperature, and also dependent to a lesser extent on pressure.

The required corrosion allowance has been calculated and included in the pipeline wall thickness selected, and methods of mitigating and measuring corrosion have been specified. However, the gas composition can change with time, and the ramifications of this should be considered. Section 4.4 discusses this as well as both internal and external corrosion of the pipeline.

Public Safety is a key issue for the pipeline because the pipeline route passes close by populated areas and crosses under roads. Section 4.5 discusses public safety with particular reference to the Quantified Risk Assessment (QRA) prepared as part of the design process.

Third party interference is one of the main causes of damage to pipelines. The pipeline passes through areas of peat bog and farmland where there could be interference from third parties. This aspect is discussed in Section 4.6.

The quality of the pipeline material used and the inspection of its production and installation have been identified as having a key influence on the integrity of the pipeline. These aspects as well as other miscellaneous topics such as river erosion are discussed in Section 4.7.

The following sections 4.3 to 4.7 present the following for each of these key aspects:

- A discussion of the reasons why these key aspects of design and construction are important to pipeline safety
- A comparison of the code recommendations
- A summary of the findings for the Corrib pipeline.

4.3 Design Methodology and Operating Conditions

Discussion

The design of a gas pipeline following the referenced codes will generally follow a similar procedure, but there are certain differences in design technique and application. The discussion in this section presents information on how each code addresses the following:

- design factor
- pipeline maximum operating pressure
- quality of the gas

The design factor is equivalent to a safety factor, and the lower the factor, the higher the margin of safety in terms of a heavier wall thickness. There is a direct (inverse) relationship between design factor and the selected wall thickness of the pipeline.

A high pipeline maximum operating pressure (or design pressure) means that the pipeline has a significant amount of stored energy, and a large volume of gas can be released in a short period of time if a leak or rupture were to develop in the pipeline when operating at a high pressure.

The quality of the gas in this context relates to the fact that the gas is untreated well fluid, and contains water and hydrocarbon in a liquid phase, which results in liquid slugs forming in the pipeline. Potential corrosion of the inside wall of the pipeline due to the wet gas is discussed in section 4.4.

The ASME B31.8 allows a design factor of up to 0.80 (which would result in a thinner pipeline wall thickness), but for an area such as the Corrib Gas Pipeline where there are inhabited buildings close by, it is likely that a design factor of 0.72 would be required. The code requires a maximum 0.6 design factor at road crossings. The code does not allow the design factor to be modified using risk analysis.

The ASME B31.8 Code does not mention a maximum pipeline operating pressure. The code states that it does not include flowlines between wellhead and trap or separator. This means that the code does not directly apply to the Corrib Gas Pipeline, because the trap and separator are located downstream of the pipeline at the terminal. However, the code mentions that when no Section of the ASME B31 Codes specifically covers a piping system, the user has discretion to select any Section determined to be generally applicable. Because no other B31 section covers what essentially is a flowline, ASME B31.8 could be applied to the Corrib Gas Pipeline.

The BS 8010 code requires a design factor of 0.72 in areas such as that of the Corrib Gas Pipeline. It requires a 0.3 design factor at major and minor road crossings, however, this design factor can be raised to a maximum of 0.72 if it can be justified to a statutory authority by a risk analysis carried out as part of a safety evaluation for the pipeline

BS 8010 does not state a recommended maximum operating pressure (MOP) for a gas pipeline, although it infers that pressures can be above 100 bar when stating proximity calculations. It does not limit the gas quality and includes pipelines operating with both gas and hydrocarbon liquid phases such as the Corrib Gas Pipeline.

The BS EN 1594 code applies to non-corrosive natural gas and systems covered by this code begin downstream of the gas producer's metering

station. This means that the code only applies to single phase gas pipelines, which would not be relevant to the Corrib Gas Pipeline. The stated 0.72 design factor can be increased if additional measures are taken against third party interference. No maximum pressure is stated in the code.

The ISO 13623 code covers onshore and offshore liquid and gas pipelines, including flowlines from wellheads to treatment facilities. It also covers multi-phase pipelines such as the Corrib Gas Pipeline. It allows the use of innovative techniques and procedures, such as reliability based limit state design methods, providing the minimum requirements of the code are satisfied. It states that reliability based limit state methods shall not be used to exceed maximum permissible hoop stress. A design factor of 0.77 is specified for onshore pipelines.

The IGE/TD/1 code requires a 0.72 design factor, although in certain circumstances and conditions, consideration may be given to using a 0.8 design factor, when using risk analysis and structural reliability analysis. For minor road crossings such as the ones crossed by the Corrib Gas Pipeline, the code requires a 0.5 design factor, unless a higher factor can be justified by a full risk assessment of that section of the pipeline. The IGE/TD/1 code covers dry natural gas at a maximum operating pressure not greater than 100 bar.

The IS 328 code requires a 0.72 design factor. An upper pressure limit is not defined although the code states that in general practice, the maximum pressure ranges up to 100 bar. The code states that the water and hydrocarbon dewpoints of the gas at working pressure should at all times be less than the gas temperature (i.e. the gas should be dry). This is not the case for the Corrib Gas Pipeline as both dewpoints are lower, and water and hydrocarbon condensate will form in the pipeline.

Summary

A review of the codes reveals that they all specify a 0.72 design factor (apart for a 0.77 factor in ISO 13623), except for road crossings where the design factor is reduced to between 0.3 and 0.6. Some codes allow a relaxation to a higher factor under certain circumstances. The onshore section of the Corrib Gas Pipeline has been designed with a 0.72 design factor for the whole length including road crossings.

A risk analysis in the form of a Quantified Risk Analysis (QRA) has been carried out for the Corrib Gas Pipeline, but the justification for using a 0.72 design factor for the road crossings has not been discussed in the QRA. IGE/TD/1 states that the safety evaluation in the context of road crossings is defined as a full risk assessment of the section of pipeline being considered (i.e. the road crossing), taking account of all factors affecting safety. It is not normally intended to mean a safety evaluation of the whole pipeline.

Only the IGE/TD/1 code states that it applies to pipelines at a maximum operating pressure of less than 100 bar; none of the other codes applies a strict limit to the pipeline pressure. Even though the design pressure of 345 bar is considerably in excess of this limit, the pipeline design has taken this into account and the QRA documents that failure of the (defect free) pipeline due to overpressure is not considered to be a credible failure mode.

BS 8010 is the only code which specifically includes a gas pipeline operating with a liquid phase, such as the Corrib Gas Pipeline. The transient hydraulic analysis of the pipeline shows that the maximum slug volume for the production ramp-down (followed by ramp-up) cases was 170 bbl over 50 minutes. This peak occurred in the first year of operation when both ramp-down and ramp-up flowrates were greatest.

The transient analysis shows that the slug characteristics increased in order of severity of the production turndown. Liquid accumulates in the low dips of the pipeline and is discharged when production is ramped up. The analysis suggested that liquid accumulation was still occurring in the pipeline at the beginning of production ramp-up, and greater slug sizes could be generated.

In order to predict the design case slug, the analysis recommended that further transient operational simulations be undertaken. These additional scenarios represent the range of potential operations that cause liquid accumulation in the pipeline and discharge at the outlet as either high liquid rates and/or liquid slugs having a high momentum. The high momentum slugs are prone to cause high tensile stresses in piping and vessels unless procedures are developed to mitigate their occurrence, or the system is designed to handle the resulting forces.

Taking the above into account, the selection of BS 8010 for the detailed design of the Corrib Gas Pipeline is considered appropriate for both design methodology and operating conditions. However, it is recommended that the following items be addressed:

- Consideration should be given to performing the additional simulations discussed in the transient analysis to confirm high velocity slugs can not affect allowable piping stress levels.
- The QRA should confirm the justification of a 0.72 design factor for road crossings.

4.4 Pipeline Corrosion

Discussion

All codes require the pipeline to be protected against external corrosion by a suitable coating system and cathodic protection. The Corrib Gas Pipeline has been specified with a high quality external anti-corrosion coating and an impressed current cathodic protection system has been designed. The pipeline is therefore considered to meet code requirements for external

corrosion protection, provided appropriate condition monitoring and inspection is carried out.

Any pipeline transporting corrosive product must have a means of mitigating internal corrosion. The Corrib Gas Pipeline has a corrosion inhibition system, and a corrosion allowance has been included in the wall thickness.

It is important that the pipeline is designed for the corrosive nature of the gas and the discussion below presents data on how each code addresses internal corrosion of the pipeline. Because the composition of the gas results in it being corrosive and the composition may change over the life of the pipeline, the discussion also addresses pipeline internal corrosion monitoring. This is normally carried out by corrosion coupons which are weighed at intervals to monitor metal loss, electronic corrosion probes, or intelligent pigs which calculate metal loss by measuring loss of magnetic flux in the pipe wall.

Erosion of the pipeline internal surface is not considered to be relevant to the Corrib Gas Pipeline, as there are no reports of solids in the gas stream, and the gas velocity is below the level generally accepted at which erosion occurs.

The ASME B31.8 code addresses corrosive gas, and states that gas containing free water (such as the Corrib Gas Pipeline) shall be considered corrosive unless proven otherwise. It states that when corrosion inhibitor is to be used as an additive to the gas stream, sufficient test coupon holders or other monitoring equipment should be provided to allow for continued evaluation of internal corrosion. No mention is made of any need to run intelligent pigs. The code states that inspection shall be made to maintain continuous and effective operation of the cathodic protection system.

The BS 8010 code states that consideration should be given to intelligent pigging. It also states that sufficient corrosion coupons or monitoring equipment should be installed. After construction, any areas of coating damage should be located using specified surveys e.g. Pearson survey and close interval potential survey (CIPS).

The BS EN 1594 code does not address internal or external corrosion monitoring or intelligent pigging.

The ISO 13623 code states that test points for routine monitoring and testing of cathodic protection should be installed at roads and river crossings, and Isolating Joints. Monitoring of internal corrosion should consider inspection vehicles (intelligent pigs), coupons or periodic analyses of fluid to monitor its corrosivity. For external monitoring, periodic close interval potential surveys of the pipeline coating can be considered.

The IGE/TD/1 code does not address internal corrosion, because the code is based on a pipeline carrying dry sales quality gas which is non-

corrosive. The code states that only in more inhabited areas should the pipeline be capable of internal inspection.

The code states that appropriate inspection should be carried out for new pipelines immediately following commissioning to provide a database for future inspection of that pipeline. The condition should also be established periodically, using internal inspection devices where possible. In addition, surveys such as CIPS and a Pearson type survey should be undertaken to monitor the condition of the pipeline coating, after construction and at intervals.

The IS 328 code states that on completion of the pipeline construction, a Pearson type survey should be carried out to locate any area of coating damage on the buried pipeline. It also states that where practicable, a close interval potential survey shall be carried out over the total length of the pipeline at intervals not exceeding 10 years. The code states that an efficient on-line inspection tool (intelligent pig) should be used, and the maximum interval should be determined by a schedule based on several factors including safety factor and corrosion.

Summary

Appropriate provision has been taken in designing systems to protect against internal and external corrosion of the pipeline. External corrosion prevention is provided by a 2.5 mm thick 3-layer polypropylene coating, supplemented by an impressed current cathodic protection system. It is noted that the shore approach section is coated with a 4 mm thick polypropylene coating, because this section will be pulled through a rocky trench. The specified 2.5 mm thick coating is considered adequate for the less harsh onshore installation. The onshore section will be coated with concrete for protection at river crossings.

The design includes test points for routine monitoring and testing of the cathodic protection system at road and river crossings.

A post-lay coating integrity survey will be carried out after pipeline backfilling using a direct current voltage gradient (DCVG) technique to confirm that all coating defects are located and repaired prior to final reinstatement.

A cathodic protection (CP) survey will also be carried out within one month of final reinstatement using close interval potential survey (CIPS) measurements to confirm that all parts of the system are satisfactorily cathodically protected. This includes the placement of reference electrodes relative to the pipeline.

Internal corrosion protection is provided by a corrosion inhibition system at the wellhead and periodic analysis of the gas composition will be undertaken to check for any adverse changes. Corrosion monitoring is provided by corrosion probes or coupons at both upstream and downstream locations.

Internal inspection of the pipeline is planned using an intelligent pig within 3 years after start up of the pipeline. However, the circumstances of the Corrib Gas Pipeline are unusual in that the pipeline will be left full of water for approximately one year after the post installation hydrostatic test. Although the water will be treated to minimise the corrosion potential, there is still a risk of internal corrosion taking place. There would be benefits in running the intelligent pig during or soon after commissioning, as recommended in IGE/TD/1.

It is recommended that clarification be obtained on the impact of leaving the pipeline full of water for approximately one year. The clarification should address the potential growth of sulphate reducing bacteria (SRB) and the effect of leaving chemically treated water in contact with seal material in valve cavities (which may not allow draining) and the isolating joint.

Based on the above, the Corrib Gas Pipeline design is considered to follow the requirements of those codes that address pipeline corrosion. However, it is recommended that the following items be addressed:

- Consideration should be given to running an intelligent pig during commissioning or soon after, rather than within 3 years as currently proposed.
- Confirmation should be obtained that appropriate consideration has been given to the effects of leaving hydrotest water in the pipeline for one year.
- The operating and maintenance procedures when available should be checked to ensure that pipeline cathodic protection monitoring and coating surveys are performed over the whole pipeline at appropriate intervals.

4.5 Public Safety

Discussion

All codes stress the importance of public safety in designing and operating a pipeline. The aspects of public safety considered here include proximity of the pipeline to areas where people spend time (taken to be inhabited dwellings), and detection of gas leaks from the pipeline. As part of the detailed design of the onshore pipeline, a Quantified Risk Assessment (QRA) has been prepared to identify and assess all risks associated with the operation of the pipeline. This assessment of risks includes the proximity of buildings and pipeline failure consequences.

It is understood that the terminal QRA (prepared as part of the terminal design) will assess the risks to the terminal workers, and will consider the risks associated with all facilities within the terminal site, including the pipeline facilities.

The discussion below presents information on how each of the codes addresses proximity distances to buildings and the detection of gas leaks from the pipeline.

The ASME B31.8 code does not state a minimum clearance of pipelines to buildings, and one of the Interpretations of the code confirms that a "safety corridor" is not specified. The code requires leakage surveys for transmission systems such as the Corrib Gas Pipeline, but these surveys are carried out by surface patrols rather than using leak detection software.

The BS 8010 code contains a graphical relationship between pipeline maximum operating pressure (maximum 100 bar) and proximity distance, and states that pipelines operating outside this pressure range (like the Corrib Gas Pipeline), may be acceptable provided a more detailed assessment of potential additional hazards is made in conjunction with a safety evaluation. It is on this basis that the design of the Corrib Gas Pipeline has proceeded. The code also states that consideration should be given to leak detection.

The BS EN 1594 code states that the route of the pipeline should be at an appropriate distance from buildings, and the distance is defined by particular parameters and national standards. No mention is made of any need for leak detection.

The ISO 13623 code states that the pipeline should avoid areas with frequent human activity and a leak detection system should be considered.

The IGE/TD/1 code gives a graphical relationship between distance and pipeline pressure, but the relationship does not extend beyond 100 bar, which is the maximum pressure covered by the code. The code required leakage surveys, but does not mention leak detection systems.

The IS 328 code states that where it is impractical to comply with stated proximity requirements, deviations from these requirements may be permitted provided they can be justified by a QRA carried out in accordance with a recognised standard. Leakage surveys are only required where proximity infringements have taken place.

Summary

In the QRA, the assessment of risks to the public resulting from the operation of the onshore section of the Corrib Gas Pipeline indicates that the risks are acceptable provided certain design recommendations are implemented. Taking into account the review of documents listed in Section 5, the majority of these design recommendations have been incorporated into the design.

However, the QRA has been based on the closest inhabited building being approximately 70 m from the proposed pipeline route centre line, and the

pipeline alignment sheets state that the actual pipeline location is subject to change within the 50 m working width. To avoid the 70 m proximity distance being compromised, the pipeline location should be fixed in this area.

The QRA states the failure frequencies for the pipeline and pipeline fittings (for example valves and small bore connections), but does not include them in the risk modelling. The valve station at the beach has two valves and some small bore connection, and the leakage potential from these should be included in the calculation of failure consequences in the QRA.

The Corrib Gas Pipeline is considered to meet public safety requirements as outlined in the selected design code, provided that a minimum 70 m proximity distance to the nearest building is specified, and the QRA includes the effect of leaks from the beach valve station.

Plans for leak detection have not been finalised and no documentation has been produced at the time of writing discussing the provision of leak detection. It is recommended that a suitable leak detection system be provided.

It is recommended that the terminal QRA to be prepared as part of the terminal engineering is checked to ensure it addresses gas releases from the pipeline at the terminal boundary, (including pipeline fittings such as the isolating joint and valves), and explosion and dispersion modelling.

4.6 Protection from Interference

Discussion

Third party interference is generally considered to be the largest risk to the integrity of an onshore pipeline. The deeper a pipeline is buried, the more protection is afforded to it, and in selecting the required depth, it is important to consider the likely types of interference from third parties.

For the onshore Corrib Gas Pipeline, potential interference is considered to include peat cutting in some areas, associated drainage works and the possibility of farming activities. The discussion below presents data on how each code addresses the requirement for protection of the pipeline from interference.

The ASME B31.8 code requires a cover over the pipeline of not less than 600 mm in non rocky soil conditions, such as along the Corrib Gas Pipeline.

The BS 8010 code states that if there is a likelihood of third party activity leading to interference, then slabs should be used to protect the pipeline. This is normally taken as being relevant only in more built up areas, and is not considered to include farmland. The code states that cover over the pipeline should be not less than 900 mm.

The BS EN 1594 code states that the minimum depth for the pipeline shall be greater than that of normal agriculture/horticulture activities expected in the area. In general, 800 mm of cover should be provided.

The ISO 13623 code states that marker tape should be considered for buried pipelines on land, and markers used at crossings to show the location of the pipeline. Normally, 800 mm of cover should be specified and 1.2 m of cover for river crossings.

The IGE/TD/1 code requires a minimum of 1.1 m of cover, and states that where considered necessary at sensitive locations, the pipeline should be protected with, for example, concrete slabs.

The IS 328 code states that buried pipelines should normally be installed with a cover of not less than 1.2 m. Markers should be positioned at suitable intervals, such as field boundaries, at all crossings and where practical at changes in direction. In addition, where a warning tape is used in pipeline trenches, they should be above the pipeline, half way between the top of the pipeline and the ground level.

Summary

The Corrib Gas Pipeline has been specified with 1.2 m of cover to the top of the pipeline. This is in accordance with the most conservative code requirement. It is assumed that peat cutting will be prohibited along the pipeline route, and 1.2 m of cover is generally considered to afford suitable protection from normal farming activities. The pipeline has been specified with 2 m of cover where it crosses the estuaries, which meets code requirements

It is planned to install pipeline marking tape above the pipelines (and umbilical) and additional marking tape is be installed at the following locations:

- In-ground utility crossings
- Road crossings
- Water crossings
- Inside aboveground installations

The marker tape will be placed in the trench at a position 600mm above the top of the each pipeline. This meets code requirements and is a normally adopted method of providing additional protection against third party interference.

Based on the above, the Corrib Gas Pipeline is considered to offer protection from interference in keeping with code requirements and normal practice.

4.7 Miscellaneous

Discussion

The discussion below addresses miscellaneous items which are mentioned in some of the codes or are included because they are considered to have an impact on the integrity of the installed pipeline system. The items covered are as follows:

- Quality of the pipeline material
- Inspection of pipeline field welds
- Hydrostatic pressure test
- River or estuary erosion

The pipeline material is specified in accordance with DNV Code OS-F 101 which is a recognised international pipeline material specification. The specification covers the complete manufacture and testing of pipeline material. It is based on BS ISO 3183-3, and bears many similarities to other major pipeline material specifications. The project has documented some deviations to the material specification, but none is considered to impact pipeline material integrity.

All codes except the ASME B31.8 code require 100% of pipeline field welds to be inspected with radiographic techniques or approved equivalent, which is normally ultrasonic testing. ASME B31.8 requires only 10% of welds to be inspected in class 1 areas, and 15% of welds to be inspected in class 2 areas. The Corrib Gas Pipeline will be installed with 100% of field welds inspected, and therefore is in accordance with the adopted code.

The post installation hydrostatic test is to be carried out in accordance with the most conservative pipeline code requirement in BS 8010. This is taking the test pressure up to the equivalent of 90% of the specified minimum yield strength of the pipeline material. The pressure is then held for a period of 24 hours and monitored for leaks or pressure variations.

River crossings and tidal water course crossings can be subject to extensive and rapid erosion. This may result in loss of cover making the pipeline vulnerable to spanning and vortex-induced vibration. BS 8010 and IGE/TD/1 state that valves either side of an estuary or river should be provided where the pipeline could be damaged by anchors or scouring. The valves should be remote controlled unless a safety evaluation demonstrates this is not required.

BS EN 1594 states that water crossings should be inspected. IS 328 states that the operator of the pipeline shall undertake inspection of water crossings, and schedule the frequency having regards to the nature of the watercourse. Inspection of the bed of the watercourse shall take the form of a depth check and physical inspection if necessary, at intervals not exceeding 2 years initially and in no case exceeding 5 years.

Summary

28 March 2002

The items addressed in this section are all considered to be in accordance with specified code requirements and good engineering practice, although confirmation should be obtained that scouring or erosion of the river and estuary bed has been accounted for in the design. In addition, the operating and maintenance procedures should be checked to ensure that inspection of the watercourse bed is carried out at appropriate intervals.

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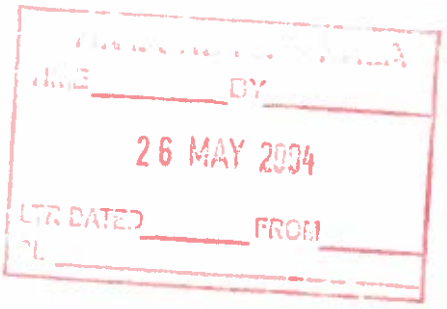

Terrorist fears threat to Mayo gas pipeline

14/5/2004

Report by **Tom Kelly** | tkelly@con-telegraph.ie

A LEADING Irish environmentalist has expressed fears that the proposed pipeline from the Corrib gas field in North Mayo could represent a target for a terrorist attack.

Dublin-based Green Party T.D., Deputy Eamon Ryan, revealed he was told by experts that there is no international precedent for such a lengthy pipeline from the shore to the processing point.

Speaking on the Maritime Security Bill 2004 in Dail Eireann, Deputy Ryan stated: "It is interesting that the convention to which we are signing up addresses the safety of platforms when it comes to possible terrorist attacks.

"One of the great risk I see here, if someone were sufficiently demented to try to take on such terrorist activities, is in the proposed development of the gas pipeline from the Corrib gas field, which hits the Irish mainland near Pullathomas, County Mayo, before travelling overland for some 9 km. to the proposed processing station.

"I am told by experts in the field that there is no international precedent for such a lengthy pipeline from the shore to the processing point. The very existence of that pipeline in itself poses quite a risk for the area given possible blockages or other damages that can be caused to it. However, in Iraq at the moment, some of the targets most difficult to protect against terrorist activity are those very pipelines.

"Yet in this country, for reasons about which I am not very clear, we cannot put a processing plant at a landfall elsewhere or provide offshore processing facilities. I am genuinely concerned that, if someone were sufficiently demented and wished to target this country's offshore facilities, that person would not have to go offshore.

"He or she could look at those 9 km. of pipeline, which would be almost impossible to guard, and decide that a small device there would do incredible damage to this country."

Meanwhile, Sinn Fein T.D. **Martin Ferrin** asked the Minister for Communications, Marine and Natural Resources, **Dermot Ahern**, who will be responsible for accidents that occur along the route of the proposed Corrib gas pipeline, not covered by the terms of the planning permission granted by Mayo County Council.

Minister Ahern replied: "These issues fall within the responsibility of Shell E& P Ireland Limited, the developers of the Corrib project. In my consideration and appraisal of the pipeline proposal, I commissioned a technical evaluation of the onshore pipeline. The evaluation, entitled Corrib Gas Pipeline Project, Report on Evaluation of the Onshore Pipeline, Design Code, was carried out by a pipeline technical expert, Mr. Andrew Johnson.

