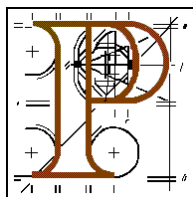


An Bord Pleanála



Inspector's Report

FLAGFORD – SRANANAGH 220/110kV PROJECT

APPEAL NUMBERS:

PL20.127552

PL12.127570

PL21.127615

PL21.127616

Development 220/110KV TRANSMISSION LINES AND A SUBSTATION.

PLANNING APPLICATION

Planning Authorities:	Roscommon, Sligo and Leitrim County Councils
Applicant:	ESB.
Type of Application:	Permission
Planning Authorities Decision:	Grant plus Conditions

PLANNING APPEAL

Appellant(s):	AMP and Others, and An Taisce.
Type of Appeal:	3 rd V Grant
Inspector:	Detlev O. Münster

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1. INTRODUCTION

On the 18 December 2000, the Electricity Supply Board (ESB) submitted 13 Planning Applications to three County Councils (Sligo, Leitrim and Roscommon) as part of the Flagford – Srananagh 220/110kV Project. A co-ordinated approach was adopted by the respective County Councils and on the 30 October 2001 all three County Councils granted the proposed project full planning permission subject to conditions. Appeals and observations were lodged against these decisions with An Bord Pleanála.

The two main appellants are Alternative Means of Power (a.k.a Against More Pylons) and Others, and An Taisce (for Appeal No. PL21.127616). The former requested an oral hearing suggesting the appeals were complex and significant, and indicated the wish to bring in expert witnesses. On the 22 March 2002 the Board decided to refuse the request for an oral hearing.

In total, nine correspondences containing observations from individuals and groups of residents were received supporting the third parties. One particular correspondence included letters of support from local residents.

The proposed development is of a type which is included in Part II of the First Schedule (Class 3(b)) of the European Communities (Environmental Impact Assessment) Regulations 1989, and hence an environmental impact statement (EIS) is mandatory. An EIS was submitted by the applicant, and was therefore considered as part of the application document. Alterations were made to the development (i.e. route alterations) in the submission of additional information on 13 July 2001, the receipt of which was published. These alterations do not materially affect the overall assessment of effects contained in the EIS.

Given that all four appeals refer to components of one project (refer to section 1.1 Brief), this report has reference to all four appeals.

1.1 Brief

According to the applicant the Flagford-Srananagh 220/110kV Project consists of 13 planning applications, which have been registered as indicated in Table 1. The components of the project are illustrated conceptually on Figure 1.

Table 1: Project Components according to Planning Registers

County	Component	Planning Register No.	Appeal No.
Sligo	Flagford Srananagh 220kV Line	PL00/1263	PL21.127616
	Cathaleen's Fall Srananagh No. 1 110kV Line	PL00/1257	-
	Sligo Srananagh No. 2 110kV Line	PL00/1258	-
	Cathaleen's Fall Srananagh No. 2 110kV Line	PL00/1259	-
	110kV outdoor line bay at Sligo Substation	PL00/1260	-
	Sligo Srananagh No. 1 110kV Line	PL00/1261	-
	Arigna-Carrick on Shannon-Srananagh 110kV Line	PL00/1262	-
	220kV/110kV Substation at Ballysumaghan	PL00/1256	PL21.127615
Leitrim			
	Cathaleen's Fall Srananagh No. 1 110kV Line	P00/01195	PL12.127570
	Cathaleen's Fall Srananagh No. 2 110kV Line	P01/00680	-
	Arigna-Carrick on Shannon-Srananagh 110kV Line	P00/01196	-
Roscommon			
	Flagford Srananagh 220kV Line	PD/00/1949	PL20.127552
	220kV overhead transmission bay at the existing Flagford Substation	PD/00/1948	-

An Bord Pleanála received four appeals, and in terms of the Local Government (Planning and Development) Act of 1963 and the Local Government (Planning and Development) Act of 1976, these appeals relate only to the particulars of the planning applications that have been appealed. Hence, for example, An Bord Pleanála Appeal Ref. No. PL21.127616 corresponds with Sligo Planning Application Planning Register No. PL00/1263 and no other planning application (refer to table above).

The appellants' contention that all 12 planning applications should be considered and treated as one, is incorrect. Therefore, with the exception of the four planning permissions that are under appeal, the other planning permissions are extant.

EU Directive 97/11/EC requires Environmental Impact Assessment in relation to the overall project without fragmentation of the impact. The EIS was assessed in its totality, and impacts were considered within the context of the overall project, but conclusions and recommendations are only to be drawn for those sections of the project that are under appeal (refer to Table 2).

Table 2: Project Components that are dealt with by this by this Report

Component	Planning Register Ref. No.	Bord Pleanála Appeal No.
Flagford – Srananagh 220kV Line	<ul style="list-style-type: none"> ▪ 1949/00 (Roscommon) ▪ 1262/00 (Sligo) 	<ul style="list-style-type: none"> ▪ PL20.127552 ▪ PL21.127616
Cathaleen’s Fall – Srananagh No. 1 Line	<ul style="list-style-type: none"> ▪ 1195/00 (Leitrim) 	<ul style="list-style-type: none"> ▪ PL12.127570
220kV/110kV Substation at Ballysmuaghan	<ul style="list-style-type: none"> ▪ 1256/00 (Sligo) 	<ul style="list-style-type: none"> ▪ PL21.127615

The appeal is considered in the context of all four project components. It is clear that if permission for the 220kV line was refused, there would be no basis for the construction of the substation and consequently no basis for the 110kV line. The reverse is not the case however. In particular, a refusal for the substation would not be fatal to the lines, since an application for an alternative sub-station site could be made together with some variation to the routes of the respective lines.

1.2 Review Procedure

The following procedure was used to evaluate the development application:

1. Requirements of the various Acts/Directives reviewed.
2. Development Applications were reviewed.
3. Reference material (i.e. County Development Plans, National Plan, etc.) obtained and reviewed.
4. EIS was briefly reviewed to understand structure of EIS and ascertain main issues.
5. Research on several issues undertaken (i.e. EMF and transmission lines in general, landscape assessments, ecology).
6. Detailed review of EIS (Preliminary list of issues concerning development, EIS, quality of EIS prepared).
7. Review of PA assessments and decisions.
8. Review of appeals and observations.
9. Preliminary site visit for project-environment contextualisation.
10. EIS reviewed using checklist (refer to Appendix A).

11. Preparation of EIS Review and preliminary recommendation.
12. Request for Section 10 information.
13. Review of additional information.
14. Final review of EIS and third party responses to S10 information received.
15. Second field trip.
16. Write up of final report.

1.3 Criteria for Consideration

Planning legislation sets out the criteria that the Board must consider in evaluating a proposed development, which is under appeal. In particular, the Board must have regard to the Development Plan and to Ministerial Directives. It also needs to keep itself informed of the policies of the Minister for the Environment and of certain other public bodies.

In addition to the consideration of the above documents, several reference documents available in the public domain were also considered. In particular, a guideline document produced by the European Commission (June 2001) was used as a tool to help crystallise the assessment of the EIS submitted. The checklist used is attached as an appendix (refer to Appendix A).

Good practice in environmental impact assessment requires the need to consider alternatives. Various alternatives, including alternative methods of augmenting the electricity supply, alternative routes and alternative transmission methods to mention a few were considered. However, while the consideration of alternatives is in my opinion an integral part of the process of evaluating and forming a professional opinion on the proposed development, this report is required to make a recommendation on that development as submitted to the planning authorities.

The Board is also required to consider the application as if made to them in the first instance. It may grant or refuse permission for the development, and also has the power to grant permission to developments that would be a material contravention of the Development Plan.

1.4 Site Inspections

Site inspections were undertaken on two separate occasions, 15-19 May 2002 and 26-29 September 2002. "Foot and Mouth" restrictions prevented access to several areas along the route, but every opportunity was taken to view the proposed development by travelling along roads/tracks in close proximity to the proposed transmission line and from viewpoints (particularly those indicated in the development plans as high

amenity areas) within the region. This was considered sufficient to make a reasoned assessment.

Photographs attached in Appendix B were taken during these site inspection periods. The maps in Appendix C illustrate the locations from where the photographs were taken.

2. DESCRIPTION AND LOCATION OF THE PROPOSED DEVELOPMENT

2.1 Description of the Proposed Development

The development is as described in the site and press notices and is as follows:

PL20.127552 (Roscommon, Planning Reg. Ref. No. 00/1949)

The proposed line will be erected over, or in the vicinity of the Roscommon Townlands of Culleenatreen or Flagford, Grange, Killummod, Corlis, Bryan Beg, Kilcanoran, Dacklin, Corbally East, Corbally Middle, Moheedian, Turlagh, Cartron, Knockroe (E.D. Killummod), Carrowmore, Castletown, Portobello, Kilcolagh, Ratalen, Croghan, Ardmore, Knocknafushoga, Cloonshaghan, Treanamarly, Treanagry, Knockroe (E.D. Rushfield), Leam, Knockarush, Carrownageeragh, Ardcorcoran, Grange Beg, Ballymore East or Corbally, Ballymore West, Lisserdrea, Knockavroe, Breandrum, Ardsallagh, Tinacarra, Kiltycreaghtan, Ballynanultagh, Drumanone, Drumshannagh and Tivannagh. The total length of the line in County Roscommon will be 24.6 kilometres. The line will consist of five overhead wires supported on steel lattice masts. The intermediate towers will have an average height of 31 metres and an average base area of 8 metres square. The angle towers will have an average height of 27 metres with an average base area of 12 metres square. The average distance between structures will be approximately 340 metres. For the first 1 kilometre out of the existing Flagford substation the line will be strung on the southern side of the existing Cashia-Flagford 220kV double circuit line.

PL21.127616 (Sligo Planning Reg. Ref. No. 00/1263)

A new 220kV overhead transmission line to be erected over or in the vicinity of the Sligo Townlands of Cloonloogh, Stonepark, Derrinoghran, Tawran, Chacefield, Mweelroe, Cloontycarn, Clooneagh, Cloonanure, Drumrolla, Cloonena, Tawnagh, Cloonaraher, Tunnagh, Greyfield, Kildarganmore, Clooncunny, Knockatelly, Knockanaher, Bearvaish, Carrickrathmullin, Cloonbannan, Sniggeen, Cloonacaltry, Bearlough, Abbeyville or Ardlaherty, Kingsfort, Carrowmacleanany, Knocknawhishoge, Ardsallagh, Cletty, Roscrib West, Roscrib East, Doonmegin, Doomore, Knockmoynagh, Cloonlurg, Drumfin, Behy, Murillyroe, Cooperhill, Ardneekan, Lisbanagher, Carrownsputraun, Rusheen (E.D. Riverstown), Kinkillew, Lissaneeny, Carrowkeel (E.D. Ballinakill), Clooskirt, Srananagh and Ballysumaghan. The total length of the line in County Sligo will be 30.3 kilometres. The line will consist of five overhead wires supported on steel lattice masts. The intermediate towers will have an average height of 31 metres and an average base area of 8 metres square. The angle towers will have an average height of 27 metres with an average

base area of 12 metres square. The average distance between structures will be approximately 340 metres. A new further newspaper notice altered the line route in the townlands of the Roscrib East, Doonmeegin, Doomore, Cloonlurg and Drumfin.

PL21.127615 (Sligo Planning Reg. Ref. No. 00/1256)

To build a 220kV Outdoor Substation, comprising one 220kV single busbar equipped with one overhead line bay, one transformer bay and one coupler bay, one 110kV double busbar equipped with five line bays, one transformer bay and one coupler bay and one 220/110kV Transformer at Ballysumaghan Townland, County Sligo.

PL12.127570 (Leitrim Planning Reg. Ref. No. P00/01195)

To build a new 110kV overhead line linking the proposed 220/110kV Substation at Ballysumaghan Townland, County Sligo, with the existing Arigna-Carrick-on-Shannon Cathaleen's Fall 100kV line at Drumlumman Glebe Townland, County Leitrim. The proposed line will be erected over or in the vicinity of the townlands of Cleighran, Drumduff (Drumahaire By), Drumrane, Mullaghdoe, Killanummery, Edergole (Drumahaire By), Tully, (Drumahaire By), Cleen, Kilcoon, Ardvarney, (Drumahaire By), Drumahaire E.E., Flughanagh, Cashel, (Drumahaire By) Geskanagh Glebe, Carrickmurray, Drumlumman Glebe and Cornamarve. The line will consist of three overhead wires supported on double wood pole structures, whose poles are 5 metres apart, of average height of 19 metres. The angle structures will consist of lattice steel towers of average base area of 4.5 metres. The line route, line structure locations and heights will be shown on maps submitted with the application along with drawings of typical structures.

The proposed development can therefore be summarised to consist of:

- approximately 56km of a 220kV single circuit line supported on steel masts from the existing Flagford 220kV station in County Roscommon to a new 220/110kV substation in County Sligo;
- a new 220/110kV substation in County Sligo; and
- approximately 12.84 km (in total) of the Cathaleen's Fall – Srananagh No 1 110kV line.

2.2 Composition

220kV Line: The 220kV-transmission line comprises of 5 no. overhead wires supported on cold-formed steel towers of galvanised lattice steel construction. These structures vary in height from approximately 21.5m to 37m (average height is stated to be 33 metres). The average base area measures 12m X 12m.

110kV Line: The 110kV-transmission line comprises of 3 no. overhead wires supported on cold-formed steel towers of galvanised lattice steel construction as well as wooden pole sets. These structures vary in height from 16m to 23m. The average base area for the steel towers measures 4.5m X 4.5m.

Shrananagh 220/110 kV Substation: The sub-station site has a total area of 10.098 hectares. The sub-station compound comprises an area stated to be 2.45 hectares and includes 220/110kV switchgear, transformer and flat roofed, rustic red brick control building of an approximate height of 5 metres and stated floor area of just under 443 sq.m. The sub-station will also contain plant and equipment typical of that found in other such facilities including towers, cabling, transformers and busbars. The equipment is stated not to exceed 20 metres in height. The compound is to be surrounded by 2.6 m high green powder coated steel palisade fencing with vehicular access gained via a gated entrance onto a minor road. The area surrounding the sub-station is to be landscaped.

2.3 Location of the Proposed Development

The townlands for this proposed development are as listed in the public and site notices (refer to section 2.2 above). The power lines transect three counties and their locations are best described by illustration in the maps in Appendix C.

It would suffice to say that the proposed power lines pass through areas that are essentially rural, characterised by agricultural activity, farmsteads, woodlands and hedgerows. Housing is quite dispersed, but ribbon development is evident in places.

The proposed substation is located within a valley in the townland of Ballysumaghan, Co. Sligo. The subject site currently consists of grazing pastures surrounded by hedgerows. The subject site is also surrounded by pastures, and a wooded area to its south east known as Mullaghbawn Wood. Access to the site is off a sand/gravel road which is about 370 metres from the nearest tarred road, which in turn is approximately 350 metres east of the Ballysumaghan Cross Roads.

There are no residential dwellings in the immediate environment of the substation.

3. THE ENVIRONMENTAL IMPACT STATEMENT

3.1 Summary of the EIS

Rather than rehearse the extensive contents of the EIS, the objective of this section is to provide a brief overview of the pertinent issues contained in the EIS.

3.1.1 Study Approach

The study approach adopted for this EIS is not clearly defined. However, with respect to public consultation, it appears that several consultation exercises were undertaken with County Councils, local residents and other third parties. It consequently appears as if due consideration was given to the scoping procedures described in Part II of the Local Government (Planning and Development) Regulations of 1999.

The study approach focussed on a systems reinforcement option. The power lines routing was narrowed down from a regional feasibility perspective to a local assessment perspective primarily undertaken through what appears to be a mapping exercise. Thereafter it appears as if likely impacts were further scoped through field observations.

3.1.2 Description and Need for the Development

The development is described in the EIS and its *raison d'être* is based on the need to reinforce the existing network given increases in demand, restrictive maintenance regimes imposed by a poor network, and the need to provide a quality and continuous supply of electricity to the region. Construction and operational activities are also highlight.

It is pointed out in the EIS document that the growth in the Irish economy has put a strain on the bulk electricity transmission system which delivers power to the north of the country. As a result of a forecast, increase in demand combined with the already experienced growth, the existing infrastructure will be inadequate to meet the needs of the area. The proposed development will reinforce and stabilise the supply resulting in better power quality and adequate power transmission.

3.1.3 Human Beings

Health effects: The EIS highlights the current debate in EMF and concludes that there is no evidence that suggests a link between power lines and ill health within the bounds of the safety measures that are to be employed. The ESB will therefore

continue its policy of adhering to international and national standards and guidelines with which the entire network complies. The ESB are therefore satisfied that it has not been established that there are negative health effects associated with electric and magnetic fields generated by high voltage transmission lines and sub-stations.

Socio-economic: The EIS suggests that there will be a positive impact on the local economy in the form of expenditure and employment during the construction phase. It considers that approximately 30% of the construction cost is to be spent in the study area. The main benefits are, however, considered to arise from the improvement in quality and reliability of the electrical supply to the region.

Economic activity: It is pointed out that there will be a small loss in agricultural production but that these losses are negligible. It is, however, suggested that farmers/landowners will be compensated for losses.

Tourism: It is considered that notwithstanding efforts to avoid and minimise direct impacts on tourism resources, on account of the length of the development there will be residual impacts on local tourism resources.

3.1.4 Flora and Fauna

The flora and fauna section appears to have focused its attention on designated areas, and areas that are under consideration for formal designation. According to the EIS no significant impacts can be anticipated. It also mentions that the only areas that are affected by the proposed development are the river crossing sections on the Boyle River and Unshin River and the glacial landscape between Carrowmore and Boherroe. The potential for bird strikes is considered but stated to be of little significance, due to the height at which wildfowl would cross and also because they would not fly through the study area in significant numbers.

3.1.5 Soil/Land use

Along the power line route, impacts on the soil are localised to the foundations for the pylons and no negative impacts are envisaged. It is stated that the power lines should not affect land uses in the study area, and that the “only impact caused to agriculture is that of inconvenience due to structure location”.

3.1.6 Water

No impacts on hydrology are envisaged. Mitigation measures are however suggested to protect river banks.

3.1.7 Air

Noise from the substation is considered to be negligible since the distance between the substation and the nearest habitable dwelling is over 250 metres. Construction noise is expected to be higher but since construction activity will be confined to daylight hours and of short duration, temporary increases in noise levels are considered acceptable.

Gap Sparking, Corona and Aeolian noises were also considered. It is concluded that gap sparking where it occurs can be easily identified and eliminated. Aeolian noise may occur during adverse weather conditions, yet the noise is considered to be low when compared to other sources.

Concentrations of ozone and nitrogen oxides are considered to be well *below Ambient Air Quality Standards* and therefore considered to be of little to no impact. It is also stated that ozone from power lines is seen as playing an insignificant role in the overall air pollution problem and there is no evidence to suggest that ion production will cause any health hazard, discomfort or inconvenience in the vicinity of the lines.

3.1.8 Landscape

A landscape and visual assessment was carried out, and it is stated that every effort was made to respect the existing houses, heritage sites, topography, and listed views. It is considered that the preferred route takes advantage of existing hedgerows, trees, woodlands and use of hills as backdrops. The substation site would require landscaping on its periphery to screen the development.

Impact on landscape was assessed to address the issue of visual impact and landscape character impact. It is stated that both the visual impact and landscape character impact would be of a localised nature along the power lines. With respect to the substation it is stated that there will be significant changes to the character and appearance of the immediate environment.

3.1.9 Cultural Heritage and Archaeology

It is pointed out in the EIS that the study area is rich in cultural heritage. It is stated that the proposed route was selected since it minimised the impact on cultural heritage sites. It is noted that the power lines will be located in close proximity to several recorded sites and monuments. The significance of this impact was determined using a distance criterion. It is stated that there are 116 recorded archaeological sites within a 100 metre corridor of the proposed power line route of which 30 will be within 50

metres of the proposed structures. It is recognised that the ground works may have a negative impact on the archaeological monuments and consequently several mitigation measures were suggested.

3.2. Notes on Reviewing the EIS

As mentioned in section 1.3 above, a guideline document produced by the European Commission was used as a tool to assess the EIS. Using this guideline document and known international best practice in EIA, it became apparent that while the EIS complied with the necessary legal requirements, the information presented was not sufficient enough to enable the Board to make a satisfactorily reasoned decision. Concern was not expressed with the technical adequacy of the studies, but with the completeness and montage of the information presented. In many instances the information was not included. Sensitivity of the receiving environment was not clearly expressed, particularly from ecological and archaeological perspectives.

In addition, no environmental management plan (EMP) was presented. Without an EMP, there is no clear commitment to mitigation or to monitoring. This was considered critical for a variety of reasons, two of which are:

- to assist the developer in ensuring that the mitigatory measures are working, and
- to assist the local authority in auditing the development.

Since I considered an environmental management plan to be a critical link between the study and the actual development and in ensuring the implementation of mitigatory measures, the EMP was considered necessary.

Additional information was considered necessary and it was noted that legislation provides the opportunity for the submission of addition information.

It is important to note that the adequacy of the EIS was queried by the appellants, but the preparation of an EIS is the applicant's responsibility. While I note that many criticisms have been made of the EIS, I consider that the EIS is part of a process and a tool for facilitating the assessment of impacts, and not in itself a conclusive or final statement of effects. The Board is nonetheless required by Article 56(2) of the Planning and Development Regulations to consider the adequacy of any environmental impact statement submitted to them as part of the documentation associated with an appeal.

Consequently, the Board was advised of my EIS review findings in a Memorandum dated 22 May 2002 (refer to Appendix D). This memorandum highlighted several concerns and recommended that additional information be sought by way of Section

10 procedures as stipulated in the Local Government (Planning and Development) Act of 1992. The Board agreed to this course of action and determined in this case that the Environmental Impact Statement was adequate by reference to the fact that it contained the information specified in paragraph 2 of the Second Schedule of the Environmental Impact Regulations 1989.

3.3 Request for Further Information

Given the shortfalls in information, it was deemed necessary that a notice for further information be submitted to the applicant by way of a Section 10 Notice, in order for the Board to make a reasoned decision. In brief the applicant was requested to provide further details on:

- the need for the development;
- the alternatives considered and options regarding a single connection switched tee and a 110kV double circuit option;
- flora, fauna and ecological sensitivity;
- potential transport/traffic impacts;
- the description of the construction phase;
- the archaeological assessment;
- population distributions in the Coopershill area;
- the visual impact;
- the use of hazardous materials; and
- an environmental management plan.

3.4 Section 10 Information

The Board received the Section 10 information on the 20 August 2002. Below is a brief synopsis of the information received.

3.4.1 Need analysis

In this section the ESB states the Transmission System Operator's (TSO) mission, and discusses recent changes in legislation, which clearly indicates that the TSO is only responsible for transmission systems.

Transmission system planning considerations and criteria are outlined as are the *Connection Conditions of the Grid Code*, which specify the conditions under which the grid must stay within standard. The information proceeds by briefly highlighting generation capacity in the north-west and points out that the current situation is not sustainable. Electricity demand is outlined and national policy is cited to support the need for infrastructure improvement.

Weaknesses with the existing infrastructure are discussed. Scenarios are presented to illustrate the existing network operating under different conditions, and this is used to highlight the need to reinforce the transmission network. The life-span of the proposed infrastructure is also discussed and it points out that no further augmentation along the Flagford-Sligo axis would be needed.

Forecast Statements for the period 2001/2 to 2007/8 were attached as appendices.

3.4.2 Alternatives

In this section the ESB reiterates that the proposal is a system reinforcement option, which it considers to be the appropriate solution. Nonetheless, the project rationale, the study area and study approach are discussed. Technical and environmental criteria used in identifying a corridor are also discussed and include: population density, ecological sensitivity, visual sensitivity, archaeology, and ground conditions. It is pointed out that an avoidance strategy was adopted in determining the route.

