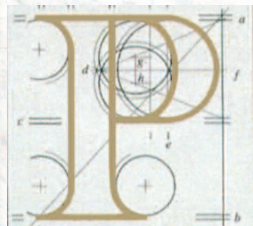


PLANNING APPLICATION TO



An Bord Pleanála

Donegal 110kV Project

NON-TECHNICAL SUMMARY

November 2008

NON-TECHNICAL SUMMARY

NON-TECHNICAL SUMMARY

THE PROJECT

Introduction

In order to address multiple problems with the existing electricity supply in County Donegal, Eirgrid and ESB Networks propose to undertake a project to reinforce the electricity transmission and distribution networks in County Donegal.

Responsibility for electricity network development in Ireland lies with the Transmission System Operator (TSO), which is Eirgrid, and with the Distribution System Operator (DSO), which is ESB Networks. The roles of the TSO and DSO are separate to the companies that generate and sell electricity in Ireland.

The Donegal 110kV Project comprises the following elements:

- New 68.42km long 110kV overhead line between the existing Binbane Substation and existing Letterkenny Substation with minor modifications to the each substation
- New 110kV switching station in the townland of Straboy, Glenties - to be called Tievebrack 110kV Switching Station
- New 110kV/38kV substation at Gweedore Business Park (in the townland of Ardnagappary) - to be called Ardnagappary 110kV Substation
- New 33.1km long 110kV overhead line (Ardnagappary - Tievebrack line) between the new switching station at Straboy and the new substation at Gweedore Business Park
- New 0.525 km long 38kV overhead loop-in line to Ardnagappary Substation

Applicable Legislation

The proposed development falls within the scope of Section 182A of the Planning and Development Act 2000 as amended by the Planning and Development (Strategic Infrastructure) Act 2006 being for the purposes of the transport of electricity by means of a 110kV voltage line. The application is therefore being made to An Bord Pleanála.

The EIS has been prepared in accordance with the provisions of the Planning and Development Regulations 2001-2007. The provisions of the above Regulations stipulate those projects that must be subject to an Environmental Impact Assessment (EIA). The 110kV line development was below the statutory threshold for EIA. However, Planning Authorities have the discretion to require an EIA for sub threshold developments and Donegal County Council advised that EIA was required for the project.

As some of the proposed development falls within a Gaeltacht area, all public notices, public consultations and the environmental impact statement have been translated into Irish.

Public Consultation

During project development, briefing notices for the public were placed in the following three newspapers circulating in the area Donegal Democrat, Donegal Peoples Press and the

Donegal News in June 2005, December 2005, February 2007. Notices were also placed on www.esb.ie/donegalelectricity.

During project development business and community groups were consulted.

Pre-application discussions were held with local stakeholders during the route selection process with a view to addressing local concerns regarding the siting of the development.

Detailed consultations were held with Donegal County Council in relation to assessment of reinforcement options, the selection of line routes and substation sites and EIA scoping. Consultations took place with the National Parks and Wildlife Service, Northern Regional Fisheries Board and the Loughs Agency during the preparation of the EIS. Because the development will have no evident physical or environmental impacts in Northern Ireland transboundary cross-border consultation was not undertaken.

Need for the Development

The objective of the project is to reinforce the electricity transmission and distribution infrastructure of Donegal. The project will provide a robust solution to existing deficiencies by delivering to the county the necessary infrastructure to facilitate sustainable economic development.

In line with planning best practice the Donegal 110kV Project is designed to solve current problems and address future needs with one solution. The particular problems are outlined below.