"Mr. Johnson's report stated that the onshore pipeline design code has been selected in accordance with best public safety considerations and is appropriate for the pipeline operating conditions. Subject to the developers undertaking to comply with a number of conditions laid down in approval and consents granted by my Department, the design is generally in accordance with best national and international industry practice and the pipeline is considered to meet public safety requirements."

SOURCE K.

National

Irish Independent

Firefighters 'not prepared' to deal with terror atrocity

From:The Irish Independent
Wednesday, 14th April, 2004

IRELAND'S fire and emergency services are not prepared for a Madrid-type terrorist atrocity, fire chiefs have warned the Government.

And they are angry that the Government has refused to set up a National Fire Authority, the key recommendation in the Stardust Tribunal 20 years ago - and in the Government's own review of fire services last year.

The chilling warning about the lack of preparedness for a major terrorist attack is revealed in a letter to the Dept of the Environment from the Chief Fire Officers Association.

The association refers to the terrorist attacks on commuter trains in Madrid and the concerns expressed by leading politicians about the risk of further such attacks in other European countries.

The response in Madrid by the fire and emergency services included search-and-rescue and pre-hospital emergency treatment of casualties.

The chief fire officers responsible for services in each county said they now wanted to point out "the limited response capacity of the fire service in Ireland, in the event of a similar or other large scale event occurring here".

They referred to the damning Government review of fire and emergency services in Ireland carried out by leading consultants Farrell Grant Sparks.

This report concluded: "We do not believe that the current regime would stand up favourably under the inevitable scrutiny and investigation which would follow a major fire or other major

emergency incident with multiple casualties.

"Given the exposures involved it is, we believe, fortunate that this strategic review is not being undertaken against the background of any particular major tragic incident or disaster."

The review called for the establishment of a National Fire Inspectorate to co-ordinate the service at a national and regional level. The Department of the Environment has decided not to implement this key recommendation.

The chief fire officers, in their warning to the Goverment, said that the service needs considerable development and modernisation to bring it into line with current international practice.

Michael Fitzsimons, association spokesman and chief fire officer for Kildare, yesterday accused Environment Minister Martin Cullen of dragging his heels on the key recommendation of the review.

"There is no central direction. Each local authority organises its fire services but national and regional co-ordination is needed. The whole thing has died a death. Nothing has happened," he added.

Referring to the Madrid atrocity, Mr Fitzsimons said that three trains were bombed at the same time and that if something similar happened in Ireland the fire services of up to four local authorities would be needed.

However, the fire chief points out that while each local authority had its own major emergency plan there was no regional structure whatsoever.

"If we had a Madrid or Lockerbie-type incident we would not be co-ordinated," added Mr Fitzsimons.

In their letter the fire chiefs said the review identified a range of weaknesses and shortcomings in the existing regime and recognised the pressing need for modernisation with new structures at national and local authority level.

Expressing concern at the lack of any progress in implementing recommendations, the chiefs said the input by the fire service into major emergency management was identified as "a key national policy issue".

Despite stark warnings about the need for a new agency to reorganise Ireland's emergency services in the wake of September 11, this has been dropped as a priority and will not now go ahead in the near future.

County and city managers have also expressed the view that

there is no need for the authority and it is known that there is also resistance to the proposal from the Department of the Environment which currently has overall control.

Treacy Hogan Environment Correspondent

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Source L

From One Department Secretary to Another.

Cut Through the Cur i gCéill

Immediately following the Decision of An Bord Pleanála not to grant permission for the Ballinaboy Terminal Project, a Nurmberg type rally was held in Belmullet, chaired by the local Fine Gael representative on Údarás na Gaeltachta and directed by Minister Éamonn Cuív.

It was a gross exercise in intimidation, which is often a basic part of planning matters in a local area, but Cuív is not local. He announced that the matter had gone too far now for there to be any alternative to Ballinaboy, and that Shell would have to re-apply for the same site. He announced that of course the opinion of the Bord Pleanála Inspector and Expert Consultants did not matter - only the Board itself mattered. Everything except the torch lights and the goose-step.

The Minister seems to have promised Belmullet that he will deliver them gas : at least that is what they seem to believe. When he was presented with the enclosed, one from his own bailiwick, the frenzy dissipated somewhat and he mumbled "Letters like that get written all the time." and something to the effect that 'one keeps on trying.'

WE wish to put them on the record to support the obvious lack of advantage this project as proposed presents to the residents, and also to put on record that the day of the wattle-man in planning matters is gone,

Oifig an Ard Runai
An Roinn Fiontar Poibli
Baile Atha Cliath 2

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5 April 2002

Mr. Philip Furlong
Secretary General
Department of Arts, Heritage, Gaeltacht and the Islands
43/49 Mespil Road
Dublin 4

Dear Phil,

I refer to your letter dated 18 January 2002 regarding the feasibility of running a gas pipeline to Belmullet. My apologies for the delay in responding but there have been a number of gas-related developments since you wrote to me and these have an impact on my response.

As you are aware, the work of our Department is primarily focused on its ability to contribute to the competitiveness of the overall economy, through the policies implemented in the transport, communications and energy sectors. The issue of the provision of infrastructure has traditionally followed demand. One of the strategic issues for Government is the degree to which infrastructure should be development led – by installing the infrastructure so that the conditions for investment and development with the attendant demand are created. Some of the core qualities for inward investment identified by the development agencies are a secure electricity supply, telecommunications and transport infrastructure and labour force. While appropriate natural gas infrastructure and security of gas supplies are essential in the national context, because of its increasing importance for electricity generation, at a local level the provision of gas supply is not considered to be a critical factor or an essential service.

I believe that the broad policy issues which arise from proposals for non-commercial extensions of the gas network should be considered in the context of the views of the development agencies, maximising the value of grant aid, the National Spatial Strategy and the overall landscape of the energy networks.

As you are aware, the issue of extending the gas network to the North West has already been considered by the Government. Extending the gas network into counties Sligo or Donegal will require very substantial levels of exchequer funding, currently estimated to be in excess of 85%, whatever route is considered. The Government has requested detailed costings for an extension from the proposed Mayo/Galway line to Sligo via Ballina, and for an extension to Letterkenny from Derry, which is to get gas under the development of the network in Northern Ireland. As you know, both Sligo and Letterkenny are identified as gateway towns under the National Spatial Strategy. Because the projects will require Exchequer funding, there are State Aid and public procurement issues which also arise and need to be dealt with.

We have considered the question of extending the gas network to Belmullet in the light of your letter. To put the prospects for Belmullet in context, the combined populations of Ballina and Sligo is about 27,000, and the estimated level of grant aid assumes that there will be a significant industrial gas load on the route. Even then, the proposed pipeline barely covers its operating costs. Belmullet has a population of about 1,000. There is no prospect of an industrial load in the area and, given that a gas fired power station is already planned for Bellacorrick, it is very unlikely that another station would be built in the area which would underpin a pipeline to Belmullet. In these circumstances, despite its proximity to the planned landing point for Corrib Gas, it is unlikely that the demand in Belmullet would be sufficient to cover the operating costs of the pipeline let alone pay for the capital costs involved. This would constitute an operating subsidy.

You suggested in your letter that a special tariff regime be developed to encourage energy intensive industry into the area. The issue of the method of calculating gas transportation tariffs was considered in detail by Government last year and focused in particular on the question of postalisation. This topic was considered by an Inter-Departmental group chaired by Dermot McCarthy, Secretary General to the Government. This Group reported to Government in June last year confirming postalisation (geographical uniformity) as the preferred policy choice. You may also be aware that the Gas (Interim)(Regulation) Act recently enacted, will transfer responsibility for setting gas tariffs to the Commission for Electricity Regulation, as part of the transfer of the Minister's regulatory functions in the gas sector. Aside from these issues, a special tariff regime of the kind contemplated in your letter would add to the "operating subsidy" element for a pipeline to Belmullet.

On a more general issue, while I understand your interest in extending the gas network to Belmullet as a case deserving of special consideration, initiating a consultation of the kind you suggest focused on one particular location could lead to demands from other areas for special treatment. There are a substantial number of towns in the country which do not have a natural gas infrastructure and, bearing in mind the recent discussion at Government on the National Spatial Strategy, it may be more appropriate for us all to consider the gas issue in that context.

Your letter indicated that you thought your proposal might be regarded as unwelcome. Let me assure you that this is not the case and we have been as creative as possible in considering the issue. However, the economics of getting gas to Belmullet are so poor that I consider initiating a study into the issue might raise hopes without any chance of the project coming to fruition in the future.

Should you require to discuss the issue further, please feel free to contact me.

Yours sincerely,

Brendan Tuohy
Secretary General

18th January 2002

Mr. Brendan Tuohy,
Secretary General,
Department of Public Enterprise,
44 Kildare Street,
Dublin 2.

Dear Brendan,

Our two Departments have been in contact in the past in relation to a range of issues which surfaced in the report of the Belmullet Task Force published last year. To recap a little on the background to the establishment of the Task Force – it was set up on the initiative of the then Minister of State at this Department, Eamon Ó Cuiv, T.D., in July 2000 in response to the imminent closure of the Warner (Éire) Teo factory in Belmullet with a loss of 113 jobs. You will readily appreciate that the loss of so many jobs in a small town of the size of Belmullet and in its hinterland where high levels of unemployment already prevailed represented a crippling blow to the region as a whole which includes Gaeltacht areas.

The Task Force recommended (copy attached), inter alia, that a gas pipeline spur be laid to Belmullet (presumably from the envisaged Corrib Gas facility at Bellanaboy Bridge, to be developed by Enterprise Energy Ireland and its partners) as an investment to enhance job creation possibilities in the Erris Region. My purpose in writing to you now is to enquire as to whether you would be agreeable to a collaborative exploration by our respective officials of the feasibility of running a spur off the main pipeline in order to bring natural gas to Belmullet. Were this to come to pass, it would give an appreciable boost to industrial promotion agencies such as Udarás na Gaeltachta seeking to promote Belmullet as a location for appropriate inward investment. As you are aware, there are concerns that the economically backward Erris region may not be a significant beneficiary of the gas discovery. It would seem to me to be a pragmatic and positive response to such concerns to provide a pipeline spur to Belmullet.

If the case for the project stands up, our officials would then need to firm up on costings and how the over-all cost of the project might be financed. I understand that broad cost estimates of the order of some €7.5m are in circulation. Another related issue on which our officials might engage is whether it might be possible as a targeted regional development incentive to countenance some departure from strict

postalisation of the gas tarrif to encourage gas-using industries to locate in the Belmullet/Erris region. I appreciate that a suggestion along these lines may be unwelcome to your Department but I am keen to explore as creatively as possible all options for giving a boost to economic activity in one of the most deprived and remote regions of the West of Ireland.

Yours sincerely,

Philip Furlong
Árd Rúnaí

Source M.
Landscape Sensitivity Matrix
Development Impact Potential Index
Landscape Area Sensitivity Index.
from
Mayo County Development Plan 2003-2009

This is Policy Area 1:- Taking 'Development Impact Potential Index' one sees that according to the reding of Mayo County Council, rural dwellings have the same potential impact as this massive terminal: because, I presume, the nearest name to it on the list is Industrial/commercial. By this reading, powerlines are more visually obtrusive than this development, as are communication masts: a communication mast or powerline has the red danger sign of 19 - 24, while the terminal complex has somewhere around 13? This is abuse/ or lack of knowledge.

The Landscape Area Sensitivity Index leads us on to the biggie -
Landscape Sensitivity Matrix:- which, based on the other two, finds a power-line or communications mast to have "high potential to create visual impact over a wide area"
but at the same time in the same place
this massive grouping of structures has
"low potential to create adverse impacts on the existing landscape character ": or at worst tending towards "medium potential to create impacts on the existing landscape character.

Development Impact - Landscape Sensitivity Matrix

Guidance on the likely potential landscape impacts of a range of developments

	Wind farms	Power lines	Quarrying/ Extraction	Forestry	Commun- -ication Masts	Industrial/ Commercial	Rural Dwellings	Road Projects
Policy Area 1								
Policy Area 2								
Policy Area 3								
Policy Area 4								

Key

 = High potential to create visual impact over a wide area. The significance of the impact will be determined on a case-by-case basis having regards to the intrinsic physical and visual characteristics within each area and to the strategic nature of the development. The onus will be on the Applicants to demonstrate high sensitivity to the potential for visual impacts in their proposals.

 = Medium potential to create adverse impacts on the existing landscape character. Such developments are likely to be clearly discernible and distinctive, however with careful siting and good design, the significance and extent of impacts can be minimised to an acceptable level.

 = Low potential to create adverse impacts on the existing landscape character. Such development is likely to be widely conceived as normal and appropriate unless siting and design are poor.

Landscape Area Sensitivity Index

	Bulk or Intensity	Scale	Design/ Appearance	Location or Route	Proportion over 10% slope	Prior Dvlpmnt	Index
PolicyArea 1							
PolicyArea 2							
PolicyArea 3							
PolicyArea 4							

Key

Landscape Area Sensitivity		Slope Factor		Prior Development		Index Sensitivity score
Low Sensitivity	1	<30% of area	0	Intensive	1	1 - 9
Medium Sensitivity	2	30-70% of area	2	Considerable	2	10 - 15
High Sensitivity	3	>70% of area	4	Insignificant	4	16 - 20

Development Impact Potential Index

	Bulk or Intensity	Scale	Design/ Appearance	Location or Route Requirement	Public Benefit	Relative Landscape Impact Potential	Index
Windfarms							
Powerlines							
Quarrying/Extraction							
Forestry							
Communication Masts							
Industrial/Commercial							
Rural Dwellings							
Road Projects							

Key

Development Element Flexibility

- High Flexibility — 1
- Medium Flexibility — 2
- Low Flexibility — 4

Public Benefit

- High Benefit — 0
- Medium Benefit — 3
- Private Benefit — 6

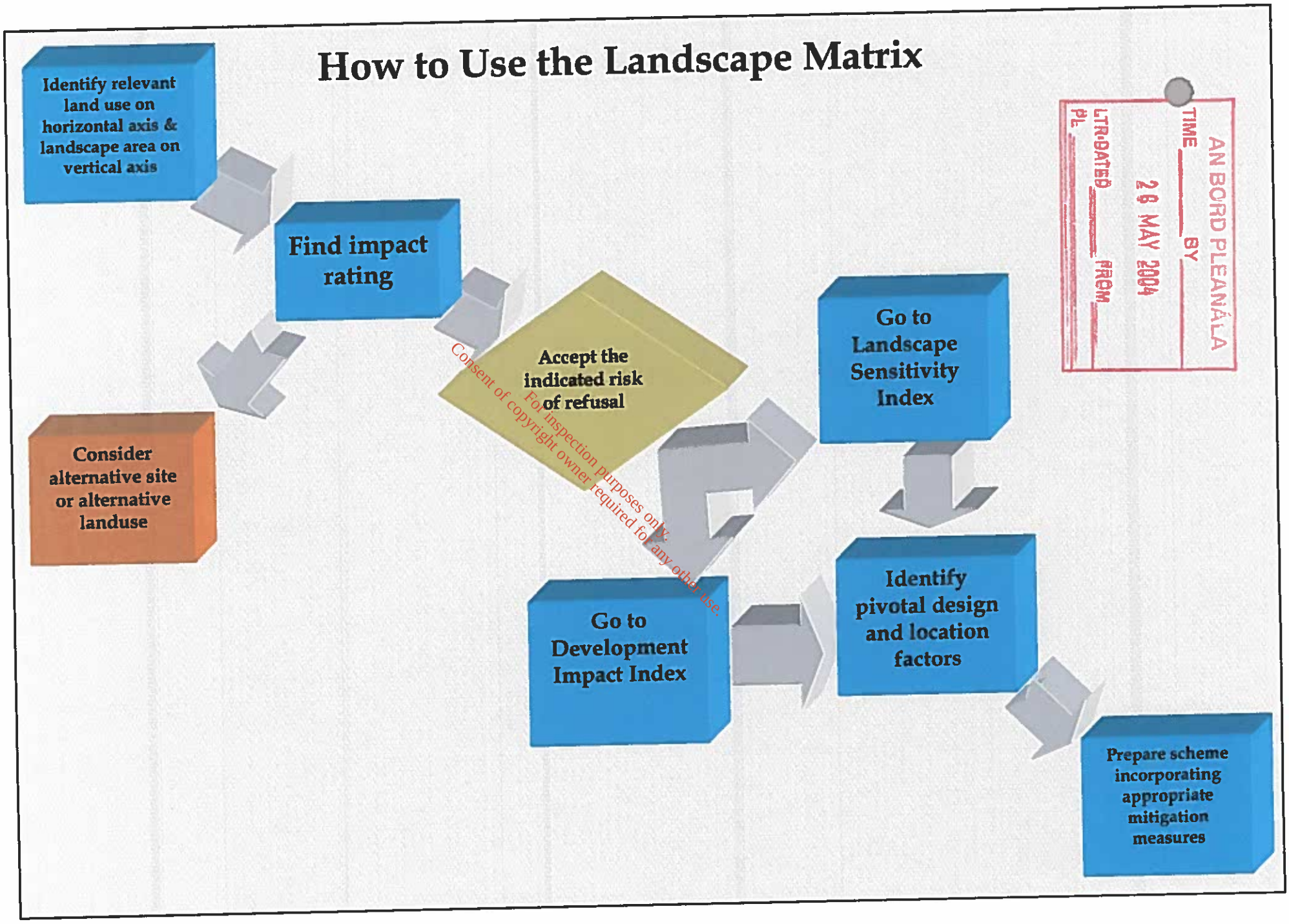
Landscape Character Impact Potential

- Low Potential — 0
- Medium Potential — 3
- High Potential — 6

Development Impact Index

- 4 - 13
- 14 - 18
- 19 - 24

How to Use the Landscape Matrix



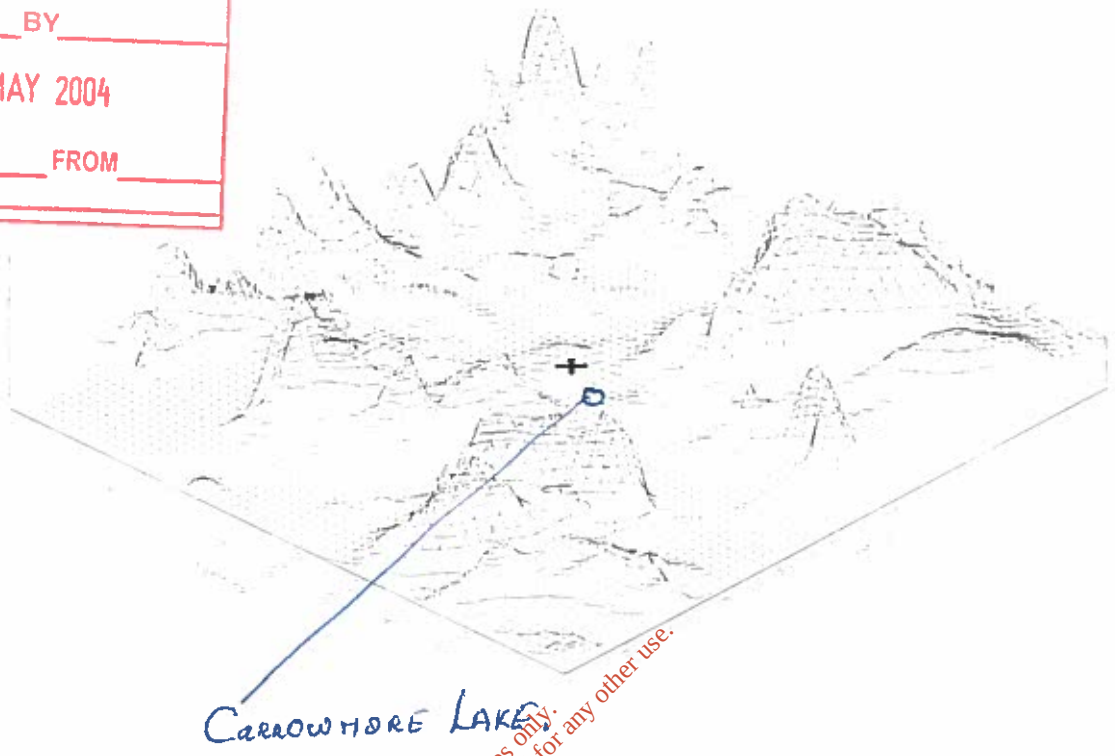
Source N.

Computer-generated Pictorial Representation of Topography of Erris
Centred on the Proposed Terminal
from
EIS by RSK Environment Ltd.,
for
Enterprise Energy Ireland Ltd.

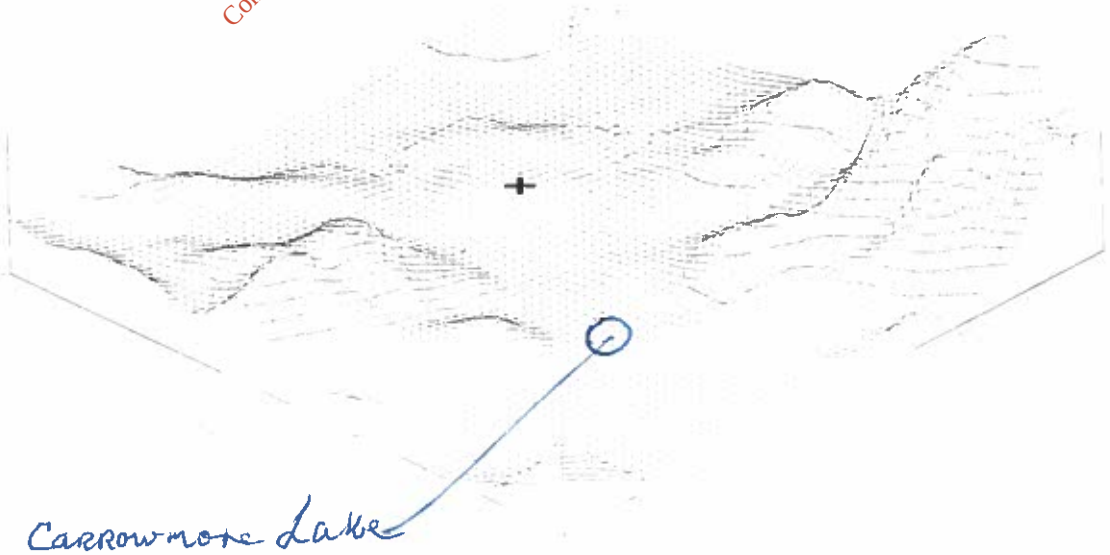
N1 & N2:- The promoters insist that the terminal is not situated in a basin, because of the implications for lodging of emissions in high pressure or more specifically in inversion conditions. Possibly even more damaging, in an SAC and high amenity area, is the implication of the destination of emissions when the air-flow is from the Eastern or Northern side of the landscape, for situated at the low lip of the basin, its' natural outlet is Carrowmore Lake. (N1.)

N3:- The Map taken from the CDPlan 2003-2009, Mayo Landscape Appraisal: Slopes and Ridgelines drives home the reality even more starkly - there is a funnel from the high cliffs of the North Coast through the Ballinaboy proposed site, and on through Carrowmore Lake out towards the sea over the low ground to Tulahan and on out North of Achill. In so far as the graphic or the map has no agenda to promote, the reality of the site is, as we have promoted, a marble in a saucer; with the added sting that it has a natural flow over Carrowmore, when pushed by a down-flow of cool air.

Topography Surface Plot - 20 km x 20 km



Topography Surface Plot - 8 km x 8 km



N3.