3.4.3 Flora, fauna and ecologically sensitive sites

This section provides a brief overview of the habitats encountered and species are listed. It is pointed out that there are no plant or animal species restricted to the area of the transmission line, and that all the lowland species occur broadly in the region, as do the hill species.

It is also pointed out that wildfowl are associated with the Owenmore and Unshin Rivers, but the largest numbers occur in the lakes from which they fly. It is suggested that the whooper swans using the rivers are in numbers far below the qualification for national importance.

It is pointed out that mute swans are stable in their distribution but are the main species of concern where power lines are involved. It considers the crossing of the Boyle River to be sensitive, and recommends the placement of protective visibility structures. Such structures are also recommended at the other river crossings.

3.4.4 Transport/traffic impact assessment

The ESB states that works would be sub-contracted and that it is their practice to get the supplier to survey the route and to arrange and agree a route with the necessary authorities. The contractor will therefore be required to liaise with the Co. Council to ensure traffic management controls are in place.

The ESB does, however, mention that during the civil works stage that there will be significant road usage, but that disruptions would be kept to a minimum by stockpiling materials on site, where possible. It is also suggested that the load weights of the substation equipment do not exceed the standard weights carried on the roads.

3.4.5 Description of construction phase

With respect to gaining access to work sites, the ESB indicates that access is normally agreed with each landowner and is done after full planning permission has been granted, and survey and wayleave notices served. The ESB therefore contends that it would not be possible to detail these now. It does however, state where access routes need to be laid/constructed, methods are undertaken with the landowner's agreement, and if necessary the land would be reinstated to its original state.

With respect to the substation site it is indicated that the road entering the substation will need to be widened and upgraded.

The ESB also points out that a standard procedure is used by the ESB in locating construction camps. It states that a site reconnaissance is normally undertaken to determine suitable sites for the storage of steel, conductor and other overhead line material, porta-cabins and vehicle accommodation. It suggests that disused industrial facilities or farmyards may be targeted to accommodate such camps. The ESB, however, contends that no predicted impacts are expected as a result of site office locations.

The ESB states that the construction phase could have a duration of two years. In this section, it points out that it would be desirable to do all hedge and tree cutting outside the bird breeding season (March-July) to prevent disturbance. It also suggests that valley crossings by the wires should be constructed by September in any year so that migrating wildfowl do not encounter new and changing wires as they are arriving.

With respect to the topsoil at the substation site, it is indicated that this will be removed off-site to an approved disposal area, but that some topsoil will be retained on site for landscaping purposes.

3.4.6 Archaeological assessment

The receiving environment is briefly discussed with reference to archaeology. It states that the archaeological landscape between Flagford and Ballysumaghan is rich with features and that significant archaeological complexes exist at Carrowmore [sic.]. It also points out that there are also rich archaeological lacustrine features on Lough Gara. It also states that throughout the larger area being considered, that there is a dense medley of sites and monuments that may not have achieved international renown, but are nonetheless of archaeological importance in their own right. It considers that the proposed line routes have steered a careful path through this landscape to avoid such sites and to minimise impacts wherever possible. However, it is indicated that there are twenty-three monuments located within 50 metres of the proposed line routes.

A catalogue of the sites within 50 metres of the proposed power lines is provided and from this it is noted that 15 are from the Early Medieval period, two are from the Prehistoric period and the remaining sites relate to the Late Medieval period.

Recommendations to minimise/prevent impacts on these sites are suggested, and include maintaining a buffer area and avoiding construction activities at these sites, having an archaeologist walking and inspecting the routes, and monitoring the construction activities.

3.4.7 Human population distribution for the Coopershill alternatives

The ESB indicates that along the original route, Route A, and Route B the population living within 150 metres of the line are 6, 27 and 30 respectively. It maps the three routes and indicates that on the Route B option three additional developments received full planning permission.

3.4.8 Monitoring and auditing

In this section mitigatory measures are highlighted for several impacts.

3.4.9 Visual Impact

A series of maps indicating zones of visual influence (ZVI) were generated to provide illustrations of the potential areas from where the structures (pylons) could be seen. Representational limitations of this technique were highlighted in the submission¹.

¹ Due to technical limitations the data/information that were submitted digitally could not be viewed as envisaged. Appendix J provides a series of hard copies of some of the data included digitally. Having
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PL20.127552

A Digital Terrain Model to simulate the visual impression of how the power lines will sit in the landscape was also produced. Technical limitations of the technique were also highlighted in the section.

Both the ZVI and DTM are cross-referenced with photomontages/confirmation images, so that the representational limitations can be noted. In particular, it is pointed out that a combination of distance, atmospheric absorption, intervening vegetation and other built features tend to combine to reduce potential visibility².

3.4.10 Hazardous material

Hazardous materials that will be used during construction, operation and maintenance regimes are discussed. These include insulation oil, diesel oil, batteries, sulphur hexafluoride gas, and creosote. Mitigatory measures are also highlighted.

3.4.11 Amalgamation of two 110kV circuits

The appellant was requested to consider amalgamating two 110kV circuits (Cathaleen's Fall No. 1 and No. 2) onto one set of structures. The ESB responded that this was possible and the option was considered. However, the ESB and Sligo County Council considered that double circuit steel towers would have a greater negative visual impact than low-level wood-pole lines. The ESB points out that the structures needed to accommodate double circuit lines would range in height from 22 to 42 metres as opposed to 18-20 metres for wood-pole structures. The ESB also suggests that a double circuit option is less favourable from a maintenance point of view.

3.4.12 Single switched tee from Srananagh to Carrick on Shannon-Arigna-Cathaleen's Fall 110kV line

The ESB indicates that it is ESBNG practice to reinforce the underlying 110kV network and to loop the appropriate lines into the new station. It points out that looping is used because it provides a robust connection; a tee option would result in a significantly weaker network, particularly with N-1-1(outage-trip) combinations; it provides the capacity to feed power in both directions along the existing line; it provides greater flexibility to make full use of the transmission capacity offered; it

noted the content submitted in hard copy format for the visual analysis and that of the digital information, I considered the illustrations submitted in hard copy to be suitable and sufficient for my assessment.

² I am aware of the technical limitations with these techniques, but considered it important to note the proposed development in an undressed landscape so that the magnitude and continuity of development can be assessed, as well as to provide assistance with on-site evaluation.

avoids the unnecessary proliferation of small 110kV switching stations; and the cost of constructing a new line is normally lower than the cost of constructing a switched Tee station and the associated lines.

4. HISTORY

The following planning applications are closely associated to the Flagford-Srananagh 220/110kV Project.

4.1 PL00/1260 (Sligo): 110kV Outdoor Line Bay at Sligo Sub-station

Planning permission granted on 30 October 2001 subject to two conditions: development in accordance with details submitted and the deposit of a cash bond as security for road maintenance.

4.2 PL00/1261 (Sligo): Sligo – Srananagh No. 1 110kV Line

Planning permission granted on 30 October 2001 subject to six conditions, including amongst others:

- Positioning of no structures within 10 metres of any watercourse;
- Submission of a traffic management plan prior to commencement of development;
- Employment of an archaeologist and the undertaking of an initial assessment, and no sub-surface works shall be undertaken in the absence of an archaeologist.

This 110kV line forms a component of the Flagford-Srananagh 220/110kV Project, and therefore was included in the project's EIS.

4.3 PL00/1262 (Sligo): Arigna – Carrick on Shannon – Srananagh 110kV Line

Planning permission granted on 30 October 2001 subject to six conditions, which are similar to those listed above. This component is also included in the EIS.

It is noted that part of this line which runs through County Leitrim is under appeal (PL12.127570).

4.4 PL00/1257 (Sligo): Cathaleen's Fall – Srananagh No. 1 110kV Line

As 4.2 above.

4.5 PL00/1258 (Sligo): Srananagh No. 2 110kV Line (Revised route to parallel Sligo-Srananagh No. 1 Line)

As 4.2 above.

4.6 PL00/1259 (Sligo): Cathaleen's Fall – Srananagh No. 2 110kV Line (Revised route to parallel Cathaleen's Fall – Srananagh No. 1 Line)

As 4.2 above.

4.7 PD/00/1948 (Roscommon): New 220kV Overhead Transmission Line Bay at the existing Flagford Sub-station at Cullenatreen Townland

Planning permission was granted subject to nine conditions for a new 220kV bay at the Flagford substation on the 5 December 2001. The works are to be carried out at a vacant bay area within the existing Flagford sub-station compound. This bay will facilitate the proposed 220kV line which is the subject of this appeal.

4.8 P.01/00680 (Leitrim): Cathaleen's Fall – Srananagh No. 2 110kV Line (Revised route to parallel Cathaleen's Fall – Srananagh No. 1 Line)

Planning permission was granted for a revised route of the above-mentioned line on the 30 October 2001, subject to five conditions, including amongst others:

- Positioning of no structures within 10 metres of any watercourse;
- Submission of a traffic management plan prior to commencement of development;
- Employment of an archaeologist and the undertaking of an initial assessment, and no sub-surface works shall be undertaken in the absence of an archaeologist.

4.9 P.00/01196 (Leitrim): Arigna – Carrick on Shannon – Srananagh 110kV Line

As 4.8 above.

5. PLANNING AUTHORITY REFERRAL REPORTS AND DECISIONS

5.1 Leitrim County Council

5.1.1 Internal and External Referral Documentation re 110 kV Line: Cathaleen's Falls to Srananagh

Roads Section (Report dated 18 April 2001): No objection.

Planning (Report dated 23 April 2001): Further information requested, in particular: number of people to be affected, blighting consequences of line, elaboration on the underground option, elaboration on the potential health effects.

Duchas (letter dated 18 April 2001): In this report Duchas states that the proposal is visually intrusive, but since no known monument is within the 25 metre zone as reported in the EIS, it does not object to these sections of the proposal viz. P.00/01195 and P.00/01196. It nonetheless requests for archaeological monitoring to take place during the construction phase of the power line.

Department of Public Enterprise (Report to Sligo County Council dated 27 September 2001): This report was prepared by Dr T. McManus (Chief Technical Adviser) where he summarises major developments in EMF health issues over recent years, and has grouped his response into four main areas: epidemiological studies, possible scientific explanation, opinions of authorities, and actual exposure. I consider this report to be an insightful summary and have attached it as Appendix D.

Planning Report (dated 30 October 2001): The Acting Senior Executive Planner provides a brief appraisal of the compatibility of the proposed developments with the County Development Plan and the National Development Plan, and assesses the proposals in terms of these plans, monuments and areas of archaeological interest, visual impact, and in terms of the concept of sustainable development. With respect to the assessment in terms of “Monuments and areas of archaeological interest” the Planner points out that the proposed development will impact on several listed sites, and refers to the EIS assessment that these impacts are given as “Slight” or “None”. The planner is therefore of the opinion that the “developer has taken proper cognisance of the affects of the development on these sites and that the mitigating measures...are sufficient to ensure the protection of these items of archaeological interest”.

The planner also considers the development to be of strategic importance to the region, and while he recognises that the proposed development will have a negative

visual impact in certain localised areas, is of the opinion that adequate measures have been adopted to mitigate the effects of visual intrusion. “It is considered that, due to the topography, vegetation cover and the sparsely [sic.] populated landscape of the area, the visual impacts of the development will be generally localised and that no widespread significant impacts on the landscape or on the tourism amenity of the area will arise. The option of placing the cables underground would give rise to particular technical and economic difficulties and is not considered a viable option”.

The planner is also of the opinion that while in certain instances the proposal challenges certain aims and objectives of the County Development Plan, it is on balance compatible with the plan. He also considers the proposal to be on balance compatible with the principle of sustainable development.

The Planner also states that the entire application was discussed with the planning authorities concerned, so that the development could be dealt with systematically. In addition, he points out that the Planning Department was mindful to the concerns raised by the objectors with regards to health fears, reduction in property values, damage to landscape, damage to ecological systems, etc. In particular, he points out that particular regard was given to the perceived health risks, and following some in-house research on the matter, states that the Planning Department does not consider this proposal to be of significant risk to public health.

5.1.2 Leitrim County Council Decision

On 30 October 2001, Leitrim County Council decided to grant planning permission subject to six conditions, *inter alia*:

- no structures to be placed within 10 metres of any river bank or watercourse;
- abatement measure to prevent preservative chemical seepage to be submitted to PA;
- traffic management plan associated with the construction phase to be submitted to the PA;
- Archaeological assessment of the proposed development to be undertaken, and no sub-surface work shall be undertaken in the absence of the archaeologist. In addition the route is to be walked by an archaeologist, who will be responsible for recommending final mitigation measures.

5.2 Roscommon County Council

5.2.1 Internal and External Referral Documents re 220 kV Overhead Transmission Line

Western Health Board (letter dated 16 February 2001): This Board indicated that based on current available scientific data that it had no objection to the proposed development.

Environment Section (report dated 22 June 2001): This Section requested further information regarding the disposal of trees and debris, surplus oil, stones and waste in general. The planner points out in his report that this information was submitted and considered to be satisfactory.

Duchas (letter dated 22 February 2001): No specific reference is made to County Roscommon. However, Duchas are of the opinion that insufficient attention was given to archaeological issues in the EIS, and hence recommended that an archaeological assessment be undertaken.

An Taisce (letter dated 8 January 2001): In this letter An Taisce requests the County Council to support their submission in favour of an underground utilities corridor along the N4. It further states that it considers the affected areas to be of “National Heritage importance and represent some of the most distinctive and important of Irish landscapes”. A press release was attached to this letter, where it is considered that the worst effect of the power line would be on the landscape setting of Keshcorran. Other settings/views that the power line would impact on include: the Bricklieve Mountains, Lough Gara, and the Gorteen and Ballymote areas.

Aviation Authority (letter dated 1 March 2001): the I.A.A. stated that they had no observations to make in connection to the proposed development.

County Council requests for further information from applicant: Requests for further information included:

- quantification of the number of people to be affected by the proposed development in terms of the number of people living within 500 metres of the proposed power line;
- clarification on the ecological impacts that will occur at Lough Gara and the Boyle River;
- clarification on the blight consequences;
- evidence to support the contention that an underground utilities corridor is not feasible;

- detailed relative cost estimates between overhead and underground power line options;
- an archaeological assessment;
- a visual assessment; and
- elaboration on the disposal of waste.

Planning Division - Final Planning Report (report dated 25 October 2001): A brief appraisal of the line's requirement, national policy and the development plan is provided in this report. In addition, the Planner points out that the County Council is satisfied that the route chosen has been carefully thought out and is of the opinion that it is the preferred option. The planner considers that the main issues regarding this proposed development are: health effects, visual impact, land devaluation and the underground option. With respect to health effects, the planner refers to Dr T. McManus' submission. With respect to visual impact, he is of the opinion that the chosen route minimises potential visual impacts. He also considers that Section 10.1 of the EIS adequately addresses the issue of land devaluation. Regarding the underground option, he states that the ESB was requested on several occasions to provide further information on this issue, and considered the ESB's response received on the 18 October 2001 to be adequate.

The planner also points out that 1057 letters of objection to the proposed development were received.

In conclusion, the planner states that the proposed development is in accordance with the proper planning and development of the area, and recommends that planning permission be granted subject to conditions.

5.2.2 Roscommon County Council Decision

On the 30 October Roscommon County Council granted planning permission for the construction of a new overhead transmission line bay at the existing Flagford substation, subject to 14 Conditions. The conditions, *inter alia*, include:

- the safeguarding of any items of archaeological significance, by employing an archaeologist to monitor the construction stages;
- removal of structures when obsolete;
- adequate precautions to prevent unauthorised climbing of proposed structures;
- structures may not be used for advertising;
- no towers to be positioned within 30 metres of the Boyle riverbank and generally not within 10 metres of any watercourse;
- Placement of warning devices to prevent bird strikes;
- Prevention of soil "input" into the Boyle River;

- Placement of structures to avoid wetlands, and that proximity to farm buildings and residences is minimised;
- Repairs to be undertaken in the event of underground services being damaged;
- Complaints regarding Corona noise levels are to be investigated fully;
- Mitigation measures in section 10.1.3.4 of the EIS are to be implemented³; and
- The lodgement of a bond to secure against any damage to public roads caused during the construction of the line.

5.3 Sligo County Council

5.3.1 Internal and External Referral Documents for the Power line (PL21.127616) and the Substation at Shrananagh (PL21.127615)

Ballymote Area Engineer's Report (dated 4 January 2001): In this report the Senior Executive Engineer states that the proposed power line will not impact on vehicular movement or driver visibility. He states that objections to the proposed development will be largely based on visual intrusion and possible health risks by those residing in close proximity to the line.

Area Executive Engineer Report for substation site (PL21.127615)(dated 8 January 2001): The Executive Engineer points out that the access road to the site needs to be reshaped and dressed. He also notes that the development will be visible and that landscaping will be required. He recommends the granting of planning permission.

Initial Planning Report (dated 29 January 2001): In this report, the SEP considers the EIS to be “invalid” and in order to validate it, requested the submission of more information.

Road Design Section (Report dated 15 February 2001): Section recommended that ESB consult section in relation to the final location of towers Nos. 148, 152 and 153 (in the townlands of Cloonlurg and Murrillyroe), which coincide with the lines of three possible route options for the N4.

North Western Fisheries Board (not on file but reported by Planning Department): Recommends that every effort be made to ensure that the works do not cause silt run-off to adjacent water courses.

Chief Fire Officer (Report dated 3 August 2001): No comment.

³ This section deals with impacts on material assets. There are numerous suggested mitigatory measures in this section and could be subject to several interpretations. This condition is therefore, in my opinion, not clear.

Department of Public Enterprise (Information submitted in a correspondence dated 27 September 2001): In this correspondence Dr T. McManus summarises the major developments over recent years in electromagnetic fields regarding health issues. Dr McManus' correspondence is attached as Appendix D.

Internal Planning Report (dated 25 October 2001): The Assistant Planner reported on public information available on health issues with respect to transmission lines. The objectives of this study were to seek information on internationally accepted standards of exposure and what progress had been made with regard to research on EMF health effects. This report concludes: "In the absence of a national regulatory framework for limiting exposure to electromagnetic fields generated by power lines, it may prove difficult for planning authorities to decide whether overhead transmission lines do or do not represent a risk to public health. Since current international practice involves compliance with the ICNIRP and WHO guidelines, such guidelines and standards could be considered sufficiently safe".

Duchas (Nature Conservation) (letter dated 9 May 2001): In this report, Duchas states that it has no objections in principle to the proposed development with respect to nature conservation issues, but recommends the following mitigation measures:

- No pylons/pole sets or other structures to be positioned within 30 metres from the bank of the Unshin River so as to avoid any erosion of the banks or run-off entering the cSAC);
- No pylons/pole sets or other structures to be positioned within 10 metres from the bank of other watercourses so as to avoid any erosion of the banks or run-off entering the cSAC);
- Where electric lines cross flight lines of waterfowl, warning devices should be installed. It further states that while some of these areas may have been identified in the EIS, there may be other areas.

Duchas (correspondence not included but reported on by Planner)⁴: According to the Senior Executive Planner, Duchas stated that insufficient attention had been given in the EIS to the effect of the proposed development on the ritual landscape of County Sligo, particularly with respect to the visual impact on the view from Kesh Corann towards Knocknarea. Duchas also expressed concern with respect to impacts on monuments identified close to the location of the proposed power line.

An Taisce (correspondence dated 12 October 2001): An Taisce is of the opinion that the evaluation of the re-routing of a section of the 220kV line in the Coopershill area

⁴ It appears as if this report is from another department within Duchas, i.e. possibly the department that deals with archaeology, hence the discrepancy with the previous Duchas (Nature Conservation) report.

is flawed, and argue that the Ardneaskan B option is a better alternative. An Taisce points out that option B passes no closer than 110 metres of occupied buildings, and not at the minimum distance as suggested by the ESB. It also points out that option B is more sensitive to ecological, visual, flora and fauna, and cultural heritage factors.

Sanitary Services Section (Report dated 11 June 2001): In this report the S.E. Technician (Environment) points out that there are several issues which need to be addressed more fully. In particular, he points out the use of hazardous materials and the need for these to be mitigated. Other issues identified include the placement of structures at least 10 metres away from river banks, the need for a waste management plan, percolation and trial test holes for sewage effluent percolation, and the protection of surface water from soil and silt run-off at the sub-station site.

Planning Report (dated 13 June 2001): Further to the ESB's submission of additional information as requested by the Planning Authority, the Planner requested the ESB to re-evaluate the section of the line in the vicinity of Lough Gara. He also recommends the paralleling of two sections of the line, viz. Sligo-Srananagh No. 2 line with Sligo-Srananagh No. 1 line, and Cathleen Falls-Srananagh No. 2 line with Cathleen Falls-Srananagh No.1, and that these should be evaluated and if they are considered more suitable, new planning applications should be submitted for them. Further assessments of the proposal's impacts on Castle Neynoe, Castledargan House and Cooper Hill were also requested.

Planning Report (dated 25 October 2001): The Senior Planner reports that the proposed reinforcement of electricity transmission to the west and north-west of Ireland is a necessity given current and projected circumstances. He also points out that the designation of Sligo as a regional gateway in the National Spatial Strategy will result in an increase in industrial development, and thus a higher demand for reliable electricity supply. Notwithstanding the above need, the Senior Planner does point out that the proposal needs to meet and where appropriate reflect county policies. In this regard, it is considered that the proposed development is generally compatible with these policies, and the facilitation role of the Council and its commitment towards the removal of infrastructure deficits is emphasised. The Senior Planner recognises visual discordance of the proposed development and states that where visual impacts were considered to be unsustainable and unnecessarily obtrusive, revisions were suggested and agreed by the ESB. He also points out that given current constraints "their [the power lines] functional appearance, magnitude and monumentality relative to other man-made structures on the Sligo landscape must be candidly accepted and as far as possible environmentally managed". The Senior Planner concludes that subject to mitigatory measures and the revisions, the proposal should be granted planning permission subject to several conditions.

5.3.2 Decision by Sligo County Council for the Power line (PI21.127616)

On the 30 October 2001, Sligo County Council granted planning permission for the proposed development subject to six conditions, *inter alia*:

- No structure is to be positioned within 30 metres of the Unshin and Owenmore rivers and not within 10 metres of other watercourses ;
- Traffic management plan to be agreed in writing with the Planning Authority prior to the commencement of development;
- The payment of a bond to safeguard county roads;
- The appointment of a qualified archaeologist to carry out an archaeological assessment of the proposed development, and that no sub-surface works may be carried out without the presence of an archaeologist.

5.3.3 Decision by Sligo County Council for Srananagh Substation (PL21.127615)

On the 30 October 2001, Sligo County Council granted planning permission for the development of a 220/110 kV substation at Ballysumaghan, subject to four conditions, viz.:

- Development shall be carried out in strict accordance with the Landscape Proposal Master-plan and to be completed to the Planning Authorities satisfaction;
- The payment of a bond as security to ensure the repair of any damage to roads;
- Environmental control measures to be carried out in strict accordance with detailed proposals and detailed proposals for abating creosote or other preservative chemical seepage from wooden poles to be agreed in writing with the planning authority.
- Applicant to employ a suitably qualified archaeologist to carry out an archaeological assessment of the proposed development, and that no sub-surface works shall be carried out in the absence of an archaeologist.

6. OBJECTIONS TO THE PROPOSED DEVELOPMENT

6.1 Summary of Issues

The following is not a comprehensive list of the objections raised or submissions received, but a summary of the main issues. Particular submissions are summarised in more detail in the following sections.