- Letterkenny is by some margin the largest town in Co. Donegal and the main growth area. Under maintenance conditions, with either of the existing 110kV lines supplying Letterkenny being unavailable, the loss of the other line would lead to the existing 110kV interconnector to Strabane being relied upon to supply the Letterkenny area. This interconnector cannot provide power for prolonged periods and a failure to restore one of the 110kV lines into Letterkenny would result in a loss of supply to the north and east of the county including Letterkenny. In addition, by 2010 the loss of a single line supplying Letterkenny would result in low voltages on the other existing 110kV lines feeding Letterkenny. An additional 110kV feed to Letterkenny is needed.
- The south-western portion of County Donegal, which includes Killybegs and Kilcar, is fed from Binbane 110kV Substation. In turn, this is fed from one 110kV line from Cathleen's Fall, Ballyshannon. There is with no alternative supply available to Binbane and the supply to this area is vulnerable to any fault on this line. With this limitation on the network, new industry would find it difficult to locate in this part of Donegal, with obvious consequences for job creation. A second 110kV feed to Binbane is needed.
- Outside of the Letterkenny area, there is no 110kV network in north-west Donegal. This area includes Dungloe, Glenties, Derrybeg, Gweedore and Milford. The electricity supply to north-west Donegal is provided only by the 38kV Network which is connected between Letterkenny and Binbane 110kV Substations. At present, the provision of an acceptable standard of supply for normal operation is possible primarily due to the closure of a major industry in the Derrybeg Business Park. Replacement of this industry with one having a similar demand of 4MW would beyond 2020 result in an unacceptable voltage level during normal operation. When a fault occurs on the network it will not be possible to provide standby to all customers beyond 2017. There is a need for a 110kV feed to the north-west of the county and a connection to a new 110 kV station.

- The TSO and DSO are required to provide connections for renewable energy generators. At present, the capability for generation connections in County Donegal is extremely limited and requires strengthening.
- The long-term strategic development of improved interconnection capability between Donegal and Derry, permitting power transfers without restriction to their duration, would make better use of these assets and would therefore be desirable. However, a prerequisite is strengthening of the connections of both the Letterkenny and Derry regions to the rest of the transmission network outside of these areas, and then subsequently between each other. Essentially, increased transmission capacity into County Donegal and up to the Letterkenny area is required before improving the existing interconnection capability with Derry.

To continue operating the existing 38kV network in its present configuration is not a viable solution in the context of the existing problems. Without the proposed development the quality and reliability of electricity supply in the area will be reduced. This could lead to the disconnection of large numbers of customers and the risk of wide-scale blackouts in the area.

Failure to address these problems may lead to the curtailment of further industrial and commercial development. Without the project much of the planned growth of Letterkenny and north-west Donegal envisaged by the National Spatial Strategy, the Regional Strategy and Planning Guidelines and the County Donegal Development Plan 2006 - 2012 will not be possible.

Planning Context

The Government White Paper sets out the Government's Energy Policy Framework 2007-2020 to deliver a sustainable energy future for Ireland.

A key goal set out in the White Paper is the delivery of electricity to homes and businesses over efficient, reliable and secure networks. The White Paper states that the Government will continue to meet regional development requirements by supporting the major electricity investment programme underway in the high voltage transmission network and the distribution network. The proposed reinforcement of the transmission and distribution networks forms part of the electricity programme.

In the National Spatial Strategy, Donegal has been designated as a sub-region with a hinterland which stretches into north Leitrim and Sligo and the north-western part of Northern Ireland. The Strategy indicates the particular need to strengthen energy networks in the Border and the North-west and considers the advantages of streamlining the co-ordination of infrastructure, by provision of different types of infrastructure in one physical corridor.

Electricity, broadband, telecommunications are singled out as essential basic infrastructural requirements to assist the development of economic regeneration

Strategic Infrastructural Corridors for 110kV electricity lines have been designated in the County Donegal Development Plan.

The reinforcement of the transmission and distribution networks will facilitate the delivery of the National Spatial Strategy, the Regional Strategy and Regional Planning Guidelines for the Border Region and the objectives of the County Donegal Development Plan.

Project Alternatives

A thorough assessment of transmission and distribution alternatives and options was undertaken in order to arrive at the optimum reinforcement solution which would meet the project aims in a satisfactory manner with adverse impacts being minimised. It was recognised at the outset that the alternative proposals would also be likely to have significant impacts and to attract objections. The identified problems formed the basis for the analysis of the supply alternatives.

A range of TSO reinforcement options was examined to address the need to augment supplies to Letterkenny and Binbane. The provision of a 110kV line between the 110kV Substations at Binbane and Letterkenny was selected as the preferred TSO option because it meets the technical requirements and complies with distribution planning criteria, limits environmental impact as far as possible and facilitates the provision of a connection to north-west Donegal.

A range of options was examined to address the DSO 38kV network problems and augment supplies to north-west Donegal. The option of a 110kV station at Derrybeg fed from Binbane - Letterkenny line was selected as the preferred DSO solution. This option meets the technical requirements and complies with distribution planning criteria, limits environmental impact as far as possible and provides a platform for future network development. It would delay the need for further DSO lines until 2024.