CARROWMORE LAKE

Mayo Landscape Appraisal

Slopes and Ridgelines

OCEAN

ATLANTIC

OCEAN

JOYCE COUNTRY

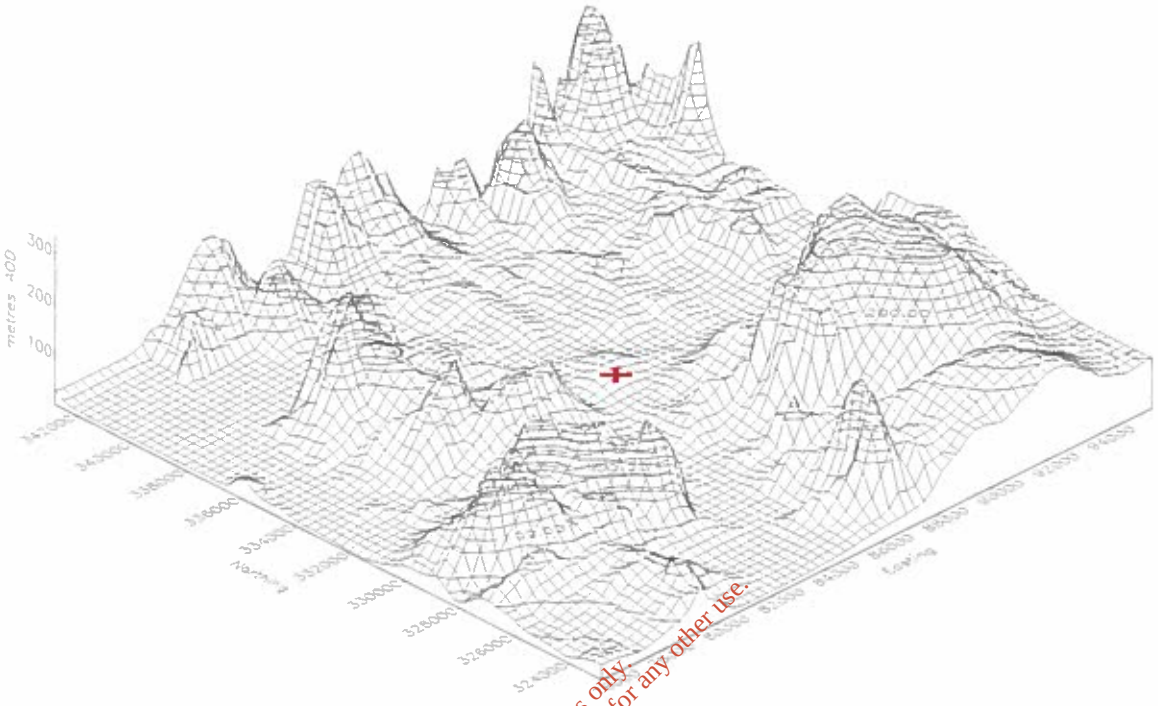
CONNEMARA

Ridgelines

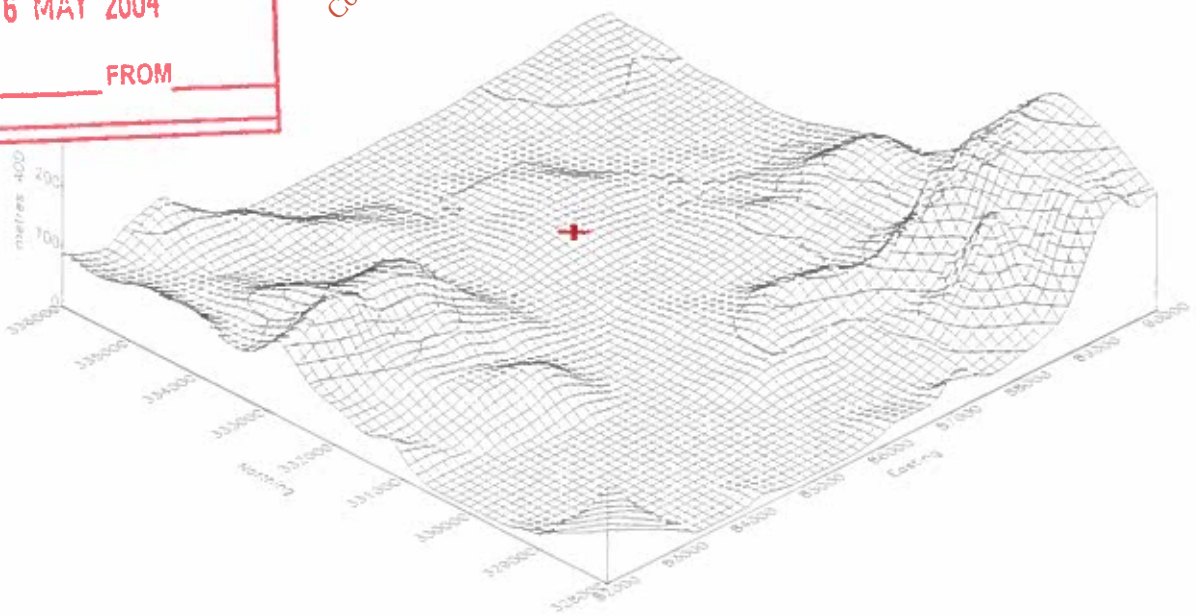
Slopes >10% with a vertical run >40m

APPENDIX 10.2: PICTORIAL REPRESENTATION OF METEOROLOGICAL AND TOPOGRAPHY DATA TITLE

Topography Surface Plot - 20 km x 20 km



Topography Surface Plot - 8 km x 8 km



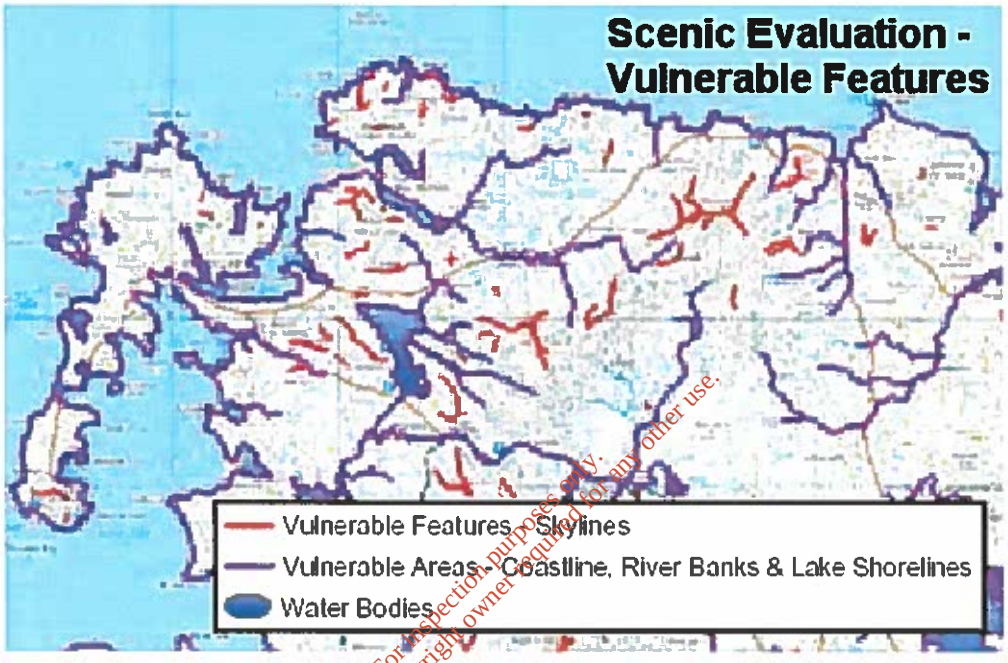
S.N.

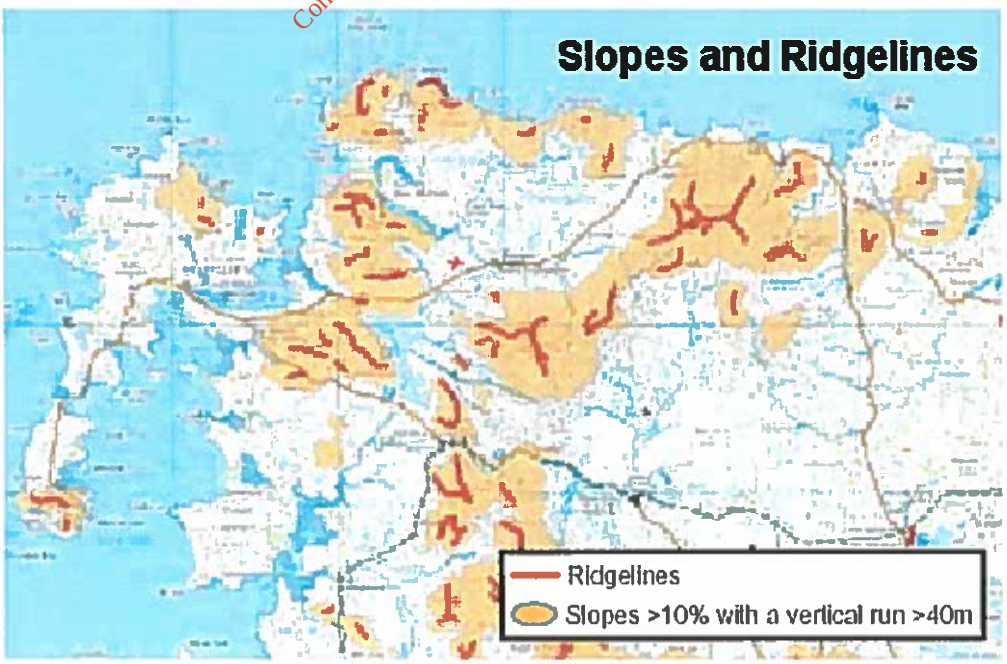
From:

Appendix: X
Landscape Appraisal of County Mayo
County Development Plan 2003-2009

When a Basin is A Basin.

Comhairle Chontae Mhaigh Eo
MAYO COUNTY COUNCIL

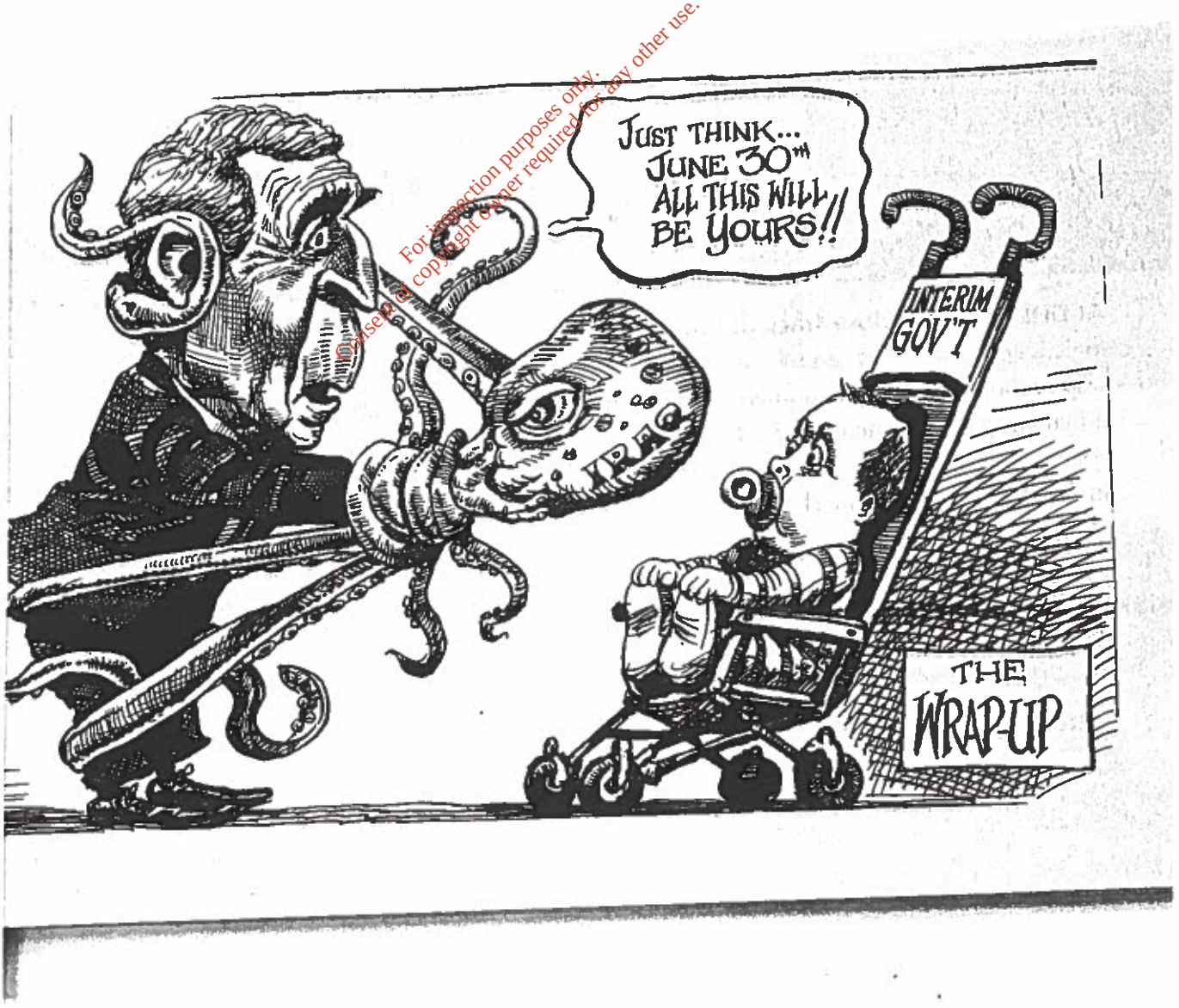




X: TERMINAL PROPOSAL

Source O.

Timeo Danaos et Dona Ferentes.



Economist April 24 - 30 2004

Source P

Marathon Pays 134 million Euro
but
Gets It All Back.

Féile & Flaithiúlacht an Fhíor-Éireannaigh Fhíor-Éireannach.

US oil firm enjoys huge tax savings here since 1959 deal

Eugene Moloney

A SPECIAL deal with the Irish Government dating back more than 40 years means an American oil firm effectively escapes paying tax on its Irish operation.

The Dail Committee of Public Accounts heard yesterday how, normally, in the past 12 years the firm would have been liable for corporation tax of almost €150m on its Kinsale, Co Cork operation.

The firm signed a watertight contract in 1959, effectively meaning it does not have to pay any tax.

The committee was told by Comptroller and Auditor General John Purcell of "the element of theatre" by which corporation taxes were paid each year, but then refunded.

Committee chairman John Perry of Fine Gael, referring to the contract enjoyed by Ambassador Oil and now by American oil company Marathon, described the deal as "giving a huge privilege to a very wealthy company".

Though the company has to pay royalties, it is entitled to a refund of the amount by which its tax and royalty payments exceed 40pc of net income.

Details of the agreement were outlined to the committee by Tom Considine, Secretary General of the Department of Finance. He said it could not be altered unilaterally.

Up until the end of 2001 the company would have produced oil, gas or petroleum with a market value of more than €1bn, on which it has paid royalties at 12.5pc, or €134m.

The committee heard how the deal reflected low prospectivity expectations, an unfavourable risk reward ratio and a desire to provide a favourable environment for exploration investment.

Source Q.

Pipeline Deal to Galway

before

Any Permissions Sought or Given

October 2000

ITTs Issued

State Committed

to

" Whatever You're Having Yourself "

photo: Irish Times

Gas from the Corrib field will be available to the Irish gas market by 2003. This was confirmed by the Irish Taoiseach (Prime Minister), Bertie Ahern, on October 4 when he announced details of a IR£100 million joint venture agreement in principle between Bord Gáis Éireann and the Corrib co-venturers Enterprise Energy Ireland, Statoil Exploration Ireland and Marathon Petroleum Hibernia.

This will involve the construction of an onshore natural gas pipeline from Pollatomish, Co. Mayo to Craughwell, Co. Galway, connecting the Corrib gas field with the national gas grid.

The Taoiseach congratulated the Corrib co-venturers on their success to date and said: "This joint venture demonstrates the exciting potential of offshore Ireland and will facilitate the use of a new indigenous gas supply in Ireland. In addition to the economic benefits, Corrib natural gas will have a very positive impact on the environment and will ensure diversity of supply over the next 15 years."

Under the terms of the agreement, Bord Gáis will construct the pipeline on behalf of the Corrib co-venturers, enabling gas sales from Corrib to commercial customers by early 2003.

Brian O'Cathain, Managing Director of Enterprise Energy Ireland said: "Natural gas is increasingly the fuel of choice in Ireland and this new indigenous gas supply ensures a diversity of supply to the Irish market. We are very hopeful that we will be able to add to the success of Corrib with future Irish gas discoveries."

Frank Fahey, Minister for the Marine and Natural Resources, also warmly welcomed the joint venture between Bord Gáis and Enterprise Energy Ireland, saying: "The joint venture is evidence of a quickening of the momentum of offshore development and will, together with the recent announcement of two exploration wells next year, further increase interest in the Irish offshore."

The deal is still under detailed negotiation, but is expected to be finally executed, subject to Corrib project sanction, around the end of the year.

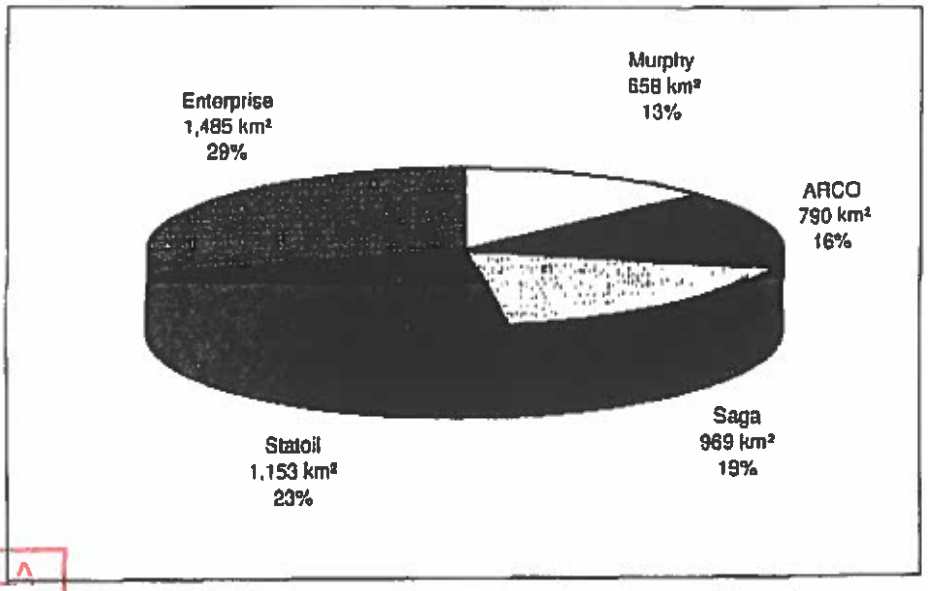
Meanwhile, the bidding process for Corrib is getting underway. Enterprise Energy Ireland has presented contractors and suppliers with details of the field developments and issued the first ITT (invitation to tender). The three contracts will cover the subsea production manifold and control equipment; subsea pipeline, umbilical and all marine installation activities; and the onshore gas reception and treatment terminal.

Field facts Corrib

Enterprise Energy Ireland (operator)	45 per cent
Statoil	36.5 per cent
Marathon	18.5 per cent

Source R.
No Technical Challenge in Slyne-Erris
Even in 1998

Net Acreage Positions in the Slyne/Erris Trough Offshore Ireland



In the following sections we address the key technical and commercial issues that will influence the potential development of Corrib North.

The Technical Challenge

The Corrib North reservoir is not believed to be geologically complex and, if the recent appraisal well is representative, very productive. This could allow the field to be drained with perhaps as few as 3-6 subsea wells as the areal extent of the field is not particularly large. These could be tied back to a wellhead TLP or, if the properties of the gas allow, tied back directly to shore. Despite lying in fairly deep water (350 metres) Corrib North lies only 70 km from Achill island.

The gas is also simple to treat and contains little condensate/NGLs. The key factor that will decide whether the field can be directly tied back to shore is liquids drop out due to the rapid cooling of the gas in the subsea pipeline. Any liquid drop out could give rise to excessive unstable slugging and hydrate formation. Hydrate formation can be prevented by injecting chemicals at the subsea wellheads, these can then be recovered at the onshore plant and recycled. Slugging behaviour can be moderated by stable operation of the pipeline. Advances continue to be made in subsea separation technology which could possibly allow any free liquids to be removed and perhaps injected on the sea-bed.

Remote deepwater subsea developments have already been executed in the Gulf of Mexico. For example, Shell's Mensa gas field was brought into production in 1997 at a cost of $280 million (IR£ 175 million) from two subsea templates in 1,646m of water tied back some 110 kilometres to the shallow water West Delta platform. The field, which contains around 720 bcf of recoverable gas, will produce around 300 mmcfd from only three wells.

In addition, the other Corrib North partners, Saga and Statoil have valuable experience of operating major subsea developments. Statoil, has been investigating the remote subsea exploitation of a group of gas fields including Snøhvit in the Barents Sea in the far north of Norway (See North West Europe Report 131, June 1997). Statoil, is also close to completing the Åsgard project off mid Norway, which is the world's largest subsea development to date. Saga is currently planning the Haltenbanken South area development neighbouring Åsgard, which is also expected to make significant use of subsea technology.

In summary, we believe that the technical challenges posed by the development of Corrib North are already surmountable given existing technology. We estimate that a subsea development of Corrib North tied back to an onshore plant could cost in the region of IR£ 500 million including the building of a pipeline link to the main grid on the east coast.

Source S

We Don't Control Our Gas Resources
We Don't Own Our Own Gas Resources

Hardball:
" Don't Even Think About It, Minister."

S1 = Minister will change the 1992 Terms.
S2 = Minister Backs Down.
S3 = All Are Frontier Licences.

S1:- Good prospects in off-shore, Summer 2001. The Minister suggests he is thinking of reviewing the terms: the good prospects dry up and well is capped.

S2:- The Minister renews his Baptismal vows but is not entirely forgiven.
The Minister - or the next one - did re-examine the position in the next licensing round : he made matters even easier for the oil majors.

S3:- Remembering that the licences that the Offshore Operators Association, and is probably right, cannot be re-negotiated, are all except one Frontier Licences, that can mostly see out Corrib's reserves, without drilling a well.

S4:- What was actually promised to the oil majors in 1992 or since? Does anybody know?

Union advised 'hard' assessment of oil and gas reserves required

Statc prosp

Irish Times 7/5/01

HARD independent evidence on the amount of oil and gas beneath Ireland's seabed territory must be placed in the public domain "as a matter of priority", according to an unpublished economic briefing for SIPTU on the offshore exploration industry

Only then can the fairness of the current tax regime for exploration companies be assessed, according to the internal briefing prepared for the union. Although the 1992 fiscal terms were set to arouse interest in a sector which has shown little enthusiasm for exploring Irish waters, this approach may be simple "game-playing" to get the Government to reduce taxes further, the paper suggests.

The briefing, prepared last year, notes that Statoil's Sarsfield prospect in the south Porcupine is considered "particularly robust", while the most important field of proven commercial potential is Corrib North — which, it says, will supply some 70 per cent of Ireland's natural gas requirements to at least 2015 when in full production.

The briefing examines the reluctance of exploration companies to employ Irish labour, the boycott of an Enterprise Oil contracted supply vessel in Foynes by dockers in 1998, and the "strong anti-union position" of Enterprise Energy Ireland. It notes that while the drive for employment continuity appears to be a significant factor in limiting opportunities on short-term drillings, it is "no excuse" for not hiring Irish workers on permanent locations.

"Therefore it should not be accepted as an excuse for Enterprise Oil or its contractors to discriminate against Irish labour in developing the Corrib North location," the paper says. Claims that the industry is reluctant to hire Irish labour due to a fear of information flowing back to shore are "difficult to prove", it adds, but are consistent with the relatively "soft" position that the Government had adopted regarding oil tax "and cannot therefore be discounted".

Statoil has made a point of offering employment on the Sovereign Explorer rig off Kerry to qualified Irish candidates, through the contractor Transocean Sedco Forex. Some 23 candidates have been offered work on the rig — which will employ 100 in total — as a result of interviews conducted in Limerick and Cork.

The move has been welcomed by Mr Fergus Cahill, chairman of the Irish Offshore Operators' Association (IOOA). The IOOA and FAS conducted the recruitment campaign, and the association is funding initial training in Cork. It demonstrates the industry's commitment to affording full and fair opportunities to Irish goods and services, Mr Cahill says.

The IOOA has taken issue with a comment made by SIPTU's offshore committee spokesman, Mr Padhraig Campbell, in relation to the employment initiative. Mr Campbell had described it as "window dressing". Mr Cahill believes the IOOA has honoured the spirit of an agreement entered into with the union through the framework group, set up as a liaison between various players in the exploration sector. Mr Noel Dowling, SIPTU representative on that group, had welcomed the progress made on providing employment at a framework group meeting on April 6th, Mr Cahill emphasised.