- Development is not warranted since there is sufficient electricity at present to meet current and future demands. It is considered that the need for the proposal has not been demonstrated.
- Lack of integrated planning approach to the provision of infrastructure. Planning system is being questioned.
- This is a short-term solution to the region's economic development. The problem of limited development has not been comprehensively addressed and cannot be attributed to simply a lack of transmission lines. Furthermore, even if it were the limited capacity of the transmission lines, the proposal is not a comprehensive energy management solution. In addition, an integrated planning approach should be adopted to deliver infrastructure to appropriate places/designated places while at the same time "preserving" what is best in an area.
- The EIS is not complete and contains misinformation. It therefore does not contain all the information needed to make a balanced considered decision.
- The proposal will have a negative visual impact on the landscape.
- Information regarding the underground option provided by a vested interest.
- Precautionary principle should be invoked due to conflicting scientific evidence of the effect of EMF.
- Proposal will have an impact on archaeological features.
- Devaluation of property and poor levels of compensation on offer.
- Alternative sources of power were not considered.
- The proposal materially contravenes the development plan.
- The proposal presents several ecological impacts.
- The proposal will have a negative impact on the tourism industry, which will result in a loss of jobs.

It is reported that over 6500 written objections were received by the local authorities regarding the proposed development.

6.2 Third Party Appeals

6.2.1 Appeal by Alternative Means of Power (AMP)⁵ and Others submitted by agent - Michael Gillespie, Solicitor – in a correspondence dated 27 November 2001 (PL20.127552, PL12.127570, PL21.127615, PL21.127616)⁶

Before presenting a discussion on the more technically related reasons of the appeal, it is purported by Mr Gillespie that the EIS submitted by ESB does not adequately address the requirements of the Directive. In particular he argues that the EIS does not provide appropriate data that will assist in identifying and assessing the main effects of the project on the environment. Mr Gillespie is of the opinion that:

- No adequate assessment of direct and indirect effects was given;
- Alternatives were not adequately dealt with;
- The EIA process adopted was procedurally defective; and
- The information presented is biased and misleading.

Mr Gillespie's correspondence included a primary submission by a Mr Henry. Mr Henry argues the following:

6.2.1.1 Need for the Development

Mr Henry contends that the need for this development has not been addressed by the applicant, and given the magnitude and significance of this development, he argues that an informed planning decision cannot be made in relation to the proposed development without evidence of need. In this regard he points out that there is no data (actual, historical or forecast) of electricity generation, demand, transmission load or transmission capacity. He also points out there is also no consideration to the proposals incorporation with other proposed developments. A submission prepared by Prof. O'Carroll regarding need is outlined below in section 6.2.3.3.

Mr Henry considers the economic development argument presented by the ESB to be flawed and misleading. He contends that there is sufficient electricity at present to meet the needs of extra business wishing to locate in the area. However, he does concede that general infrastructure in the area is weak. He argues that meeting these failures requires an integrated planning approach that will deliver infrastructure appropriately.

⁵ Several documents have indicated that AMP also stands for Against More Pylons. However, the agent appears to remain the same, and it is taken that these two aliases refer to the same group.

⁶ The submission refers to the appeal number(s) in brackets.

6.2.1.2 Visual Impact

Mr Henry claims that the photomontages used are highly selective and do not present an accurate reflection of what could be. He particular points out that the photographs were taken during summer when there was plenty of foliage on the trees.

6.2.1.3 Underground –v- Overhead

Mr Henry contends that while the financial rationale for overhead lines may seem compelling, further investigation would reveal that the overhead option would be more costly if damage to the environment, and damage to the tourism and agricultural industries, and property depreciation were taken into consideration.

With respect to the applicant’s contention that underground cables pose a safety risk, Mr Henry contends that rural areas are not subject to the amount of intense development that urban areas are.

Mr Henry also contends that underground cables are less prone to damage, particularly from the elements, and that maintenance difficulties with underground cables is overstated by the applicant.

Mr Henry also intimates that the underground routing would not need to follow the existing route, but could be placed underground along the N4 or coupled with other underground infrastructure or existing way-leaves. It is also argued that that an underground line would pay for itself particularly in light of telecommunications fibre optic cable being coupled with the transmission line as pointed out in the EIS.

6.2.1.4 Substation Site Selection

It is argued by Mr Henry that an existing 110 kV substation is already located near Sligo, and that a new substation is not necessary, particularly when a facility already exists which could potentially be upgraded. Mr Henry is therefore of the opinion that the option of expanding the existing substation is not properly addressed.

6.2.1.5 Health and Precautionary Principle

Mr Henry claims that the applicant has been dismissive and misleading in the manner in which health issues were dealt with. He also points out that no one is absolutely certain about the health effects of power lines, and states that several organisations are not convinced that power lines do not cause ill health. He also states that some of the research cited by the applicant was withdrawn.

Mr Henry refers to a previous application to the Board by the ESB in Donegal, and points out that during the oral hearing it became clear that power lines might constitute a health risk. Mr Henry also refers to Prof. Denis Henshaw's correspondence (discussed below in section 6.2.3.2) where he states that power lines do pose a significant health threat to populations living nearby.

He continues by stating that if there is scientific evidence of a conflicting nature, the Board is bound to implement provisions in the European Community Treaty, and should err on the side of caution and therefore invoke the precautionary principle.

6.2.1.6 County Development Plan Policies and Objectives

Mr Henry also argues that the proposal materially contravenes the various development plans. In particular, he points out that it contravenes policies to conserve and protect important natural and built environment assets, and that the proposal will significantly impact negatively on the areas scenic and amenity values.

Several policies, objectives and sections of the respective development plans with which the proposal is in conflict are highlighted.

6.2.1.7 Archaeological and Cultural Impact

Mr Henry also points out that the archaeological maps used in the EIS are not accurate and points out a particular case where the lines pass directly over a Crannog. In addition, it is argued that the archaeological mitigatory measure is not effective. A report produced by an archaeologist for the appellants is attached to the correspondence and is discussed in section 6.2.3.1 below. This report suggests that the information used is inaccurate and not up-to-date, and that other elements of cultural interests (i.e. not just archaeology such as vernacular architecture) were not considered.

6.2.1.8 Conservation of the Environment

With respect to flora and fauna, Mr Henry argues that the EIS is very superficial, and the applicant's contention that flora and fauna will only be affected during construction is misleading.

6.2.1.9 Devaluation of Property and Compensation

Mr Henry contends that houses in close proximity (within 500 to 1000 metres) to power lines will depreciate in value because of visual intrusion and health fears. He further states that several estate agents have indicated that power lines will have a negative impact on the saleability of property. Mr Gillespie also suggests the cost of several depreciation figures, and compares this to the cost of putting the lines underground.

6.2.1.10 Other

Mr Henry claims that the photomontages are highly selective and of poor-quality.

6.2.2 Appeal by An Taisce (PL21.127616)

In a correspondence dated 25 November 2001, An Taisce submitted an appeal against the proposed development's routing through Coopershill. An Taisce considers that this section of the proposal would inflict on the "uniquely culturally intact demesne". An Taisce states that the EIS places no value on the landscape quality and the cultural significance of an intact demesne surrounding a nationally important house. In addition, it points out that this section of the proposal, if allowed to proceed, would result in the loss of broadleaf vegetation.

An Taisce recommends that the Ardneaskan B route should be adopted since it avoids sensitive areas, the Coopershill Estate, and is more sympathetic with the lie of the land. It also points out that the Ardneaskan B route crosses the Unshin River SAC at one of the only points where the land adjacent to the south bank is excluded from the SAC designation because it has been planted with exotic species. It is claimed that land on the opposite side of the bank is also of low ecological value. On the other hand, it points out that land at Coopershill is undamaged and that the current proposal would result in the destruction of natural woodland.

An Taisce also point out that "another distinct advantage of the Ardneaskan B route is that the whole northern section...passes over an area that has been comprehensively stripped of all its hedgerows and as a result is a landscape that is already seriously damaged".

An Taisce also argues that the applicant's contention that the Ardneaskan B route will impact on the Coolbock Bridge to be unfounded, since the pylon would be about 300 metres from the bridge.

It is also suggested that the applicant's analysis of the demesne is flawed, and after addressing the history of the site, state that the demesne's parkland is of the highest quality.

An Taisce also considers that planning permission for houses in proximity to the Ardneaskan B route have not yet been constructed, and that this impediment could be readily overcome by compensation.

6.2.3 Supporting Submissions to Appeals⁷

6.2.3.1 Report by Joyce Enright – Consultant Archaeologist and Heritage Advisor

Joyce Raftery Enright is a consultant archaeologist who prepared a report on the area's heritage aspects, commenting on the EIS submitted and also providing an overview of legal aspects relating to the preservation and/or conservation of heritage. This report is similar in content to the report submitted by AMP (the appellants).

Dr Enright states that protection of heritage resources should be undertaken in context to the Valletta Convention (1997), the Heritage Act (1995), the Granada Convention (1997), the National Monuments Acts (1930) and its subsequent amendments. She considers that both the Valletta Convention and the Heritage Act recognise the importance of the identification and protection of archaeological areas or landscapes, and that these instruments recommend standards for their protection. In this regard she expresses the opinion that the EIS section on Cultural Heritage is inadequate and misleading since it “neglects to deal with any aspect of the Cultural Heritage other than Archaeological Sites and Movable Objects”. Hence, she states that landscape archaeology, industrial archaeology and architecture and vernacular architecture were not considered.

Dr Enright contends that the power line will impact negatively on two Ritual Archaeological Landscapes – one in Sligo and one in Roscommon. In pointing out the significance of these areas, she concludes, “we cannot allow [these landscapes] to be affected without responsible research and debate”.

She is therefore of the opinion that the proposed power line will impact on vistas and the visual sight lines between features, will have a detrimental effect on cross border

⁷ These reports/correspondences were attached to the appeal submissions and observations.

initiatives in the development of archaeological resources, and will impact negatively on archaeology-based tourism.

6.2.3.2 Letter by Prof. Denis L. Henshaw – Professor of Physics, H.H. Wills Physics Laboratory

In this letter dated 26 July 2001, Prof. Henshaw states that “there is growing evidence that overhead high voltage power lines do pose a significant public health threat to populations living nearby”. He is of the opinion that “it would be unwise to consider any further building of power lines anywhere near areas of population”.

Prof. Henshaw continues with reference to studies that show that there was an approximate doubling of childhood leukaemia risk associated with magnetic field exposures above 0.4 micro-Telsa. He points out that the International Agency for Research on Cancer (IARC) has concluded that electric and magnetic fields such as from power lines are a possible human carcinogen.

He also refers to studies at his own organisation that are investigating the health impacts of corona ion emission from power lines. He states that corona ions are able to mediate increased exposure to air pollution by electrically charging particles of pollution in the air. He estimates that significant effects may be found within 400 metres of power lines.

Prof. Henshaw emphasises the fact that evidence of ill health effects associated with high voltage power lines is emerging rapidly, and expresses the opinion that the technology exists to bury high voltage power lines, and/or that they should not be erected anywhere near population areas.

6.2.3.3 Report by Prof. M.J. O’Carroll (dated 27 November 2001)

Prof. O’Carroll states that there are shortcomings in the planning decision since the County Council failed to:

- Investigate need;
- Consider grid alternatives of lesser impact;
- Give due weight to the large number of objections; and
- Acted on a misunderstanding of EMF exposures.

With respect to need, Prof. O’Carroll points out that the EIS did not provide information on capacities and actual loading of the existing grid, typical and peak demand conditions and forecasting data amongst others. He therefore states that no basis for independent assessment of need is possible or to verify the ESB’s claim.

Prof. O’Carroll also argues that he calculated peak demand at 50MW and that incoming transmission capacity is 3 x 50MW and that therefore there is sufficient capacity to meet N-1 security standard for all foreseen and forecast growth in the long term. Prof. O’Carroll considers further that:

- Electricity is not an issue in the County Development Plan;
- Population growth is static and growth of households is small;
- No data are given for existing rates of loss of supply; and
- 3-phase electricity could be facilitated without the 220kV line.

Prof. O’Carroll contends that the alternatives outlined in the EIS were glanced over and dismissed, and it is his opinion that small-scale generation reduces the need for grid security. In this regard he points out the plans for a 68MW power station at Bellacorick would solve immediate and foreseeable problems.

On the question of grid alternatives, Prof. O’Carroll contends that no consideration appears to have been given to replacing the existing Flagford-Sligo 110kV by a 220kV line or to teeing in a single connection from Srananagh to the Carrick-Cathleen’s Fall 110kV line. He recognises that these alternatives “may not reinforce the grid” but considers them “perfectly adequate for the foreseeable future”.

With respect to EMF exposure, Prof. O’Carroll contends that the data provided in the EIS is not accurate, stating that magnetic flux density typically falls at 50 metres to around 20% of the value under the line and over 5% at 100 metres, and that the exposure level at 50 metres would be at around 1 micro Tesla which is “above the internationally confirmed levels (0.4 µT) associated with a doubling of the risk of childhood leukaemia.

Prof. O’Carroll also argues that given the number of objections to the proposed development, which is not typical, the County Councils should have given careful regard to the nature of the objections.

6.3 Observations

6.3.1 Observation by Ms Brigid O’Hara (PL06.127616)

An observation was received from Brigid O’Hara in a correspondence dated 24 March 2002. In this correspondence, Ms O’Hara indicates that Coopershill is her family home which is considered to be an example of 18 Century Irish Georgian architecture and it is listed for protection. She believes that the proposed power line through the

estate will result in a loss of integrity to the demesne. She believes that an alternative route, namely the Ardneeskan B route, should be considered.

6.3.2 Mr Mark O’Hara Observation (PL06.127616)

An observation was received from Mark O’Hara in a correspondence dated 12 March 2002. In this correspondence, Mr O’Hara indicates that the proposed power line crosses the demesne at its most elevated point and will be highly visible from a large portion of the demesne and surrounding countryside. In addition, the original tree lined avenue will be impacted by a pylon, which will also impact on views. Mr O’Hara argues that the demesne and the house form an integral whole and thus the power line will reduce the demesne’s cultural and historical value. He therefore believes that an alternative route, namely Ardneeskan B, should be considered.

6.3.3 Una Bhán Tourism Co-operative Society Ltd. (PL20.127552)

Ms S. Mc Crann submitted an observation supporting the 3rd Party appeal (correspondence received on 19 December 2001). Ms Mc Crann states that the co-operative was established to counteract the effects caused by current economic difficulties in farming in the area. She considers agri-tourism to be a viable proposition for people living in the area given its natural setting, wildlife and historical and archaeological artefacts. She is therefore of the opinion that the proposed transmission line will have a detrimental effect on the area’s tourism potential, and hence further hardship for local people.

6.3.4 Toby Hall⁸ (Support Underground Powerlines) and Others (PL21.127616)

In a correspondence dated 21 December 2001, Mr Hall submitted an observation with the opinion that proposed ESB development will compromise the region’s landscape which forms the basis for the tourism industry in this region. Mr Hall points out that the proposed route traverses an area that contains 40% of Ireland’s “National Heritage of Chambered Cairns”.

Mr Hall also argues that there is no need for this proposal stating that Sligo is served by three 110kV lines each capable of carrying 50 MW, and that the current maximum winter load usage is 50 MW. He is also of the opinion that alternative energy sources do exist in the area and that these options should be investigated.

⁸ Mr Toby Hall is a named appellant in this appeal (PL21.127616). Although he is a named appellant I have included this correspondence together with its attachments under that of observers section for ease of reading and due to the nature of the submission.

Mr Hall, also mentions that the Council received over 3,500 letters of objection, and enclosed 62 letters⁹ from concerned local residents who wish for the Board to consider their objections to the proposed development. The concerns identified in these letters are similar to those in the appeal. The most frequently cited reasons include:

- Health risks;
- Devaluation of property;
- Impact on visual amenity;
- Alternative options of energy that could serve the region are available;
- Underground option should be opted for;
- Impact on archaeological resources;
- Impact on wildlife;
- Impact on tourism industry.

He also states that Roscommon and Leitrim County Councils received over 2,000 objections between them. Enclosed with his correspondence was a report by an archaeologist (Dr Joyce Enright) (refer to section 6.2.3.1 above), information on health issues and a photomontage of pylons that would be within 50 metres of a megalithic site. A letter from Professor Denis Henshaw was also included.

6.3.5 Frank Mulligan and Others (PL20.127552)

Mr Mulligan submitted an observation on behalf of several undersigned residents of Grangebeg, Boyle, Co. Roscommon in a correspondence dated 16 December 2001. In this observation, He contends that the proposed power line would impact negatively on a perfectly preserved Bronze Age Burial Ground in the townland of Grangebeg, and would impact negatively on the area's visual amenity. Mr Mulligan also contends that the proposed power line and associated pylons have already resulted in property depreciation.

6.3.6 John Dwyer and Others (PL.20.127552)

Mr John Dwyer submitted an observation (correspondence dated 17 December 2001) on behalf of several landowners living along the proposed route. These landowners object to the proposed development on the following grounds: health, visual intrusion, other more environmentally friendly options, property devaluation, and the volume and wishes of people in context of over 6500 objections lodged with the respective County Councils.

⁹ The contents of these letters were taken into account.

6.3.7 Nora Mulligan (PL20.127552)

Mrs Mulligan supports the appeal by AMP and expresses the opinion that the proposed lines and towers will have a negative visual impact, and in particular, would spoil her views (correspondence dated 20 December 2001). A photograph and a letter of support from Frank Mulligan were enclosed with this correspondence.

6.3.8 Gerard Cregg (PL20.127552)

In a correspondence received by the Board on 28 December 2001, Mr Cregg submitted an observation detailing his objection to the proposed development on ecological grounds. Mr Cregg is of the opinion that the EIS overlooked several important ecological issues relating to the Lough Gara Complex, and also considers the ecological assessment to be below par. These issues can be summarised as follows:

- Lough Gara Complex is a Special Protection Area and two turloughs (known as Lisserdrea and Ardmore) exist within half a mile of Lough Gara. He contends that these turloughs are intrinsically linked and part of the Lough Gara complex. He suggests that their significance may have been overlooked by the EIS since these waters do not represent part of the permanent water level of the Lough Gara Complex.
- The turloughs are used over the winter months as a major feeding ground for wildfowl. A range of species, including swans, variety of ducks and Greenland White Fronted Geese graze in these areas (Photographs attached to correspondence). In particular, night roosters use the turloughs in large numbers.
- The turloughs provide shelter to wildfowl in harsh weather.
- The proposed line cuts across a significant section of the Lisserdrea turlough and the short corridor between the two turloughs also across the flight lines from the Lough Gara Complex.
- Ecological information on these turloughs is limited and a more in-depth ecological evaluation should have been undertaken.
- The proposed power line will have an impact on wildfowl flight patterns.

Mr Cregg also contends that Ireland is failing to act responsibly in relation to designated SPA's, as has been highlighted recently by the EC [sic.], and believes that this is an opportunity to ensure that this proposal is thoroughly researched.

6.3.9 Richard and Teresa Gavican (PL20.127552)

In a correspondence dated 20 December 2001, Mr & Mrs Gavican submitted an observation objecting to the proposed development citing environmental, visual,

health and devaluation reasons. Mr & Mrs Gavican argue that the area is very scenic and that the proposed power line cannot be hidden or camouflaged. Photographs supporting their argument were enclosed in the correspondence). They also argue that if houses for locals in the area are being refused planning permission because they would have a negative visual impact and affect the amenities of the area then the same should apply to a power line.

Mr & Mrs Gavican cite Prof. Henshaw's findings highlighting the concern that power lines impact negatively on human health and cause lung cancer.

Mr & Mrs Gavican also wish to draw the Board's attention to the location of the proposed Srananagh substation which is located in Ballysumaghan Townlands, stating that this area is historical with ringforts. They also contend that in Culfadda there are old burial grounds and more ringforts.

7. APPLICANT'S RESPONSE TO THIRD PARTY APPEAL (PL20.127552)

In a correspondence dated 20 December 2001, the ESB prepared a response to the Appeals. In this correspondence, the ESB refer to and argue the following:

1. Power System Planning Matters. The ESB states that the issue of need was addressed in the EIS and that the respective County Planning Reports reiterated the need for this development in the context of reinforcing the current network, meeting national spatial and economic objectives, and economic growth. The ESB, however, does highlight the critical conditions of the existing network and the potential of unacceptable overloading of several parts of the existing network. They also reiterate that the planning standards used with respect to grid planning are in line with international practice.

The ESB further states that the option of replacing the existing Flagford to Sligo 110kV line with a new 220kV line will not augment the network situation since a new 220kV line is required in addition to the existing 110kV line. It also states that the need and timing for this project is driven solely by the growth in electricity demand in the area and not by any other considerations. In this regard it further states that there are no proposals to bring in European legislation to require utilities to use underground cables, as contended by the appellant.

The ESB also states that the appellants' argument regarding generation capacity on the ESB network has no relevance to the requirement for transmission reinforcement in the North West. The ESB points out that under the current legislative framework, the ESB national grid is not permitted to promote the development of generation.

2. Alternatives, Transmission, Generation: In this regard the ESB reiterates that in terms of new legislation it no longer has an integrated responsibility for generation, transmission and distribution of electricity. The ESB points out that it has had to divide its functions, and that the transmission system operator's functions are undertaken by ESB National Grid (a ring fenced part of ESB), which is due to be established independently as EirGrid. ESB National Grid or EirGrid is therefore statutorily barred from involvement in energy generation. Hence, alternative generation options as suggested by the appellant are not options subject to consideration by ESB given the nature of the proposal.
3. Kyoto Protocol: ESB National Grid considers the section of the appeal document on the Kyoto Protocol to be irrelevant, since carbon credit trading has no bearing on this project.

4. Underground v Overhead: The ESB is of the opinion that they have adequately addressed this issue in the EIS and in the additional information supplied in response to respective county council requests. However, they do reiterate the following:
 - Underground cables are highly susceptible to dig-ins.
 - It is difficult to locate faults underground, and once located, tend to be time consuming and highly disruptive. This has implications for providing a reliable and resilient service.
 - Overhead lines are relatively resilient to severe storms.
 - Laying of an underground cable would only be feasible along roads and this would result in considerable traffic disruptions. Once laid, modifications to the road would not be possible without disruptions to the supply of electricity.
 - The Iarnrod Eireann right of way is not considered wide enough for a power cable circuit right of way. ESB requires an 8 metre wide corridor. In addition, the railway right of way is also too narrow for installation purposes.
 - The underground option is 6-10 times more expensive. In addition the ESB points out that currently the unit price of electricity in rural areas does not reflect its true cost and would need to be substantially higher.

5. Fibre Optic Cable: The statutory definition of an electric line includes a fibre optic cable.

6. Photomontages and Visual Assessments: ESB points out that the photomontage methodology and locations were outlined to the County Councils and were reviewed and accepted by them and that further photomontage locations were agreed and submitted.

7. Ritual Archaeological Landscapes: ESB contend that the ritual landscapes discussed by the appellant are extremely large and generalised. The ESB contends that avoiding ritual landscapes was dealt with in the route selection stage.

8. Health and Precautionary Principle: The ESB contends that the Lancet article (December 1999) provides support for the view that the weight of evidence indicates that the link between magnetic fields and poor health is weak, and that this is also referred to in Dr T. McManus' letter.

The ESB also states that in the Binbane-Derrybeg-Letterkenny Overhead Line appeal, the Board's consultant reported that "the risk to health not be cited as a reason for refusing planning permission for the proposed power lines", and that the appellant's contention regarding the oral hearing is not correct.

With respect to magnetic field strength, the ESB is of the opinion that the predicted strengths from the power line conform with international guidelines.

9. Devaluation and Compensation: The ESB purports that power lines do not sterilise land over which they cross, and that such land continues to be farmed with minor restrictions where masts are located. Where the proposed route conflicts with a building development, compensation is offered in terms of the Code of Practice with the IFA, and if this is disputed the ESB claims the landowner has recourse to the Land Reference Committee.

8. OBSERVATIONS BY PLANNING AUTHORITIES

8.1 Sligo County Council

In a correspondence dated the 20 December 2001, the Senior Planner states that they have noted the grounds of the appeal. With respect to the appeal by An Taisce which is confined to the impacts on the Coopershill Demesne, he states that they believe that the impacts were addressed and have no further comment to make at this point in time.