The use of underground cables was considered and ruled out as unsustainable. These are used only in heavily populated areas where there is no room to install overhead lines. The routing of the proposed powerlines underground is not a sustainable alternative because it would have a destructive impact on the natural environment, entail a significant land-take and interfere with drainage and watercourses.

Overhead lines are maintained and repaired more quickly and easily than underground cables and are not subject to damage from digging activities, which may take many weeks to repair.

Alternative Routes and Site Locations

A fundamental element of the environmental assessment process for this project was the determination of the most appropriate line routes, switching station and substation sites having regard to the environmental constraints.

The selected switching station and substation sites are located outside sensitive landscape areas and the impact on existing dwellings will be low.

The routes for the new 110kV lines were selected on the basis of minimising environmental impact and impacts on residential amenity.

IMPACTS OF THE DEVELOPMENT

The possible impacts of the development were examined by considering the environment as having the following components: human beings, water, flora, fauna and fisheries, soil and groundwater, air, noise, landscape, material assets and cultural heritage. In each case, impacts were examined by considering the receiving environment, environmental impacts and mitigation measures (where appropriate).

The most significant potential impacts on the environment arising from the proposed development have been identified as follows:

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- Visual impact of substation and lines
 - Water quality impacts
 - Traffic associated with construction of the Tievebrack Switching Station

Human Beings

The Donegal 110kV Project will contribute to ensuring that adequate electricity supplies are available to support economic activity and growth in a manner fully compatible with Government energy and environmental policies.

Positive impacts are expected as regards input to the local economy and the project will ensure that regional and local economic development is not constrained by shortfalls in the electricity network.

Guideline reference levels for exposure to electro-magnetic fields have been set by the International Commission on Non-Ionising Radiation Protection (ICNIRP) which advises the World Health Organisation on non-ionising radiation matters. The electric and magnetic fields associated with the project will be well below the recommended ICNIRP guidelines.

Eirgrid and ESB Networks will adhere to international and national standards and guidelines in relation to electric and magnetic fields (EMF).

Extensive studies have been undertaken on the health risks associated with high voltage lines and it is concluded that there is no evidence to support the view that the proposed development would pose a significant health risk due to adverse effects arising from electro-magnetic fields.

Flora and Fauna

The designation and protection of sites and habitats of international importance is derived principally from European Directives, in particular the Habitats Directive and the Birds Directive. In Ireland these designated sites and Habitats are protected by legislation which derives from implementation of the Habitat Regulations 1997-2005.

The lines cross limited lengths of the boundary areas of both internationally and nationally designated sites of ecological importance. Habitat loss due to the footprint of the lines, the switching station and substation is not significant in either its extent or in the value of habitats lost. Mitigation is proposed to minimise disturbance to wildlife due to construction of the lines.

No significant effects are predicted in relation to sites designated for their nature conservation value, protected species or species of high conservation concern.

A combination of low ground pressure machinery and temporary tracking will be utilised to minimise disturbance to peat bogs. It is proposed to use helicopters at certain locations.

The risk of bird electrocution is negligible. In order to reduce the risk of collision with the overhead line, bird flight diverters will be placed on the lines at predetermined locations.

Water Quality and Fisheries

Any potential impact to watercourses will be avoided by careful management of the construction site.

Potential impacts on water can occur through construction activity associated with the line establishment, clearfelling of forest corridors and the site preparation and construction and landscaping of the Switching Stations and Substation and their subsequent maintenance. The main potential impact is pollution of watercourses through sediments loss from a peat failure during construction works.

A drainage system, incorporating sediment ponds and silt traps, will be provided at the switching station and substation sites to control silt during construction works and manage any accidental spillages. Existing drainage pathways will be maintained, thereby minimising impacts on hydrology.

The rivers and lakes support salmonid species and the Clady and Owenea catchments are designated Freshwater Pearl Mussel (*Margaritifera margaritifera*) catchments and are highly sensitive to nutrient enrichment, sediment deposition and other pollutants.

Construction practices will adhere to the requirements for the protection of fisheries habitat during construction and development works at river sites, as published by the North-western Regional Fisheries Board.