Commenting on the Minister's recent indication that he might review the fiscal regime set in 1992 at the end of this year, Mr Cahill said that the IOOA had no problem with a review of terms in future licensing rounds, as this was the Minister's prerogative. However, it would have "serious problems" with any review during the lifetime of existing licences as these represented a contract between the Government and the operator, Mr Cahill said.

Lorna Siggins

FOR "very hopeful" read "euphoric", say Mr Egil Endresen's executives as they await the arrival of the *Sovereign Explorer* rig from west Africa. Mr Endresen, Statoil's general manager in Ireland, stresses that the "drill bit" is the ultimate test, but conditions look good for the Sarsfield prospect 120 nautical miles west off the Kerry coast.

That said, similarly optimistic noises were being made in relation to Enterprise Energy Ireland's prospect in the Rockall Basin 100 miles north-west of Donegal only a few weeks ago. Just over a week ago the company announced that it was plugging the well, having reached its target drilling depth of 4,120 metres, starting in 1,623 metres of water. It reported that the "well" was dry.

The surprise announcement was made by Enterprise just a fortnight after it had flown the Minister for the Marine and Natural Resources, Mr Fahey, and television crews out to the *West Navion* drillship. Interviewed on that trip, the Minister indicated that he would review the fiscal terms set in 1992 for exploration in Irish waters by oil and gas companies if there was a successful outcome to this year's oil drilling programme.

The Statoil drilling programme on the Sarsfield prospect is in more shallow conditions — some 650 metres of water — and is due to begin this month. It is expected to last about eight weeks. The three-dimensional seismic data looks very promising, according to exploration manager, Mr John Conroy, and the company expects that the £10 million (€12.7 million) committed so far will prove to be a good investment — well worth the £25 million it expects to spend by the time it has taken full advantage of its licence.

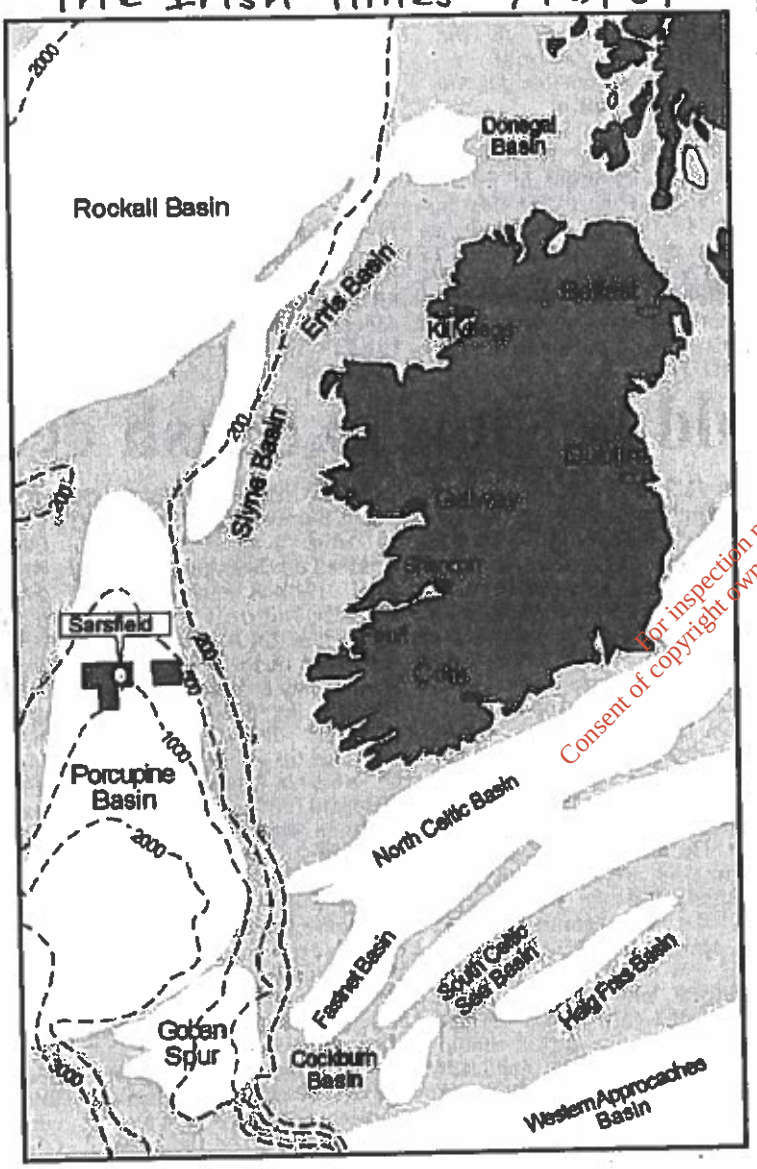
Then it has been known to get excited before. Statoil acquired Aran Energy, the Irish exploration company, two years after being awarded its first exploration licences here in 1994. It was certain that the Connemara field could become commercial. Subsequent tests reported that there was not sufficient oil to make it worthwhile, after some £150 million had been spent.

The company is very anxious to emphasise the spin-off for the Irish economy this time round — specifically, one Irish port —

›il excited by drill ›ects in Porcupine

Statoil Exploration Ireland is 'very hopeful' about prospects for its new well on the Porcupine Basin, writes Marine Correspondent Lorna Siggins

The Irish Times 7/5/01



Fenit in Co Kerry. Eight miles from Tralee, it is the nearest landing point to the prospect and will service the Sovereign Explorer. Mr Endresen describes Fenit as an "ideal" onshore base, with a well-developed harbour and little congestion. He praises the Fenit Harbour Commissioners for their "very professional" approach to negotiations with the company.

For Mr Endresen and his executives, the decision to drill is highly significant. "No other well has been drilled on the Porcupine since 1997, so we are trying to kick start that again," he said. The company estimates a "one-in-five to one-in-ten" chance of success. This compares to odds of one-in-two off West Africa, and one-in-three in the Gulf of Mexico.

Technology has improved since the Connemara discovery, and even since Statoil's involvement. It is technology that has made the Corrib North gas field viable. Statoil holds a 36.5 per cent stake in Corrib, which is being developed by Enterprise Energy Ireland. At the same time, Mr Endresen insists that the fiscal regime in Ireland is not unduly kind to exploration companies, given the conditions offshore and the likelihood of success.

Mr Endresen's own government took a highly responsible attitude to the discovery of resources in its own waters some three decades ago. Mr Endresen, who is from Stavanger, remembers how many of the early employees on exploration rigs offshore were from Louisiana and Texas. And the resource could very easily have fallen into other hands. In 1962, natural gas had been discovered in Holland and the Phillips Petroleum Company of Oklahoma wrote to the Norwegian authorities seeking exclusive rights to the entire Norwegian continental shelf — then unexplored, geologically, and potentially an extension of the Dutch find.

By the time Norway was prepared to award production licences, a number of the world's major oil companies were interested. In late 1969, just when Phillips had about had enough, it struck oil in an area called Ekofisk, and the North Sea "came alive".

Mr Endresen insists that the North Sea's providence had already been established by the time Statoil was established in 1972. In tandem with this, the Norwegian government encouraged large numbers of crew who were being squeezed by a shake-up in the shipping industry into offshore jobs. This "Norwegianisation" ensured that expertise was acquired and retained within the host state.

"Yes, the tax conditions are the best in the world," he says. "But offshore Ireland is not west Africa, where every major international company is involved." He believes the Irish government is acting "very responsibly" and is not letting exploration companies away lightly — though he is hardly likely to admit it if it were.

the description of prison there was ma

Enterprise was drilling to a depth of 13,000 feet in the Errigal prospect under a mile of seawater, the deepest water in which a well has ever been drilled in European waters. The company had planned to drill for 51 days, but abandoned the well after 38 days. The site is 100 miles northwest of the Donegal coast.

A spokesman for the Irish Offshore Operators' Association said the minister could not renegotiate existing licences and he didn't believe the government would attempt to do this. "We believe he means re-examining the position for the next licensing round later this year," he said. A departmental spokesman said no decision had yet been made on that issue.

Last week, Enterprise Oil – which is also developing the Corrib gas field off Mayo – announced record results for last year, including pre-tax profits of nearly e1.7 billion.

email this story to a friend

02/05/2001

News

52

Department plays down threat to pull oil tax breaks

Pat Leahy

Dublin , Ireland, April 29, 2001

The Department of Marine and Natural Resources has played down a commitment by Minister Frank Fahey to review tax breaks for oil exploration companies. The favourable tax terms for exploration were granted to the oil companies when Ray Burke was minister for energy in 1992.

"The minister said what he said but he didn't make any formal announcement of a formal review of the 1992 terms," said a spokesman last week.

Last year Fahey described calls for such a review as "codswallop". But during a recent visit to the Enterprise Oil rig off the Donegal coast, he said he would review the terms of the 1992 Finance Act – which has been criticised for being too generous to the oil companies – if the present round of drilling was successful.

Last week, Enterprise Oil announced that the well would be plugged and abandoned today, almost a fortnight ahead of schedule. A department spokesman described the announcement as "disappointing".

An informed industry source said the announcement of Enterprise's withdrawal could be interpreted as a "warning shot to the government by the oil companies" about reviewing the terms of exploration agreements.

"From a technical point of view, it seems almost inconceivable that Enterprise reached its target depth so far ahead of schedule," said the source. "I'm highly sceptical about it." Spokesmen for the department and the company insisted that this was due to the advanced equipment and ship being used by Enterprise and to other circumstances, such as the recent good weather.

Enterprise said the department received data from the drilling operation as soon as the company had it. "The petroleum affairs division get it immediately," he said.

02/05/2001

S3.

blocks. Details of these licences together with the names of the licensees are as follows:-

Licence	Licence Period	Block No.	Participants * Operator
2/93 Deepwater	1 January 1993 - 31 December 2004	18/25, 18/29, 18/30, 27/4, 27/5 & 27/9	* Enterprise Oil plc; Saga Petroleum Ireland Limited; Statoil Exploration (Ireland) Limited
2/94 Frontier	15 March 1994 - 14 March 2010	12/2, 12/3, 12/7 & 12/8	* Enterprise Oil plc; Agip Ireland BV
3/94 Frontier	15 March 1994 - 14 March 2010	18/14, 18/15, 18/19 & 18/20	* Enterprise Oil plc; Saga Petroleum Ireland Limited; Statoil Exploration (Ireland) Limited
5/94 Frontier	15 March 1994 - 14 March 2010	11/29, 19/2, 19/3, 19/4, 19/7, 19/8, 19/11, 19/12, 19/16, 19/17 & 19/21	* Statoil Exploration (Ireland) Limited; Union Texas Petroleum, Limited; Murphy Ireland Offshore, Ltd. Enterprise Oil plc.
2/95 Frontier	15 March 1995 - 15 March 2010	26/28 & 26/29	* Statoil Exploration (Ireland) Limited
5/95 Frontier	15 March 1995 - 15 March 2010	34/15, 34/20 & 35/16	* Chevron Europe Limited; Statoil Exploration (Ireland) Limited
6/95 Frontier	15 March 1995 - 15 March 2010	35/19, 35/29, 35/30, 36/21, 36/26, 44/4 & 44/5	* Marathon International Petroleum Hibernia Limited; Phillips Petroleum Company United Kingdom Limited
6/95 Frontier	15 March 1995 - 15 March 2010	34/24, 34/25, 34/30, 35/21, 35/23(p) & 35/24	* Statoil Exploration (Ireland) Limited; Conoco (U.K.) Ltd; Union Texas Petroleum Limited; Dana Petroleum (E&P) Limited
9/95 Frontier	15 March 1995 - 15 March 2010	35/17, 35/22, 35/23(p) & 35/28	* Total Oil Marine plc.; DSM Energy (Ireland) B V.; Conoco (UK) Limited; ARCO Ireland Offshore Inc.
2/97 Frontier	4 June 1997 - 3 June 2013	18/9, 18/10 & 19/6	* ARCO Ireland Offshore Inc., BG Exploration & Production Ltd; Anadarko Ireland Company
3/97 Frontier	4 June 1997 - 3 June 2013	18/27, 25/1(p), 25/2, 25/6, 75/9(p) & 75/10	* BG Exploration & Production Ltd; ARCO Ireland Offshore Inc.; Anadarko Ireland Company

First one = Corrib : only one not fracked

Frontier	4 June 1997 - 3 June 2013	25/1(p), 75/4, 75/5, 75/8 & 75/9(p)	* Elf Petroleum Ireland BV; Phillips Petroleum Exploration Ireland
5/97 Frontier	4 June 1997 - 3 June 2013	5/18, 5/23 & 5/28	* Elf Petroleum Ireland BV; Phillips Petroleum Exploration Ireland; British Borneo International Ltd
6/97 Frontier	4 June 1997 - 3 June 2013	5/16, 5/17, 5/21, 5/22, 5/26 & 5/27	* Enterprise Oil plc; Mobil Oil North Sea Ltd; Murphy Ireland Offshore, Ltd; Union Texas Petroleum Limited
7/97 Frontier	4 June 1997 - 3 June 2013	11/20, 11/23, 11/24, 11/25, 11/28, 12/11, 12/12 & 12/16	* Phillips Petroleum Exploration Ireland; Agip Ireland BV
8/97 Frontier	4 June 1997 - 3 June 2013	75/21, 75/26, 82/25 & 82/30	* Phillips Petroleum Exploration Ireland; Agip Ireland BV
9/97 Frontier	4 June 1997 - 3 June 2013	83/9, 83/10, 83/14 & 83/15	* Phillips Petroleum Exploration Ireland; Elf Petroleum Ireland BV
10/97 Frontier	4 June 1997 - 3 June 2013	83/13, 83/18, 83/19 & 83/20	* Saga Petroleum Ireland Ltd; Total Oil Marine plc; Statoil Exploration (Ireland) Limited; Shell EP Atlantic BV
11/97 Frontier	4 June 1997 - 3 June 2013	1/17, 1/18, 1/21, 1/22, 1/23, 1/26, 1/27, 77/4, 77/5, 78/25, 78/29 & 78/30	* Shell EP Atlantic BV; Statoil Exploration (Ireland) Limited; BP Exploration Operating Company Ltd
12/97 Frontier	4 June 1997 - 3 June 2013	10/30, 11/26, 18/4, 18/5 & 19/1	* Statoil Exploration (Ireland) Limited; Shell EP Atlantic BV
1/99	15 March 1999 - 14 March 2014	43/19, 43/20, 43/24, 43/25, 43/28 & 43/29	* Agip Ireland BV
2/99	15 March 1999 - 14 March 2014	44/18, 44/23, 44/24, 44/29 & 44/30	* Elf Petroleum Ireland BV

The remainder of the area off the west coast is not licensed at present and the acreage which was offered to the Industry in rounds during the last four years is closed for licensing at this time.

Office of the Information Commissioner
Oifig an Choimisinéara Faisnéise

Our Reference : 030762

23 September 2003

Ms Maura Harrington
Doohoma
Ballina
Co. Mayo

Dear Ms Harrington

FREEDOM OF INFORMATION ACT REVIEW
DEPARTMENT OF FINANCE

I refer to your application to this Office under the Freedom of Information ("FOI") Act, 1997 for a review of the decision of the Department of Finance ("the Department") on your FOI request for access to records. I have been authorised by the Information Commissioner to conduct this review on her behalf.

Background

In April 2003 you wrote to the Department of Finance seeking access to *"all documentation relating to the provision of undertakings or guarantees having the effect of binding the fiscal regime pertaining to the offshore petroleum operations covered by the authorisations referred to in the Licensing Terms for Offshore Oil and Gas Exploration and Development 1992 for the term during which those authorisations are extant"*. The Department issued a decision on 27 May 2003, refusing your request on the grounds that it holds no records covered by your request. You applied for an internal review of that decision on 12 June 2003 and the internal reviewer issued a decision on 26 June 2003, upholding the initial decision and advising that your request had also been sent to the Department of Communications, Marine and Natural Resources.

You applied to this Office on 2 July 2003 for a review of the Department's decision.

I have conducted this review in accordance with the provisions of the FOI Act, 1997 as amended by the Freedom of Information (Amendment) Act, 2003. In the course of this review, I have had regard to the following:

- to your own submissions to this Office as well as to comments contained in your letters to the Department;
- to the initial conclusions of the Department on this matter; and
- to the Department's response to queries raised by this Office.

Scope

The sole issue in this review is whether the Department holds records relevant to your request. In particular, the issue considered is whether the Department has taken all reasonable steps to locate any records covered by the scope of your request.

Findings

The Department's position as outlined to this Office and in correspondence to you is that it does not hold any records covered by your request. Technically this amounts to a refusal of records. Accordingly, the relevant provision of the FOI Act to be considered for the purposes of this review is section 10(1)(a). This section provides that a head may refuse a request where *"the record concerned does not exist or cannot be found after all reasonable steps to ascertain its whereabouts have been taken"*.

Some confusion as to the precise grounds for refusing your request arose from the wording of the Department's initial decision letter. In that letter Mr Liam Murphy explained that no records were held covered by the scope of your request but completed this statement saying *"which were created after the commencement of the 1997 Freedom of Information Act which was 21 April 1998"*. It was unclear whether the Department was in effect refusing records which were relevant to your request on the basis that those found were created prior to April 1998. Section 6(4) states that "records" for the purpose of the FOI Act are records which were created after the commencement of the Act (with the exception of records necessary to understand post-commencement records and records relating to personal information). Your argument was that access should be available to pre-commencement records concerning matters having an ongoing effect after that date.

Clarification of the Department's position was sought, in particular as to whether it sought to rely on section 10(1)(a) alone in refusing this request or whether pre-commencement records coming within the scope of your request existed but were refused in reliance upon section 6(4) of the FOI Act. In its response, the Department has confirmed that searches of both pre- and post-commencement records have been carried out and, as no relevant records were found, the decision to refuse your request is solely in reliance upon section 10(1)(a). The Department has not found any relevant pre-commencement records and accordingly is not relying on section 6(4) at all.

In carrying out a review of a decision to refuse a request in reliance upon section 10(1)(a) of the FOI Act, the Information Commissioner will take the following steps:

- ascertain what evidence was available to the decision maker;
- ascertain whether further particular evidence should have been sought; and
- decide whether, on the basis of the available evidence, the decision maker was justified in concluding that the records did not exist or could not be found after all reasonable steps had been taken to ascertain their whereabouts.

It is not normally the function of this Office to conduct its own search for records. The Commissioner's role is to assess the reasonableness of the decision taken by the public body on the basis of the evidence to hand at the time. In addition to particular information regarding action taken on receipt of a specific request, general details will be sought regarding normal practice regarding the filing and storage of records of the type sought in the request.

This Office put a number of specific queries to the Department regarding its record management practices and its search procedures in this particular case. According to the Department, it has conducted three separate searches through all of the records held on the main file where it seemed possible that any documents relevant to your request might be held. The Department also considered all records on an additional file which could possibly have held relevant material. Despite these searches, no records relevant to your request were found on either file. The Department states that there is no reference in any of the papers to any undertakings given to the petroleum industry which come within the scope of your request..

The Department also explained that the special tax regime which applies in the case of petroleum exploitation profits was introduced by way of the 1992 Finance Act and the Licensing Terms (referred to in your request) which were introduced in November 1992. The Department went on to state *"Therefore, as the fiscal and regulatory framework relevant to this request was not in place prior to 1992, records created prior to 1992 in relation to petroleum taxation are not relevant in this instance"*. Nevertheless the Department has informed me that a search was conducted through files containing pre-1992 records to *"completely rule out the existence of records covered by the request that could have been inadvertently filed among pre-1992 records. This search did not discover any such records"*.

In its submissions to this Office, the Department referred to certain records it had found during its searches which related to the legislation and to the licensing terms themselves but which it stated contained no references at all to any assurances, guarantees or commitments given under the 1992 Licensing terms binding the fiscal regime. Copies of those records were sought by this Office and carefully considered. I confirm that none of those records are covered by the scope of your request as they do not relate to any assurances/guarantees/undertakings or commitments as referred to in your FOI request.

I understand your concerns arise from a statement made by a representative of the Irish Offshore Operators Association ("IOOA") in which he said the fiscal regime for offshore petroleum could not be changed during the period covered by any licences issued under the 1992 terms. The relevant Minister confirmed this was the case and, you state *"did not deny that assurances binding the fiscal regime in the manner claimed by the IOOA were given"*. In your submissions to this Office you note that *"If neither written nor oral assurances were given then the claim made by the IOOA is clearly unfounded and the Minister could have been clear and emphatic in his response [when questioned by] RTE"*. Clearly this information gave rise to a reasonable expectation on your part that the fiscal regime must have been bound by such assurances. In responding to this Office the Department has commented that:

> *"It is appreciated that a resolution of Ms Harrington's request could be attained by either a confirmation or a denial of the existence of any undertakings or guarantees having the effect of binding the existing taxation treatment of profits from petroleum exploration to offshore operations covered by authorisations granted under the 1992 Licensing terms. However, it is felt that the Department has fulfilled its obligations to the requester under the FOI Act by taking all reasonable steps to locate the records requested and confirming to the requester that the records do not exist and therefore section 10(1)(a) of the Act applies"*

It would appear that the Department was reluctant to state for a certainty that no such assurances were provided and accordingly, conducted a full and thorough search to eliminate the possibility that records covered by the scope of your request were held on its files.

The Department informs me that in carrying out a search for relevant records, it also consulted the Office of the Revenue Commissioners who report that no relevant records were held in their Offices. You are clearly entitled to make a separate FOI request to that Office should you so wish.

On the basis of the results of enquiries made by this Office, as summarised above, I am now satisfied that the Department has taken all the steps it could reasonably have taken to ascertain whether it holds any additional records relevant to your request. In these circumstances, I find that the Department's reliance upon section 10(1)(a) of the FOI Act is justified.

The Department provided a copy of the Licensing Terms themselves and together with guidance notes on those terms. I realise you must have access to a copy of the Licensing Terms already. Should these guidance notes be of interest to you, I am informed by the Department that these are accessible on the Revenue Commissioners website at http://www.revenue.ie/pdf/part24_03.pdf.

Decision

Having carried out a review under section 34(2) of the Freedom of Information Act, 1997, as amended by the Freedom of Information (Amendment) Act, 2003, I hereby affirm the decision of the Department that it holds no records relevant to your request additional to those already made available to you.

A party to a review, or any other person affected by a decision of the Information Commissioner following a review, may appeal to the High Court on a point of law arising from the decision. Such an appeal must be initiated not later than eight weeks from the date of this letter.

Yours sincerely

Liam Kelly
Senior Investigator

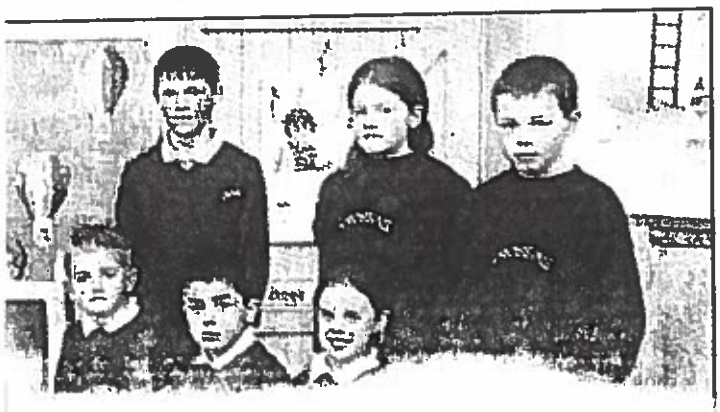
Source T

North-Western Fisheries Celebrate Departure Of Bord na Móna
from
Erris
=

The Truth.

ɔast for iversary

d in the period school clothes, front row, kneeling and seated: loran and Stephen Morrin. Middle row: Sarah Dempsey, Emma w: Ciara Egan, Fr Niall Coen, Hazel McDermott, Avril Varley, and Niamh Carney. Pictures: Frank Dolan.



Westernnewsdigest

End of bog harvest is boost for fishing

THE ending of peat harvesting operations by Bord na Mona in the Owenmore River catchment is likely to have a beneficial affect on fisheries in the area.