The Senior Planner states that with respect to the appeal by AMP & Others, that the Planning Authority will prepare a comprehensive rebuttal document in support of the project and that the document will be submitted at the oral hearing. Notwithstanding the oral hearing, the Senior Planner further states that the document's submitted by the applicant contained adequately scoped and comprehensive information for the purposes of determining the planning application.

In conclusion, the Senior Planner expresses the importance of the project, since the Council is convinced that the existing power needs of Sligo and the immediate regional area need to be "addressed urgently...to remove a significant infrastructural impediment to sustainable socio-economic growth".

8.2 Other

No responses were received from the other planning authorities.

9. RESPONSES TO SECTION 10 ADDITIONAL INFORMATION

9.1 Response by Sligo County Council

In a correspondence dated 12 September 2002, the Senior Planner states that the ESB submission with respect to “transmission and distribution considerations, forecast demand, strategic benefit and the National Development Plan objectives...is most persuasive”.

The Senior Planner also states that forthcoming pronouncements by the DoE regarding the National Spatial Strategy indicate that Sligo has a potential role as a “regional gateway centre”. He suggests and that this could serve to provide additional planning policy context and consolidate arguments for a reinforced power supply.

He also contends that the sections on “Alternatives” and Archaeological Assessment” submitted are more comprehensive in content than previously submitted and that the latter area comprises additional precautionary/mitigatory measures which should be adopted.

The Senior Planner contends that the ZVI/DTM techniques are explanatory, but concludes by expressing reservations about using the ZVI/DTM techniques due to their technical limitations on imaging, and states that the key visual impacts were assessed prior to granting planning permission.

9.2 Response by 3rd Party – AMP

A response was received by one of the appellants, namely AMP, in a correspondence (submitted by the agent Mr Gillespie) dated 16 September 2002. This correspondence contains a submission prepared by a Mr R.W. Henry.

By way of introduction the appellant’s agent considers the time period within which his client was allowed to comment to be limited, but recognises that extensions are not always within the remit of the Board’s staff. He considers that generous leeway was, however, given to the ESB to supply information, which should have been in the original planning applications and EIS. He also contends that the further submission by the ESB amounts to a supplementary EIS, and is of the opinion that it should have been dealt with as such.

As a general observation, Mr Henry contends that the ESB, the planning authorities, and the appellant have considered the project in its entirety, but claims that An Bord Pleanála decided that the 13 Planning Applications be treated as separate entities. He

states that due to financial constraints, AMP considered it necessary to submit four Appeals as “representative of the whole project”. Mr Henry is therefore of the opinion that AMP may be “unjustly penalised” if the applications are now treated as one project. He also suggests that the ESB is giving a misleading impression by stating in its schedule of applications that there are no appeals against other applications. Mr Henry states: “[w]hile this is fact, our appeal document is against the whole project in its present form”.

Mr Henry reiterates the view that the original EIS for this project was not completed in accordance with national and European Regulations. Later on in the submission, he is of the opinion that the EIS does not adequately address the requirements of Council Directive 97/11EC and should have been invalidated. He points out that the ESB has enjoyed a special position in our society and therefore has a “duty of care” to that society.

Mr Henry purports that the EIS draws heavily from information submitted in 1994 for the Drumsallagh to Flagford project which was shelved due to strong local objections. He therefore claims that much of the technical information was tweaked to suit the present application but that there are still omissions in the information presented. He states that “even during the ESB consultation process, there was no attempt made to take on board any of the more up to date information”. Mr Henry also argues that “the original EIS did not contain all of the information needed by the Planning Authorities to make a balanced, considered decision. The additional Information does not advance the case. Rather it answers specific questions raised by the Planning Authorities and An Bord Pleanála. Other Questions remained unanswered”.

It is pointed out that security of supply is important, but it is also argued that innovative, economical, demand-led, decentralised, renewable energy supplies are needed.

9.2.1 Need for the development

It is contended that in neither the original EIS nor the additional information is the evidence of need presented. It is also suggested that the development “has more to do with taking power out of the area rather than bringing power into it”. Mr Henry points out that a new 110kV line is being constructed from Flagford to Ballaghaderreen, and that the wind farm outside of Ballaghaderreen is capable of supplying the surrounding area, but that this power will not be used locally.

Included in the submission is a report by Prof. O’Carroll, and this report is summarised as follows:

- Prof O’Carroll points out that the deficiencies in the planning decision made to date remain and that the new information does not remove those deficiencies. He considers the information presented by the ESB in the Forecast Statement and Supplement to the Forecast Statement to be very important and helpful in assessing need, but considers that there are discrepancies with the power flow diagrams.
- He points out that there are inconsistencies with the transmission planning standards used, and that it becomes unclear as to whether a simple N-1 standard or if a trip-maintenance situation was applied. However, Prof. O’Carroll indicates that it appears as if the new standards were applied, and in this case accepts that the transmission system requires significant changes by way of transmission reinforcement or other means, but firmly believes “not necessarily by the proposed development”.
- Prof. O’Carroll suggests that there is a lack of analysis on the growth factors, and that this should be investigated further.
- Prof. O’Carroll criticises the planning authorities for not challenging the need, since it was not evident at the time, but suggests that a need for a solution “is now evident but the nature of it should be challenged”.
- He argues that an engineering solution to the problem was applied first, and environmental issues were considered thereafter to tweak the solution. He believes that regard should have been given to the environment in deciding between a 220kV spur and, by way of example, more 110kV lines and/or generation solutions and/or DSM. He therefore believes that a different solution might emerge from a different balance.
- He suggests that a single generator could however avoid N-1-1 breaches and further suggests that “[t]ogether with distributed CHP, and possibly a further small power station at Sligo drawn from the gas pipeline, a small replacement power station at Bellacorick could still provide a solution, or at least reduce the amount of grid development”. He also suggests that different factors could reduce the extent of grid reinforcement such as:
 - Increased availability of the 110kV interconnector lines;
 - Substantial reinforcement along the Galway-Bellacorick-Moy line including upgrading, reactive compensation and a second line up to Castlebar and a new substation at Dalton (all of which are now to be completed before the 220kV spur to Srananagh) would partially alleviate the restriction on available capacity on the line across the 110kV interface around Sligo;
 - Other planned improvements strengthen the grid north of the interface and reference is made to Table II-II items 3, 13 in the Forecast Statements submitted by the ESB.

With respect to the breaches of standards that are considered to be plausible, Prof. O’Carroll questions the data provided in that there appear to be inconsistencies in the calculations and the scenarios presented. He also believes that despite the various scenarios that an additional Flagford – Sligo 110kV line would solve all the identified breaches, and that a 220kV line is not necessary. He suggests that paralleling of an additional line would further reduce impact.

With respect to the teeing options, Prof. O’Carroll believes that the advantages of looping-in should be weighed against the reductions in impact, which might be achieved by teeing. Despite this point, Prof. O’Carroll believes that the planning decision was deficient in failing to assess alternatives, and states that alternatives still remain to be assessed.

Prof. O’Carroll suggests that while the Transmission System Operator may be prevented from considering certain options, this does not prevent them from securing a wider consideration in planning the system with due regard to the environment and engaging with other parties.

Prof. O’Carroll contends that the socio-economic impact overlooks the value of the scenic amenity to tourism.

He concludes by stating that “it is widely acknowledged that adverse health effects are possible, but are neither proved nor disproved, and they may or may not happen” and suggests that the debate is about the level of confidence in causation.

9.2.2 Environment

Mr Henry reinforces the point that a grant of permission would be a material contravention of the Roscommon and Sligo development plans. He points out that these plans were prepared in the early 90s and that the County Councils have now been placing more emphasis on visual aspects.

Mr Henry refers to a *State of the West* report where one of the recommendations is the use of smaller output stations to put less strain on the distribution system. He also points out that a further recommendation is the active promotion of CHP units and the recognition of the benefits of wind and gas energy.

It is contended that the scenic and amenity value of the region will be significantly reduced by the proposal.

9.2.3 Visual impact

Mr Henry is of the opinion that the information supplied is deceptive, and has been done in such a way that it will not allow the Board to make an objective assessment. Mr Henry indicates that AMP have undertaken a photographic reconnaissance of some of the views suggested by the Board, and used a telescopic crane to represent a tower (photographs with brief descriptions were included in the correspondence).

9.2.4 Transport/traffic impact assessment

Mr Henry suggests that the information presented is standard and based on a *Code of Practice*, which was drawn up in 1985 when different conditions and priorities prevailed. He further suggests that it has never been reviewed and the landowners or farmers along the proposed route do not agree with the Code of Practice.

9.2.5 Archaeological assessment

Mr Henry draws the Board's attention to further information supplied by Dr Joyce Enright and Mr Toby Hall, which was attached to the submission as an appendix. The report by Dr Enright and Mr Hall may be summarised as follows:

- It is contended that the writers of the report show a serious lack of familiarity with the landscape and have made serious errors in mislocating the internationally famous Carrowmore archaeological complex.
- It is suggested that the ESB's archaeologists did not re-examine the aerial photographs, in that it is general experience that several new sites are invariably located when aerial photos are re-examined.
- It is suggested that the report writers show a lack of understanding of the size of the proposed structures to be erected.
- The visual impact that the steel towers would have on the archaeological landscape was not considered. They contend that the proposal would be an entirely new feature in the landscape and would industrialise the landscape.
- The report fails to define or address a definition of indirect impacts.
- The Tinacarra Dolmen, while not within the 50 metre buffer, but with 200 metres, will be flanked on two sides with towers and lines.
- Dr Enright and Mr Hall maintain that the sites are not isolated monuments, but are visually and practically interconnected in forming an integrated archaeological landscape. It is claimed that "research is showing that many monuments, especially the cairns/passage mounds, have been constructed with significant astronomical alignment, and alignments to other mountain top cairns/mounds, such as those between Carrowkeel, Keash and Knocknarea".

They therefore claim that the proposed towers would industrialise the landscape “rendering these vistas spoiled”.

- It is pointed out that these cairns predate those in the World Heritage Site in the Boyne Valley, and this “should give a clear indication to their archaeological and heritage value and tourism potential”.
- It is claimed that the proposal will undermine the aims of a research centre at Ballinfad, Co. Sligo.

9.2.6 Flora, fauna and ecologically sensitive sites

Mr Henry states that the desk-top analysis did not take into account local information pertinent to the decision-making process. He therefore refers the Board to a report prepared by Mr Gerry Cregg and Mr Blainthin McGrath Cregg. Their report may be summarised as follows:

- Turloughs are identified as priority habitats by Duchas, and no mention is made of the turloughs in the area.
- It is pointed out that these turloughs are filled through underground passages and sink holes, and that the impact of the pylon erection on these passages and sink holes has not been considered.
- It is contended that no analysis of fauna at these turloughs was undertaken.
- The turloughs are considered to be an integral part of the Lough Gara complex, which is a SPA.
- It is claimed that over 100 swans have been feeding between the two turloughs at Breandrum. It is pointed out that whooper swans are highly significant and are listed in Annex 1 of the EU Birds Directive, and that the ESB has failed to recognise the ecological importance of these areas.
- It is argued that the proposed power line in the Boyle River area is at a point of maximum risk to wild fowl migrating from Lough Gara across the turloughs. It is pointed out that the area at Knockavroe is the point of entry to the lower turlough (Breandrum).
- The ESB statement that the Boyle River crossing is the only sensitive place for mute swans is discredited. It is indicated in the report that the “preferred flight for the swans and night feeders is along the turloughs because of the close proximity of the Boyle River to the...railway line coupled with a higher human population density along the route”. It is therefore suggested that the most sensitive area is between the two turloughs. It is considered that the loss and injury to both swans and night feeding fowl migrating from the Lough Gara Complex to the turloughs will be highly significant.
- It is suggested that the ESB overlooked the fact that the Breandrum turlough has on two occasions flooded the main public road, and that the towers are located in this flooded section.

- It is pointed out that these sites should be assessed when the turloughs are full and that wildfowl counts should be undertaken then.

9.2.7 Conclusion

Mr Henry concludes by stating that the appellants believe that they have demonstrated that the original planning applications and EIS were flawed and not prepared in accordance with legislation, and that the concerns of the general public are being ignored by the ESB.

10. DEVELOPMENT PLANS

This section provides an overview of the respective development plans that are considered to have a bearing on the proposed development. It is of interest to note that there is no direct reference to energy planning and transmission lines with respect to policy or development control standard in these plans.

10.1 Sligo County Development Plan 1999-2004

10.1.1 Context

The Sligo County Development Plan (SCDP) (1999) was written within the context of the National Development Plan 1994-1999. The overall aim of this plan is stated in the SCDP (1999:2) the achievement of “greater economic and social cohesion through employment creation and this is to be achieved through strengthening the productive capacity of the economy, supporting key development sectors, upgrading economic infrastructure, encouraging local development initiatives and developing skills of the labour force”.

The SCDP (1999:2) also points out that being a part of the Border Region, a major component of the National Plan’s strategy for the region is the “improvement of the region’s infrastructural base so as to facilitate economic growth”.

It is also stated that Sligo County Council will have regard to the aims of Local Agenda 21 in the formulation and implementation of policies contained within the Development Plan.

10.1.2 Policies

10.1.2.1 Settlement Strategy

Council policy of Sligo County Council is to encourage new development to locate in existing towns and villages where the basic social and infrastructural services are available. To facilitate urban and industrial growth, it is also policy to ensure adequate infrastructural facilities.

10.1.2.2 Rural Areas Policy

With respect to the rural areas, it is County Policy to discourage development especially in sensitive rural landscapes and areas that are visually vulnerable. The rationale for this policy is to “preserve scenic and heritage areas, to protect high

quality agricultural land and to conserve the attractions of the county for the enjoyment of the inhabitants of the county and for the development of tourism and tourism related employment” (SCDP, 1999:8) states: “Physical development should therefore not detract from the scenery of the mountains, moorlands, coastline, lake-shores and mature indigenous woodland landscapes. Moreover, archaeological, historical and architectural features should be preserved intact. The Council recognises that the settings of these features can be as important as the features themselves...In general the policy...will be to safeguard the traditional visual character of the county...retain mature woodlands, hedgerows and local stone walling”.

10.1.2.3 Tourism Policy and Heritage Development and Protection Policy

The SCDP (1999) appears to have a nature-based tourism focus. Safeguarding visual amenity is therefore considered important, and it is policy to “control development in designated ‘Sensitive Rural Landscapes’, proposed Natural Heritage Areas, Special Protection Areas and Special Areas of Conservation and along Scenic Routes which might be detrimental to scenic and heritage assets” (SCDP, 1999:11).

The following buildings and structures that are listed for preservation in the SCDP (1999) – Appendix 6: Buildings and Structures to be Preserved – will be in close proximity or traversed by the proposed development:

- Newpark
- Coopershill
- Castle Neynoe
- Castledargan
- Coopershill Bridge

10.1.2.4 Roads and Transportation Policy

SCDP (1999:16) recognises the limited capacity of its road network in terms of width, capacity and alignment, and considers it an objective to preserve and improve capacity.

10.1.3 Development Control – Policy and Standards

10.1.3.1 Areas of Special Scenic Importance and Heritage

“Areas highlighted as being Visually Vulnerable shall be protected and it is the policy...not to allow any development which would be detrimental to the unique visual character of these areas” (SCDP, 1999:30).

In 'Sensitive Rural Landscapes' new development will be controlled but "certain exceptions will be considered where development can demonstrate a clear need to locate in the area. To be considered for permission, development in these areas must clearly be shown not to impinge in any significant way on the character, integrity, and distinctiveness of the area or detract from the scenic value of the area" (SCDP, 1999:30).

With respect to scenic routes, "Council wishes to preserve the views from these roads towards the sensitive landscape areas on either side of these routes" (SCDP, 1999:30).

It is also policy "to protect the status of [natural heritage areas] and to discourage any development which may be injurious to the special status of the heritage areas" (SCDP, 1999:31).

The SCDP (1999) also places an emphasis on protecting settings within which archaeological, cultural and architectural features are located in.

10.1.3.2 Alternative Energy Sources

While the SCDP (1999) makes reference to energy sources, it remains silent on the distribution and location of energy. Hence, there is no guidance regarding such developments. Given this absence and given the nature of the development being similar to that of telecommunication towers, I believe some guidance could be obtained from the development control standards imposed on telecommunication towers.

Telecommunication infrastructure will only be permitted in designated Sensitive Rural Landscapes, Natural Heritage Areas, Special Areas of Conservation, Visually Vulnerable Areas and Scenic Routes on the basis of absolute necessity. Emphasis is placed on visual mitigation, tower design, and aircraft safety (SCDP, 1999:35).

10.2 Leitrim County Development Plan (1997-2002)

A Variation of the Development Plan as adopted on 11 February 2002, although not considered in the final analysis, was looked at to determine the Council's direction with new developments, particularly in light of the fact that the Development Plan was reaching the end of its shelf-life. Where appropriate these variations are included below in *italics*.

10.2.1 Policies and Objectives

Policy and objectives of the LCDP include¹⁰:

- **2.1.2a Economic:** “The organisation of the resources of the county in a way which offers the greatest economic, social and environmental benefits to the people of County Leitrim...”
- **2.4 Tourism:** “The Council will continue to develop and maintain access to waters; improve tourist routes, scenic drives and sign posting; protect the archaeological, architectural, historical and scientific heritage; co-operate in the development of long-distance walkways...promote the virtues of an unpolluted environment and secure that condition...”

Amended as follows:

“...in submitting applications for development in areas of protected species/habitats or identified natural heritage areas, surveys of the land and mitigation measures should be submitted to the planning authority”.

- **2.5 Industry:** “The Council will continue to facilitate development on a Countywide basis through infrastructural improvement...”
- **2.7 Infrastructure:**
 - “To provide an infrastructure which will be capable of responding to and meeting the demands for services from developers complying with the general aims and objectives of the county development plan”.
 - “To create an environment which will be attractive to industry wishing to set up within the County”.
 - “To improve, within the constraints of reasonable cost, the level of services in those part of the County where deficiencies exist”.
- **2.8 Energy:** “The provision of electrical power installations...will receive appropriate consideration by the Council. The Council recognises the importance of environmentally friendly energy generation”.
- **2.11.5 Bird Sanctuaries:** “County Leitrim...is visited by many species of migrant birds. It is the Council’s aim to secure havens for such birds throughout the County...these sanctuaries will be protected from the intrusion of incompatible development”.

- **2.11.6 Natural Heritage Areas:** “[P]olicy to protect the areas designated in Appendix D against development or activities which would endanger their preservation”.

- **2.11.7 Visual Amenities:**
 - “[P]olicy will be to develop Amenity schemes in selected areas; maintain to a high standard those already existing; operate systems of planning control related to landscape quality and development pressure...”
 - “...aim is to preserve and enhance as far as is practicable these areas [areas of outstanding natural beauty and of high visual amenity as listed in Appendices A and B] by the operation of special controls over development and by careful management”.
 - “...aim to protect from intrusive development...the views and prospects listed in Appendix C”.
 - “...aim – without excessively inhibiting development – to ensure the preservation of sound deciduous trees”.
 - “...aim to secure the preservation of these monuments and their policy to select a representative number of each type of monument for special consideration”.
 - “The Council have [sic] listed buildings of Architectural and/or Historical interest...Appendices F1 and F2...aim is to secure the preservation of these heritage items”.

10.2.2 Development Control

Development control standards do not exist for power lines. In their absence, given that telecommunications towers share a similar policy heading with energy sources (viz. 2.8 Energy), I would not consider it unreasonable to make reference to the development control standard for Telecommunications. Development Control standard:

- **3.2.11 Telecommunications** states that “in its physical manifestation of antennae support structures, access roads and associated power lines the Council will have consideration, in the planning process, to safety, proper siting and design and the mitigation of intrusion effects. Sitings in designated areas of high visual amenity and Outstanding Natural Beauty will be permitted only on the basis of necessity, visual mitigation and complete ground restoration following obsolescence”.

Appendix K requires the sharing of infrastructure in sensitive locations as well as the need for appropriate mast design and location, visual mitigation, equipment

¹⁰ Numbering in the following list refers to the section numbers of the relevant development plan.

up-dating and site restoration. In addition, a statement with compliance with the International Radiation Protection Association Guidelines or the equivalent European re-standard 500166-2 will be required for telecommunication masts and infrastructure.

Variation with respect to the orderly development of telecommunications infrastructure:

In brief the amendment can be summarised as follows:

- *“...only as a last resort should free standing masts be located within, or in immediate surrounds of smaller towns or villages within a residential area, near schools or within 500 metres of private rural dwellings”.*
 - *“Where there is an existing mast in a rural area every effort should be made to share it.”*
 - *“Proximity to archaeological sites and other monuments should be avoided”.*
- **3.3.2 Areas of Outstanding Natural Beauty:** “As a general rule new developments...will be resisted. Where exceptions are permitted the highest standards of design, landscaping and compatibility must be satisfied...High tension electrical power line...proposals in such areas will be approved...only where the highest standards of safety and visual mitigation have been satisfied following establishment of necessity. Where they consider it necessary the Council will require the power lines be laid underground”.

The above general control would also be generally applicable to Areas of High Visual Amenity.

Clause 3.3.2 was amended as follows:

“In Areas of Outstanding Natural Beauty it shall be the policy...to protect these areas from excessive and unnecessary development. Occlusion of views from vantage points shall be resisted”.

10.3 Roscommon County Development Plan (1993)

The Roscommon County Development provides very little guidance with respect to power lines. Consequently, the general provisions of the DP are considered to have a bearing on this proposal, as would any other proposal.

It is stated in the RCDP (1993:1) that “the aim is to make full use of all Roscommon’s assets in order to generate sustainable economic and social development...whilst ensuring the conservation and protection of the natural and built environment”.

It is also noted that a major part of the development strategy for the County is the conservation and protection of the natural and built environment. Sensitive areas therefore need to be protected from potential damage that may arise from unsympathetic developments or pollution.

10.3.1 Development Strategy with respect to the Environment

In general the policies are aimed at conserving and preserving important natural and built assets, to seek high standards of design, to ensure new developments are in harmony with there environments.

Areas of Scientific Interest, High Amenity, Views and Prospects, Archaeological and Historical sites as listed in the Plan, are to be protected. Listed sites of archaeological and historical interest that are in proximity to the proposed development include:

- Drumanone (Megalithic tomb, portal dolmen)
- Knockadoobrusna (‘Doo’ – Bronze Age burial ground)
- Ballytrasna (‘Doo’ – Bronze Age cemetery)

11. NATIONAL DEVELOPMENT PLAN (2000-2006)

11.1 General Context

Balanced regional development is a fundamental objective of the plan, where the commitment is not simply the development of lagging regions, but an attempt to “better integrate Physical and Economic Planning through more effective land use in particular” (NDP, 2000:9).

The Border, Midland and Western Region (BMW Region) is considered to be a priority area for investment by the NDP. This area is characterised by relatively poorly endowed agricultural resources and infrastructure. This region’s development challenges include:

- Improvement of the quality of the region’s economic and social infrastructure and human resources;
- The need to build on the region’s natural resource base, especially in the areas of agriculture, tourism, the seafood sector and rural enterprise.

The NDP (2000) appears to emphasise public investment in regional infrastructure that will enhance the region’s production and promote balanced regional development. While bottlenecks in existing infrastructure sectors are noted, the Plan remains silent on energy distribution.

The provision of infrastructure also needs to be seen within the context of rapid growth in the Irish economy since 1993. The NDP (2000) states that there was an increase in fixed investment by an annual rate of 17% per annum between 1994-1998. In turn this resulted in strong demand for commercial construction. In addition, higher real disposable incomes, higher employment ratios, lower interest rates and changes in demographic lifecycle patterns resulted in an increase in residential construction. These factors have undoubtedly placed pressures on the country’s existing infrastructure. While it is recognised that geographic disparities existed and do exist in growth and development, hence an emphasis on the BMW Region, I would assume that on average infrastructural investments that took place prior to 1990 may be experiencing capacity problems.