Mitigation measures will comply with all requirements arising from agreements between the Forest Service and National Parks and Wildlife Service with respect to harvesting operations in sensitive Freshwater Pearl Mussel catchments such as the Clady and Owenea.

A contingency plan will be put in place to address peat movement.

Soils & Groundwater

Much of the lines routes, the switching station and the substation sites are underlain by peat. Comprehensive mitigation measures will be put in place against slope failure and impacts to site hydrology.

In particular, loading conditions with respect to earthworks (including creation of landscaping berms) and site drainage works for Tievebrack Switching Station and Ardnagappary Substation have been designed to mitigate against potential for peat failure.

Construction traffic will be managed to ensure that its access to sites is limited to minimise peat compaction and reduce the potential for surface water runoff.

During construction and operation of the Switching station and substation sites hydrocarbons will be managed appropriately to eliminate potential impact on the quality of ground and surface water.

With implementation of mitigation measures, the impact of the development due to the local loss and /or compaction of peaty soils will be slight.

Air

The project will lead to a reduction in thermal (energy) losses on the network and will facilitate greater use of renewable generation. This which will have a net positive benefit in reducing carbon emissions. Increased utilisation of renewable energy for electricity generation forms part of the national response strategy in relation to climate change and is a central feature in the strategy for greenhouse gas abatement.

During the construction phase site works for the switching station and substation will give rise to dust and emissions will be associated with construction vehicles and equipment. These

impacts will be short term and can be controlled using good site practice during the construction phase.

Noise

The nature of the project is such that noise levels that could potentially cause damage to hearing will not arise.

Neither Tievebrack Switching Station nor Ardnagappary Substation will have significant noise impacts on residences.

At Ardnagappary Substation, transformer noise will be sufficiently attenuated outside the substation so as not to cause annoyance and there will be no significant impacts on residences. Other equipment that is potentially a source of noise will be located indoors with infrequent operation for short durations only.

Gap sparking occurs infrequently on high voltage lines, but it is easily identified when it does arise and is readily solved. The predicted noise levels from corona will not exceed background noise levels and will be well within internationally recognised limits. Audible aeolian noise rarely occurs on overhead lines. Eirgrid and ESB Networks will undertake appropriate mitigation in the highly unlikely event of it occurring on the proposed lines.

Noise from construction activities will comply with recognised guideline levels. In particular any possibility of local disturbance will be limited by restricting any noisy activities to daytime hours. Because of the temporary nature of construction works and limits on hours of working, the increases in noise levels during construction are acceptable.

Landscape

The landscape in the area of the Donegal 110kV project can be divided into area types based on their landscape characteristics.

The Binbane - Letterkenny line crosses four landscape character areas:- open lowland hills and lakes, open upland hills and mountains, River Finn Valley and Letterkenny Urban/Rural Fringe. Due to the expansive nature of most of these landscapes and the low levels of landscape resource change, no significant landscape impacts are predicted. Moderate negative impacts are predicted for the Open Upland Hills and Mountains and River Finn Valley landscape character areas.

The Ardnagappary - Tievebrack line crosses four landscape character areas:-Gweedore urban/Rural Fringe, open upland hills and mountains, open lowland hills and lakes and Gweebarra River Valley. Due to the extensive nature of these landscapes and the low levels of landscape resource change, no significant landscape impacts have been predicted.

The Zone of Visual Influence (ZVI) has been established and the extent of the visibility is limited to approximately 1-2km either side of the routes. At greater distances there are low levels of visual intrusion due to the nature of the vertical elements and the expanse of the landscape.

When views from residential properties were assessed significant visual impacts were predicted at 46 properties. Specific mitigation measures have been recommended. However, the remaining 860 properties within the ZVI will not have significant visual impacts.

The County Donegal Development Plan 2006 - 2012 indicates a number of designations and Protected Views throughout the area. The landscape and visual assessment has established

that no significant visual impacts are predicted for any of the protected views due to distance and direction of the view protected. The Binbane-Letterkenny line route crosses an area designated as an Especially High Scenic Area (EHSA) between the R250 and Tieveveevan for a length of approximately 300m. Due to its peripheral nature, the impact is not considered significant. On the Ardnagappary-Tievebrack line, the route partially encroaches on an EHSA at one location east of Crolly on the western slopes of Grogan More.