The North Western Regional Fisheries Board and Bord na Mona have already had some discussions on a rehabilitation plan for a number of important fisheries in the area.

Mr Vincent Roche, CEO of the Fisheries Board, said the main elements of the plan have been agreed and the board will be commencing work shortly on a freeeze coring study which will involve the extraction of cores from the river bed at selected locations and subsequent analysis of cores for silt content.

Later in the year, work will commence on cleaning the spawning gravels which have been affected by peat silt over many years and further coring work will indicate progress on cleaning up of the river bed.

Mr Roche added that, also as part of the rehabilitation plan, an eyed ova study was at present being carried out at selected sites. This involved the planting out of ova and weekly monitoring of the ova to determine survival rates in areas which were subject to siltation.

Similar work was carried out in the 1980s and '90s and the new study will facilitate comparison with the work carried out earlier. On a broader front, it is hoped that the end of harvesting, followed by the replanting over the next few years of harvested areas, will result in a dramatic fall-off and, ultimately, cessation of silt deposits from the formerly worked bogs to the adjoining rivers.

New centre opened in Enniscrone

A new primary care and community resource centre has opened in Enniscrone and will become fully operational within the next month.

Local General Practitioners and their staff are transferring to the new centre while an array health and other services will also be provided from it.

Cllr Paul Conmy has been told by the CEO of the Health Board, Mr. Pat Harvey that the new centre is part of a development in Enniscrone which also includes a housing scheme and a residential facility for adults with a learning disability.

"It is a partnership project between Cluid Housing Association, Sligo County Council and the North Western Health Board. All associated with this partnership development are to be complimented for what is a true community effort," he said.

Services provided at the new centre include, public health nursing, dentistry, physiotherapy, chiropody, community welfare, speech and language therapy, psychology, orthoptic services and day care, meals and laundry services for older people.

Motor tax system wide open to abuse

A Mayo senator has claimed that a new on line motor tax service which started on March 1 is wide open to the possibility of allowing uninsured drivers to tax their vehicles.

Senator Jim Higgins was reacting to the report of

Source U

Why Didn't Mayo County Council Tell
The MLVC
Glengad Hill Is Unstable
Glengad Hill Is Prone To Landslides?

They Told Enterprise Oil?

They Gave Them Permission To Blast
Under The Hill
Around The Hill
Out To Sea From The Hill

They Still Have Permission To Blast.

Marine Institute
Snugboro Road
Abbotstown
Dublin 15

telephone 353 1 822 8200
facsimile 353 1 820 5078

Micheál Ó Seighin
Ceathrú Thaidhg
Beál an Átha
Co. Mhaigh Eo

January 13, 2004

Marine
Foras na Mara

Re: Corrib Gas Project

Dear Mr. Ó Seighin

I refer to your letter of 21/12/2003 in connection with the above.

I can confirm that during its assessment of the EIS in relation to the proposed development of the Corrib Gas Filed the MLVC did not receive any communication from Mayo Co. Council regarding the history of landslides in the Dún Ciortán region.

I note your comments in connection with the survey of cetaceans in Broadhaven Bay. As this is not an MLVC issue I have passed on your letter to the Department of Communications, Marine and Natural Resources for appropriate response.

Yours sincerely

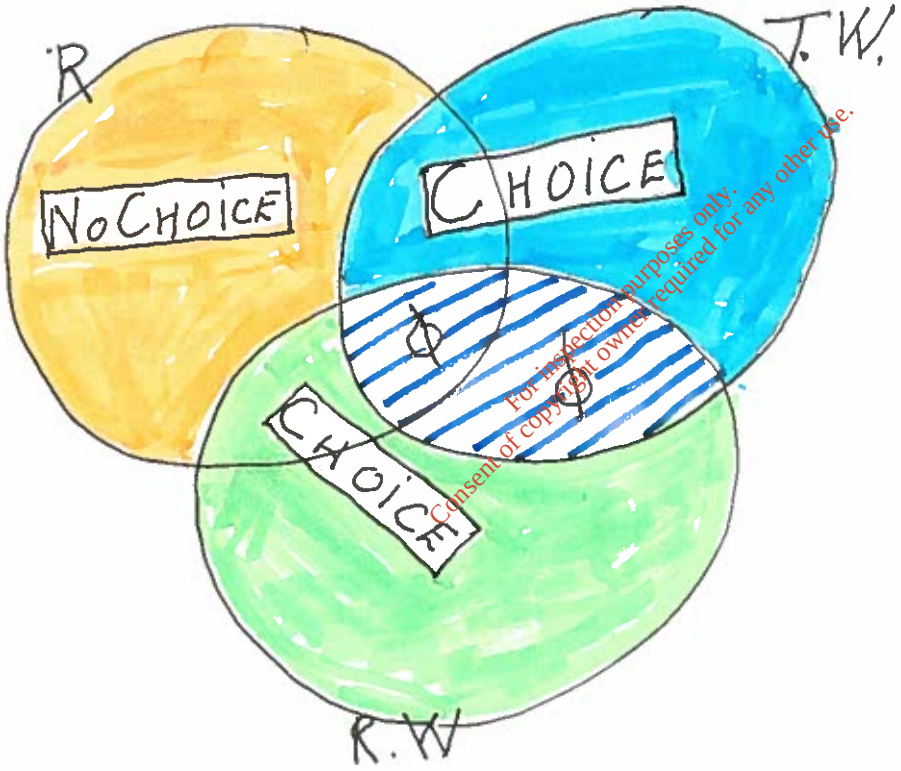
Dr. Terry McMahon
Chairman
Marine Licence Vetting Committee

C.c. T. Burke, DCMNR

Source V

Quality Of Risks
To
Different Groups Of People

All Risk Exposure Not Qualitatively The Same.



R = RESIDENTS
T.W = TERMINAL WORKERS.
R.W = Rig WORKERS.

RESIDENTS EXPOSED TO RISK — NO CHOICE

RESIDENTS WHO ARE TERMINAL WORKERS
OTHER TERMINAL WORKERS
RESIDENTS WHO ARE Rig WORKERS
OTHER Rig WORKERS.
} CHOICE.

NO ONE.

Heaviest Daily TOTALS of [Rainfall !

17 May 2004

S.W.

SOURCE V

MET ÉIREANN
The Irish Meteorological Service

CLIMATE | BROWSE Climate

metBROWSE
- FORECASTS
- RECENT WEATHER
- CLIMATE
- ABOUT US
- FAQ
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- AGRI-ENVIRONMENT
- AVIATION
- FORECASTING DIVISION
- SITEMAP
- HOME

metSEARCH
GO!

30 Year Averages

BELMULLET

monthly and annual mean and extreme values

1961-1990

TEMPERATURE (degrees Celsius)	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	year
mean daily max.	8.2	8.3	9.7	11.6	13.7	15.7	16.8	17.2	15.7	13.4	10.3	9.0	12.5
mean daily min.	3.1	2.9	3.9	4.9	7.0	9.5	11.1	11.1	9.8	8.2	5.1	4.3	6.7
mean	5.7	5.6	6.8	8.2	10.3	12.6	14.0	14.1	12.8	10.8	7.7	6.6	9.6
absolute max.	13.0	13.8	19.4	23.3	26.0	27.0	28.7	27.4	22.4	22.1	15.2	13.5	28.7
absolute min.	-8.1	-6.3	-5.7	-2.6	-0.4	1.4	5.1	3.1	0.8	-0.7	-2.5	-5.2	-8.1
mean no. of days with air frost	5.0	4.3	2.1	0.9	0.0	0.0	0.0	0.0	0.0	0.1	1.3	3.1	16.7
mean no. of days with ground frost	10.5	9.5	7.3	5.4	1.9	0.1	0.0	0.0	0.5	1.7	5.5	7.8	50.3
RELATIVE HUMIDITY (%)													
mean at 0900UTC	85	84	82	80	78	81	85	85	84	85	85	85	83
mean at 1500UTC	81	77	75	73	73	77	80	79	78	80	80	83	78
SUNSHINE (hours)													
mean daily duration	1.47	2.41	3.29	5.27	6.14	5.36	4.29	4.63	3.65	2.63	1.74	1.08	3.50
greatest daily duration	7.9	9.8	11.2	14.0	15.6	15.8	15.4	14.0	12.5	9.8	8.1	6.7	15.8
mean no. of days with no sun	10	6	5	3	2	3	3	3	4	6	8	12	66
RAINFALL (mm)													
mean monthly total	123.5	80.1	95.8	58.1	68.0	67.3	67.6	93.7	108.0	132.9	127.7	119.9	1142.7
greatest daily total	32.2	23.6	25.9	20.4	26.5	35.2	44.9	57.3	56.1	67.8	56.4	40.5	67.8
mean no. of days with >= 0.2mm	23	19	23	19	18	18	19	20	21	24	23	24	249
mean no. of days with >= 1.0mm	20	15	18	13	14	12	12	15	16	19	19	19	193
mean no. of days with >= 5.0mm	9	6	7	4	5	4	4	6	7	9	9	9	80

Source X

The Mirage Of Self-Sufficiency

SIR – You correctly quote my prediction of 1973 that an Arab oil embargo would have no effect ("Still holding customers over a barrel", October 25th). But there was a wider moral. The embargo was a non-event because there was only a single worldwide market. No country could be isolated for punishment or favour. Hence national self-sufficiency is, then and now, pointless and irrelevant to any consuming nation's security. Money spent for more self-sufficiency was and is a waste.

M.A. ADELMAN
Cambridge, Massachusetts

multinational companies, of which thankfully there are many in this country, provide employment and pay their taxes.

Mr. Sargent: Is the Taoiseach sure about that?

The Taoiseach: To a substantial extent, the money they spend here benefits the economy. That is a general rule.

Mr. Sargent: It does not apply in this case.

The Taoiseach: If we took the ideological view and decided that private companies were not welcome here, that would be an extraordinary position to take.

Mr. Sargent: I am talking about Shell.

Caoimhghín Ó Caoláin: Were any agreements, understandings or conclusions reached in the course of the Taoiseach's meeting with the president of Shell and his colleagues? Has he - or the Minister for Communications, Marine and Natural Resources or the Minister for the Environment, Heritage and Local Government, who also met with the delegation from Shell - had any further contact, either directly or in writing, with the president of Shell regarding the matters discussed?

Does the Taoiseach agree that instead of selling off such important State resources to companies such as Shell, it would be better to have a radical revision of the licensing and revenue structure which governs this sector? We need to see major reform under which the State's 50% stake in all oil and gas deposits is restored. The Taoiseach mentioned that Shell was a tax contributor, but would it not be better if companies such as Shell paid the same rate of corporation tax as all other companies instead of receiving preferential treatment as they currently do?

The best option would be for the gas from the Corrib field to be piped into an all-Ireland grid. Those of more informed opinion than I have suggested that to do otherwise would result in a significant reduction in the supply of natural gas to consumers throughout the island of Ireland.

The Taoiseach: I do not agree with the Deputy's last point. At the moment we are at the end of a pipeline that gives us access to almost unlimited amounts of gas from Russia. Those who know more about this than I do can see the potential down the road. If this resource works effectively, as some of the early studies suggest, we could be exporting gas to the UK.

I do not see what the Deputy means about employment. Shell does a great deal of business and has invested heavily in this country. The Deputy said it receives preferential treatment but this is not the view of anyone in Shell's world or European management. Other countries have ways and means of treating large companies with which I do not agree. We have a very open and transparent system. I can imagine what would happen with a project such as this in most European countries. Perhaps those countries are wrong and we are right. I subscribe to that and I defend our position.

There were no deals or arrangements other than those I mentioned, including the letter to which I referred in my initial reply. Normal consultation with officials took place.

Northern Ireland Issues.

Sourcez

AZ1.

Health & Safety Laboratory

About Us
Capabilities
Case Studies
Proficiency Testing
Publications
News
Recruitment
New Laboratory

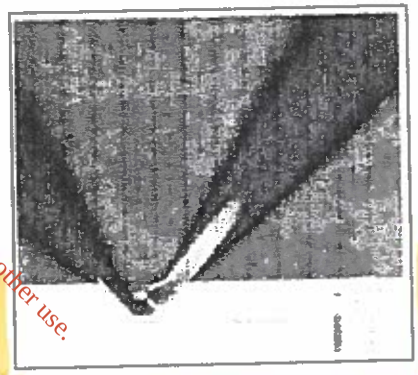
ENE

Introduction | Fire, Explosion & Process Safety | Human Factors & Risk Assessment
Occupational & Environmental Health | Safety Engineering | Work Environment

Case Studies - Natural Gas Releases from High Pressure Pipelines

HSE has responsibility for inspecting high pressure natural gas pipelines within the UK, setting safety standards and advising on relevant aspects of land use planning.

HSL was commissioned to investigate the behaviour of gas leaks in order to develop a model to predict the consequences. The obstruction of escaping high pressure gas by impingement on the ground is of particular interest.

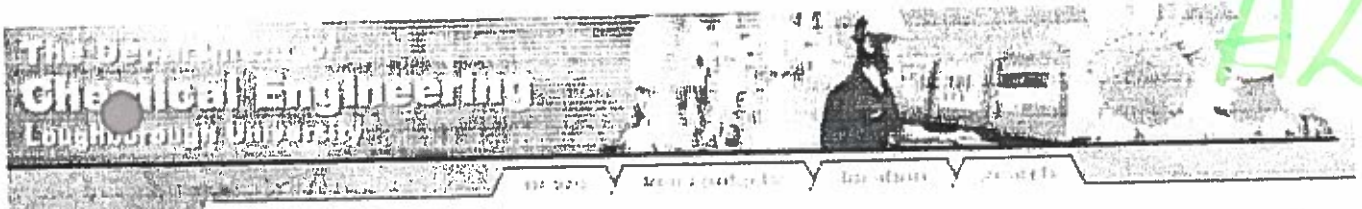


In previous models it had been assumed that the leak would result in the formation of a quiescent cloud over the release point which would subsequently be dispersed by the wind. However, studies have shown that the overall flow character is more like a high momentum jet. Modelling this initial jet phase is not straightforward as the jet is likely to remove earth from around the point of the pipeline failure forming a crater from which the gas will subsequently escape to atmosphere. One way to model this is by the use of Computational Fluid Dynamics (CFD).

Following initial studies, a series of three-dimensional CFD simulations was undertaken by HSL to predict the behaviour of gas releases from the underside and sides of the pipe. These releases, for pipeline pressures of 8 to 75 bar, were into craters of various assumed shapes. The illustration shows the results of one of these three-dimensional CFD simulations: the contour lines indicate the gas concentration and the shaded area represents the area at a flammable concentration. Gas is seen to exit from a rupture on the right hand side, impinge on the crater wall, then exhaust to the atmosphere at high speed. Simulations with shallower crater wall angles show that the gas jet will be directed along the ground.

This work has provided important input to HSE's revision of its pipeline risk assessment methodologies.

AZ2



CASE Awards

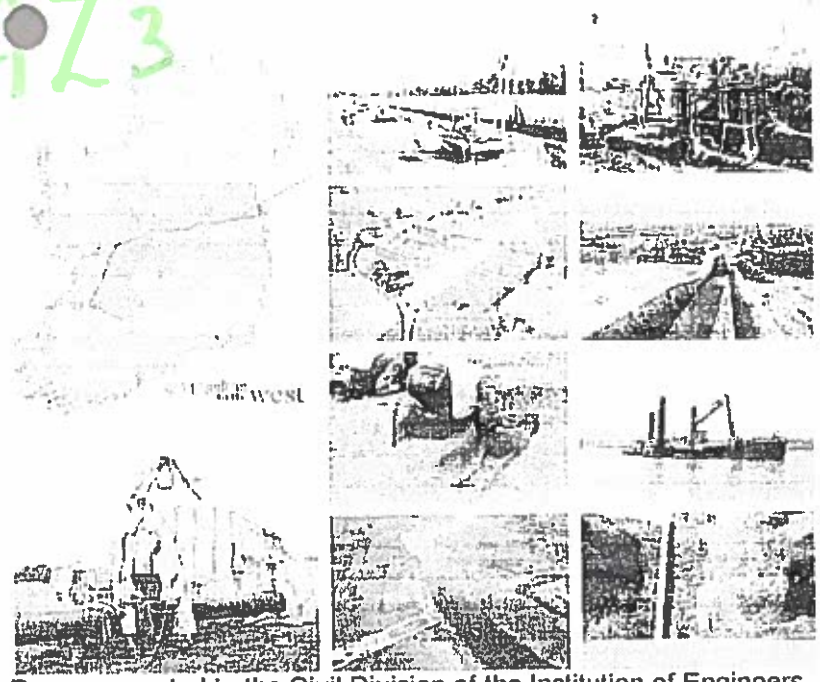
Loughborough University

Mathematical Modelling and Experimental Investigations of the Behaviour of the Gas and the Pipeline Material during the Rupture of a High Pressure Gas Transmission Pipeline

The exploitation of increasingly remote reserves of natural gas requires that consideration be given to the construction of ever longer transmission pipelines often traversing extremely inhospitable terrain. The economic viability of such projects demands significant reductions to be achieved in the capital and operational costs of these long distance pipelines. To assist in meeting these cost reduction needs, manufacturers are in the process of developing new high-strength steel pipe. In addition, operators are proposing to carry non-standard compositions of product (such as natural gas which is rich in higher hydrocarbons) and to carry these products at significantly higher pressures than currently used for gas transmission. The combination of new high-strength steel pipe enabling the use of a higher pressure or smaller diameter pipe and the carriage of rich natural gas will return a significant reduction in transportation costs. However, before such pipe can be utilised, its performance, with respect to its behaviour under extreme conditions, including its ability to resist damage and arrest a propagating fracture, must be assured. Fracture control in high-pressure gas pipelines depends upon the performance of the pipe material during crack propagation and the behaviour of the gas during decompression. Neither of these areas is well understood for high-strength steel pipelines carrying rich natural gas at high pressure.

Gas Pipeline to the West

P. J. RUDDEN B.E., C. Eng., M.I.E.I., M.I.C.E., M.I.G.E.M., M.C.I.W.E.M., R.Cons.E.I.
Chartered Engineer Director RPS-MCOS Ltd., and Director RPS Group Ltd.



Paper presented to the Civil Division of the Institution of Engineers of Ireland on 4th. December 2003

The pipe specification chosen for Gas **Pipeline** to the West was API 5LX X65. From the design codes it can be seen that the required pipewall thickness increases with pipe diameter and **pressure** but it similarly reduces by increasing the grade of steel used (specified minimum yield strength). The design factor is a constant (of value less than 1) and acts as a design safety factor in pipe design. This factor is important in the selection of appropriate wall thicknesses and its value changes depending on location to allow differing risk situations. **IS328** defines three area classifications for the purposes of selecting design factor and calculating design wall thickness as follows;

- Type R areas where population densities are less than 2.5 persons per hectare where a design factor of 0.72 is used
- Type s areas which are intermediate between type R and type T and where population densities are in excess of 2.5 persons per hectare where a design factor of 0.3 is used
- Type T areas are densely populated with multi-storey buildings, dense traffic and numerous underground services where the design factor is also 0.3.

In addition to specifying design factors, **IS328** specifies minimum distances from normally occupied premises which may depend on the design factor used. In general, heavy walled pipe (wall thickness 19.1 mm) was used for road, rail and canal crossings in addition to reservations for future motorways and areas in close proximity to normally occupied dwellings or future development zones.

For corrosion protection, the **pipeline** has an impressed current cathodic protection system in accordance with BS CP 1021. The **pipeline** also had to be protected from induced currents such as overhead /underground power cables or electrified railway lines. During construction the **pipeline** coating was inspected for defects in a process called "holiday detection" and any coating damage repaired prior to backfill. Isolation joints must be installed as the **pipeline** enters and leaves Above Ground Installations which are separately earthed. These joints were pupped for welding directly onto the **pipeline** but occasionally insulation flanges may be used.

Pressure reduction facilities are provided at designated block valve stations along the route to

Submission to Mayo County Council Relating To Planning Application File Number P03-3343

January 2004.

This is already on File P03-3343 in Mayo County Council Planning Office.

Submission to Mayo Co. Co. relating to Planning Application File No. P03-3343 by Shell E & P Ireland Ltd., being the construction of a natural gas refinery at Ballinaboy,the establishment of a dump on cutaway bog at Srahmore on foot of the waste generated by this construction, the transport of enormous volumes of waste products between the two named sites.

Submission: Micheál Ó Seighin, Ceathrú Thaidhg, Co. Mhaigh Eo, and others.
Contact: Micheál Ó Seighin
Contact Phone: 097/88961
Contact Ríomhphost:- moseighin@eircom.net

Réamhfhocal:- A seanfhocal from Erris says "*Thit an spéir ar Acaill, agus cuireadh tincéirí iarainn ann dá deasú.*" Wrong analysis, wrong problem identified, wrong solution, in short, wrong.

Context:- This is the third full application for planning permission for this project by the promoters, quite apart from responses to the authorities requests for "further information". The first application, frighteningly deficient, was not proceeded with, and the second full application (P01-900) was granted by Mayo Co. Co. officials and, on appeal, refused by An Bord Pleanála.

It is important to note that in the EIS and accessory documentation, accompanying the present application, two elements of discourse predominate, and are repeated ad nauseum: 1. The project was refused by An Bord Pleanála only on the single grounds of the unsafe storage of peat, or peat slurry. 2. This project is strategically important for Ireland's national interest.

The discourse thus presented does not take into consideration the following facts :- (a) An Bord Pleanála accepted that the project even as presented then(lower than now) would be visually obtrusive but over-ruled that on the grounds of major importance; (b) An Bord Pleanála accepted that alternative sites are/were available; (c) As the Health and Safety Authority is the nominated body for occupational health and safety matters the Bord accepted the report, prepared by the HSA based on information supplied by the applicant, on the direction of the Bord, on the occupational safety of the plant. The recent (January 2004) blast that destroyed a gas terminal in Algeria, killing ca. 30 and injuring ca. 70 is not likely to give the HSA second thoughts, but it should. **Neither the HSA nor the Bord nor Mayo Co.Co. has any authority to consider the health issues at the centre of the community's concerns, i.e. the issues relating to emissions, to air, riparian systems and sea,** nor did they do so. Also, Mr. Colreavy, representing, with his legal advisers, the HSA at the oral hearing into the appeal of the grant of planning permission, stated, in response to a direct question, that neither he nor any member of the HSA would accept responsibility for any damage or harm, if such should occur as a result of his recommendations in this matter.Comforting.

This matter of "responsibility" has taken on a new aspect since the last hearing of this request to build the terminal at Ballinaboy and its corresponding inconveniences. A natural result of the acceptance of "benchmarking" as the norm is the requirement of transparency from all decision makers, so that our public service can no longer hide behind abstractions like "Mayo County Council" or "Health and Safety Authority" in making and publicising decisions, so that those who make decisions in our public service shall be as responsible as Sir Philip Watts is held responsible for decisions taken in the name of Shell. The day of "Yes, Minister" as a reality, has been condemned to death by social partnership. Mayo Co. Co. does not make any decisions - defined people do; (d) The strategic importance of this project for Ireland is as proven as the nuclear arsenal of Iraq,

and equally polemicised. The long list of key words used, repeatedly, formulaicly, to "prove" this dependence - indigenous, end of gasline, security of supply, independent source of gas, etc. - does not at all prove the hypothesis, here presented as fact. Appendix 1 to this submission, (the exploration case as seen by the oil industry) shows clearly the impossibility of this project being in any way a contribution to Ireland's strategic balance, whatever the wording used. But, of course, with enough gas, any balloon will fly. Bord Gáis publications for 2002, the Taoiseach's euphoria in the Dáil about exports of gas, the knowledge that, although Marathon pays the State around £10,000,000 a year levy on Kinsale gas production, the State immediately returns the money to them entirely, but in a Dept. of Finance cheque and much else besides, a growing awareness of the reality of the Exploration and Leasing Acts of 1992 and the Finance Act of the same year, the ongoing saga of Telecom, all reinforce an accelerating cynicism regarding what our elites see as "the national interest". After all, the tribunals are about implementing national housing policy?