The NDP (2000) recognises this by stating that “there is now increasing evidence that supply-side constraints may inhibit growth unless they are tackled” (NDP, 2000:28). It is further stated in the Plan (2000:35) “that by the mid-1990’s much of our physical infrastructure was inadequate for our existing needs and is now seriously under strain due to our rapidly growing economy. The level of pressure varies...” It is also pointed out in the Plan that while the physical infrastructure in the S&E Region is under

considerably more pressure than the BMW Region, the quality of the infrastructure in the BMW Region is comparatively poor (NDP, 2000:42).

11.2 Energy

With respect to the energy sector, a key element of the NDP is to improve energy efficiency particularly in the BMW Region, and it is recognised in the Plan that “high quality infrastructure, including...energy transmission systems” is a key determinant of sustained economic performance both nationally and at a regional level (NDP, 2000:42). Consequently, investment in the energy transmission system has a major part to play in ensuring balanced regional development (NDP, 2000:46), but it is also noted in the plan that investment in “energy will be mainly concentrated in more peripheral areas where the market alone is unlikely to provide and this should be of direct benefit to the surrounding rural areas” (NDP, 2000:82). It is also pointed out in the NDP (2000:36) that the delivery of energy will be primarily by the market, but nonetheless recognises that not all areas can be serviced by the market or that the market “may not take adequate account of the environmental externalities”.

Key areas of NDP expenditure for this sector will therefore take place in assisting Ireland with meeting its international environmental obligations, but through a least cost approach. It is also interesting to note the emphasis on improving energy efficiency particularly through demand side interventions. According to the previous NDP’s Energy Sub-Programme, resources were allocated to several projects and programmes. The upgrading/reinforcement or augmentation of the network in this part of the BMW region was not considered a priority at the time. Funding was however allocated for energy efficiency audits and investments, the results of these are, however, not reported on in the NDP (2000).

The Plan (2000:67) also states that “the Government will be concerned, in the context of a more competitive environment for energy supplies, to ensure that energy capacity does not act as a constraint on regional development”.

The Plan also recognises that there are numerous benefits that could be attained by co-operating with Northern Ireland particularly in the energy sector.

11.3 Environment

According to the NDP (2000:38), “economic and social development should not be to the detriment of environmental quality”. It also states that the main environmental challenges that need to be addressed, amongst others, include halting decline in the quality of rivers and lakes; and protecting flora and fauna in the countryside.

12. NATIONAL SPATIAL STRATEGY¹¹

The National Spatial Strategy (NSS) is currently under preparation and is due for release within the fourth quarter of this year. In the interim a public consultation paper on the NSS was produced highlighting important strategic directions the NSS should take. In this regard, strategic indications for a NSS suggest, *inter alia*:

- Strengthening of centres in the BMW region;
- Developing co-operative arrangements in economic development and infrastructure provision between the State and Northern Ireland; and
- Good grid connectivity for renewable energy sources (DOELG, 2001).

¹¹ It is important to note the status of this report, in that it is not yet adopted.

13. SUSTAINABLE DEVELOPMENT: A STRATEGY FOR IRELAND

13.1 Overview

According to DOE (1997:25) the overall aim of Ireland's sustainability strategy is "to ensure that economy and society...can develop to their full potential within a well protected environment, without compromising the quality of that environment".

The above statement sets the scene for environmental protection, responsible economic development and a quality healthy environment. DOE (1997) also lays precept to the Precautionary Principle and in this regard states that "emphasis should be placed on dealing with the causes, rather than the results, of environmental damage and that, where significant evidence of environmental risk exists, appropriate precautionary action should be taken even in the absence of scientific conclusive proof of causes". It further states that "reasonable action to avoid potentially serious risks to the environment and human health maintains choice, control and quality".

13.2 Energy

The sustainable energy policy tends to focus on demand side management programmes, on increasing energy output from renewable energy sources, and on meeting international obligations on emissions reductions.

With respect to energy use, the DOE (1997) points out that between 1988 to 1993, total primary energy requirement grew at approximately 70% the rate of GDP, and that energy intensity in relation to GDP will continue to improve (hence decrease). However, as with other developed economies, electricity is expected to increase its share of final energy consumption due to more wealth and technical sophistication. Hence the focus on demand side management. It is also interesting to note that despite population growth and economic growth, the amount of energy consumption by the industrial sector has reduced, but increased significantly for the commercial sector.

The entire sustainable energy strategy focuses on sources of energy with respect to supply side issues, and is silent on electricity distribution networks.

13.3 Environmental Quality

DOE (1997) recognises that there is a key concern with maintaining quality landscapes, ecosystems habitats and genetic resources. In this regard it recommends that natural boundaries should be considered where possible since these may extend

beyond the boundaries of protected areas however defined, and that impacts on these environments/areas should be minimised or avoided.

13.4 Spatial Planning and Land Use

DOE (1997) recognises the important role land use planning has in supporting/promoting sustainable development by appropriately locating infrastructure and physical development and protecting outstanding features, landscapes, natural habitats and visual amenities. The DOE (1997) also stresses the need to enhance the quality and character of the countryside.

14. NATIONAL DEVELOPMENT PLAN 1994-1999

A major component of the previous National Plan was to improve the sub-region's infrastructure base, so as to facilitate economic growth and to support the development of the main economic sectors, while protecting and improving the environment.

According to the previous NDP's Energy Sub-Programme (1994-1999) resources were allocated to several projects and programmes (NDP, 2000:281). The upgrading/reinforcement or augmentation of the network in this part of the BMW region was not considered a priority at the time. Funding was however allocated for energy efficiency audits and investments, the results of these are, however, not reported in the NDP (2000).

15. OTHER MISCELLANEOUS REFERENCE DOCUMENTS

15.1 Landscape and Landscape Assessments (Consultation Draft, June 2000)¹²

The guideline document points out that landscapes are an important part of people's lives and instil a sense of identity and belonging. However, it also points out that landscapes are not static features and undergo changes on a constant basis. Change is considered to be an important feature, but the challenge is to ensure that it takes place responsibly and that the landscape is used sustainably. According to this draft guideline document to planning authorities there is an urgent need to enhance the sustainability of our landscapes. The guideline document considers landscape to be a precious national asset and that all landscapes are distinct, but at the same time states that "no Irish landscapes are 'natural' in the sense that all have been touched or moulded by human activity". Although it considers all landscapes to be distinct, it nevertheless considers that there is a need to focus on what gives quality to an area while not been too comparative. In this regard, a method towards assessing landscapes is suggested whereby consideration is given to character, values and sensitivity (p.6).

A procedure to evaluate landscapes is suggested in this Guideline document. Character, values and sensitivity are systematically dealt with, whereby each component is defined and criteria/indicators suggested to assist in determining the sensitivity of a particular landscape. It is suggested that sensitivity derives from values and character, and their interaction.

It is also pointed out in this Draft Guideline Document that "national policy recognises the centrality of social and economic development" (p.6), but also that environmental aspects of development must be considered. "It is Government policy that in deciding for or against development that the appropriateness of that development within the given landscape context be considered" (p.6).

15.2 Policy Paper on Ireland's Landscape and the National Heritage

In this document, the Heritage Council suggests a vision for the Irish landscape, which is dynamic and "...one that accommodates the physical and spiritual needs of society with the needs of nature in a harmonious manner, and as a result brings benefits to both" (Heritage Council, 2002:13).

According to the Heritage Council (2002), research indicates that people accept a dynamic landscape, one that is changing and developing. The Heritage Council also refers to the European landscape Convention, which acknowledges that the landscape

¹² This document was produced by the DoE.

is an important part of the quality of life for people everywhere. The convention also recognises that developments in agriculture, forestry, town planning, infrastructure, tourism and recreation are accelerating the transformation of landscapes.

Effectively, it is important to recognise that the Irish landscape is a living landscape.

15.3 Other Documents

Several other documents were also considered in the review and assessment of this proposed development. Those considered to be of greater relevance are listed in a bibliography in Appendix F.

16. ASSESSMENT

Having inspected the route of the proposed transmission line development and the proposed site for the 220/110kV substation on two occasions and considered the documents submitted with the application and appeal as well as the required statutory reference documents, it is my opinion that the issues under the following headings should be considered and addressed systematically.

16.1 County Development Plan Policies and Objectives

It has been argued that the proposed development would be a material contravention of the Development Plans. While I accept that several policy statements may be open to different interpretations, I conclude that the proposed development does not materially contravene the respective Development Plans.

Firstly the respective Development Plans provide little guidance both strategically and in terms of development control when dealing with transmission lines. While I agree with the appellants that there is an apparent lack of integrated development planning, the developer is not responsible for these shortfalls, or for the limited guidance evident in the development plans, which in turn impacts on our ability to assess proposals. The ideal situation would, in my opinion, dictate a fresh approach to development planning and urban and regional management. Cognisant of current international best practice, such an approach should result in an integrated county development plan which combines land use policy statements with sector specific planning and strategic planning issues, strategic environmental assessments (policy and spatial), spatial frameworks, public works priorities, together with budget and organisational plans.

Secondly, I am of the opinion that the preferred option is as presented, subject to a few changes, and while I concede that there may be certain relaxations to the development plan provisions, these relaxations/variances are highly localised and arguably required to meet national and regional socio-economic objectives as stated in the National Development Plan and the respective County Development Plans. In this regard the development plans all make reference to the need to provide adequate infrastructural facilities. The development plans are also phrased in such a way that exceptional circumstances may be considered and may even be granted leeway even in so-called “no-go” areas. I therefore consider that the proposal does present an exceptional circumstance and has attempted to minimise its impact on the character, integrity and distinctiveness of the area given its physical and technical limitations.

Thirdly, with the exception of two areas¹³, there do not appear to be any fundamental flaws with the proposed development. By this, I consider that major ecologically and visually sensitive areas have been avoided where possible and that where it is considered that they pose a significant threat (refer to assessments below), these relate to specific areas or components of the project, which can be altered or mitigated. Significant regional and national tourism and heritage resources have also been avoided.

16.2 Need for the Proposed Development

The objective of assessing the need for the proposed development is not to query the expertise of the ESB. Rather, it is aimed to comply with the Board's requirement to examine the application as if made on the first instance. In so doing, examining need will assist in determining whether the proposed development would be consistent with the proper planning and development of the area.

Providing an adequate supply of electricity is essential for the further development of any region. The National Development Plan recognises the importance of an energy network to promote regional development, particularly in the BMW region which has been under-performing in economic terms in relation to the national average.

While certain centres have experienced growth, population growth in this region has been relatively static at 0.9% between 1991 and 1996, yet household formation increased significantly by 6% over the same period. The number of planning applications for new developments within the past three years have also been noted to be significantly higher. In addition, the number of people employed in the region has also been increasing.

The ESB has pointed out that it is this continuing growth in domestic and industrial demand, together with an interpretation of Government Policy on the need to stimulate development in the region, that have led ESB studies to conclude that the projected growth rates for electricity will lead to the existing network becoming sub-standard and failing to meet peak loading requirements.

The case for the lines and sub-station is based on current loadings, shortcomings in the system and economic growth prospects. While recent economic reports and forecasts indicate a slowing down of the national economy this does not necessarily imply a need to abandon infrastructure projects. Current loadings do suggest a degree of spare capacity if demand were kept constant, however, this is not the case and

¹³ Refer to sections 16.3.9 and 16.9.

weaknesses of the existing infrastructure with respect to the so-called 110kV transmission interface need to be noted.

The need to reinforce power supplies to the north-west has been stressed by the ESB. Supporting documents and arguments were made in response to the request for additional information made by the Board, and these illustrate the inadequacies with the existing 110kV-transmission interface. Scenarios were presented highlighting several available options, and from the material submitted it would be reasonable to conclude that there is clearly a need to reinforce the region's power supply, and that the supply problems would be addressed by the proposed development.

16.3 Alternatives

The appellants have also suggested that a number of alternatives exist in providing power to the region. These are assessed in more detail below.

16.3.1 Technologies

The expansion of energy generation from renewable sources is part of Government Policy. Local generation could have a role in augmenting supply, albeit on a small scale. Alternative energy sources do exist in the region, but based on the information presented these are currently not able to supply the region with adequate and secure power. Currently, there do not appear to be alternative transmission technologies other than connection to alternative energy sources, and while local renewable energy generation is desirable and undoubtedly promotes sustainability, the probability of this scenario being realised is highly unlikely particularly within the short- to medium term.

Evidence suggests that the region is dependent on energy generation from outside the region. It therefore needs to be recognised that energy can at best be provided from the south and bottlenecks have been shown to exist with this transmission network.

In a similar case in County Donegal (PL05.119713), the inspector made a comment in the report which has assisted me in clarifying the strategic issue of need. In considering need for a 110kV line, and having been provided with several options, the inspector made the following comment:

“I do not consider that a solution to a problem comprising a composite of separate small scale measures is necessarily inferior to a solution comprising the construction of a single large scale engineering project.

The proposed development has the merit that it would appear to solve

all of the outstanding shortfalls in the system at one stroke but the clearest solution is not necessarily the best. A composite of smaller-scale measures could well target the shortfalls in a more effective manner”.

I consider that the need to reinforce the existing system is clearly proven, and one could enter into a supply versus distribution debate. However, in trying to consider alternative options, I am of the opinion that the applicant has presented a reasonable argument highlighting the strengths of the desired option, and in the absence of another reliable option presented¹⁴, would consider the proposed development to be a reasonable solution.

However, in my mind this creates a further question. Consider the following: The applicant is the Transmission System Operator (TSO), and has a statutory obligation to operate, ensure the maintenance of and develop a safe, secure, reliable, economical and efficient transmission system, ensuring that all reasonable demands for electricity are met and with due regard to the environment. The TSO is prohibited by European Communities (Internal Market in Electricity) Regulations 2000, from engaging in the generation, distribution¹⁵ or supply of electricity. If this is the case, then whose responsibility is it to thoroughly tease out the best solution?

In my opinion, this is clearly a sustainable development issue, and it points to a critical need for comprehensive integrated development planning, and sector specific strategic environmental assessments with commitments by government and business.

I consider that there can be a lot of conjecture around the issues of alternatives and need, and that all the arguments/options presented may be valid, but, attention must be drawn to the evidence presented. I would point out that this appeal is concerned essentially with the means of supplying electricity and particular parts thereof and not with questions relating to the sourcing of that electricity. This in my opinion, suggests that the option and the need for systems reinforcement is necessary.

¹⁴ Prof. O’Carroll has made reference to several options. I consider the probability of many of these options coming on line to be low. I am also of the opinion that some of the options referred to, require detailed systems assessments from a technical perspective, as well as strategic environmental assessments of these systems, but such assessments are at a national energy planning level and are beyond the remit of this assessment. While these options may prove to be feasible, they however, do not cast a doubt on the system reinforcement option proposed by the ESB.

¹⁵ Note that there is a difference between transmission and distribution.

16.3.2 Transmission Routes

The Board is limited by its remit to consider the nature and extent of the application at hand, which renders it particularly difficult when applying ones mind to linear developments. It would be useful if legislation allowed the Board to consider linear projects within a broader context, so that alternative routes could be assessed in more detail. The assessment and decision is therefore bound to the proposed corridor that was granted planning permission by the respective County Councils.

However, since the development required a review of the EIS in its entirety, I consider that the approach adopted by the applicant in selecting a route to have merit, and that the criteria used in assessing the alternative routes to be sound and reasonable.

16.3.3 Sub-station Sites

Having considered the siting criteria used by the ESB, and noting that the site is relatively isolated, distant from dwelling units and population concentrations and will have no apparent impact on cultural heritage, ecology, or on the amenities of adjacent properties, I consider that the proposal to be reasonable.

16.3.4 Underground Option

The ESB has outlined problems associated with the underground option including technical difficulties, longer lead-in time, higher capital and maintenance costs, maintenance difficulties, security and health risks, and reduced power. Having weighed up the arguments I would accept the reasoning of the ESB with regard to the decision not to pursue the underground option. Having regard to the visual impact of the transmission line on the landscape and on properties in the vicinity, I do not consider that there is sufficient justification for an underground cable along the entire length of the project.

16.3.5 110kV Double Circuit Option

The ESB was requested by the Board to consider amalgamating two 110kV circuits onto one set of structures. The ESB responded by stating that this would be possible and had been considered. However, the ESB points out that preliminary discussions with Sligo County Council indicated that they agreed double circuit steel towers should not be used as the overall impact of low level wood pole lines was considered to be less. I also note from the appellants' response to the additional information that in general, paralleling is considered to have a lower impact.

I consider that the option between parallel circuits and a double circuit line to be finely balanced. In considering which of the two is the better option, the following issues were borne in mind: land scaring, sterilisation of land, visual impact, longevity of the investment and construction impact. It would appear that the decision would rest on visual impact, and here the overriding criterion I used was which of the two options would blend in with the surrounding rural environment. Using this criterion I consider that the two parallel circuits would blend more easily into the rural landscape.

16.3.6 Single Connection Switched Tee

The Board requested the ESB to assess and report on the option of a single tee from Srananagh to the Carrick – Cathaleen’s Fall 110 kV line. The ESB responded by stating that it was standard practice to reinforce the underlying 110kV network when a 220kV station was developed, and hence the loop-ins were considered important. The ESB also pointed out technical weaknesses with having a switched T connection. From this information it becomes clear that the loop-ins are necessary.

16.3.7 Coopershill

An Taisce submitted a third party appeal against a section of the 220kV line which passes through the Coopershill Demesne. An Taisce considers that this section of the proposal would inflict on the “uniquely culturally intact demesne” of a nationally important house, and that it would also result in the loss of broadleaf vegetation. An Taisce also points out other disadvantages associated with the Coopershill routing.

In Section 16.6 (Cultural Heritage and Archaeology) it is considered that it would be impractical to protect ritual landscapes, views and vistas in the scale and context as argued by the other appellant. In addition it was considered that protection was afforded to significant heritage areas by means of avoidance in the planning of the transmission line routes. Hence, the immediate character and setting of these sites would not be disturbed. Other sites, however, would be disturbed, but these impacts were considered to be of lesser magnitude and could be mitigated.

Coopershill presents a unique heritage resource that was not avoided and thus could be negatively impacted. An Taisce, has presented a compelling argument that the demesne’s landscape and setting is an important attribute that should also be afforded protection. I consider that the intactness of the demesne presents a unique cultural asset from the 18 century and that the proposed 220 kV transmission line would compromise the demesne’s integrity and would be visually intrusive and obtrusive.

The applicant has considered two alternative options to the proposed routing and concluded that the original proposal had a lesser impact. An Taisce on the other hand is of the opinion that the Ardneaskan B route is more favourable, and lists several advantages beyond the confines of heritage protection.

I consider that the options between Ardneaskan B and Coopershill are finely balanced. Advantages of the Ardneaskan B route include its avoidance of Coopershill, passage over a landscape which has undergone extensive modification, is sensitive to the local topography, and minimises the impact on flora and fauna and on the Unshin River SAC. Its disadvantages lie in the need to compensate property owners for the sterilisation of lands that were recently granted planning permissions for cottages, and the potential impact on the visual amenities of several properties.

At face value, the disadvantages of the Ardneaskan B option weigh more in favour for the Coopershill option, since in my opinion the disadvantages of the Cooperhill option are more abstract in nature and less quantifiable. I believe that much of Coopershill's integrity lies in its visual perception, and an option I considered was to route this section of line underground – a distance of circa 600 metres. However, the ESB has pointed out that boring and tunnelling techniques are not appropriate for a 220kV installations and for distances that exceed 100 metres. The use of a trench technique would also result in the scaring of the demesne and given its location would be contrary to ESB policy which is considered to be reasonable.

I also consider that compensation for sterilisation could be less than the underground option. However, the issue is not simply one of cost, but also an impact on visual amenity. In the final analysis I would conclude that an impact on a heritage resource (viz. the curtilage of Coopershill as listed in Appendix 6 of the SCDP, and a cSAC 001898) where setting is of importance to be more significant than an impact on the amenities of adjacent land owners.

16.4 Health and Safety

16.4.1 Electric and Magnetic Fields and Health

I consider that increased electricity consumption, technological advances and changes in social behaviour have steadily increased environmental exposure to man-made electromagnetic fields (EMF). As people are exposed to them in many different ways, whether at home or work, what becomes clear is that exposure to EMF cannot be avoided completely.

Recent debates in the media and in scientific circles concerning EMF and possible health effects have resulted in significant public concern and anxiety. Undoubtedly this has been fuelled by continued conflicting scientific studies and uncertainty. I consider this concern to be nonetheless justifiably, as all people have a right to a clean and healthy environment.

Since the 1960s, the issue of EMF and health has involved an enormous amount of research and reviews, and has remained a controversial topic in light of much confusion caused by conflicting findings. Both parties to this appeal have presented information supporting their claims.

The applicant, has dedicated a section in the EIS and has provided additional information in this regard; arguing that low levels of EMF do not cause negative health effects. Several studies are referred to, including the United Kingdom Childhood Cancer Study (1999). With respect to cancer, the applicant highlights the conclusion of the United Kingdom Childhood Cancer Study (1999) by quoting “This study provides evidence that exposure to magnetic fields associated with the electricity supply in the UK does not augment risks for childhood leukaemia, cancers of the central nervous system, or any other childhood cancer”.

The appellant argues that a relationship exists between EMF and ill-health citing amongst others, Prof. Denis Henshaw who states that “power lines do pose significant public health threats to populations living nearby”. Using this information, the appellant claims that the precautionary principle should be invoked, or that the transmission lines be placed underground. Dr. McManus (Chief Technical Advisor: Public Enterprise) provides a summary of Prof. Henshaw’s hypothesis, viz. “...electric fields around power lines and corona discharges...attract and concentrate the radioactive particles produced by the decay of radon, which is everywhere present. Likewise the charged corona ions can attach themselves to urban pollutants and further concentrate these pollutants in the vicinity of power lines. Thus people living near power lines and particularly down-wind of them are exposed to a greater number of environmental carcinogens than those living elsewhere” (correspondence by Dr McManus to Sligo County Council – see Appendix E). Dr McManus also reports that Sir Richard Doll has suggested that power lines could be a surrogate for some other agent.

I consider it noteworthy that ELF magnetic fields have been classed as “possible human carcinogen” which is the weakest of three categories. Other items in this classification include coffee, gasoline, and gasoline engine exhaust. This classification is based on the strength of scientific evidence, not on the strength of carcinogenicity or risk of cancer from the agent.

I further note that a large number of human health studies, laboratory studies and animal and cellular studies have been carried out, and several are underway. Many of these studies have focussed on cancer. With respect to human health studies, it is reported that several studies have indicated that exposure to EMF may cause some effect. However, the WHO believes that these findings are weak and inconsistent. The WHO (undated) points out that laboratory studies indicate that short-term exposure at the levels experienced in the environment or in the home, do not cause any clinical or pathological effects. However, once again, some studies have reported effects.

The WHO also reports that animal and cellular studies have failed to show any significant effects of exposure, and where an effect has been reported, its implications remain unclear. It is also reported that there is little scientific evidence to support the idea of electromagnetic hypersensitivity (*ibid.*)

There is an opinion with growing support, that EMF alone does not cause cancers. Based on the information submitted by both parties and that which could be obtained publicly, it appears as if the risk to health cannot be quantified, but at the same time not even possible to demonstrate unequivocally that there is any risk. Since it cannot be conclusively demonstrated that EMF exposure associated with electricity supply poses any health risk, I consider that there is not enough evidence to be able to indict electromagnetic fields from power lines as a hazard to health, and as such a reason for preventing this development to proceed.

I wish to refer the Board's attention to the recent 110kV Lines case in County Donegal (PL05.119713) – decided in 2001. The health issues were debated at length in that case, and the inspectors recommended that the risk to health not be cited as a reason for refusing planning permission for the proposed power lines. In its decision, the Board did not cite the EMF health reason as an aspect for the development's refusal.