When views from roads were assessed one view is significantly effected on a County Road north of Lough Namafin (west of Binbane). Specific mitigation measures have been recommended.

A total of 24 viewpoints have been assessed using photomontages. The selection of the location of the viewpoints followed landscape and visual appraisal and discussions with both Donegal County Council and An Bord Pleanála. Within the total 101.5km length of lines in the Donegal 110kV Project the assessment of photomontages has established that only five locations will have significant visual impacts.

Overall, therefore, when landscape and visual impacts are considered the proposal is acceptable and the surrounding landscape and its visual resources have the ability to accommodate the changes of the type associated with this development.

Material Assets

The project will have a moderate negative impact upon the land use within the area. Outside of forested areas the constructed elements of the development (i.e. angle masts, pole sets, stations) will be the only point of direct contact with the land and as such, land loss (and restriction of use/access to the land) will be minimal. The loss of forestry land, including that owned by Coillte is the most significant impact in terms of area impacted and its importance as a financial resource.

During construction, significant delay is likely to be experienced to vehicular traffic at the junction of the R250 and the county road and on the county road from the R250 to Tievebrack Station. Construction impacts will be short term and peaks in activity will be for short durations only. Additional traffic volumes at each angle mast and poleset location will be for a very limited duration and will be well within the capacity of the road network.

Eirgrid and ESB Networks will liaise with Donegal County Council in regard to traffic management during construction and adhere to all its requirements.

There will be no impacts on traffic volumes once the project is operational.

This is unlikely to have a tangible effect on the tourist industry in this area, given its location away from the coast and the seasonality of the industry. The provision of necessary key infrastructure supports the development of tourism in accordance with the overall spatial development and investment strategy for the county.

The Donegal 110kV Project is a positive infrastructural contribution to the material assets of the county.

Cultural Heritage

No previously recorded archaeological sites or built structure listed in the Record of Protected Structures will be affected by the project.

Careful management of site works and routing of construction vehicles will limit any potential for interference with potential archaeological sites.

Application of mitigation measures will ensure that any identified impacts on the cultural heritage interests will be appropriately addressed.

The Donegal 110kV Project will not directly affect the linguistic and cultural heritage of the Gaeltacht. However, because the development is a factor in facilitating economic development within the Gaeltacht it may indirectly facilitate language retention.

Miscellaneous Issues & Interaction of Impacts

No new public infrastructure requirements, other than those already provided for or planned, will be necessary, either for construction or operation.

Interaction of impacts has been considered and they are not considered as significant.

MITIGATION MEASURES

Mitigation measures have been proposed and carried out, where possible, in the selection and layout of the substation sites and final line routes, resulting in the chosen lines being the least visually intrusive of the options examined.

The design of the Donegal 110kV Project has been developed to incorporate the following key mitigation measures:

- Careful grading, reinstatement and landscaping proposals, indicating screening measures to obtrusive built elements
- Careful management of access to structure locations within bog sites
- Development design to ensure that loadings will comply with accepted international standards for peat sites
- Development of sediment management measures
- Compliance with any requirements arising from agreements between the Forest Service and National Parks and Wildlife Service with respect to harvesting operations in sensitive Freshwater Pearl Mussel catchments such as the Clady and Owenea.

CONCLUSION

This project is the reinforcement of the electricity transmission and distribution network in County Donegal in order to address limitations in the existing network in the short and medium term, specifically the prevention of low voltage problems and future requirements from increased demand.

The project will play a major role in strengthening the transmission and distribution systems and improving services to customers, including generators, large industries and commercial and residential electricity consumers.