It is necessary, for the benefit of those who come after us, and will try to understand issues, to show clearly why we oppose this project while other interests are gasping for it. We oppose it because we are worried for the health of those who come after us in sequent occupance of this area; because we believe the project cannot be delivered without enormous damage to the area and to the long term financial health of the people who now and through generations past have maintained a human presence in this testing environment and because there are alternatives. It is necessary that a clear paper trail be laid down so that it can be seen, in a genuflection to the late John Healy, that someone, some people shouted stop.

There are supporters of this project, but they generally live some distance away:- In a recent local radio interview, the parish priest of Bangor, Fr. Brian Conlon, welcomed the gas(sic), one presumes on behalf of his parishioners, and in possession of the inside track in these matters. It reminds one of the efforts of his predecessor in that exalted position, Fr. Gilvarry, who in the early 1970ies (according to the national archives)appealed with great passion for a nuclear power station in Erris, on behalf of Bangor Development.

The Ballina Comhairle Ceantair of Fianna Fáil also sought the same privilege for Erris (according to the national archives). Frank Fahy supports the project. Eamonn Ó Cuív and the entire political firmament of the major political parties and their local acolytes. The local support group based on Bord na Móna management and staff supports it. Almost anyone with something to sell supports it, whether it be a house to rent or a lorry of stones. The judgement of Fr. Gilvarry in the sixties and his prophetic example are not encouraging.

The final aspect of context we need to carefully consider is the matter of the hill at Dún Chiortáin, overlooking a Kilometre of pipeline on land and considerably longer at sea. The developer is quoted as saying that it was notified by Mayo Co. Co., previous to its first submission for planning, of the hill's history of landslides and of its geological instability. Mayo Co. Co had, at that stage, given permission for the construction of the aviation tower on top of the same hill. Subsequently Mayo Co. Council authorised the developer to blast under the hill and for an unspecific distance out to sea, just under the same hill. That Mayo Co. Co.'s regular consultants, Tobins, (are they the same engineers who did the roads' job for Shell on the L1204?) now finds the hill not to be geologically unstable, is hardly comforting: the hill and its residents was washed out in the meantime. The developer in this application says that blasting will not be required at Ballinaboy: it was essential when the last and previous application was submitted. One presumes that the blasting at Dún Ciortáin etc., already licensed, is still on?(Appendix II)

Having mentioned some of the considerations vital to an understanding of the context of this project, we, the undersigned, will now comment on some of the issues presented in the EIS accompanying the application for planning permission. Our comments are not intended to be exhaustive: a more complete examination is the duty of the planning authority, its resident staff and its independent consultants, on the basis that it is the staff and members of the local authority and not us on whom the project impinges, who bear and will continue for the duration of the project to bear responsibility for the results of such decision.

Non-technical Summary -Ballinaboy.
There is no such thing as "security of supply" of hydrocarbons, under the Irish exploration and lease terms, except in so far as a commercial deal between a business operating in Ireland and any gas supplier anywhere is legally binding. The only obligation on a company sourcing gas under Ireland's land or its territorial waters is that payment must be made to some entity that has an address in Ireland: and this applies only to ensure that all the benefits of the Irish tax regime accrue to the relevant lease holder. There is no obligation on Shell, Marathon or Statoil to supply the Irish market under any circumstances, emergency or otherwise. However, the Corrib field does re-inforce Norway's security of supply, as Statoil are governed by Norway's strategic needs. An Taoiseach is recorded recently as saying in the Dáil that the supply of gas available to Ireland from Eurasian sources is almost limitless. There is no point in our wasting our time in pointing out the obvious. The facts are simple and available if the planners wish to see them: but thit an spéir ar Acaill.

Electricity *"subject to occasional supply interruption"*:- unlike the U.S.A. or London???.

We import gas "*from the U.K.*" : or/and "through the U.K." And the Taoiseach hopes shortly to be exporting it to the U.K.

Gas pipeline to the West or from the West is a political decision if it is not economic for An Bord Gáis to do so, and so in breach of their terms of reference. (Does Bord na Móna labour under this disadvantage?.) There is no sign of the political will necessary to enable the West and Border Regions even under the application of the Spatial Strategy.

Has Mayo Co. Co. and its advisers available to it the literature on the different technologies here proposed, relating to the re-enforcement of the peat with cement or such, and the use of sheet piles, dumping of masses of peat slurry. All the information available to us suggests that the behaviour of sheet piles in peat is largely unknown and unresearched, has not been at all adequately studied and piloted and that its use in this context is experimental and untried. We do not believe this to be adequate tested technology for a project of such serious environmental implication as this. Where is the literature?

"*reduce the cost of fibre optic infrastructure*" and of soda water fountains on top of candy mountain.

"best solution" for the developer : no one expects the developer to look for less than the for it optimal return. Evidence given by experts for the developer at the oral hearing into previous planning application for this project showed clearly that financial considerations - not economic - were decisive and over-ruled everything else.

p. VIII "*Floating production concepts are untried solutions.....Atlantic region.*"
The developer is not shy when it comes to "untried": sheet piling in deep peat, transport d[illegible]ions, 8 Km high pressure pipeline from foreshore to terminal, etc. It might occur to one to point out that there are no tried solutions for gas production in the specific area cited.

"*The length of the subsea pipeline became a technical constraint on the site selection*" the word "constraint" is carefully chosen, for at the oral hearing previously referred to it was admitted by the technical experts of the developer that there were no technical problems relating to distance that would be decisive. Financial considerations were/are paramount.

Purpose of Terminal: addition of Mercaptan is not included - it has a history. Also excluded "remove some pollutants up to a chosen standard."

"*small volumes of condensate*" - *small? "condensate will be used as fuel in the terminal*"...not natural gas?; XVII "*natural gas been chosen to fuel the electricity generators*" not condensate?

"*will effectively lower the terminal footprint by up to 10 metres*" lower from what? 'Tis proposed to be higher than the last application?

"*to prevent any pollution*" ..impossible.

There are bats between Ballinaboy and Bangor: there are hen harriers on the Ballinaboy site. No mention of cetaceans. Shell is aware of the extent of dolphin colonisation of Broadhaven Bay.
Marine Impacts:- recent questions re. toxic pollutants in esp. farmed salmon must question optimism of polluters in shallow waters.

No promises are bonded, i.e. they are as so adequately described by An Taoiseach in a response to Deputy Kenny of Fine Gael in the Dáil effectively saying "the deputies' objective is to stay in the Dáil and they'll claim anything to arrange that."(not a verbatim quotation.): "say" "promise" is as useful as An Taoiseach obviously believes. Bond it!

Sustainable Development:- "*Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*"I do not accept this Shell definition as in any way adequate: it is terminally misleading. There is no spatial context - in a vacuum anything goes or does not go. 1. "present" does not have needs - people have. Any particular standard demanded requires a corresponding level of needs satisfied. 2. the needs of future generations of people will be dictated by or based on the mess or otherwise, at any rate the legacy we leave to them.
Apply this definition of sustainable development to Irish housing requirement, from whatever perspective you come, and the emptiness of the verbiage is obvious and scary to think that this definition is actually the yard stick for some major developments.

"*limiting emissions of various gases*"..from a basis of nil, how do you limit?
The last sentence of the non-technical summary, vol 1 re-written says "anything is better than no change at all": in that culture tá an spéir titithe ar Acaill.

Non-technical Summary Vol 2. Srahmore.

Initial Comment:- The proposal intends to turn the area from Glengad to Srathmore, some 20 Kms to a building site, in the sense that the normal experience of an extended building site will be suffered by the population. The scale of this proposal, when alternatives are available, is mind boggling, and is playing Russian roulette with the area. In the EIS as provided it is very difficult to appreciate where Shell ends and Bord na Móna begins, except that Bord na Móna, i.e. the tax payer, carries the can into the future. The general picture is that Shell turns X Hectares of peat into Y tons of waste, which is to be transferred off site to an unlicensed undesignated dump, and Shell/Bord na Móna seeks planning permission for the activities necessary to create this waste, this transport issue and this dump. The waste is to be transported as 11 ton loads, in a mix of 9 (or is it 10?) tons of water to one ton of solid(or is it two?). As the matter of the dump at Srahmore is a matter for the local inhabitants and the owners of riparian systems likely to be affected we keep comments to a minimum, but it is necessary to point out that the re-designation of Srahmore as an official dump does have an effect on the issue of Ballinaboy terminal.

Summary:- The EPA is quoted as stating that waste is *"any substance or object belonging to a catagory of waste"*. Now we know.

p. 2. "*recolonise by natural species*" I fail to find the literature on what is the experience of the dumping of this volume of peat dumped on a cutaway semi-compressed bog and what is the state of this waste and when modelled; methodologies to ensure that objectives, whatever they are, are achieved?The creation of a mire on vacuum processed bog, and its restoration takes generations.

p.5. "*provided the mitigation measures are effectively implemented.*" Presuming that Bord na Móna are taking responsibility we must point out that the history of Bord na Móna practice is not encouraging:- 1. For over 20 years Bord na Móna had to deliver potable water to the local residents because silting from Bord na Móna processes had completely polluted the traditional supply. The water carrying only ended when the Carramore regional water scheme came on stream.

2. An effort by Bord na Móna to build a filtration bed to make the water usable failed because of silting.

3. In the "Farmer's Journal", August 2nd., 2003 the devastation wrought by silting believed to be from the Blackwater Works of Bord na Móna in the rivers Brosna and Shannon areas of Offaly is given a middle page spread. The EPA has said that the area suffers from "heavy siltation". The story is followed up in the Journal of December 27th. (see enclosed floppy disc.) 4. "The Examiner", 29/7/1999 describes a report by the IFA that blames Bord na Móna for pollution on the River Barrow. IFA President, Tom Parlon is reported as saying the damage done to farmland along the river includes spoil banks up to ten metres high.

5. RTE News, 3/1/2004 (RTE Interactive): Records that a report by the Lough Ree Lough Derg Catchment Monitoring Group shows that Lough Ree is 40% polluted by "*industry, local authority sewerage, and Bord na Móna.*"

6. We fail to find an instance where Bord na Móna gave unsolicited disclosure of pollution caused in whole or in part by Bord na Móna operations.

We fail to find literature on "Haku trucks". However the **Haku system** of drying and storing **milled peat** is of course the system preferred by Bord na Móna and some other operators. Trucks are built of course that suit the Haku system.

p.6. re-wetting: we cannot find the literature on the re-wetting of this scale of loose material on semi-compacted well-drained cut-over bog and consequent re-colonisation. What is the success etc on re-instating a "*peatland eco-system*"? In the extensive literature listed in Bord na Móna lists there is nothing to remotely resemble this optimistic multi-faceted scenario, especially when one keeps in mind that Bord na Móna best practice and normal practice and, to our knowledge only practice, is to

drain a bog for 8 years before daring to remove the first 2 inches. Restoring vegetation and carbon dynamics in a cutaway peatland, we are led to believe, cannot be quantified, in the present state of knowledge.(University of Helsinki, Helsinki 2000: Eeva-Stiina Tuittila). And be stable in 5 years?
The area could be incorporated into the existing network of eSAC & pNHAs." As what?
p.8. "peat on peat" implies like on like - it is not: there is an interface that must form a watertable.
p.9. Munhin River is only exit from Carrowmore Lake and only entrance from the sea: *"slightly polluted" ?; "suspended solids"? "effective drainage of peat mounds"* what is proposed is not milled peat, less that 4 cm of which is removed each year, which has been heavily drained for 8 years before any work undertaken, which means that 18 years drainage has occurred by the time 1 metre of bog has been removed at the rate of 2" per year. This created waste has a consistency more closely resembling Bailey's, What justifies suggesting that experience of milled peat is relevant to the proposed one? This peat is not nice harvested sods, boys and girls:'tis slurry handled 10 times.
p.11"*dust may be generated"* - must be generated: historical efforts by Bord na Móna to control dust have failed, and these are best practice. Milled peat floats - in air and on water = silting: simple.
p.14. "requirement to minimise releases" is just a requirement and is only as useful as its application. Does the history of Bord na Móna suggest the requirement will be realised?
"*indigenous"* confers no advantage when asset and its benefits have been given away.
p.16. What has been agreed with Mayo Co. Co re roads: if the local authority has already made up its mind so openly, then what is the point of a planning process? Why the strange U-turn by Mayo Co. Co.? In previous applications Mayo Co. Co. insisted that no heavy vehicles would be allowed from Bangor to Ballinaboy on the L1204 : now all changed utterly. Not alone can the heavy trucks bringing the materials and machinery for the structure at Ballinaboy now travel this road and workers' cars, but also 36,500 tons of dry cement, and 17,500 tons of ready-mix, and 450,000 tons of peat, and 33,000 tons of mineral soil, and 78,000 tons of fill, and Bord Gáis pipes and construction materials, and 21 Km of waste pipe, and some miles of X pipes and the umbilical and and and. And how long is it since the bridge at Glencaillin collapsed from a minor (as we know now) bog-slide? And this through the full length of the Carrowmore Lake SAC? Are ye right in the head? Has the change come about since the discovery of the desperate state of the bridges and bog roads through Glencastle, or is it the response to Shell playing hardball (as they are perfectly entitled to do, whatever their present difficulties)? We are aware of some whoppers of inconsistency in planning decisions - a decision in early 1997 gave full permission to a bungalow in a highly obstructive place between road and sea less than a fortnight after the application was lodged and contained other wonders - but this total turn around of a strictly engineering decision requires explanation. And remembering that Mayo CO. CO. is an abstraction that does not make decisions.
p.17Cumulative Effect:- "*may increase or decrease impacts*"..quite.
p.18. Terminal and Srahmore do not comprise a project: they are only half a project, and as such consist of project splitting, which, to the best of our knowledge, is against regulations, both national and European.
Switch from oil to gas... but condensate, i.e. oil, used by Shell in Ballinaboy?
"*NOx and SOx emissions limited"* but ye are producing them - how is that limiting them?
"*increased focus on waste prevention and minimisation"* But ye are creating the waste - turning a material asset, peat, into a mass waste product?
"replacement waste habitat" models? examples? success? literature?
"ensure security of gas supply" how? The only obligation on the three companies that now own and control the supply is to their corporate shareholders and, in the case of Statoil, to the Norwegian Government.
"*provide balanced regional development"* Say it again, Sam: you may wake up and find its true!

p.19: E.M.S.:- "*use of natural resources*" = turning peat into waste: turning cutaway bog into a permanent dump: using two major fishing rivers as a silt trap? Is the thrashing of a material sustainable development according to Bord na Móna/Shell?
"*Continuous environmental improvement programmes*" What are they/where are the models/ have they worked/?

Finally:- The scheme or concept proposed here is crazy and is the triumph of optimism over intelligence and experience and proper practice. Bord na Móna has always used the language of best practice: it is a matter for the planners to investigate and come to a decision if the practice of Bord na Móna on the ground corresponds with the discourse, and let it be known on what real basis such a decision is based on. On a practical level one notices the following: the implementation of any monitoring etc of displaced peat slurry and the removal of same from Ballinaboy would of necessity be done by the present staff and management of Bord na Móna in the area, some of whom have a conflict of interest, as defined by Bord na Móna Code of Conduct, in that, in their private capacity as business people and property owners, they provide services and support for the promoter of this project: Neither Bord na Móna nor Shell have deemed it necessary to deal with this most disastrous of p.r., "*the existence of the interest*" which no doubt has been disclosed to Bord na Móna higher management, but which also needs to be given the transparency the importance of this subject demands. A pig in a poke is unacceptable even under 30 year disclosure rule.

Tourism:-*"There is a general shortage of accommodation in Mayo, which is partly due to the unsuitability of the land for building, as it is mountainous, boggy, sandy and liable to flood".*

and there be monsters.

Windrowing:- In a hole in the ground in an area said by the developers to be heavily shaded by trees, the mainstay of the "not visually intrusive" argument? What wind? This is the equivalent of the same set of consultants saying a structure is unstable and then again unstable: great if you can afford one.

Dry season, wet season:- One notes that the "once in a 100 years downpour" that swept Glengad Hill and surrounds, took place in Sept 2003, not in the proposed "wet" season. Also, of course, Derrybrien did not need any rainfall to move - just minor construction activity.

Terminal EIS. Volume 1.

Because of the repetitious nature of the EIS volumes, it is very difficult to respond in a reasoned structured way. We regret any repetition. These comments are not in any way comprehensive: that is the business of the planning authority.

Table P1: Changes to Scheme from earlier submission for planning is not at all complete -the pressures on road by HVT, a road previously out of bounds for HVT?
Table P4: is list of consultees complete? EPA? Marine Institute?
Exposure to noise 24 hours a day does not contribute to a sustainable community, in an area of negligible background noise.
Ponds: based on Bord na Móna - how were dimensions decided on?
3.2.4. Health and safety Management - see Algeria blast.
Table 3.1.: 100 people on road construction? Co.CO. staff? Are Co.Co to be sub-contractors for Shell or Bord na Móna who would hire them on an ad hoc basis to repair/maintain Council roads? It seems to make the entire Council, individually and wholly, as subservient and irrelevant as Mayor Brady says they are in Dublin.
Peat Soil Improvement: How tried and tested is this technology; no references accompany the blurb.
Windrowing: surely applies to milled peat, not to Bailey's or the other discoursive option. Even dealing with a single sod of hand cut peat, the drying after 8 days would be a miracle: but even that is not in any way comparable. Windrowing refers to heaps of milled peat that has been removed to a depth of 1 inch after an initial drying by heavy drainage of 8 years minimum? Calling a donkey a cat leaves the donkey an ass.
4.4.4. No one disputes the fact that this proposal if implemented is obtrusive.
Refrigeration after some time: this is an integral part of the project and not including it in the application for planning permission is project splitting and therefore unacceptable.
5. Tourist survey is funny.
5.5.2 Security -another keyword in p.r. word processor.
5.7.E.M.G.The existing E.M.G. is a bad joke, and Shell is not responsible for this: it has no expertise, no commitment no independence: Shell representative alone has access to relevant information and so the capacity to monitor. The representative of the Dept. of the Marine, at the initial, founding meeting, refused to allow as a member anyone who has questions about the sustainability of the project: Mr. Daly is on video tape so declaring. And you think this is monitoring?
6. Bird survey relates to immediate site only, for it is a well known fact that the birds in Erris do not stray far from home.
8.4.6. Various animal carcasses: now that's an interesting one for important people. Have the carcasses and surrounding areas been tested for the presence of toxic chemicals: this issue surfaced at oral hearing.
8.10"*some local shrinkage*"as a result of de-watering: given by Tobin's (remember them - ?) in their published report to Mayo Co. Co. as the main cause of the hill collapse in Glengad. Any implications here?

9.2.2. Ceathrú Mór Lake is *nutrient poor*?: is that why it was closed to fishing in 2003 because of bloom?
9.6."*Siltation of watercourses is not expected to occur as a result of this development.*" No one believes this: it does not correspond to normal experience.

10.4.4.Implies that the developer already knows the IPPC licence requirements even before licence is applied for? Possible?
10.5.2.Why not eliminate the "*potential for mercury emissions*" instead of just "*minimising*" them?
11.5.1. The prevailing wind blows emissions directly onto the houses in Bun Abhna and on up the Glenamoy floodplain. The strongest winds, however, blow towards Carrowmore Lake. In this respect, the Wind Rose as used is deceptive unless used for what it is supposed to be used. The basin shape of the area does hinder dispersion but not if you live somewhere else.
11.What is the generating capacity of the plant to be installed at Ballinaboy? Does it merit the designation of power station? Is a specific licence required? At what level does a power plant require a specific designation and licence? (Check Alcan).
11.13.2 Belmullet is not a "*representative met station.*"
11.17: The proposed site **is** in a basin - on a marble in a basin. The infrequency of inversions in Belmullet is comforting, and makes it more acceptable to choke on NOxs etc in Ballinaboy and Bun Abhna as long as Belmullet is happy. Simeon would understand.
12. Only a "*relatively small no* "of people will suffer, so that's fine.
14.9 i.e. 50,000 tons of CO2 - originally nearer 70,000. And the methane of 26,000 cows.
14.7.2 The reduction in oil usage here implied is totally false: primary maths sufficient.
16. Traffic: Only the local authority can explain the u-turns here involved - I mean the local authority concrete engineers who made the decision not the abstract Local Authority.
18.2.1"*The Corrib has four distinct elements*" Only two are subject of this application = project splitting.
18.2.2 No mention of the monarcain chaca at Muing Mhór?.
18.6 Only pipelines or tankers of LNG make gas more widely available, not a new supply from Sakhalin or the Duiske field: gas moves along pipelines = our insight/inspiration!.
19. Senseless propaganda - say it again Sam often enough and it may be true.
Table 19.2 Comparison should be with greenfield site, if useful information was the criterion.
No bonding of decommissioning - British Authorities have more backbone and sense of the national interest.

Vol 1. Technical Appendix 2.

4.6. The issue of strengthening the peat begs many questions.
5.1 A reference to the Channel Tunnel experience of, I think, Arup, is the only traceable reference for this proposal? Is nothing else available?. The reference would be better if it was detailed.

EIS. Vol 2. Srahmore.

p.5 "*If all mitigation measures are applied*" this mantra is repeated ad nauseum : it is the Rosary of this project and the most important discourse. Have similar measures been applied previously and have they worked? All processes must be set off against this standard - have they been tried - have they worked.
2.4 Haku system deals with milled peat.
Fig. 2.5Waste material to be compacted by bulldozers? What does research say will be the result of this - certainly not puff pastry?
2.4.2"*will be effectively treated*" has it worked up 'til now? (hiwun).
2.5 Initial 5,000 cubic metres to be "*extensively drained*" How? Precedent? Have spreading methods "*examined*" been implemented before? If so, where/when/result?
5.3.8.Tourist Survey finds "*too much development...and improved roads*" as the problem?
6.3 "*Depositing area*" is Tullahaun Bay.
Mixing of peat: destruction of natural stratification: paper trail, please.
7.3.1 Designated Areas - how designated must one be?

9/12

Low variety of species present in Munhin River and, in the case of Tullahaun Bay, much lower than in the rest of Blacksod Bay - ascribed by NPW staff to silt accumulation from Bord na Móna working - obvious from visual. Where tidal flushing is active, pollution not so dominant.
The County Secretary, Mr. Condon has first hand knowledge of the effect of silting from commercial peat works in the Dubh Loch area, just south of Cill tSéana. We notice (Irish Times, 23/9/'03) also that Mr. Condon is in a learning mode: vis a vis Glengad collapse "*It's certainly been proved that peat can move.*" Mr Condon, in the same interview, said that if the peat excavated from the terminal site was to be taken away, rather than stored "*it wouldn't be a problem*". He seems, in the same interview, to be quite happy that whatever peat was removed to make way for the runway at Barr na Cúige has disappeared: tho' he doesn't know what happened to it. The foregoing illustrates two points:- 1. The County Secretary is quite happy to sign off on this project, whatever it is; 2. He wishes another miracle would happen, like the Knock one, and that the peat would disappear.
No spawning or nursery areas where peat silt has access.
7.3.2 Extract from EPA (2,000) shows clearly ongoing polluting effect of B na M works.
9.8 *"The infrastructure will be capable of catering for all rainfall events above the design rainfall".* O Lord but 'tis nice to be humble and blessed with such foresight: the Shannon and Brosna and Loch Ree show how effective this direct contact with God has been.
9.9 How can a "*sampling programme*" "***ensure*** *that all discharges from the site are within permitted discharge limits."? "regular sampling"* means nothing except that samples will be taken regularly (if the entire process is carried through.). Lost performative.
16.4.2 How do Mulranny and Maam Cross end up "*in the vicinity of the proposed development*"?
19. The EMS draft is lovely, and as useful only as its implementation for now and forever until the mixed up peat re-layers and stabilises: and the taxpayer, directly or indirectly, whoever whatever whenever however pays the piper.

The proposed dump site at Srahmore goes as far as the Caoth Sáile road: once a dumping licence is issued, that is that, but it is a matter for the people of that part of Erris. Our concern is with the entire project, and the Srahmore is merely an extension of it, the effect of which is that now over 600 acres is being despoiled to facilitate a footprint of 30 acres: never has so much been despoiled by so few for so little.