I consider it to be the Board's role to consider the planning standard used to protect the public as is currently deemed appropriate, if at all necessary. Since current international practice involves compliance with the ICNIRP and WHO guidelines, such guidelines and standards could be considered sufficiently safe. According to WHO (undated:9), "guidelines are intended to ensure that exposures are well below the levels where scientific and biological studies demonstrate some reproducible effect...therefore...there is a significant margin of safety between the guideline value and an exposure level that may cause harm".

I note that in 1990, the International Radiation Protection Association (IRPA)(a WHO body) set the maximum exposure limits for the general public at 5 kV/m for electric fields and 0.1 mT for magnetic fields. Notably, the standards recommended by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) in 1998, and the standards adopted for recommendation by the EU Council of Ministers in 1999 are the same as those recommended limits by the IRPA in 1990. While there appears to be consensus in applying the exposure limit standards, few countries have recommended standards to fix distances between power installations and houses and/or certain other places (refer to Appendix G). Table 3 below provides an overview of distance standards used in European countries that have opted for fixing distances between power lines and houses. Other European countries consider the fixing of distances to be unnecessary and rely on exposure limits. The WHO (undated:14) reports that “the background magnetic flux density can be up to 200nT in homes that are not located near power lines. Directly beneath power lines it is possible to measure up to 20 µT, but at 50m to 100m from the line this will have dropped to within the normal background range”. It is of interest to note that electric fields can be reduced by shielding such as walls, buildings and trees, and when power lines are buried in the ground they produce almost no electric field at the surface. Magnetic fields, however, are not shielded by trees, walls or buildings and burying power lines does not reduce magnetic fields in the way it does for electric fields. However, magnetic fields do decrease with distance from source (WHO, undated).

Table 3: Distance standards adopted in Europe

Country	Standard
Cyprus	<ul style="list-style-type: none"> • 13m between the centre of 66kV power line and the boundaries of the closest building • 15.5m between the centre of 132kV power line and the boundaries of the closest building • 20m between the centre of 220kV power line and the boundaries of the closest building
Denmark	Following study by National Health Board, Government decided not to take any regulatory measures in this field. However, as a precautionary measure, it is recommended that new lines shall not be constructed close to inhabited buildings.
Finland	No legislation, but planning practice not to allow building close to high voltage lines.
Ireland	No legislation, but practice to have a distance of 50m from inhabited buildings.
Italy	<ul style="list-style-type: none"> • 10m distance between residential buildings and 132kV lines

	<ul style="list-style-type: none"> • 18m distance between residential buildings and 220kV lines • 28m distance between residential buildings and 380kV lines
Luxembourg	<ul style="list-style-type: none"> • 30m between the centre of a 100-200kV high-voltage line and the boundaries of the closest building planned or liable to be planned • 20m between the centre of a 65kV line and the boundaries of the closest building planned or liable to be planned.
Slovak Republic	<ul style="list-style-type: none"> • 10m by voltage 1kV to 35 kV • 15m by voltage 35 kV to 110 kV • 20m by voltage 110 kV to 220 kV • 25m by voltage 220 kV to 400 kV • 35m by voltage over 400 kV
Sweden	No restrictive measures but authorities recommend to avoid building of schools or kindergartens near high voltage lines when economically feasible, and to reducing exposure to EMF when tracing line routes

(Source: Eurelectric, November 2001)

When Ireland's practice of applying a 50m buffer between power lines and dwelling units is compared to those of other countries opting to fix buffer distances and then one considers the exposure limits at this distance, it can be inferred that the risk to exposure is significantly decreased. In this regard I consider the applicant's statement that:

“The electric and magnetic fields were calculated, based on the predicted normal maximum operating phase currents, and at 50 metres from the centre of the proposed 220 kV line (which is calculated to generate the highest EMF levels of any part of the proposed project) the electric field level will be less than 1.2% of the EU recommended limit and the magnetic field will be less than 0.2% of the limit” Cathal O' Luain, Project Manager, ESBI Engineering Ltd., 27 September 2001 (Correspondence to Leitrim CC)

and therefore am of the opinion that the level of protection chosen is consistent with international standards and that based on the information presented that these levels are neither exceeded nor reached.

Despite the absence of more compelling material regarding a significant risk to public health, and given an indication that the EMF emitted would be below the EU's

threshold, the fixed distance of 50m from the power line to dwelling units appears to be an effective mitigatory measure to prevent long term public exposure to EMF. Hence it would be unreasonable to invoke the “precautionary principle” in this instance, and I once again refer the Board’s attention to the Donegal 110kV lines case- PL05.119713.

16.4.2 Electrocutation

A more obvious human health effect that can be caused by power lines is that of electrocution. This does not appear to be mentioned in the EIS. This impact can be significant, but I consider that it can be mitigated through appropriate design measures, including: minimum overhead clearance (which appears to be a standard practice), grounding fences around sub-stations, ensuring a safe clearance distance between habitable dwellings and power lines in the event of towers/poles collapsing, and anti-climbing devices on towers and masts. These issues can be dealt with by way of conditions.

16.5 Visual Amenity

This section provides an assessment of the effect the proposed development may have upon the appearance and character of the landscape¹⁶.

As a first step to this assessment, the landscape characteristics of the visual compartments were considered by using the DoE’s Draft Landscape Assessment Guidelines. It became apparent that given the heterogeneity of the landscapes encountered many of these compartments could have been divided into sub-compartments, thus rendering the assessment extremely difficult.

Nonetheless, the visual compartments identified in the EIS were systematically assessed¹⁷ by comparing and considering impressions from my site visit and landscape assessment, the aerial photographs of the routes and site, the 1:50,000 series, the longitudinal profiles of the proposal, the DTM, the viewshed analysis and the photomontages, and having regard to concerns expressed by the appellants and observers. The technical and representation limitations of the viewshed analysis, the DTM, and of the photomontages were noted. Despite these technical limitations, I consider the exercises to be of importance and should be considered together with the

¹⁶ Refer to the photographs in Appendix B.

¹⁷ An outline of the criteria used is attached as Appendix H. The Board should be aware of the subjective nature of any landscape and visual assessment. Hence, different individuals would weight the impacts on certain compartments differently.

photomontages and site visit impressions, since, in my opinion, none of these techniques should be used in isolation.

While the line was considered in its entirety, the potential visual impact on several areas was subjected to further scrutiny. These areas are briefly outlined as follows:

- Curlew Mountains: The Curlew Mountains are regionally significant resources for tourism, ecology and archaeology and contain designated walking trails. The route crosses its lower foothills. This location does not impact on the mountains' skyline and would result in the power line being indiscernible from views facing the mountain. The proposed power line will also not interfere with views from elevated areas within these mountains, particularly when looking towards Lough Gara to the south. Refer to Photos 32, 33, 34, 34a, 36, 35, and 36c.
- Wynn's View: This is an important view-site that offers panoramic views of Lough Gara. The panoramic context and qualities of this view site are important and should be maintained. In this regard I consider that no features should interrupt this view. However, this is currently not the case particularly with a farmstead that is conspicuously located and interrupts the panorama. I consider that visibility of the line would be intermittent in mid ground, but not as conspicuous as the farmstead in the foreground, and that the proposed development would not impact on direct views of the lake since it is tucked into the slope and would not break the skyline. The plantation and knoll in the landscape would also screen the proposed power line (Refer to Photos 32, 35, 35a, 35b, 36c).
- Kingfort – Ardsallagh section: This is the start of a designated scenic route along the R295 and is in proximity to Kesh Corann – an important heritage, tourism and visual resource. Views towards Kesh Corran therefore need to be protected. The proposed power line uses several drumlin features for cover and as backdrops, and hence does not impact on Kesh Corran. It does however, have an impact on the start (approaching from Sligo) of the R295 scenic route, in that the power line is exposed in the Carrowmaclenany Valley. Although the Carrowmaclenany Valley is not along the scenic route, the presence of the power line would create an abrupt end to the scenic route (from Boyle). However, it should also be pointed out that the R295 becomes more peppered with development from the end of the scenic route. In addition, moving the power line east or west of its current alignment would have a greater impact on Kesh Corran and on other ecological resources (Refer to Photos 45 and 46).

- Kesh Corran and Carrowkeel: I consider Kesh Corran and the megalithic sites located at and between Kesh Corran and the Brieklieve Mountains to be of national, if not international significance. Questions regarding the functions of these features remain unanswered and in spite of several hypotheses, further investigations cannot be ruled out. In particular, it is noted that there may be complex orientations/relationships between these sites and other sites between and within the Ox Mountains and Knocknarea. Avoiding visual interference would be beneficial, where possible. Having regard to the location of the power line particularly to the north and north-west of Kesh Corran and to the north of the saddle between Kesh Corran and the Brieklieve Mountains, I consider the power line would not interfere with potential vistas and would not be discernible, due to its location in relatively low lying areas, screening by topographical features, and due to opacity resulting from a combination of distance, atmospheric conditions and landscape mosaic. It is noteworthy to mention that if the route would have retained its original alignment through Cloonagashel, that it would have been distinguishable. The route was altered, following a recommendation by Sligo County Council to follow an alignment between the Barrow at Doobeg and the Cairn at Doomore, which I consider to be reasonable. Refer to Photos 47, 47a, 49, 51, 52.
- Coopershill section: This section of the current alignment would have a severe negative impact on the visual amenities and character of this demesne. An alternative to this section of line should be found if permission is to be granted (refer to Section 16.3.7). Refer to Photos 54, 55, 56, 58, 58a, 59, and 59a).
- Boyle River: The proposed power line would cross over a section of the Boyle River which is beyond the SPA and pNHA. This point is not visible from tourist viewpoints. The principle concern here is with respect to the potential of including this river corridor into a future SPA that would link Lough Gara and Lough Key and using this area for tourism and recreational purposes. It should also be considered that this section of the power line would require bird-warning devices, which will make the power lines more conspicuous. The proposal would therefore impact on the visual integrity of this area. However, as pointed out, this is a concept and there appear to be no plans for such a link that I am aware of. In the absence of such plans, stating that the proposed power line at this section would have an impact on visual amenities and recreational resources would be conjecture. I therefore consider that this section of the power line would have a significant visual effect on the local environment, but that this would be unavoidable and in the interest of nature conservation, to which I consider that it is reasonable to give greater weight. Refer to Photos 30, 30a, 31, 32, 32a and 32b.

- Cavetown Lough – Knockroe – Ardcorcoran: The proposed power line transects a series of east-west running hills in this area. These result in the power lines enhanced visibility particularly since it needs to maintain adequate overhead distance. The line will therefore be visible from certain sections of the N61 and from the public recreation area at Cavetown Lough. With respect to the view from the road, I consider that the outlook onto this landscape is already peppered with development, including telephone masts and towers, dwellings and ancillary farmstead structures. I would therefore not consider this stretch of road to hold any significant visual amenity value. In addition, the plantations do provide a backdrop to the power line and structures, and hedgerows along the road screen the proposed development. The power line would appear intermittently on the distant skyline when viewed from the public recreational area at Cavetown Lough, which is about three kilometres away. However, I consider that a combination of distance, climatic conditions, the plantation as a backdrop and the use of muted colours would make visible sections of the line indiscernible (refer to Photos 15, 16a, 16b, and 17).
- Knockatelly: The power line changes direction in a relatively wide and open valley section of the Owenmore River. It will therefore be visible travelling south on the R293 in an area, which has a channelled view of the Owenmore River and views of the Curlew Mountains and Kesh Corann. Land in this area is sparsely populated and used for farming purposes, and no other amenity uses appear to be evident in this area. The view from the road is often screened by hedgerows. Re-routing this section of line would probably bring it closer to the railway line, from where it would be more visible particularly to tourists. This is not considered desirable. I am therefore of the opinion that the localised visual impact at this location is unavoidable. Refer to Photos 42 and 43).
- Ballysumaghan: This is the 220/110kV-substation site. This site is tucked into a valley which does not appear to be visible from any major tourist routes or resources. Were the site to be located further up-slope, it would have been highly visible and a distinguishable feature on a rural landscape (refer to Photos 63, 64, 65, 66, 67, 67a-d, 73, 74, 75, 76). The site is screened from Castle Neymoe by a stand of trees and a hedge row, and does not appear to be visible from residential dwellings in the area. It will however, be visible along sections of the road at Kiltycloghan. It can be argued that the site is fairly isolated and screened by vegetation and the lye of the land. However, I do believe that the sub-station will impact negatively on the area's sense of place. In particular the sense of place of Mullaghbawn Wood, which has been buffered by an isolated and tranquil rural landscape, and the unattested relationship between Castle Neymoe, the Sumaghan

Stones, the ringfort and the Wood, may be lost. Given the public nature and good of the development, this may be unavoidable.

It is my opinion that the proposed route has avoided visually sensitive areas and has adopted a route where skyline visibility is minimised. It has also followed a route where the landscape appears to have a very high visual absorption capacity. Use has been made of topography and existing vegetation as backdrops to assist in screening the proposed development. In addition, I find that due to the intervening topography, patches of forestry, the criss-crossing of hedgerows, wooded areas, and the complexity of the landscape mosaic, that the proposed route would not be discernible in many areas, and that at distances exceeding one kilometre the pylons would not be conspicuous. Much of its visual impact would be at a local level, where structures would be very prominent, but would rarely be perceived as a larger unit over the entire length of the route.

In the final analysis while there will be local costs and disamenities, these need to be weighed against the public nature of the line and its common good. I therefore conclude that the impact on the character and appearance of the landscape will be highly localised and that the power line would not hold any dominance in the regional landscape. Where structures will be visible on higher lying areas, I consider this to be unavoidable, but would also not interfere with any designated views or on the region's tourism resources.

16.6 Cultural Heritage and Archaeology

The study area has a rich diversity of archaeological assets that form an integral part of Ireland's heritage. This diversity is reflected in the designation of numerous sites as protected monuments that range from prehistoric burial remains through to archaeological remains of the late medieval period and beyond. The protection and conservation of these resources is of fundamental importance to the quality of life for people as they form an integral part of the wider environment and contextualise local and national identity.

I consider that archaeological context is not necessarily site specific and I recognise that particular landscapes, sites or vistas, add relevance and reference to particular sites. However, it needs to be considered that our landscapes beyond formerly protected areas cannot be frozen in any particular time, since such an action does not recognise the evolving nature of culture and heritage and the dynamic nature of human development as well as basic environmental/ecological processes.

The argument presented by the third party to protect the study area's archaeological assets due to potential vistas can in many respects be equated to the sterilisation of land in the study area from any form of development. The protection of ritual landscapes and visual sightlines and vistas involves numerous hectares of land, and the argument used would have to apply to all forms of development. This in my opinion is not practicable, and is not my interpretation of current heritage legislation. My interpretation is that best possible means of protection need to be sought for particular assets, and hence a range of options exists to afford protection. This range includes amongst others *in situ* protection of a site including a larger buffer area, eliminating avoidable damage and minimising unavoidable damage through particular mitigatory measures, and preservation by way of full record.

Where specific assets (including ritual landscapes) are considered to be of global and/or national or scientific importance, it becomes clear that given their significance a higher level of protection should be awarded to them. However, not all archaeological assets, though important in their own right, are necessarily of global or national importance, and hence a lower measure of protection should be adopted.

In this regard, I believe the planning of the proposed transmission lines has attempted to avoid areas considered to be of higher archaeological/heritage value. This is evident in the negative mapping¹⁸ of significant archaeological complexes at Carrowkeel, Kesh Corann, and the archaeological lacustrine features on Lough Gara. I also believe that potentially important vistas between sites located at Kesh Corran/Brieklieve Mountains and the Ox Mountains and Knocknarea will not be impacted upon since the proposed power line does not appear on the skyline or obscure known features¹⁹. From a regional point of view I consider that the proposed route has steered a careful path to minimise impacts on archaeology and heritage.

The EIS has focussed on listing SMR features and topographic files with little to no information on the significance of these sites and finds. In addition, as is argued by the third party, other archaeological aspects such as industrial archaeology and architecture and vernacular architecture appear to have been neglected. However, the practicality of researching these features must be considered particularly in light of the availability of data/information and what may be considered to be a reasonable brief. Hence, the approach adopted by the applicant in focussing on SMR and topographic files appears to be reasonable. However, I strongly differ with the applicant's approach in determining significance of impact based on distance criteria. The impact the power line could have on a particular site should be measured against the impact on value such a site possesses in terms of scientific value, educational value,

¹⁸ Technique used to eliminate areas not suitable for development.

¹⁹ Refer to section 16.5.

spiritual value and tourism/recreation/leisure value, the impact on its character and integrity and also on direct physical impact.

With respect to the impact on value, the EIS presents no conclusive opinion that the proposed development will have “a slight impact” on the region’s archaeological features. The opportunity was presented to the applicant to discuss the significance of particularly those sites that were located within the 50-metre corridor of the power line and this opportunity was not exercised in my opinion.

Having considered the additional information presented, one can deduce that whilst these sites are recorded monuments and granted protection status, the majority of the sites may be considered to be common features (ringforts and cashels) on the Irish landscape. Bearing in mind the argument presented by the third party regarding vistas and visual sight lines, I would recommend affording greater protection to the integrity of certain sites such as the cairn (SL033:108), and the barrow (RO010:001).

With respect to impact on character and integrity, I am of the opinion that similar features are conserved and represented elsewhere and hence, the impact on character to be minimal. With respect to integrity the Irish landscape has and is changing, and this needs to be taken into account. I firmly believe that the integrity of significant sites should be maintained, since sense of place is critical to an archaeological and interpretative experience. Once again I find that many of the features appear to be represented elsewhere. While there may be local disamenities at these sites, I believe that these costs must be weighed against the public nature and common good of the proposal.

Nonetheless, these sites must be protected – this is a legal obligation. Attention therefore needs to cascade or be drawn to the mitigatory measures recommended. Notably, the mitigatory measures only focus on construction impacts that the proposed development may have. I consider these mitigation measures to be generic and in many respects fail to recognise the extent of the construction activities. While the measures outlined should not be discarded, several sites require more site-specific measures. For example:

- The potential impacts caused by road enlargements to improve access to the substation site on monuments SL027:045 and :046 are not considered. Mitigation measures should therefore be outlined for this area in detail.
- The archaeology report recommends a 100-metre radius be respected at SL027:011 (Ecclesiastical remains). This recommendation fails to recognise that an angle pylon is within this 100-metre radius. While, other mitigatory measures relate to the breaking of earth for the placement of foundation, it fails to consider

potential impacts associated with gaining access to the site, which in all probability will need to traverse this 100 metre buffer.

- Construction activities are also expected to impact on SL039-025, SL021-093, SL021-094 and SL021-098.

In summary, the study approach adopted appears to be limited, but I am of the opinion that adequate measures were adopted at a regional level to afford suitable protection to the archaeological resources of the study area. At a local level, I am of the opinion, that the preparation of an environmental management plan could provide effective protection to these resources. Hence, the protection of in-situ archaeological resources could be conditioned into a grant for planning permission.

16.7 Property/Development and Compensation

The ESB have stated that a separation distance of 50 metres between dwellings and the centreline of the power lines was achieved. Class 26 of Part I of the Second Schedule of the Local Government (Planning and Development) Regulations, 1994 allows for the construction or erection of an overhead line not more than a 40 metre deviation from a position in respect of which permission for such a line was granted²⁰. This allows the ESB a certain degree of flexibility in the location of the line in order to take account of existing and permitted development and the use of field boundaries where possible.

The proposed power lines are essentially located in a rural area where agriculture (mostly livestock farming) is the predominant land use. Fields that are traversed are mostly used for grazing. There are a few afforested areas. In the case of forestry there is a sterilising effect. In the case of farmland I would infer that the main problem is the effect on the use of machinery caused by the location of poles and other structures. Such effects are considered in the ESB's Code of Practice and subject to compensation.

Effects on residential property are less tangible and are carried by perceptions that power lines running close to houses have an impact on health, and generate noise and static effects. These effects ought not to be material if the power lines are kept a minimum distance of 50 metres from houses. I do, however, consider it reasonable to infer that a house in an open rural landscape derives some value from the quality of its outlook. In this regard I believe the applicant has effectively taken this into consideration by maintaining minimum distances of 50 metres from existing dwellings, avoiding urban areas or "built-up" areas, avoiding sensitive landscapes,

²⁰ This should be done with sensitivity to archaeological features.

and prominent features. It should also be borne in mind that the planning system and its development control measures were not designed to protect the views of individual properties, but rather the public views of particular features that are considered to be of public benefit. In my view this is a reasonable position.

It would be virtually impossible for the Board to try and factor in future development proposals and their potential. I can find no indication within the Development Plans that lands along the proposed routes have been zoned for development purposes. The proposed development lies in areas where the respective Councils maintain a general objection in principle to new housing unless the applicant is a farmer or a directly related family member to the farmer, but where such an application would still need to be assessed in terms of traffic, drainage, visual impact, other development plan policies etc..

In the event of a viable development occurring, as is the case at Ardneaskan, Co. Sligo, the matter can be dealt with by means suggested in the *ESB's Policy Towards Landowners for Overhead Lines*. This allows the parties to enter into negotiation on the claimed losses for value of property, and if no negotiated solution is possible, it allows independent arbitration.

I am therefore not convinced that the grounds of appeal have sufficiently demonstrated that the proposed development would hinder future development. In this regard I also refer to the National Sustainability Strategy and the respective County Development Plans that attempt to avoid urban sprawl and ribbon development, and promote the consolidation of certain areas.

The ESB have also stated that they follow an agreed *Code of Practice*, which makes provision for compensation and reinstatement of land, and also allows for independent arbitration in the event of a dispute. The *Code of Practice* also outlines compensation claim amounts. In this instance, it would be beyond the Board's remit to consider revising the compensation amounts. Irrespective, compensation is not a matter for the Board to decide upon.

With respect to the claim on property devaluation, I consider that it is not for the planning system to protect the private interests of one person against the activities of another. Although in a particular case considerations of public interest may serve to protect private interests. PPG 1 provides guidance in this case by suggesting that the "material question is not whether a particular development would cause financial or other loss to owners and occupiers of neighbouring property, but whether the proposal would have a detrimental effect on the locality generally, and on the amenities that ought, in the public interest, to be protected".

16.8 The Kyoto Protocol

I agree with the ESB that the Kyoto Protocol has no direct bearing on this appeal. It appears that the Kyoto Protocol has applicability to generation/energy sources and not to distribution.

16.9 Flora and Fauna

The proposal consists of the erection of pylons and pole sets on straight runs and angle towers at changes in line direction. Wooden pole sets would be sunk about 2.3 meters into the ground and would not employ concrete foundations. Angle towers and other pylons would be anchored into the ground by concrete foundations to a depth of approximately 2.5 to 3 metres.

Associated with the erection of the pole sets, pylons and angle towers is the need to gain access to these sites for machinery, the winching of the conductors as well as clearing the route from obstacles. These activities should be kept in mind.

It is stated in the EIS (p.82) that the flora and fauna impacts were assessed “largely by means of habitat quality as revealed on the aerial photographs of the route coupled with limited ground survey of particular sites. Analysis of the NHA/SAC files in Duchas and of the body of data collected for a study of arterial drainage of the Owenmore River (1989) also proved useful”.

With respect to the transmission lines much of Section 5 of the EIS describes the environment through which the proposed lines pass. The description takes care of pointing out where masts will be placed in relation to the vegetation cover of the area. In a few fleeting instances comment is made of particular areas which may have rich birdlife, species rich grasslands, and potential swan flight paths. In its overall assessment the EIS (p.85) states that “the predominant cover along the proposed route is farmland...the route of the 220kV line does not pass over significant areas of natural habitat and avoids major peatlands, wetlands and woods. It crosses one designated area the Unshin cSAC, but this is at a point of limited ecological interest and there should be little impact”. It also states that “it seems only to be the river crossing points on the Boyle, Owenmore and the Unshin that are sensitive” (p.86).