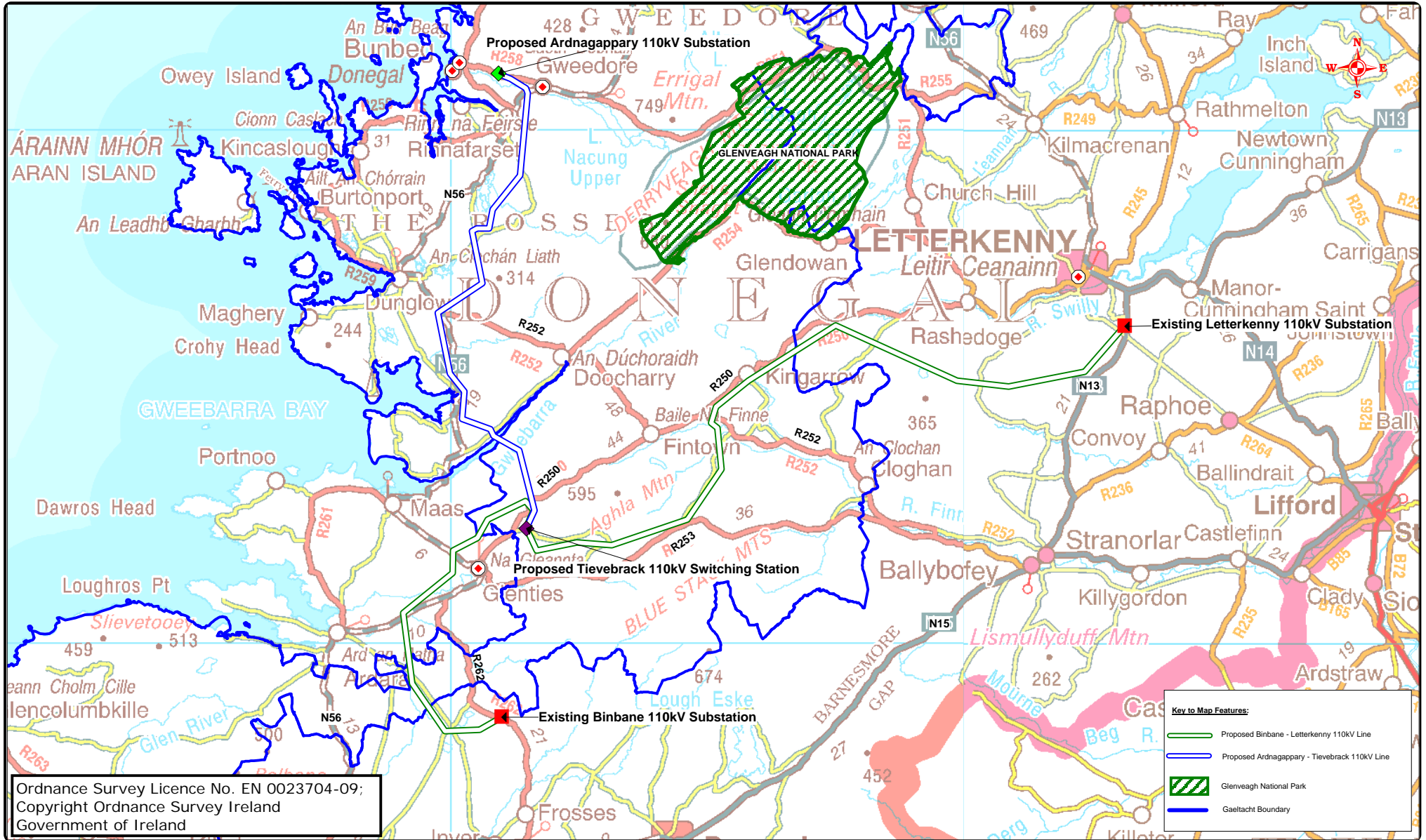
The proposal to reinforce the transmission and distribution networks in County Donegal is compatible with the energy policies of the National Spatial Strategy, the Regional Strategy and Regional Planning Guidelines and County Donegal Development Plan.

The proposed development is consistent with the patterns of existing and proposed lines in other similar peripheral areas.

The project has been designed to be as sympathetic as possible to the highly sensitive area within which it is located.

The project has been designed to comply with the environmental and conservation objectives contained in the County Donegal Development Plan 2006 – 2012.

With the application of various mitigation measures, there are no impacts that are considered unacceptable within the context of the planning policy framework for assessing such developments.



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Key to Map Features:

- Proposed Binbane - Letterkenny 110kV Line
- Proposed Ardnagappary - Tievebrack 110kV Line
- Glenevagh National Park
- Gaeltacht Boundary

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CLIENT:
EirGrid & ESB Networks

PROJECT:
Donegal 110kV Project - Environmental Impact Statement

FIGURE TITLE:
Location Map

DRAWN EO'S	CHECKED J.F	APPROVED RO'D	
APPD DATE 21/03/08	No. of Shts 1	SIZE A4	SCALE NTS
FIGURE NUMBER Figure 1.1			