As this proposal is to a large extent the equivalent of the previous application refused by An Bord Pleanála, it is essential that the Reports by the responsible Inspector of the Board and the appointed expert, Mr. Ball, be read as evidence. Those reports, with the opinions there presented, remain the **only independent expert analysis** yet undertaken into the desirability, sustainability, acceptability, viability of this project, in common sense and in planning terms, and free of any vested interest. We therefor refer these reports to the planners of Mayo County Council as evidence, and essential reading before planning decisions on this application are made.
There re some major departures in this application from the second original, relating to height of terminal, removal of created waste, seeding of bog with 36,5000 tons of cement, road u-turns and increased traffic of enormous proportions and weight, the dump site at Srahmore and its implications etc.

TO Sum Up:- From early July 1957, when an oil industry attorney from Wichita, Kansas - an Irish American with a great affection for Ireland - was introduced to the Director of the Geological Survey of Ireland by Aindreas Ó Cuív, the then Attorney General in the then Fianna Fáil Administration, until the first gas was brought ashore, 20 years elapsed, 20 years of intense if sporadic work. This project seeking permission, is precipitate, hurried and unconsidered, and quite outside the normal time frame for this type of development.

Re. Planning Permission to construct a Gas Reception and Treatment Terminal and Ancillary Works at Ballinaboy, Ballygelly South, and Associate Works, being a Dumping Site for Newly Created Waste at Srahmore, and the Transport of Same Waste and Other Necessary Materials between Ballinaboy and Srahmore, as contained in File No. P03 - 3343 in Mayo County Council Planning Department.

WE, the undersigned, individually and collectively, in view of the comments preceding and the experience of 2 previous applications for planning permission for the same project, or part project, wish to record our opposition to the granting of planning permission for the above described project, as is before Mayo County Council.

Our concerns include:- 1 The potential damage to the environment and to the fishing industry at the proposed outfall from pollutants in the effluent discharged.

2 The danger to health from the aerial emissions from the multiple process engaged in at the terminal when in operation.

WE are aware that applications covering 1 and 2 are not before Mayo County Council at present, but we believe that the resulting project splitting makes this application untenable. 3 The inevitable silting and pollution damage to waterways upstream and downstream from the proposed terminal, especially and including Carrowmore Lake, the one source of potable water for the Erris Regional Water Supply, the Glenamoy catchment and Sruth Mhada Con, and their associated SACs and SPAs, all important salmon and sea trout spawning and passageways. 4 The inevitable degradation of environmentally sensitive and valuable areas of national and European importance and so designated.

5 The hydrological nightmare and destructive potential of silting and bursting of a very liquid peat at the site of the terminal and at the proposed deposition site and the consequences of such movement.

6 Roads: the needs of the local population during the proposed 2 years of construction not taken into consideration: the traffic plan as proposed and accepted by Mayo C o. Co. in advance of application for planning permission amounts to a quarantine as neither the quality of the existing roads or their orientation permits their modification to accept such an enormous burden of heavy traffic. As an example: if the proposal is accepted it will no longer be viable for us in the Ceathrú Thaidhg area to use the Bangor "bealach" or "route" to Ballina or Castlebar or Belmullet and consequently shopping patterns will of necessity change: and changes have a habit of being permanent. 7 The proposal is speculative in many of its elements and in no way essential to the development of the area on which it impacts, nor do the potential advantages postulated compensate for the immediate and ongoing deprivation of the community of the integral advantages of living and rearing one's family in this primal environment.

8 Except in a most speculative and wishful way it does not provide infrastructure that will enhance the potential of the immediate area.

9 The proposal is inherently obtrusive and impinges directly on the Carrowmore SAC. The effect on the visual amenity of the area for the local residents, the permanent population, is dire, representing a constant reminder of a sleeping potential danger from its operation or from emissions. The cumulative evidence of unforeseen disasters would have a disastrous effect on the confidence of the local population in the benignity of their native environment. (Algeria, China, what to-morrow?)

10 Noise impact - 24 hour operation, lawnmower - even as acknowledged by developer, would inevitably destroy the amenity of a non-industrial environment for the local population. No effort is made in the EIS to quantify this material loss in compensatory, i.e. financial terms: an application not beyond the capacity of basic cost accountancy.

11 The effect of the physical and chemical changes and dynamisms to be introduced into the ecosystem by this proposal are not enumerated: the acceptability of the

proposals is predicated on a blind acceptance of the will/ability of Bord na Móna/monitoring based on in-house information dispersal. We call this an act of faith in an agnostic world.

12 Untried, untested technologies abound. The rehabilitation process is speculative, and at variance with normal practice and expectancies. No cost-benefit analysis is done with respect to the local area, the county, the Objective One Region of which it is a part, the State or the E.U. We have consistently, since the year 2,000, requested that this minimum requirement for any business proposal be implemented. Without it we have a pig in a poke.

13 The immediate and ongoing economic/financial cost of the proposed project is nowhere addressed: a normal practice where landscape values are reduced/lost to a community undergoing industrialisation, as is proposed. Such a valuation in real terms is normal practice.

14 Nowhere are we shown the methodology whereby previous Bord na Móna experience and practice is modified to take into account the variables represented by this project, or the extent and results of the modelling of such methodology. Without it, the proposals are mere verbiage. For example, the extent and result of trials indicating the likely behaviour of dumpers used in the Haku system when milled peat is replaced by peat slurry, of undefined consistency.

15 We note elements of high quality in the EIS and Technical Supplements accompanying the application for planning permission. We remind the planning authority however, that the general language used, and the selection of material demotes the EIS from a purely technical document to one of undoubted advocacy. In this context, we refer the authority(speaking in the concrete) to the qualification by RSK ENSR Environment Ltd., who prepared the application and EIS for the applicant, its client Shell E & P Ireland Ltd., :

"The report may not be relied upon by any other party without the express agreement of the client and RSK ENSR".

also

"Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct."

We do not rely on it unreservedly: neither do we assume that the information borrowed to the EIS is correct. WE recommend the same caution to the Planning authority.

WE propose to the Planning Authority officials that the evidence in support of the application under consideration is inadequate, even under the minor scrutiny to which we subjected it. We propose that the issues aforesaid are inextricably linked, as are issues relating to the blasting between the terminal and the landfall and through Broadhaven Bay, whatever legalisms may or may not interpose. No one aspect of this proposal is ringfenced by the nature of the proposal.

The foregoing issues are, at root and remain so, concern for the health of the public, of which we, individually and jointly are an integral part, and for the environment of land, sea and air, the health of which we mirror: ***aer glan, aer slán, pobal slán***. WE request that this illogical and illconsidered application be refused.

Signed by the following, on their own behalf without prejudice to other such submissions as they, individually or severally may otherwise lodge with regard to this project:-

Micheál Ó Seighin

Micheál Ó Seighin, Ceathrú Thaidhg.

Uinsionn mac Graith, Ros Dumhach.

Uinsionn Mac Graith

Uinsionn mac Graith, Ceathrú Thaidhg.

Treasa Ní Ghearraigh

Treasa Ní Ghearraigh, Ceathrú Thaidhg.

Caitlín Uí Sheighin, Ceathrú Thaidhg.

Bríd Ní Sheighin, Ros Dumhach.

Bríd NíSheighin

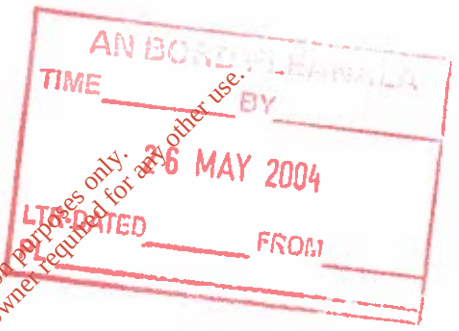
12 of 12

BORD PLEANÁLA
TIME _____ BY _____
26 MAY 2004
LTR-DATED _____ FROM _____
PL _____

Comments On Response By Shell To Request By Mayo County Council For Further Information

File Register Number P03-3343

30 / March / 2004



Comments on Response by Shell to Request for Further Information on File N0. P03-3343, relating to proposed Ballinaboy Bridge Terminal and Related Srahmore Peat Dump.

Submission: Micheál Ó Seighin and others.
Contact: Micheál Ó Seighin, Ceathrú Thaidhg, Béal an Átha.
Contact Phone: 097/88961
Contact Ríomhphost: moseighin@eircom.net

Réamhfhocal:- Dáil Debates, 4/11/1998. Minister Dr. Woods:

"We will not grant a foreshore licence unless we are satisfied that there is planning permission."

Ach thit an spéir ar Acaill ó shoin.

Ongoing Development of Context:- We note that Mayo County Council did not inform the M.L.V.C., of their worries regarding the instability of Glengad Hill et alia, or of its' history of landslides. Mayo Co. Co. had so briefed the developer.

The M.L.V.C. is a committee of experts whose brief it is to recommend that the relevant Minister grant a Lease, Licence or Permission in matters marine, in this instance the go-ahead for the offshore and on-shore (8 Kilometres of pipeline and accessories) project.
"The M.L.V.C. will only consider and assess an application when it is fully satisfied that all relevant information is provided." (Marine Institute Documentation).

We note also, that responsibility for matters above HWM lies with the Local Authority.

Transport Management Plan Item 1, Vol.1

This "plan" is in response to request No.1 (Item No. 1). The preamble notes that it is a "living document", in other words a concept, not a proposal, and as far as its implementation goes, a blueprint for an ad hoc delivery of the required result. We do not believe that this is sufficient for a project of such magnitude where the risks are so great.

Overview:- Consideration does not include the disposal of excavated material from the 8 Kilometres of pipelines, from Glengad (Trá na n-Oistreach) to Ballinaboy. It is proposed to produce this waste to make way for a pipe of 500mm from the well, 3(I think) for the umbilical, and the outlet pipe taking waste water and its' passengers out to Erris Head. As well as the pipes themselves it is proposed to import some 50,000 cubic metres of fill (stones etc) presumably along the roads from Glenamoy to Rosport (Léana Mhianaigh / Seanmhachaire) and from somewhere to Glengad to replace the excavated material over 1 kilometre from Trá na nOistreach to Rosport. This necessitates the disposal of huge amounts of waste peat and soil, on the sloping land stretching along Sruth Mhada Conn, an SAP, and on a macaire etc. Or is it intended to be left where the JCB dumps it, on the 40 metre wayleave that Shell intends to obtain? I wonder will some of it wash off, given that over large sections of the pipeline it is intended to place it in up to 6 metres of bog?

1.4 Distinct Material Flows: Tobins mention this requirement at the top of page 3 (is that funny?) but does not further expand on it, despite a reference in 1.4 (f). Are the "*pipeline materials, trenching lining and wayleave stoning materials for the landward section of the gas pipeline from the foreshore to the terminal*" to be delivered along the 40 metre wayleave, and is this the escape route for the excavated material also? This traffic management plan is not complete and is an effort to deceive Mayo Co. Co. . In its potential for damage, immediate and irreparable, this 8 Kilometres, including a section within the terminal site, provides the "*main material movement*" and not the removal of the peat waste from the terminal site itself. Daft. What else has been forgotten, after 10 bites at the cherry?

(i) We do not see to where and by what route "*unsuitable material*" is to be hauled offsite, and what are the implications of this for the TMP. We presume that the dumping of such waste will only be allowed on a suitably licensed site, holding full and contemporary planning permission, delivered by a safe and stable route.

Altogether, 11 distinct sources of HVT are named here by Tobins, but there are of course more equally relevant sources than that.

3.1 Existing Traffic: L1204 caters also for all hospital generated traffic for the entire Dún Chaocháin area, for most of Dún Ciortáin and for areas around Glenamoy. We would call to mind the fuss generated in other areas where patients are not up to 70 miles from emergency treatment under normal living conditions when any obstacle is placed between the patient and hospital care. This is the most emotive issue in this present context - Tobins are hardly suggesting by this omission that sick people should not be included in the category of the "mainly"?.

3.3 Existing Pavement Structure: It is relevant to point out how this road, L1204 became tarred originally, in the late 1950s or very early in 1960. The then management of the "Peatlands"- the site under this application - persuaded the local councillors that only the lack of a tarred road prevented a host of developments happening that would involve heavy traffic. Conned again, as usual: *fuireachas an tsionnaigh ar mhagairlí an tairbh*. This fact may be a warning to be careful of overestimating the quality of the foundation works of this routeway.

There is no data given on depth of peat - certainly one day on the road is not sufficient to provide a satisfactory database of peat depth underlying this road: the road to be sequestered extends from Rosport to Bangor /somewhere else, and from Glengad to Bangor/somewhere else. Has this traffic management plan covered this?

Has a copy of the modified version of the USACE PCI methodology been provided to Mayo CO. Co.?. If so why has not a copy been lodged in the relevant planning file? Given the imperial sweep of the USACE this reference is less than useless: Iraq has sand problems but...

Proposed Road Improvements.

4.1 Background. It is a truism that 3.3 shows that the present pavement is not capable of carrying the proposed level of loading to transport the 450,000 cu. metres of peat, but it is required to remember that this in itself significant loading is only one item of loading, and not necessarily the most severe, if one takes load weight and balance into consideration. Not alone would it be "*likely*" to cause a "*general deterioration*" but Tobins are well aware that such a deterioration is inevitable: this language is advocacy, not science.

4.2 Road improvement details. What has previously been the behaviour of this WetMixMacadam on a similar peat dominated basal structure, without side buttressing? Case Studies and practical applications? And Mayo CO. Co. has accepted this engineering concept already? What is the likely effect of vibration on this peat based structure, when widening contributes both interface problems and differential sinking, bearing in mind that the interface between the soft vertical peat and the new fill materials provide small friction resistance? Sliding, settlement, rupture of ground, foundation soil extrusion, rotational failure, bearing capacity failure?: in other words will the proposals here when implemented ensure that the base, old and esp. new, will be sufficiently strong and unyielding to support the new extended pavement, which in turn is expected to resist cracking over the interface of the old and the new? Please, where and how has it been done before in a hurry or not? (It is not expected to resist cracking? Interesting?) "*normal operating conditions*" give this proposed technique a life span of ten years: this proposal, in speed of concept and application and in stress, is not normal. What experience is there of "non-normal conditions? Who accepts responsibility for that "*which is not precisely determinable at this time*" on the verge of Carrowmore Lake SAC? Is it Mayo CO. Co. - the public purse? Of course it is.

In the absence of surcharging on a realistic timescale, which is a minimal requirement for weight bearing structures, this road structure would consist of 2(or three?) separate vertical weight bearing structures on a foundation of peat under different levels of compression, with little or no possibility of keying at the interface. Common sense dictates that real proof must precede such a foolhardy enterprise. Tobins' admission here underlines the basic problem - a hurried project with not enough time to plan or implement it properly.

Other haulage with heavy vehicles will function "*for the most part outside the peat haulage exercise*". It is not an exercise - were it so no one would care much: it is for real. This kind of a promise is silly and not implementable.

P.13 How did Tobins arrive at this level of compensation for the hurried implementation of this project? Holy Ghost? No effort is made to justify the choice of scale placing: i.e. it means nothing.

"*The selected pavement design is demonstrated to be adequate*" but "*it is not possible to predict with total accuracy the behaviour of the strengthened pavement*". So, the design is irrelevant, and Tobins take responsibility for whatever results the design may throw up? They do, like hell.

"*there would be noticeable settlement in the widened section of road compared to the existing pavement edge*". So cracking of the pavement at the interface is modelled into the proposal, and ingress of water etc? At least you're honest.

Mayo Co. Co, have recent experience of this type of result, which was then unaccountably unforeseen. Around five or so years ago Mayo Co. CO. road staff began to tidy up the roadsides in Erris and in the process add a little width to the pavement. (One of our group of signatories noted at the time that a similar effort in the sixties on the Limerick to Fermoy road led to the death of a milk lorry driver when the milk container snapped away from the trailer and broke the man's neck, when he inadvertantly drove onto the "new" part.) Within a few weeks, a lorry load of gravel being carried by Lennons, Glencastle, sank at Ballinaboy, at the junction of L1204 and R314, a lorry of Comhar Iorrais sank near the junction of R314 and L1203, an oil lorry sank on the R314 near the junction with the R313. This is a mere sample list.

4.3.1 Two Way Carriageways A tolerance of 0.5 metre between two lorries, necessitates the use of the entire road width out to the edge: if this is their experience, we feel we must congratulate Tobins on their super drivers.

4.4 Bridges and Culverts "*the loads arising from the haulage exercise are not expected to exceed 24 tons GVW*": I understood that the loads of peat (explicitly in question here) were to be limited to 11 tons? Lorries nowadays have mighty heavy tare!

It would make sense to remember the bridge destroyed by a few hours rain in recent years.

5. "*This TMP is an evolving document*". Does this mean " you make it up as you go along" or what are the parameters outside which evolution becomes creation?

5.1 Enabling Works Materials Import. The number and variety of assembly lines and flow charts in practice here remind one of the incessant construction activity of Fraggle Rock.

It obviously means a hell of a lot of lorries and a test for traffic management.

5.3 Exported Materials 66,000 tonnes "*suitable for site remediation elsewhere*" : The mind boggles. Where is "*elsewhere*", how does one get there, what is there when one does, is it licensed, has it existing planning permission? Above all, why so coy about it, suddenly remembering that Tobins are also regularly consultants for Mayo Co. CO. and for some relevant clients of Mayo Co. CO. - why so coy? This conversation piece is not sufficient in a planning matter.

If it is a "*realistic prospect*" that the lorries of stone will also double as waste removers, then unless the two dumps are the same, the figures given in this document are hit and miss at best. Not planning material.

p.20 Are we to understand that, if the fairy godmother is on the beat making "unsuitable" material "suitable", some of the 450,000 metres cubed of peat might suddenly get an upgrade in status : in other words is this a "wait and see" of which we got lashings in previous applications?. Sorry. It is not good enough for planning: this "make it up as you go along" gave us Derrybrien. Tobins need to give chapter and verse on how this metamorphosis has occurred in the past and how it can be possible at Ballinaboy.

5.4.10 Accommodating the Needs of Local Residents. We wish to point out yet again that the roads in question are vital to the population north of this proposed project. It is evident however, that the hurried nature of this proposal has ensured that the real issues are dealt with only on a hit and miss basis. There is no holistic study, even in a narrow sense, of the implications of this monstrosity for the population and its environment, except as selected and defined by the developer's sub-contractors. The "*local needs*" here dealt with, are those imposed and identified by the transport contractors and consultants.

5.4.15 "*fugitive spills of water from tailgates*" are mentioned and then forgotten. These "*fugitive spills*" happen along Carrowmore Lake.

p.30. The filling procedures are such that no one could implement: desk top stuff.

<u>The foregoing deals only with the road from Ballinaboy to Bangor: this is not the whole story or anything like it.</u>

Transportation of Materials Associated with Pipeline Construction.

5.6. Onshore Pipeline to Terminal. All the materials are to be brought to Ballinaboy in lorries from Bangor or wider afield, whatever that is supposed to mean, but one could guess some of it: this is hardly an input to a planning application, for every source brings different implications for traffic management and environmental reception, built or naturally occurring. When the materials arrive at Ballinaboy they take different routes: 1 pipes and fill along the L5244 to Glengad (the warning sign road, where landslides are supposed to be an immediate threat.)

2 pipes and materials along the L5244 and right to the Glenamoy River along wayleave. 3 Pipes and materials to Rosport , i.e. Léana Mhianaigh, Seanmhachaire.

It is proposed to bring the materials and pipes along the wayleave - on 20 feet of bog over a long section from the Glenamoy River. There is no breakdown of materials for the various sections of pipe trench or the access points required and viable.

There is no mention of the waste excavated to make way for the pipe: it has'nt gone away you know!. It must be transported from the wayleave on something and a donkey won't do. It speaks volumes for the structure of this proposal that the removal of these enormous amounts of waste has not been addressed. The wayleave has to accomodate the initial loads of stone for fill, then endure the loading of pipes, then excavators,etc.

It is obvious that the developer has not taken on board the fact that an excavation like this in a bog is in effect making an underground road in a bog, which also serves as the floor of a drain. " *Peat deposits are very compressible,..Consequently they are not suitable for foundations of roads railways and buildings. ...Laboratory tests are often a poor indication of how peat will perform when loaded, because of* ***rapid horizontal drainage under load in the field,*** *which is not revealed by laboratory tests in a confining vessel. Other problems with peat include low stability (tendency to creep) on* ***slopes,*** *wastage when exposed and subject to drying,* ***a tendency to float when flooded****, and the generation of methane leading to fires.* (UCL Department of Geography, *Quaternary Environments*)

p.34 This haulage of materials is to be done in February and March: We don't believe this proposal is serious: 2831 loads of HGV, at 20 tons a time, much of it over deep liquid bog, in February and March, not to mention the return of the waste to somewhere undefined!. Will you look at the roads from Glenamoy to Léana Mhianaigh and ask the roads engineers who are struggling with the Bun Abhna - Muing na Bó section. Someone along the way must be sane.

5.6.2 Sales Gas Pipeline from Terminal to Bangor. There is no traffic plan at all for this section of work: no allocation of lorry loads to individual sections. This info. must be available as it is proposed to access the wayleave at a number of points. This is very slapdash and smacks of arrogance. Again there is no mention of disposal of the excavated peat and other wastes, for the disposal of which there needs to be waste licence and some mention by the EPA. There is more involved than a few wheelbarrows of muck. The excavated material, as in the case of the pipeline from Glengad to Ballinaboy, is not segregated :it just hangs there, a little off stage, in the wings. Very slapdash and unacceptable. Again emphasising that this hurried job was never properly analysed, even as a dig-and-carry operation.

6 Review and Updating *"winter period"* the flooding and destruction at Glencullin and Glengad occurred outside this nice box of winter, in summer and autumn. To go on this basis is irresponsible in the extreme.

One gets the distinct impression that the developer does not intend to implement much of the hauling and carrying necessary for this proposal if it gets permission. This submission smells of gung ho.

Risk Assessment Matrix.

We are totally at a loss to understand how Mayo Co. Co. has taken on itself responsibility, financial and other, for risks undertaken in progressing a non-public project. It is incredible that, in advance of a planning decision and as an advance on the position indicated by the pre-planning file, that the public purse is thus mortgaged for the further benefit of Shell, which company already benefits from the most placid leasing terms in the world. Whether this is a guarantee to Shell by Mayo Co. Co. that Planning Permission will be granted to this version of the project or not, we have no doubt but that the consent of Mayo Co. Co, as here expressed to taking responsibility for such compensation as may arise, has legal implications for the public purse, and is an invitation to members of the public, to Shell and to contractors within the scheme, to further scrounge off the tax payer. Add to this the fact that the taxpayer is the owner of Bord na Móna, its originator and its paymaster. Here again and on into the future, the taxpayer is being put in hock to this version of a project: (a semi-privatised contract State system is becoming indistinguishable from a State subsidised private sector). We demand that the names and identities of the individuals responsible for this treason be made available to the public for future reference. We have no problem with Shell playing hardball, but it is hardly cricket for people paid by the public purse to so cravenly lie on their backs and think of mother England.
We are incredulous.

Submission on Response to Item 2, Vol. 1

2 "Written confirmation .....deep peat soil."
The enclosed consent (April 15th, 2002) does not confirm that the design of the proposed pipeline as requested is suitable to ensure its stability. Rather it requires the developer (item 11) to draw up an Environmental Management Plan (where is it or is the faith test being applied?)"*to provide detailed construction methodology. The plan should address, separately, both the construction aspects* (i.e. the pipeline and ancillary constructs *and the operational aspects and should as a minimum include i.Traffic management. etc.*" Likewise in item 16:"*The methodology of pipelaying within Broadhaven Bay, at the landfall and between the landfall and the terminal, shall be agreed with the Department before commencement of construction.*" Where is the agreement? Minister Woods' statement at the head of this submission applies.
Noteworthy also is item 19: "The developer shall undertake additional traffic studies and submit a Traffic Management Plan for approval to Mayo County Council for the management of construction traffic associated with pipeline and landfall construction activities." May we suggest that what has been attempted in this direction is quite anaemic and not adequate. Where is it?