With respect to the proposed Srananagh Substation, it simply points out the turlough to the north and a wood to the south of the proposed development site, and states that there are no features of particular ecological significance on the site.

In total three generic mitigation measures are suggested, viz.:

- Bird warning devices on the lines to increase visibility at the three river crossings;
- Prevention of soil input to the rivers and streams; and
- Construction on the glacial feature between Carrowmore and Boherroe to be carried out in a manner that limits damage to the vegetation and to the ground.

I considered the information presented in the EIS to be limited. Following a request by the Board, further information detailing habitat types was received. The overall assessment stated that there were no plant or animal species restricted to the area of the transmission line “as far as is known” (Section 3.3 Additional Information to Board).

I cannot readily concur with the views of the applicant that the proposed line has a limited impact. While the route may have been carefully located so that it does not pass over significant areas of natural habitat, my concern is that the analysis²¹ and mitigation measures are poorly expressed. I also note AMP’s (one of the appellants) claim that the turloughs (which are considered to be priority conservation areas) in the Breandrum and Ardmore area were omitted, and that these are potentially important breeding/roosting and feeding areas for certain wildfowl.

In the additional information submitted to the Board, it is stated that “no plants or animal species are restricted to the area of the transmission line”, and in the absence of alternative information proving otherwise, I consider that the transmission line could be of low impact. However, the following must be considered: The power line will result in the loss of, for example, certain hedgerows and deciduous scrub, and while these losses are highly localised, it must be pointed out that these are highly vulnerable habitats. For example, while not of note in terms of structure or species diversity, hedgerows do provide habitat for native flora and fauna species in an otherwise intensively managed landscape. Hedgerows also provide migratory corridors for certain species. The hedgerows therefore have some conservation value in a local context, though, overall, could only be considered as of minor ecological importance. Likewise rivers and vegetated riverbanks also provide habitat for native flora and fauna and act as important migratory corridors. One should also consider that certain bird species that nest in grasslands may be disturbed by construction activity, particularly by vehicles making their way to pylon and pole set sites. In addition, badger setts may be encountered during pylon locations.

²¹ For example, there appears to be a failure of cross checking with the Habitats Directive and the Wildlife Act to determine the status of habitats the proposed development will impact on.

If one adds all these aspects together and further considers hedge and tree cutting and construction activities taking place during particular breeding seasons, then the disturbance to flora and fauna could be significant.

Recognising that unavoidable disturbances to habitats are bound to occur and may not be moderate to highly significant because they are highly localised with small footprints, these nonetheless need to be mitigated. The importance of an environmental management plan becomes evident, and should not be understated particularly for such large-scale infrastructure projects.

I therefore consider that significant habitats and areas have been avoided where possible particularly at a regional scale, and I am of the opinion, that the preparation of an environmental management plan could provide effective protection to the area's flora, fauna and ecology. Hence, the protection of hedgerows or their reinstatement, the protection of watercourses, avoiding certain activities during breeding seasons etc., could be conditioned by requesting an environmental management plan (see Section 16.12).

I am also of the opinion that the Unshin cSAC at Coopershill should be avoided, and that the turlough at Breandrum should also be voided.

16.10 Traffic Impact

A traffic impact assessment and an assessment of the existing capacity and suitability of the road network to accommodate heavy and wide machinery and the transportation of such machinery was requested. In the additional information submitted by the appellant it was stated that such an assessment would be premature, and it was normal practice for the supplier to survey the route and to arrange and agree a route with the necessary authorities.

I believe that the transportation of certain material/machinery will have a temporary negative impact on road users and local residents. In addition, there may also be impacts on certain material assets such as bridges and potentially roadside structures and vegetation. While I consider that it may be the supplier's responsibility to survey the route beforehand, a strategic assessment or some form of reference to these issues should have been made. This once again reiterates the importance of an EMP, where guidelines for the transportation of goods within set environmental parameters should have been listed for action and assessment.

16.11 Hazardous Material

Section 10 of the additional information submitted to the Board lists the hazardous materials that can be associated with the proposed development. The use of these materials is discussed, as are the mitigation measures to protect the environment. Once again, these should be consolidated in an EMP.

16.12 Other Issues

The proposed substation is located on the lower section of a slope which appears to have wetter, deeper and silty, possibly clayey soils. The site also appears to have several run-off channels. Earth work will be needed to level the ground for suitability as a substation. The removal of vegetation and soil could accelerate soil erosion and water run-off and could impact on a spring/well to the east of the proposed site. This spring provides water to the nearby property (Castle Neymoe).

The proposed percolation area for the septic tank system is at the bottom of a concave slope in flatter lying ground²². It is noted that no percolation tests were undertaken at the percolation area, and I am concerned that the area designated as a percolation area may not be suitable.

Given potential hydrogeological concerns, I believe that it would be reasonable to require further investigation regarding the suitability of the soils for a percolation area and potential impacts on the areas hydrogeology and the quality of water in the area. This however, can be conditioned into a grant, should the proposal be given permission.

16.13 Environmental Management Plan

I consider an Environmental Management Plan (EMP) to be a long term, site specific management system, drawn up in terms of an Environmental Impact Assessment (EIA) and encompasses organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining environmental policy set out in the EIS.

The purpose of an EMP is, therefore, to describe how the project will be implemented and the control over implementation. It should state how negative impacts will be managed, mitigated and monitored; who will take responsibility for it; how positive impacts will be maximised and how affected areas will be rehabilitated. The various

²² The septic tank's percolation area is located down-slope from the spring.

mitigation measures should therefore be organised and co-ordinated into a structured and well-formulated plan, which guides the construction and operational phases of the development. It should also be a dynamic document, which may require updating or revision during the life of the project.

Mitigation measures are pointed out throughout the EIS, but my contention is that these are lost in the body of the EIS due to its structure. I believe value will be added to the EIA process if these mitigatory measures are consolidated into an EMP²³. Given that mitigatory measures are suggested in the EIS, I believe they need to be tied and this can be conditioned into a grant, that is, if planning permission is granted. Should an EMP be conditioned, the EMP for the project should be finalised in discussions with the relevant planning authorities before the commencement of construction. In addition, the EMP should incorporate mitigatory conditions attached to the planning permission.

It is inevitable that a project of this magnitude and scale will have impacts, and while all the impacts can never be envisaged, there are several that are generic. I also consider that with such projects where the public nature and good of the development outweigh the costs, that they should be proactively and environmentally managed.

²³ While an EMP constitutes best practice in environmental assessment and management, I wish to point out that current EIS legislation does not consider it mandatory.

17. RECOMMENDATION

I consider that the information presented to be sufficient for the Board to derive a reasoned conclusion. While it may be argued that gaps in information may exist, it should be borne in mind that perfect knowledge is unattainable. I believe that sufficient information exists in the submissions to provide an understanding of the receiving environment, to assess alternatives (not withstanding the Board's statutory limitations) and to determine the significance and magnitude of the impacts presented.

The applicant has clearly illustrated that there is a need to reinforce power supplies to the north-west, and based on the information presented, the proposal appears to have merit. In considering alternatives, the debate between power sources and transmission may be valid, however, the proposal deals with the means of supplying electricity, and this appears to be the more feasible option in the current context.

There is no doubt that integrated development planning should be promoted and that development plans need to be radically altered. An integrated planning approach should be adopted to deliver infrastructure to appropriate places/designated places while at the same time conserving what is best in an area. However, the onus of this does not rest squarely with the applicant.

Although the current development plans are limited in their guidance on energy transmission, it becomes apparent that the proposal does not contain fundamental flaws. In this regard, major ecologically, archaeologically, and visually sensitive areas have been avoided where possible. The proposal, therefore, does not materially contravene any of the development plans.

It appears as if there is not enough evidence to be able to indict electromagnetic fields from power lines as a hazard to health, and given the precautionary measures recommended through spatial buffering and that exposure limits are well below EU and international recommended limits, invoking the precautionary principle would not be necessary. I therefore concur with one of the county planner's assessment and quote that "In the absence of a national regulatory framework for limiting exposure to electromagnetic fields generated by power lines, it may prove difficult for planning authorities to decide whether overhead transmission lines do or do not represent a risk to public health. Since current international practice involves compliance with the ICNIRP and WHO guidelines, such guidelines and standards could be considered sufficiently safe".

Visual discordance of the proposed development is bound to occur at a local level, but I am of the opinion that visually sensitive areas were avoided, and that the power line and its structures would not hold any dominance in the regional landscape. I also consider that the public nature and good of the development outweighs the visual costs where these are highly localised. It is along the Coopershill section of the line where I believe the visual impact will be significant, and believe that this line should be rerouted as per the Ardneaskan B option.

With respect to impacts on archaeological resources, I am of the opinion that the proposed development does steer a clear path away from significant archaeological sites. Several of the archaeological sites that are in close proximity to the proposed power line and the substation site, appear to be common features on the Irish landscape and appear to be conserved and represented elsewhere. Therefore, I am of the opinion that the impact on the character and integrity of these sites can be justified when weighed against the public nature and good of the proposed development. However, this does not entail that they may be physically impacted upon.

With respect to property devaluation, I reiterate my finding that it is not for the planning system to protect the private interests of one person against the activities of another, although in a particular case considerations of public interest may serve to protect private interests. I therefore believe that public amenities have been protected in general by way of avoidance.

Assessing and revising the rates of compensation applied by the ESB are beyond the Board's remit.

According to the information presented, it appears as if no plants or animal species are restricted to the area of the transmission line, and that impacts on certain habitats are localised and of a small scale. Significant habitats have been avoided where possible. However, minor modifications to the line should be undertaken where possible by using the 40-metre discretion in location presented by the Regulations. In addition, I also believe that the route between AM60 and AM69 should be reconsidered given its location to an important migratory corridor, proximity to a cSAC and what may be a significant turlough habitat.

In the final analysis, infrastructure projects that do not raise fundamental red-flag concerns, will always have an impact due to their scale. While these impacts may be considered to be localised or significant I believe that they should be environmentally managed as effectively and proactively as possible. In this regard an environmental management plan is warranted to secure a commitment towards the implementation of mitigatory measures suggested in the EIS.

Therefore, I believe that the public nature and good of the proposal outweighs the localised costs and disamenities, and subject to strict conditions, should be granted planning permission, with the exception of two segments viz.: between AM60 and AM69, and between AM153 and AM165.

18. CONCLUSION

18.1 Sligo PL21.127616: Flagford – Srananagh 220kV Line

First Schedule

Having regard to the need for an improved and reliable electricity supply in the North West, the provisions of the Sligo County Development Plan and to the archaeological, and visual amenities and to the pattern of development in the area, it is considered that subject to compliance with the conditions set out in the Second Schedule, the proposed development, with the exception of the route between AM153 and AM165 in the vicinity of Coopershill, would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health or seriously injure or interfere with sites of archaeological importance in the vicinity of the development. The proposed development would, therefore, be in accordance with the proper planning and development of the area.

Second Schedule

1. Development shall be carried out in strict accordance with detailed drawings received by the planning authority on 18 December 2000 and revised route documentation supplementary to the Environmental Impact Statement (indicating Option C route through Knockmoynagh townland) received by the planning authority on 16 July 2001, but **excludes** that section of the route between AM153 and AM165 through Coopershill. The development shall be in strict accordance with the impact mitigation measures documented in the Environmental Impact statement as supplement, unless indicated otherwise by the following conditions.

Reason: In the interest of clarity.

2. The developer shall facilitate the Planning Authority in the preservation, conservation, recording or otherwise protection of archaeological material or features which may exist on the site of, or within the vicinity of, the proposed development. In this regard the developer shall:
 - (a) Notify the planning authority in writing at least six weeks prior to the commencement of any site operation (including hydrogeological and geotechnical investigations) relating to the proposed development.
 - (b) Submit to and agree with the planning authority the location of the support structures (including any proposed resiting of support structures from the

positions hereby permitted) which shall ensure that the development will not cause avoidable disturbance to archaeological material and will limit any available disturbance to a negligible degree. Furthermore, details of archaeological testing and measures shall be submitted to, and agreed in writing by, the planning authority and subsequently carried out as recommended in the submitted Environmental Impact Assessment and additional information submissions.

- (c) Employ a suitably qualified archaeologist who shall walk and inspect the proposed route to clarify the archaeological record within the works corridor, and to identify new/other features of archaeological interest within that corridor. This work will seek to assess the archaeological potential of the sites as they survive in the field and make site-specific recommendations for their resolution in advance of construction. Having completed this assessment, the archaeologist shall submit a report to the planning authority and to Duchas, The Heritage Service. The report shall comment on the projected impact of the development on the archaeology (if any) and propose appropriate mitigation measures. The report shall be illustrated with appropriate plans, photographs and documentary evidence where necessary.
- (d) No sub-surface works shall be undertaken in the absence of the archaeologist. The archaeologist shall monitor all site investigations and other excavation works and shall be empowered to halt development work, if necessary, for the purpose of recording and recovering of any archaeological material discovered.
- (e) Provide satisfactory arrangements for the recording and removal of any archaeological material which may be considered appropriate to remove.
- (f) Machinery traffic during construction shall be restricted to an area of operation (including the access road) to be decided upon by the archaeologist and planning authority prior to construction so as to avoid any of the selected sites as listed in the additional information submission to the Board dated 20 August 2002 and any other sites that may be uncovered during field investigations. In this regard, particular attention shall be given to the following listed sites:
 - SL021:098
 - SL021:094
 - SL021:093
 - SL027:029
 - SL027:011

- SL027:046
- SL027:045
- SL033:108
- SL039:025

(g) Spoil shall not be dumped on any of the selected sites or their surrounds.

(h) Ensure for the retention and preservation of all existing stone field boundaries unless the planning authority has given a prior written agreement for works to, or affecting such structures.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation and/or recording of any remains which may exist.

3. In the event of the proposed lines or substation becoming obsolete, the relevant structures and cables and any associated hardstandings shall be permanently removed in accordance with a detailed decommissioning programme that shall have been previously submitted to, and agreed in writing by the Planning Authority within six months of construction having taken place. This decommissioning programme shall include details of time-scales of such decommissioning and also for the reinstatement of the land including appropriate landscaping measures.

Reason: In the interest of visual amenity and the proper planning and development of the area.

4. No pylon or tower shall be positioned within 30 metres of the Unshin and Ownmore rivers, and generally no pylons/towers shall be positioned within 15 metres of any watercourse.

Reason: In order to avoid bank erosion and silt run-off and to preventing environmental pollution.

5. A detailed Traffic Impact Assessment and Management Plan that also includes the phasing of the construction works shall be submitted to the Planning Authority eight weeks prior to the commencement of development and shall be agreed in writing with the planning authority.

Reason: In the interest of road traffic safety.

6. In the townlands of Cloonlurg and Murillyroe, proposed tower nos. 148, 152 and 153 coincide with possible route options for the N4 National Primary Road. The applicant shall consult with the Planning Authority prior to the final tower location and, if necessary, modify the tower locations to avoid the proposed N4 route.

Reason: In the interests of road traffic safety and orderly development.

7. The transmission line shall have appropriate bird warning devices installed to prevent bird strikes along those sections which cross the Owenmore and Unshin Rivers and along other wild/waterfowl flightlines. The location and design of such devices shall be subject to written agreement with the planning authority prior to construction of the development.

Reason: In the interests of heritage protection.

8. All road surfaces, culverts, water course, verges and public lands shall be protected during construction and, in the case of any damage occurring shall be reinstated to the satisfaction of the planning authority.

Reason: To ensure a satisfactory standard of development and in the interest of proper planning and development of the area.

9. All pylons, pole sets and such like shall be provided with anti-climbing barriers of corrosion resistant construction for longevity of protection. In addition, all pylons shall be provided with hazard notices of durable material located as to be easily viewed by the public.

Reason: For the protection of public health.

10. Pole sets and pylons shall be located adjacent to field boundaries where possible to minimise interference with agricultural operations.

Reason: For the protection of public health.

11. The development shall maintain a minimum distance of 50 metres from dwelling units and educational institutions.

Reason: In the interest of public health.

12. An environmental management plan (EMP) shall be submitted eight weeks prior to the commencement of development to the planning authority for written agreement. The EMP shall consolidate all the mitigatory measures highlighted in the EIS and the additional information submissions, as well as the mitigatory measures contained in this schedule. In particular, the EMP shall outline the applicant/developer's approach to project planning and the development of protection measures to mitigate potential environmental impacts. It must describe the environmental practices and procedures to be applied during planning, construction, operation and decommissioning of the project and must typically:

- Outline environmental protection measures and procedures;
- Describe management practices to be employed during planning, construction, operation and decommissioning of the project to ensure effective environmental management of the project;
- Assign responsibilities to appropriate persons;
- State how environmental auditing will be carried out and updated to ensure long term successful implementation of the plan;
- Identify a monitoring group, consisting of professional persons, such as the archaeologist and an ecologist/environmental scientist to oversee the placement of the power line.

The EMP should also focus its attention on the following:

- Environmental management procedures/protocols and mitigation measures associated with construction activities along the Owenmore River and other watercourses/bodies. In particular, measures to minimise soil erosion and input into the stream as well as input from pollution sources such as from cement mixing shall be stipulated.
- Environmental management procedures/protocols and mitigation measures associated with the timing and duration of the removal of hedges, where necessary, and their reinstatement/rehabilitation. With respect to timing and duration, breeding seasons shall be avoided.
- Environmental management procedures/protocols and mitigation measures associated with the collection and disposal of site clearance debris and construction waste.
- Environmental management procedures/protocols and mitigation measures associated with nature conservation. In particular, breeding/roosting seasons shall be avoided, and procedures associated with the encounter of eggs and wild animals shall be stipulated. The timing and duration with the construction of the lines should also be highlighted so as to avoid migratory periods.
- Environmental management procedures/protocols and mitigation measures associated with the handling of hazardous material, including the prevention of

preservative chemical seepage to be used on wooden pole sets shall be stipulated.

- Environmental management procedures/protocols and mitigation measures associated with the storage of fuel and refuel of construction machinery/vehicles shall be stipulated.

The EMP shall also contain an auditing regime, which will highlight the person(s) responsible for auditing the construction activities, the frequency for auditing, and the submission of the environmental audit reports to the planning authority.

In default of agreement between the developer and the planning authority with respect to the EMP, the matter shall be determined by An Bord Pleanála.

Reason: In the interest of proper planning and sustainable development and to ensure the satisfactory completion of the development.

13. Pylons, towers and other structures may not be used for advertising.

Reason: In the interest of visual amenity.

14. Muted colours and/or colours that blend in with the surrounding environment shall be used on the structures, and the colours/materials to be used shall be submitted to the planning authority for written agreement prior to the developments construction.

Reason: In the interest of visual amenity.

15. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or other security to secure the provision and satisfactory completion and maintenance until taken in charge by the planning authority of roads, footpaths, watermains, drains, public open space and other services required in connection with the development, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory completion or maintenance of any part of the development. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be determined by An Bord Pleanála.

Reason: To ensure the satisfactory completion of the development.

16. The developer shall pay a sum of money to the planning authority as a contribution towards expenditure that was and/or that is proposed to be incurred by the planning authority in respect of works facilitating the proposed development. The amount of the contribution and the arrangements for payment shall be agreed between the developer and the planning authority, or in default of agreement, shall be determined by An Bord Pleanála.

In the case of expenditure that is proposed to be incurred, the requirement to pay this contribution is subject to the provisions of Section 26(2)(h) of the Local Government (Planning and Development) Act, 1963 generally, and in particular, the specified period for the purpose of paragraph (h) shall be the period of seven years from the date of this Order.

Reason: It is considered reasonable that the developer should contribute towards the expenditure that was and/or that is proposed to be incurred by the planning authority in respect of works facilitating the proposed development.

Third Schedule

The proposed section of the development that crosses Coopershill between AM153 and AM165 crosses an area of scenic, cultural and heritage value where this area forms part of the curtilage of a preserved structure as per Appendix 6 of the Sligo County Development Plan, and traverses a candidate Special Area of Conservation (001898). These areas are considered to be of national importance. The proposed development, by reason of visual intrusion and disturbance would have significant adverse impacts on the amenities and ecology of the area and would, therefore, be contrary to the proper planning and development of the area.

18.2 Sligo PL21.127615: 220kV/110kV Sub-station at Ballysumaghan

First Schedule

Having regard to the need for an improved and reliable electricity supply in the North West, the provisions of the Sligo County Development Plan and to the archaeological, and visual amenities and to the pattern of development in the area, it is considered that subject to compliance with the conditions set out in the Second Schedule, the proposed development would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health or seriously injure or interfere with sites of archaeological importance in the vicinity of the development. The proposed development would, therefore, be in accordance with the proper planning and development of the area.

Second Schedule

1. Development shall be carried out in strict accordance with detailed drawings received by the planning authority on 18 December 2000 and landscaped in strict accordance with proposals indicated on “Landscape Proposal Masterplan” (Drawing no. PA-588-D65-8) contained in the Environmental Impact Statement received by the Planning Authority on 18 December 2000. Constructional activities with phased landscaping operations shall be in accordance with the description outlined under paragraph 3.2.4 of the Environmental Impact Statement. The development shall be in strict accordance with the impact mitigation measures documented in the Environmental Impact statement as supplement, unless indicated otherwise by the following conditions.

Reason: In the interest of clarity.

2. The developer shall facilitate the Planning Authority in the preservation, conservation, recording or otherwise protection of archaeological material or features which may exist on the site of, or within the vicinity of, the proposed development. In this regard the developer shall:
 - (a) Notify the planning authority in writing at least six weeks prior to the commencement of any site operation (including hydrogeological and geotechnical investigations) relating to the proposed development.
 - (b) Submit to and agree with the planning authority the location of the support structures (including any proposed resiting of support structures from the positions hereby permitted) which shall ensure that the development will not

cause avoidable disturbance to archaeological material and will limit any available disturbance to a negligible degree. Furthermore, details of archaeological testing and measures shall be submitted to, and agreed in writing by, the planning authority and subsequently carried out as recommended in the submitted Environmental Impact Assessment and additional information submissions.

- (c) Employ a suitably qualified archaeologist who shall walk and inspect the proposed route to clarify the archaeological record within the works corridor, and to identify new/other features of archaeological interest within that corridor. This work will seek to assess the archaeological potential of the sites as they survive in the field and make site-specific recommendations for their resolution in advance of construction. Having completed this assessment, the archaeologist shall submit a report to the planning authority and to Duchas, The Heritage Service. The report shall comment on the projected impact of the development on the archaeology (if any) and propose appropriate mitigation measures. The report shall be illustrated with appropriate plans, photographs and documentary evidence where necessary.
- (d) No sub-surface works shall be undertaken in the absence of the archaeologist. The archaeologist shall monitor all site investigations and other excavation works and shall be empowered to halt development work, if necessary, for the purpose of recording and recovering of any archaeological material discovered.
- (e) Provide satisfactory arrangements for the recording and removal of any archaeological material which may be considered appropriate to remove.
- (f) Machinery traffic during construction shall be restricted to an area of operation (including the access road) to be decided upon by the archaeologist and planning authority prior to construction so as to avoid any of the selected sites as listed in the additional information submission to the Board dated 20 August 2002 and any other sites that may be uncovered during field investigations. In this regard, particular attention shall be given to the following listed sites:
 - SL027:029
 - SL027:045
 - SL027:046
- (g) Spoil shall not be dumped on any of the selected sites or their surrounds.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation and/or recording of any remains which may exist.

3. In the event of the proposed substation becoming obsolete, the relevant structures and cables and any associated hardstandings shall be permanently removed in accordance with a detailed decommissioning programme that shall have been previously submitted to, and agreed in writing by the Planning Authority within six months of construction having taken place. This decommissioning programme shall include details of time-scales of such decommissioning and also for the reinstatement of the land including appropriate landscaping measures.

Reason: In the interest of visual amenity and the proper planning and development of the area.

4. A detailed Traffic Impact Assessment and Management Plan that also includes the phasing of the construction works shall be submitted to the Planning Authority eight weeks prior to the commencement of development and shall be agreed in writing with the planning authority.

Reason: In the interest of road traffic safety.

5. All road surfaces, culverts, water course, verges and public lands shall be protected during construction and, in the case of any damage occurring shall be reinstated to the satisfaction of the planning authority.

Reason: To ensure a satisfactory standard of development and in the interest of proper planning and development of the area.

6. The site's perimeter fence shall be provided with hazard notices of durable material located as to be easily viewed by the public.

Reason: For the protection of public health.

7. An environmental management plan (EMP) shall be submitted eight weeks prior to the commencement of development to the planning authority for written agreement. The EMP shall consolidate all the mitigatory measures highlighted in the EIS and the additional information submissions, as well as the mitigatory measures contained in this schedule. In particular, the EMP shall outline the applicant/developer's approach to project planning and the development of protection measures to mitigate potential environmental impacts. It must describe

the environmental practices and procedures to be applied during planning, construction, operation and decommissioning of the project and must typically:

- Outline environmental protection measures and procedures;
- Describe management practices to be employed during planning, construction, operation and decommissioning of the project to ensure effective environmental management of the project;
- Assign responsibilities to appropriate persons;
- State how environmental auditing will be carried out and updated to ensure long term successful implementation of the plan;
- Identify a monitoring group, consisting of professional persons, such as the archaeologist and an ecologist/environmental scientist to oversee the placement of the power line.

The EMP should also focus its attention on the following:

- Environmental management procedures/protocols and mitigation measures associated with construction activities in close proximity to watercourses/bodies. In particular, measures to minimise soil erosion and input into wells and stream as well as input from pollution sources such as from cement mixing shall be stipulated.
- Environmental management procedures/protocols and mitigation measures associated with the timing and duration of the removal of hedges, where necessary, and their reinstatement/rehabilitation. With respect to timing and duration, breeding seasons shall be avoided.
- Environmental management procedures/protocols and mitigation measures associated with the collection and disposal of site clearance debris and construction waste.
- Environmental management procedures/protocols and mitigation measures associated with nature conservation. In particular, breeding/roosting seasons shall be avoided, and procedures associated with the encounter of eggs and wild animals shall be stipulated. The timing and duration with the construction of the lines should also be highlighted so as to avoid migratory periods.
- Environmental management procedures/protocols and mitigation measures associated with the handling of hazardous material, including the prevention of preservative chemical seepage to be used on wooden pole sets shall be stipulated.
- Environmental management procedures/protocols and mitigation measures associated with the storage of fuel and refuelling of construction machinery/vehicles shall be stipulated.

The EMP shall also contain an auditing regime, which will highlight the person(s) responsible for auditing the construction activities, the frequency for auditing, and the submission of the environmental audit reports to the planning authority.

In default of agreement between the developer and the planning authority with respect to the EMP, the matter shall be determined by An Bord Pleanála.

Reason: In the interest of proper planning and sustainable development and to ensure the satisfactory completion of the development.

8. Structures may not be used for advertising.

Reason: In the interest of visual amenity.

9. Muted colours and/or colours that blend in with the surrounding environment shall be used on the structures, and the colours/materials to be used shall be submitted to the planning authority for written agreement prior to the developments construction.

Reason: In the interest of visual amenity.

10. A hydrogeological report to determine the appropriate location for the septic tank's percolation area, the location of the well and possible impacts associated with run-off during the construction phase shall be submitted to the planning authority for written agreement. This report shall amongst others, take into consideration the spring located to the west of the site in the adjacent field with particular reference to maintaining its quality and quantity, the suitability of the soils, the dynamics associated with the area's water table and the location of a cut-off drain to the south (higher lying area) and west of the site particularly during the site clearance and construction phase.

Reason: To prevent environmental pollution.

11. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or other security to secure the provision and satisfactory completion and maintenance until taken in charge by the planning authority of roads, footpaths, watermains, drains, public open space and other services required in connection with the development, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory completion or maintenance of any part of the development. The form and amount of the security shall be as agreed

between the planning authority and the developer or, in default of agreement, shall be determined by An Bord Pleanála.

Reason: To ensure the satisfactory completion of the development.

12. The developer shall pay a sum of money to the planning authority as a contribution towards expenditure that was and/or that is proposed to be incurred by the planning authority in respect of works facilitating the proposed development. The amount of the contribution and the arrangements for payment shall be agreed between the developer and the planning authority, or in default of agreement, shall be determined by An Bord Pleanála.

In the case of expenditure that is proposed to be incurred, the requirement to pay this contribution is subject to the provisions of Section 26(2)(h) of the Local Government (Planning and Development) Act, 1963 generally, and in particular, the specified period for the purpose of paragraph (h) shall be the period of seven years from the date of this Order.

Reason: It is considered reasonable that the developer should contribute towards the expenditure that was and/or that is proposed to be incurred by the planning authority in respect of works facilitating the proposed development.

18.3 Leitrim PL12.127570: Cathaleen's Fall – Srananagh No. 1 110kV Line

First Schedule

Having regard to the need for an improved and reliable electricity supply in the North West, the provisions of the Leitrim County Development Plan and to the archaeological, and visual amenities and to the pattern of development in the area, it is considered that subject to compliance with the conditions set out in the Second Schedule, the proposed development would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health or seriously injure or interfere with sites of archaeological importance in the vicinity of the development. The proposed development would, therefore, be in accordance with the proper planning and development of the area.

Second Schedule

1. Development shall be carried out in strict accordance with detailed drawings received by the planning authority on 18 December 2000. The development shall be in strict accordance with the impact mitigation measures documented in the Environmental Impact statement as supplement, unless indicated otherwise by the following conditions.

Reason: In the interest of clarity.

2. The developer shall facilitate the Planning Authority in the preservation, conservation, recording or otherwise protection of archaeological material or features which may exist on the site of, or within the vicinity of, the proposed development. In this regard the developer shall:
 - (a) Notify the planning authority in writing at least six weeks prior to the commencement of any site operation (including hydrogeological and geotechnical investigations) relating to the proposed development.
 - (b) Submit to and agree with the planning authority the location of the support structures (including any proposed resiting of support structures from the positions hereby permitted) which shall ensure that the development will not cause avoidable disturbance to archaeological material and will limit any available disturbance to a negligible degree. Furthermore, details of archaeological testing and measures shall be submitted to, and agreed in

writing by, the planning authority and subsequently carried out as recommended in the submitted Environmental Impact Assessment and additional information submissions.

- (c) Employ a suitably qualified archaeologist who shall walk and inspect the proposed route to clarify the archaeological record within the works corridor, and to identify new/other features of archaeological interest within that corridor. This work will seek to assess the archaeological potential of the sites as they survive in the field and make site-specific recommendations for their resolution in advance of construction. Having completed this assessment, the archaeologist shall submit a report to the planning authority and to Duchas, The Heritage Service. The report shall comment on the projected impact of the development on the archaeology (if any) and propose appropriate mitigation measures. The report shall be illustrated with appropriate plans, photographs and documentary evidence where necessary.
- (d) No sub-surface works shall be undertaken in the absence of the archaeologist. The archaeologist shall monitor all site investigations and other excavation works and shall be empowered to halt development work, if necessary, for the purpose of recording and recovering of any archaeological material discovered.
- (e) Provide satisfactory arrangements for the recording and removal of any archaeological material which may be considered appropriate to remove.
- (f) Machinery traffic during construction shall be restricted to an area of operation (including the access road) to be decided upon by the archaeologist and planning authority prior to construction so as to avoid any of the selected sites as listed in the additional information submission to the Board dated 20 August 2002 and any other sites that may be uncovered during field investigations.
- (g) Spoil shall not be dumped on any of the selected sites or their surrounds.
- (h) Ensure for the retention and preservation of all existing stone field boundaries unless the planning authority has given a prior written agreement for works to, or affecting such structures.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation and/or recording of any remains which may exist.

3. In the event of the proposed lines becoming obsolete, the relevant structures and cables and any associated hardstandings shall be permanently removed in accordance with a detailed decommissioning programme that shall have been previously submitted to, and agreed in writing by the Planning Authority within six months of construction having taken place. This decommissioning programme shall include details of time-scales of such decommissioning and also for the reinstatement of the land including appropriate landscaping measures.

Reason: In the interest of visual amenity and the proper planning and development of the area.

4. No pylon or tower shall be positioned within 15 metres of any river bank or water course.

Reason: In order to avoid bank erosion and silt run-off, and in the interests of preventing environmental pollution.

5. A detailed Traffic Impact Assessment and Management Plan that also includes the phasing of the construction works shall be submitted to the Planning Authority eight weeks prior to the commencement of development and shall be agreed in writing with the planning authority.

Reason: In the interest of road traffic safety.

6. The transmission line shall have appropriate bird warning devices installed to prevent bird strikes along those sections which cross the Owenmore and Unshin Rivers and along other wild/waterfowl flightlines. The location and design of such devices shall be subject to written agreement with the planning authority prior to construction of the development.

Reason: In the interests of heritage protection.

7. All road surfaces, culverts, water course, verges and public lands shall be protected during construction and, in the case of any damage occurring shall be reinstated to the satisfaction of the planning authority.

Reason: To ensure a satisfactory standard of development and in the interest of proper planning and development of the area.

8. All pylons, pole sets and such like shall be provided with anti-climbing barriers of corrosion resistant construction for longevity of protection. In addition, all pylons

shall be provided with hazard notices of durable material located as to be easily viewed by the public.

Reason: For the protection of public health.

9. Pole sets and pylons shall be located adjacent to field boundaries where possible to minimise interference with agricultural operations.

Reason: For the protection of public health.

10. The development shall maintain a minimum distance of 50 metres from dwelling units and educational institutions.

Reason: In the interest of public health.

11. An environmental management plan (EMP) shall be submitted eight weeks prior to the commencement of development to the planning authority for written agreement. The EMP shall consolidate all the mitigatory measures highlighted in the EIS and the additional information submissions, as well as the mitigatory measures contained in this schedule. In particular, the EMP shall outline the applicant/developer's approach to project planning and the development of protection measures to mitigate potential environmental impacts. It must describe the environmental practices and procedures to be applied during planning, construction, operation and decommissioning of the project and must typically:

- Outline environmental protection measures and procedures;
- Describe management practices to be employed during planning, construction, operation and decommissioning of the project to ensure effective environmental management of the project;
- Assign responsibilities to appropriate persons;
- State how environmental auditing will be carried out and updated to ensure long term successful implementation of the plan;
- Identify a monitoring group, consisting of professional persons, such as the archaeologist and an ecologist/environmental scientist to oversee the placement of the power line.

The EMP should also focus its attention on the following:

- Environmental management procedures/protocols and mitigation measures associated with construction activities along watercourses/bodies. In particular, measures to minimise soil erosion and input into the stream as well as input from pollution sources such as from cement mixing shall be stipulated.

- Environmental management procedures/protocols and mitigation measures associated with the timing and duration of the removal of hedges, where necessary, and their reinstatement/rehabilitation. With respect to timing and duration, breeding seasons shall be avoided.
- Environmental management procedures/protocols and mitigation measures associated with the collection and disposal of site clearance debris and construction waste.
- Environmental management procedures/protocols and mitigation measures associated with nature conservation. In particular, breeding/roosting seasons shall be avoided, and procedures associated with the encounter of eggs and wild animals shall be stipulated. The timing and duration with the construction of the lines should also be highlighted so as to avoid migratory periods.
- Environmental management procedures/protocols and mitigation measures associated with the handling of hazardous material, including the prevention of preservative chemical seepage to be used on wooden pole sets shall be stipulated.
- Environmental management procedures/protocols and mitigation measures associated with the storage of fuel and refuel of construction machinery/vehicles shall be stipulated.

The EMP shall also contain an auditing regime, which will highlight the person(s) responsible for auditing the construction activities, the frequency for auditing, and the submission of the environmental audit reports to the planning authority.

In default of agreement between the developer and the planning authority with respect to the EMP, the matter shall be determined by An Bord Pleanála.

Reason: In the interest of proper planning and sustainable development and to ensure the satisfactory completion of the development.

12. Pylons, towers and other structures may not be used for advertising.

Reason: In the interest of visual amenity.

13. Muted colours and/or colours that blend in with the surrounding environment shall be used on the structures, and the colours/materials to be used shall be submitted to the planning authority for written agreement prior to the development's construction.

Reason: In the interest of visual amenity.

14. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or other security to secure the provision and satisfactory completion and maintenance until taken in charge by the planning authority of roads, footpaths, watermains, drains, public open space and other services required in connection with the development, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory completion or maintenance of any part of the development. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be determined by An Bord Pleanála.

Reason: To ensure the satisfactory completion of the development.

15. The developer shall pay a sum of money to the planning authority as a contribution towards expenditure that was and/or that is proposed to be incurred by the planning authority in respect of works facilitating the proposed development. The amount of the contribution and the arrangements for payment shall be agreed between the developer and the planning authority, or in default of agreement, shall be determined by An Bord Pleanála.

In the case of expenditure that is proposed to be incurred, the requirement to pay this contribution is subject to the provisions of Section 26(2)(h) of the Local Government (Planning and Development) Act, 1963 generally, and in particular, the specified period for the purpose of paragraph (h) shall be the period of seven years from the date of this Order.

Reason: It is considered reasonable that the developer should contribute towards the expenditure that was and/or that is proposed to be incurred by the planning authority in respect of works facilitating the proposed development.

18.4 Roscommon PL20.127552: Flagford – Srananagh 220kV Line

First Schedule

Having regard to the need for an improved and reliable electricity supply in the North West, the provisions of the Roscommon County Development Plan and to the archaeological, and visual amenities and to the pattern of development in the area, it is considered that subject to compliance with the conditions set out in the Second Schedule, the proposed development, with the exception of the route between AM60 and AM69 (over or in the vicinity of Lisserdrea, Knockavroe, Breandrum, Ardsallagh and Tinacarra), would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health or seriously injure or interfere with sites of archaeological importance in the vicinity of the development. The proposed development would, therefore, be in accordance with the proper planning and development of the area.

Second Schedule

1. Development shall be carried out in strict accordance with detailed plans and documents received by the planning authority on 18 December 2000 as amended by the details submitted on 27 April 2001, 13 July 2001, 28 September 2001, and 18 October 2001, but **excludes** that section of the route between AM60 and AM69 (over or in the vicinity of Lisserdrea, Knockavroe, Breandrum, Ardsallagh and Tinacarra). The development shall be in strict accordance with the impact mitigation measures documented in the Environmental Impact statement as supplement, unless indicated otherwise by the following conditions.

Reason: In the interest of clarity.

2. The developer shall facilitate the Planning Authority in the preservation, conservation, recording or otherwise protection of archaeological material or features which may exist on the site of, or within the vicinity of, the proposed development. In this regard the developer shall:
 - (a) Notify the planning authority in writing at least six weeks prior to the commencement of any site operation (including hydrogeological and geotechnical investigations) relating to the proposed development.
 - (b) Submit to and agree with the planning authority the location of the support structures (including any proposed resiting of support structures from the

positions hereby permitted) which shall ensure that the development will not cause avoidable disturbance to archaeological material and will limit any available disturbance to a negligible degree. Furthermore, details of archaeological testing and measures shall be submitted to, and agreed in writing by, the planning authority and subsequently carried out as recommended in the submitted Environmental Impact Assessment and additional information submissions.

- (c) Employ a suitably qualified archaeologist who shall walk and inspect the proposed route to clarify the archaeological record within the works corridor, and to identify new/other features of archaeological interest within that corridor. This work will seek to assess the archaeological potential of the sites as they survive in the field and make site-specific recommendations for their resolution in advance of construction. Having completed this assessment, the archaeologist shall submit a report to the planning authority and to Duchas, The Heritage Service. The report shall comment on the projected impact of the development on the archaeology (if any) and propose appropriate mitigation measures. The report shall be illustrated with appropriate plans, photographs and documentary evidence where necessary.
- (d) No sub-surface works shall be undertaken in the absence of the archaeologist. The archaeologist shall monitor all site investigations and other excavation works and shall be empowered to halt development work, if necessary, for the purpose of recording and recovering of any archaeological material discovered.
- (e) Provide satisfactory arrangements for the recording and removal of any archaeological material which may be considered appropriate to remove.
- (f) Machinery traffic during construction shall be restricted to an area of operation (including the access road) to be decided upon by the archaeologist and planning authority prior to construction so as to avoid any of the selected sites as listed in the additional information submission to the Board dated 20 August 2002 and any other sites that may be uncovered during field investigations. In this regard, particular attention shall also be given to the following listed site RO010:001.
- (g) Spoil shall not be dumped on any of the selected sites or their surrounds.

(h) Ensure for the retention and preservation of all existing stone field boundaries unless the planning authority has given a prior written agreement for works to, or affecting such structures.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation and/or recording of any remains which may exist.

3. In the event of the proposed lines becoming obsolete, the relevant structures and cables and any associated hardstandings shall be permanently removed in accordance with a detailed decommissioning programme that shall have been previously submitted to, and agreed in writing by the Planning Authority within six months of construction having taken place. This decommissioning programme shall include details of time-scales of such decommissioning and also for the reinstatement of the land including appropriate landscaping measures.

Reason: In the interest of visual amenity and the proper planning and development of the area.

4. No pylon or tower shall be positioned within 15 metres of any watercourse.

Reason: In order to avoid bank erosion and silt run-off, and to prevent environmental pollution.

5. A detailed Traffic Impact Assessment and Management Plan that also includes the phasing of the construction works shall be submitted to the Planning Authority eight weeks prior to the commencement of development and shall be agreed in writing with the planning authority.

Reason: In the interest of road traffic safety.

6. The transmission line shall have appropriate bird warning devices installed to prevent bird strikes along those sections which are aligned across wild/waterfowl flightlines. The location and design of such devices shall be subject to written agreement with the planning authority prior to construction of the development.

Reason: In the interests of heritage protection.

7. All road surfaces, culverts, water course, verges and public lands shall be protected during construction and, in the case of any damage occurring shall be reinstated to the satisfaction of the planning authority.

Reason: To ensure a satisfactory standard of development and in the interest of proper planning and development of the area.

8. All pylons, pole sets and such like shall be provided with anti-climbing barriers of corrosion resistant construction for longevity of protection. In addition, all pylons shall be provided with hazard notices of durable material located as to be easily viewed by the public.

Reason: For the protection of public health.

9. Pole sets and pylons shall be located adjacent to field boundaries where possible to minimise interference with agricultural operations.

Reason: For the protection of public health.

10. The development shall maintain a minimum distance of 50 metres from dwelling units and educational institutions.

Reason: In the interest of public health.

11. An environmental management plan (EMP) shall be submitted eight weeks prior to the commencement of development to the planning authority for written agreement. The EMP shall consolidate all the mitigatory measures highlighted in the EIS and the additional information submissions, as well as the mitigatory measures contained in this schedule. In particular, the EMP shall outline the applicant/developer's approach to project planning and the development of protection measures to mitigate potential environmental impacts. It must describe the environmental practices and procedures to be applied during planning, construction, operation and decommissioning of the project and must typically:

- Outline environmental protection measures and procedures;
- Describe management practices to be employed during planning, construction, operation and decommissioning of the project to ensure effective environmental management of the project;
- Assign responsibilities to appropriate persons;
- State how environmental auditing will be carried out and updated to ensure long term successful implementation of the plan;
- Identify a monitoring group, consisting of professional persons, such as the archaeologist and an ecologist/environmental scientist to oversee the placement of the power line.

The EMP should also focus its attention on the following:

- Environmental management procedures/protocols and mitigation measures associated with construction activities along or adjacent to watercourses/bodies. In particular, measures to minimise soil erosion and input into the stream as well as input from pollution sources such as from cement mixing shall be stipulated.
- Environmental management procedures/protocols and mitigation measures associated with construction activities in the sensitive glacial landscape between Carrowmore and Boherroe shall be stipulated.
- Environmental management procedures/protocols and mitigation measures associated with the timing and duration of the removal of hedges, where necessary, and their reinstatement/rehabilitation. With respect to timing and duration, breeding seasons shall be avoided.
- Environmental management procedures/protocols and mitigation measures associated with the collection and disposal of site clearance debris and construction waste.
- Environmental management procedures/protocols and mitigation measures associated with nature conservation. In particular, breeding/roosting seasons shall be avoided, and procedures associated with the encounter of eggs and wild animals shall be stipulated. The timing and duration with the construction of the lines should also be highlighted so as to avoid migratory periods.
- Environmental management procedures/protocols and mitigation measures associated with the handling of hazardous material, including the prevention of preservative chemical seepage to be used on wooden pole sets shall be stipulated.
- Environmental management procedures/protocols and mitigation measures associated with the storage of fuel and refuel of construction machinery/vehicles shall be stipulated.

The EMP shall also contain an auditing regime, which will highlight the person(s) responsible for auditing the construction activities, the frequency for auditing, and the submission of the environmental audit reports to the planning authority.

In default of agreement between the developer and the planning authority with respect to the EMP, the matter shall be determined by An Bord Pleanála.

Reason: In the interest of proper planning and sustainable development and to ensure the satisfactory completion of the development.

12. Pylons, towers and other structures may not be used for advertising.

Reason: In the interest of visual amenity.

13. Muted colours and/or colours that blend in with the surrounding environment shall be used on the structures, and the colours/materials to be used shall be submitted to the planning authority for written agreement prior to the developments construction.

Reason: In the interest of visual amenity.

14. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or other security to secure the provision and satisfactory completion and maintenance until taken in charge by the planning authority of roads, footpaths, watermains, drains, public open space and other services required in connection with the development, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory completion or maintenance of any part of the development. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be determined by An Bord Pleanála.

Reason: To ensure the satisfactory completion of the development.

15. The developer shall pay a sum of money to the planning authority as a contribution towards expenditure that was and/or that is proposed to be incurred by the planning authority in respect of works facilitating the proposed development. The amount of the contribution and the arrangements for payment shall be agreed between the developer and the planning authority, or in default of agreement, shall be determined by An Bord Pleanála.

In the case of expenditure that is proposed to be incurred, the requirement to pay this contribution is subject to the provisions of Section 26(2)(h) of the Local Government (Planning and Development) Act, 1963 generally, and in particular, the specified period for the purpose of paragraph (h) shall be the period of seven years from the date of this Order.

Reason: It is considered reasonable that the developer should contribute towards the expenditure that was and/or that is proposed to be incurred by the planning authority in respect of works facilitating the proposed development.

Third Schedule

The proposed section of the development between AM60 and AM69 crosses in close proximity to a Special Protection Area and proposed Natural Heritage Area and is located in an area that could interfere with the flight path of migratory and protected wildfowl species. Having regard to the proposed development's close proximity to a Special Protection Area, the Board is not satisfied, on the basis of the submissions made in connection with the planning application and the appeal, that the proposed development would not have significant adverse impacts on the amenities and ecology of this area and on the value of these areas for tourism. The proposed development along this section would, therefore, be premature pending further investigation, and thus contrary to the proper planning and development of the area.

Detlev O. Münster
Inspectorate
30 September 2002

- APPENDIX A: EIS checklist
- APPENDIX B: Photographs of the sections under appeal
- APPENDIX C: 1:50,000 Maps
- APPENDIX D: Memorandum to Board dated 22 May 2002-09-25
- APPENDIX E: Report by Dr T. McManus (Department of Public Enterprise)
- APPENDIX F: Bibliography
- APPENDIX G: Legal aspects of electricity and magnetic fields
- APPENDIX H: Outline of landscape assessment criteria
- APPENDIX I: Photographs of the sections not under appeal but part of the greater project.
- APPENDIX J: Hard copies of digital information submitted by the ESB.