Is Mayo Co. Co. in a position to grant planning permission for a structure on the basis of unknown/secret/whatever-your'e -having-yourself/no plans?
It defies logic to imply that a high pressure pipeline floating on up to 20 feet of bog can be stable structurally. It is not possible to distinguish between that part of the landbased upstream pipeline that is outside the terminal site and the greater part between the landfall and the terminal boundary - the same physical reality rules: in neither case has the developer shown that the regulatory authority has confirmed the proposed methodology as suitable: indeed it must be said that no regulatory authority has seriously addressed the issue of a vibrating pipe in deep bog, on a slope to Sruth Mhada Conn.
The onshore requirements of this consent, albeit issued by the offshore authority, are for leakages, not structural stability, line inspection and maintenance. The exclusion by PAD in this consent of any considered response to 8 Kilometres of land pipeline, illustrates once again the absurdity of the location of this proposed refinery and the project splitting which it entails, which leaves the PAD in the untenable position of issuing licences and leaves for farmland, pasture and bog, on the pretence that this is foreshore. It is definitively clear that the foreshore ends at the high water mark, and no amount of legalistic shenanigans changes this.

The evaluation prepared by Andrew Johnson of the Onshore Pipeline Design Code for Dept. of Marine and Natural Resources, which underlies the consent as enclosed, excludes any activity within **the Terminal site**: *"It is understood that the terminal QRA (prepared as part of the terminal design) ... will consider the risks associated with all facilities within the terminal site, **including the pipeline facilities.**" **(28 March 2002)***

Submission on Response to Item 3, Vol. 1

Not answered.

Submission on Response to Item 4, Vol. 1.

There is little point in being fussy over human generated sewage in this area, when the entire sewage of Belmullet and its' trade effluent, go untreated straight into Broadhaven and Blacksod Bays: and still planning permission is being given for hundreds more tax driven dwellings and bedrooms to prospectively dump tons more of the same human and trade effluent daily into the Bays. Were the market developed we could sell E-coli in place of WMD.

Submission on Response to Item 6, Vol. 1.

6 Submit a map .....clearfelling etc

The proposed transported peat consists of the entire depth of peat. Therefore all phosphate concentrations are removed to the dump at Srahmore. What is the potential effect of binders on this?
Does the dumping of carcasses (dogs, cats, fish, rabbits, horses, cattle) contribute to phosphate concentration? Have the unearthed carcasses be species identified? Why not?
The acrotelm will be removed entirely, and given the drainage history of the site, the status of the acrotelm is mote. The phosphate on site is only immobile until it gets a lift to Srahmore.
Drain 22 again lifts its enigmatic head. It is the most difficult element in the entire drainage of the site, and inscrutable. The source of the phosphate here remains a mystery, as does the amount of water flow and the pollution. It is more than a drain: it is a spring(s) also, a stream. It has been

marked on the 6 inch ordnance survey maps in shortened form since the first mapping and is probably the most important drainage element historically. This bald statement hardly answers the request to provide a comparison etc.

Drain 22 has some of the mystery of another famous bog hole within the terminal site, where the water disappears underground and no one seems to be able to trace where it comes out. This has baffled the multiple consultants of many applications to Mayo Co. Co. on behalf of this project. Realistically, in the vicinity of a spring fed lake of such importance as Carrowmore is, a mystery of this nature should immediately call a halt to development that impacts on the hydrology.

Anyone who believes that "*The stored material will be covered with waterproof sheeting in periods of high rainfall*" is too innocent for this bad world.

The excavated materials will not for long impact on the Ballinaboy site, because - wait for it - they will be impacting on the Munhin and Abhainn Mhór.

Submission on Response to Item 7, Vol. 1.

7 Detail of site ... should be provided.

I hope you get the message, Mayo Co. Council: don't waste Shell's time: go and read the EIS. This response is a non-response. The magic bottomless boghole is nowhere to be found on the drawings, although it featured prominently in two sessions of a long oral hearing.

Submission on Response to Item 8, Vol.1.

8 Baseline ....around the site.

Raw data was requested and no raw data is given. The mixture of data of varying definition and integrity leaves this response useless. According to the response, the required data is not available, i.e. has not been acquired.

p.3 refers to 12 months sampling: page 2 specifically states that a full year's data is not available, or maybe we are misreading page 2 or page 3 or both.

Table 13: Drain 22 again raises its enigmatic head: We wonder why? It needs explaining and real research over essential time.

3.3 Drain 22 classed as "*seriously polluted*" - We wonder why? Is it significant?

The picture here is of a water system already stressed, under pressure. This proposal would further degrade it and put Carrowmore Lake at greater risk.

Who is responsible, in the absence of bonding, for compensatory re-establishment of status quo or better? What a ridiculous question, Charlie Brown!

Submission on Response to Item 9, Vol. 1.

9 information and ...other acids.

Bord na Móna is presented here in terms of "typical" results to events. In fact, what is proposed is so much different to what Bord na Móna actually does, that it is completely misleading to equate this waste activity with the work Bord na Móna is highly experienced in. Not even their UK subsidiary, The Brightwater Group, specialising in sewage, industrial and municipal wastes and sludge, has such an undertaking as part if its c.v., although no doubt such expertise can be put to good use in projects such as the Muing Mhór perfumery.

It is essential in dealing with these matters to give a cursory, at minimum, look at what Bord na Móna actually does, that qualifies them as implementers of this proposal: otherwise we are in danger of living in and dealing with a "reality" equivalent to reality TV. The following is taken from Bord na Móna "*Report on Corporate Social Responsibility 2002-2003*" :

"*Undrained or pristine peatland has a water content of approximately 95%* (a). *Before development a peatland is surveyed and a drainage plan designed. Drainage reduces the water content of the surface of a peatland from 95% to 80*(b)*% and removes more than 75% of the water from the surface layer.*

After about three years of development work the fields are cleaned of vegetation and shaped. etc.

There are essentially four operations in milled peat production(c)*: milling, harrowing, ridging and harvesting.*

Milling:In the milling operation a thin layer of peat, usually about 15 millimetres deep(d) *is cut from the surface of the peatland where it is left to air dry over a period of a few days. The water content of the crop in this layer of peat after milling is about 80%.*(e)

Harrowing: In the course of drying, the layer of peat is turned a few times to make the best use of available solar energy.(f)

Ridging: When the layer of peat on the surface of the peatland has reached the target water content, it is collected into ridges in the middle of each field. (g)

Harvesting: Haku or Peco system. "

(a) The existing drainage at Ballinaboy does not seem to have been very effective - i.e. it seems to have broken down. and the moisture level is as high as originally. This would correspond to visual evidence.

(b) Bord na Móna drains for 8 years(or is it less - figures abound)to get to this level of 80% and 75% in the acrotelm.

(c) "milled" is what Bord na Móna do - not mass excavation on this scale.

(d) One inch (1") at a time is removed from a surface that has already lost most of its moisture:

one inch.

(e) Even off the top layer, after draining for years.

(f) "Had I a spoon, had I?"

(g) Windrowed **after** it has reached the required moisture content - not before.

It is up to Bord na Móna to explain how the methodology suitable for the above process can justifiably be applied, with no piloting to the circumstances of this project. This is for real.

In this section also, "*gradual*" is used again and again. It must be noted, in view of the above, that nothing in this proposal resembles "gradual" in the normal lexicon of Bord na Móna - where the context is reducing 8 years to nothing, "gradual" has lost its meaning.

No raw data is given for the "widespread monitoring".

Submission on Response to Item 10, Vol. 1.

10 A schedule ....are not specified).

Seasonal constraints will surely apply for salmon and eel and peal and trout on the Munhin and Abhainn Mhór.?

Submission Response to Item 11, Vol.1.

11 Information on ...in this location.It is hard to accept that the binding agent will have no effect outside the site but it may be true. Again the precautionary principle applies.

Peat Stabilisation:-

1.2 How is "*stabilisation*" more "*sustainable*" than total removal?

We take exception to the comment: "*Experience has shown that stabilisation is particularly suitably for peat*". No evidence is suggested for this universal comment.(It is a perfect example of the language of the neo-cons in the United States of America who have perfected it = empty language, lost performative: "Thank God for George Bush": there is no answer possible.) Nor some pertinent facts, not least among them being i. soils containing more than 10% peat must be thoroughly tested before stabilisation, for not all peat is suitable for this process, at the present state of knowledge; ii. Although the total amount of stabilisation work in soft soils undertaken in Japan (in particular) and Scandinavia, and latterly in the United States, is substantial, only a minuscule fraction of this work is in peat, which is very much the Cinderella in this business. iii. Stabilisation work in peat, owing in part to its' deficiency in pozzolanic minerals, is undertaken as a last resort, not a first choice.

1.3 No raw data to back up cement bureau statements, which may be completely justified, but the issue of advocacy and underlying absence of responsibility for outcomes requires caution.

1.4.1 Peat is a specific type of soft soil, and it is misleading to throw in figures relating to soft soils as if they are relevant to peat: very little of them are relevant. My understanding of the proposal is that it is not envisaged that mass and column stabilisation should be used on this site. (SGI are indeed world leaders in soft soil technologies and their advice is expected to increase ten-fold the U.S. present output of 30,000 cu. metres annually of soil treated: compared with the Japanese output, this is tiny. However, very little soft soil technology is relevant to the peat at Ballinaboy or anywhere else for that matter.)

1.4.2 The samples given are hardly indicative in any case. Pre-loading is not proposed, not even in road widening; a mix of peat and clay is not relevant; use of columns not proposed; elements do leach from the binder; ratios of peat to binder vital, also depth of peat, drainage status, etc. This work has a promising future, but very limited prospects in Ireland, because of political-economic issues that do not concern us here.

2.1.3 Where and how has this been done: raw data is absent. This is a proposal for real - not a trial, with a real not a theoretic outcome.

2.2.2. So testing is ongoing - no results available. So, the time constraint on good work kicks in again. Laboratory tests in peat, especially relating to physical and mechanical properties, are notoriously unreliable and until proven on the ground, in a dynamic situation, must be very sceptically treated.

2.2.3 'Tis a bit late to verify when decisions to go ahead are in place.

2.2.4 On what basis is it estimated that 36,500 tons of binder will be needed, when SGI has only recently been hired to do this work, and have not reported ?

"*Further 178,000 m cubed*": where are they or from where are they? Are they in situ or on the move?

2.2.5 Pre-loading/surcharging is not proposed for this site? Why introduce it? Be real.

3.1. Of course what the binder does not reach won't be stabilised!.

"*The addition of binder decreases permeability*" is a very simplistic presentation of the reality on the ground and going forward. Surely it is not being suggested that the chemistry involved and

inevitable heating will evaporate or similarly use up all the water in the sites being treated? As I understand it these sites will be covered with structures and will inevitably dry out, unless constantly fed with water - hereby is the major fire hazard as peat spontaneously combusts when dried out. But unless the entire depth of the profile in place is to be dried out in the stabilisation process, it is miraculous that all the void spaces are to be filled? We would like further information on EuroSoilStab's "Design Guide Soft Soil Stabilisation" to see the extent of peat study rather than just soft soil.

3.2 Chemical Properties It is our understanding of the chemistry of these reactions - admittedly rudimentary - that peat soils are typically deficient in pozzolanic minerals needed to react with the calcium hydroxide in the cement, and that therefore the best results are obtained with cement in conjunction with a pozzolanic additive? Without the additive, the chances of calcium hydroxide migration are surely higher?

3.3 While the trace elements are dealt with the soluble alkalis are not. Why not? Tests carried out when the damage is done are irrelevant.

4.3.1 If the sub-surface flow is minimal, why has it not been possible to trace the destination of water disappearing in the magical boghole? Or is that why 'tis minimal?

4.3.2 Hydrology At last an admission that an increase in alkalinity in this very acidic environment would not be surprising, and of course sedimentation: 'tis obvious.

Submission on Response to Item 12, Vol.1.

12 The basis for ...settlement ponds.

"*The model uses two parameters, impervious areas and rainfall intensities, to calculate the peak runoff.*"

Tobin's report on the Glengad/Dún Ciortáin floods and landslides, seems to demand that a third parameter is essential to a proper basis for the calculation of peak runoff. Tobin, in its' report to Mayo Co. Co. attributes the calamity to the dry condition of the peat previous to the heavy rain on the relevant night: this opinion seems to be supported by the inhouse report prepared by GSI and supplied to Mayo Co. Co. and to Tobin. It seems reasonable to assume (unless evidence contradicts the official Tobin report) that the model used by Shell as here presented, although simple and two dimensional and thus easily understood and plotted, will give a theoretical reading that does not allow for the extreme conditions already encountered here, in September 2003. The usefulness of this model would seem to be questionable. An extra degree of complexity would seem to be required by what is not a simple system.

The information requested has not been provided. There is no information on the assumptions regarding size of settlement ponds required, why Bord na Móna experience unmodified is relevant, indeed decisive. It is not shown that Bord na Móna methodology is directly transferable: inputs are so different that the combined effects must be different. Unquestioning acceptance of the Bord na Móna experience, acquired by a different process, under different guidelines, with different ends in view is misguided, simplistic. The costs of this airy fairy judgement are ours to bear. One item of difference: the settlement ponds of Bord na Móna take runoff from a well drained acrotelm(sic). When it rains, some soakage occurs to cushion the run-off. This does not happen where the living acrotelm has been removed, and is decisive in flash flooding.

Submission on Response to Item 13, Vol.1.

13 investigation of ...settlement ponds.)

Not dealt with - especially the suggestion of a floodplain approach to potential flooding. Item 12 relevant here. Shell again seems to see that Mayo Co. Co. have a problem reading the EIS.

Submission on Response to Item 14, Vol.1.

14 Examine the ...underlying peat.

"*The proposed location allows the entire site to drain by gravity*" does this contradict the response to item 13?We don't understand the significance of "*minimising supplementary groundwater recharge at higher elevations*". Nor is "*uncontrolled loading*" significant to this query?

Submission on Response to Item 15, Vol.1.

15 data history ...solids.

The response here is very weak. It is significant, however, that no statistics or measurements have been presented in support of any issue, that precede the submission of the first application for planning permission: or indeed the second application. This in itself is an index of intentionality and not very comforting. If the query was worth making, it has not been answered.

Submission on Response to Item 16, Vol. 1.

16 Proposals to deal ....site.

Covering wet peat with plastic sheets is standard Bord na Móna practice??. It is, when dealing with dried long lines of windrowed milled peat. This is another misleading reference to Bord na Móna: it does not cover and uncover wet peat, not even where it deals (or has dealt) with sodded turf. Rows of milled peat awaiting transport to the firing squad is so covered - but not on a "run out and close on the hens" basis. Without such covering the vacuum harvested milled peat would blow away, as much of it still does much to the discomfort of householders on the wrong side of the prevailing wind. On the basis of this tongue in cheek answer can we visualise a squad of Bord na Móna workers waiting patiently for the first drops of rain, which is the signal for them to charge around (in the wind) pulling enormous sheets of plastic into place?. Do ye think we are all of us stupid?

Submission on Response to Item 17, Vol. 1.

17 A detailed ...routes.

The main bulk of waste generated is peat. However, no proposal has been made for the disposal of the waste excavated from the proposed pipeline from Ballinaboy to Glengad (8 Kilometres) or from the BGÉ proposed pipeline from Ballinaboy to the Bangor vicinity or the unsuitable non-peat waste from the terminal itself. Such an oversight beggars belief. Is someone hiding something? Insíodh sé scéal ar féin!?

Submission on Response to Item 18, Vol.1.

18 Figures 12.1 to ...numberingExposure of residents to 24 hour noise in an open rural area, as detailed in the EIS is a disgrace to contemplate. Even the barking of dogs from the laboratories next to the proposed refinery site is heard for miles downwind at all times. We do not know how bad the proposed noise level is to be. George Bush is in trouble for announcing WMD from where none

have materialised, thus presenting a new situation where even the most powerful are being held to account for what may have been an economy with the truth. The same applies to this project, but with no bonding proposed, and the State accepting all the risks ??

A recent article by the Director of Psychology at St. Vincent's Hospital, Dublin, states that "*The guidelines allow building noise between 8 a.m. and 7 p.m. from Monday to Friday and between 8 a.m. and 1 p.m. on Saturdays....This is the dissonant demise of the quality of our lives in the interests of progress.*" "*CALM, the network of an EU initiative on noise emission recognise(s) 'no person should be exposed to noise levels which endanger health and quality of life.*'" "*The issue is an issue of public concern, of health and safety.*" *(Irish Times, Monday March 29, 2004).* And the relevant authorities.

Submission on Response to Item 1, Vol 2.

1. Additional water ...conditions.)

No treatment of the possible or likely presence of carcasses or their extent or nature or potential toxicity. We have lost track of the exact designation of the water samples.

Submission on Response to Item 2, Vol 2.

2 Reconcile ..(249-632mg/l)

We can make neither head nor tail to this bit of special pleading: we have a feeling of being conned by "*total solids*" and "*suspended solids*".

Submission on Response to Item 3, Vol 3.

3 Indicate ...adverse effect.

"*being wetter*" You can try, but you can't have it both ways: you cannot here argue that the peat is wet and therefore not likely to increase nitrogen levels at Srathmore, while arguing repeatedly elsewhere that this same peat has dried out considerably because of drainage. This type of advocacy increases the suspicion of what the developer intends, if allowed to proceed on this sensitive dynamic environment.

3 a) Given the special conditions under which measurements of Oct. 29th, 2003 were carried out, they are not a basis for anything except for throwing in the bin.

b) The conclusion "***will*** *have the effect of reducing ammonia concentration*" is derived from "*this* ***suggests***" in 3a). Apart from the redundancy of 3a) which negates the entire sequence, one swallow does not make a summer. This sensitivity to suggestion is nicely touchy feely but not very useful. The importance of this project deserves better than this juvenile logic.

Submission on Response to Item 6, Vol.2

4 A map ...contours.

The response deals with the construction phase only: much more terrifying is the prospect of a 24 hour industrial rumble going on forever. Ref. to submission on Item 18, Vol. 1

7 An assessment ...peat soil.

s sad to again have to note the efforts by an important sub-contractor, owned as yet by the taxpayer, i.e. Bord na Móna, to cope with the pathetic initial presentation of the case for this project. The planners were expected to tolerate any old cod, dished up in a fish cake. This less than BAT approach has dogged this project/concept from its initiation, and allied to the ever present political advocacy and promise, has led to undue delay and inordinate expense for the developer and still being pushed to put a good potential project in the wrong place.

Investigation into handling of raw peat:-

2 Is Bord na Móna suggesting that juncus effusus has roots that penetrate over 5 metres into the bog?

We fully accept that under the definition of slurry as given by the author of this response no peat that I know of could be called slurry - much slurry could be extra the definition.

We have difficulty with "*pulverised*": we know that peat, however, dug out in sods by a JCB-type machine will not "*maintain its shape readily,*" and is a frightful mess if heavy rain follows extraction, even in old drained turf banks.

"*windrowed*": Where does Bord na Móna "windrow" heaps of raw peat ("*stacking of peat in piles*")? Where have Bord na Móna developed the cumulated experience to know what is the effect of this copying indiscriminately of vacuum harvested peat technology. Where is the data - even unverified data - for this dream topping? It is reasonable to expect the outer skin to dry substantially even in 8 days of good drying conditions, but in the circumstances depicted here, the potential for "*draining away*" from the mass of the peat is very limited. The description given here is of a milled peat experience and does not transfer.

4. **Industrial Field Trials.**

When does a Field Trial Justify a Conclusion?

4.1 One swallow does not make a summer, but believing that it does, gives us the Snarl at the Mad Cow (Red Cow). In order to show how ridiculous are the conclusions drawn here from one tiny unvalidated test it is necessary to show what "science" is and is not:-

A nondescript cyanobacterium, *Nostoc commune*, lives in shallow depressions in limestone outcrops. Very exposed, it has learned to secrete a glycan that immobilises the cells during dry periods and protects them from dehydration. We mammals can't do this and so drought fighting is beyond us and our cells etc dehydrate = dead. A biochemist Malcolm Potts and Richard Helm, an analytical chemist, thought that maybe the specific glycan could help protect and preserve human tissue; did a test on mouse and human kidney cells. They used the glycan to dry and maintain the cells for three weeks, and when they rehydrated the cells they were perfect, with their structure intact.

Therefore the experiment was a success? Yes. It proved that human cells can be preserved in a dehydrated state and then be rehydrated successfully? No, it didn't: it proved that two samples of kidney cells, were dried and preserved for three weeks, using the glycan technique, and were successfully rehydrated. That is all. It suggests possibilities: storing enzymes under normal temperatures, stabilise blood for transfusions, long term preservation of human organs (years maybe). No one would propose that these possibilities are facts.The important point is "mairg do ghní deimhin dá dhóigh: drawing generalised conclusions from one test or so, is pub talk standard science or engineering and should be left in the snug.

4.2 A trial. How deep a sample of source peat; drainage status; water content; etc: without control of variables a test like this is only codding oneself.

"*wetter*" means nothing - just a comparative: how deep are the drains, how long the drainage period, where was material sourced vis a vis the drainage channels, etc. can help put meaning into the comparative.

A vacuum harvested bog has no acrotelm, which is the living layer. The mixture from Ballinaboy is to be dumped on a compacted catotelm, and then bulldozers are to drive over and back on the dumped waste to do what? The surface of the catotelm compacted from machining forms an interface and potential drainage surface etc etc. It is the acrotelm that contains the seed bank: modern practice is to store it to help towards limited restoration - not possible to do in retrospect.

Derrylea Case Study: This study is in no way comparable to conditions in this project. The peat being bulldosed in Derrylea is a turf bank, and because of this is already drained substantially in its bulldosed entirety, as any bank of turf is, not alone by gravity but by wind and evaporation. We do not know how long the bank of turf in Derrylea was operating, or how deep the cutting, or if the cutting was from both sides of the bank or one side only. What is bulldosed here is the acrotelm and the top layers of the drained catotelm. Of course it worked - it was sensible.

Submission on Response to Item 1, Other Matters.

1 Please submit ...the haul route.

As no bonding is proposed for any promises, whatever the subject, in this instance the number of traffic movements per day, one does not expect them to be complied with.

4.5 A cynic might suggest fattening the goose for Christmas.

4.6 What a vacuous comment emphasising the gap between reality and the developers agents "*Landscape disturbance is significantly reduced by using an existing road for the haul route rather than **constructing a new dedicated route.***" We must accept that the possibility is hardly more crazy than the basic concept .

All in all, a tongue in cheek performance.

Finally, we the undersigned do not consider that the substantial extra information provided on behalf of Shell has made this project more viable in planning terms. We note shortly the historical consistency of Bord na Móna discourse and its conflicting historical record on the ground. We note anxiously the weight of traffic proposed to be borne by the L1204, especially given that this road was off limits to heavy vehicle traffic in Co. CO. responses to earlier planning applications, which decision we presume was not arbitrary. We note the silence on the traffic and loading implications for the L1203, L12035, L52453, L52453-25 and the L1202, all of which roads must be earmarked as carriers of substantial plant and materials traffic and removal of waste. We note the uncertainty or complete silence on dumping location(s) for considerable bulk of waste, and are surprised that the Co. Co. survey of 9 bridges on the R313 and R314, including one of a mere 7 tonne bearing capacity, or an update of the survey if such exists, has not been alluded to or whether use of these bridges for HVT has been outlawed. We note with considerable unease, that EU and national requirements on project splitting seem to be ignored. We note that the importance of stratification/layering for the stability as such of bulk peat has not been addressed. Finally we draw attention to the concept of "wise use" of mires, taken from the Ramsar Convention on Wetlands and accepted by Bord na Móna among others, and its widely accepted definition (accepted by Bord na Móna) defined in the acclaimed work *"Wise Use of Mires and Peatlands* - **Background and Principles including *a* Framework for Decision-Making" by Hans Joosten (Greifswald University, IMCG) and Dónal Clarke (Bord na Móna):**

Wise Use

"Those uses of mires and peatlands for which reasonable people now and in the future will not attribute blame."

$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

£££££££££££££££££££££££££££££££££££

Signed by the following, on their own behalf, without prejudice to other such submissions as they, individually or severally, may otherwise lodge with regard to this project :-

Micheál Ó Seighin, Ceathrú Thaidhg.

Uinsionn mac Graith, Ros Dumhach

Uinsionn maac Graith, Ceathrú Thaidhg.

Treasa Ní Ghearraigh, Ceathrú Thaidhg.

Caitlín Úí Sheighin, Ceathrú Thaidhg.

Bríd Ní Sheighin, Ros Dumhach.

30ú Mí na Márta 2004

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