



North East Power Line Projects

Frequently Asked Questions July 2009

This document outlines answers to questions sent to EirGrid by landowners and the local community in relation to the North-East Power Line Projects.

Most of the questions have been received since the preferred route corridor announcement in April 2009 and relate to such issues as route selection, undergrounding, compensation, construction, power line design, and environmental impact.

1. Why are EirGrid not consulting with householders directly impacted by the proposed overhead lines and pylons route?

EirGrid welcomes the opportunity to consult with any stakeholder who wishes to input into the projects.

EirGrid's consultants, ESBI and Tobin Consulting Engineers, have been visiting, and consulting with, the landowners on whose property the proposed 400kV overhead line will be built. In the case of all other landowners, householders and residents it is not possible to know intuitively which of them considers themselves to be, or not to be, 'impacted by the proposed overhead lines and pylons route'. As a result EirGrid advertised its intentions extensively in the media and invited all interested parties to consultation. To date this has resulted in over 11,000 people contacting EirGrid. EirGrid has also consulted extensively with community groups, such as NEPP, who claim to represent over 45,000 residents.

The invitation to consultation, to all persons who consider themselves to be impacted by EirGrid's proposals, remains open. Any stakeholder who wishes to consult with EirGrid on these projects can do so in any of the following ways:

A) Meeting

EirGrid is hosting meetings at our local information centres. These meetings provide stakeholders with an opportunity to talk with EirGrid's experts about general project issues. Please call 1890.25.26.90 if you would like to attend one of these meetings.

B) Information Centre

EirGrid have public Information Centres in both Navan and Carrickmacross. These have been open since August 2008, and are there to facilitate engagement with the local community. Please drop into one of these centres, or call us to make an appointment at the below contact details:

Navan Information Centre
Number 1, Newbridge,
Athlumney,
Navan,
Co. Meath.

Carrickmacross Information Centre
Carrickmacross Workhouse,
Shercock Road,
Carrickmacross,
Co. Monaghan.

Open: Tuesday, 1:00 to 7:00 P.M.
Ph: 046.902.7855, or 1890.25.26.90

Open: Wednesday, 1:00 to 7:00 P.M.
Ph: 046.969.0000 or 1890.25.26.90

C) Lo-Call phone line

The EirGrid Project Team can be contacted on 1890.25.26.90, Mondays to Fridays from 9 am to 5 pm.

D) Written Communication

If you wish to engage in written correspondence, please direct your queries to Tomás Mahony at our Navan Information Centre address, or email: meathcavanpower@eirgrid.com.

2. I cannot get insurance against EMF damage to my health, will EirGrid provide me with this as I will be living within close proximity to the proposed lines?

EirGrid and ESB jointly design, construct, operate and maintain the electricity transmission network. They do this in compliance with all national and international guidelines and in accordance with 'best practice'. They are jointly satisfied from the totality of studies and the views of international authoritative agencies (including the World Health Organisations) that the balance of evidence is that the EMF, emanating from overhead transmission lines, does not have any adverse effect on public health. Accordingly, the issue of insurance in respect of EMFs does not arise in the context of the proposed lines.

3. My house is so close to the pylons that I will probably never be able to sell it. How will EirGrid measure property devaluation and how do I claim?

Reliable, secure and economic supplies of electricity are vital to all of us in our daily lives, as householders, in agriculture, industry and employment. It is no coincidence that areas with strong overhead electricity networks have proven to be economically successful, attracting and retaining essential high technology industries. Where lands or wayleaves are required in order to facilitate the construction and operation of the proposed overhead line, a scheme of compensation has been put in place for the assessment of any loss in the value of lands affected. See answer to Question 7 for further detail.

4. What are EirGrid going to do about the noise from the pylons for anyone living beside these monstrous specimens?

Appropriate materials and construction practices will be utilised to minimise the 'noise' that can occur during periods of high humidity. It should be noted that projected noise levels, along with mitigation measures will be studied as part of the EIS, which will be submitted alongside the planning application.

5. Why did EirGrid choose the route with the most dwellings and the most people living in close proximity to the lines?

EirGrid has not yet, as of July 2009, finalised a route within the preferred corridors. It should also be noted that neither of EirGrid's preferred corridors contains the *"most dwellings and the most people living in close proximity to the lines"*.

In February 2009 EirGrid announced its preferred candidate corridors (Corridor A in the case of Cavan-Tyrone and Corridor 3b in the case of Cavan-Meath) within which a route can be found. At that time EirGrid published a Corridor Evaluation Document (available for viewing on the project pages of EirGrid's website at www.eirgrid.com). In this document the methodology applied to the evaluation of the various route corridor options is described. The methodology involved a qualitative evaluation of the corridor options against twenty two different criteria (two of which considered the issue of proximity to dwellings) and from this a conclusion was drawn as to which option should become the preferred candidate corridor.

The Corridor Evaluation Document concluded that while the evaluation process found that each option had pros and cons the preferred candidate corridors announced by EirGrid *"constitute the most appropriate balance between the various technical, environmental and community evaluation criteria, notwithstanding the fact that potential constraints are identified for all corridors"*.

The Corridor Evaluation Document explains that Phase 2 of the route identification process concluded with the announcement of the preferred corridors. While Phase 3 of the process (which is currently underway) involves *“more detailed technical and environmental studies, and ongoing Statutory, non-Statutory and public consultation, with the purpose of identifying a preferred route for the overall transmission infrastructure project within the identified preferred corridor”*.

6. Why did EirGrid not consider putting the proposed infrastructure along either the M3 or the proposed rail line? Were there meetings held with the NRA and Iarnród Éireann to consider such a proposal?

EirGrid has consulted with both the NRA and Iarnród Éireann regarding these projects.

As both EirGrid, and its environmental consultants, recognise the merits of utilising shared infrastructure corridors for linear developments (such as roads, railways, canals, pipelines and power lines etc.) the possibility of locating the proposed development alongside the new motorway and the disused railway line was considered as follows -

Overhead line along the M3 motorway

Locating the proposed overhead line alongside the motorway was ruled out because, in the opinion of the environmental consultant, to do so, would not be environmentally sustainable. This opinion was based on, among other things, the stated intention of the planning authority to protect *“landscapes of exceptional value and sensitivity and in particular to protect the rural character, setting, amenity and archaeological heritage of Brú na Bóinne and the Hill of Tara, and of the surrounding areas including the area in the vicinity of the proposed M3 motorway and its related interchanges”*.

Underground Cable along the M3 motorway

Locating a 400kV underground cable within the reserve of the motorway was ruled out primarily because in EirGrid's opinion it would not be appropriate to use 400kV underground cable in place of 400kV overhead line, for this project, as this would not be in compliance with EirGrid's mandate to provide Ireland with a safe, reliable and cost effective transmission network while having due regard for the environment. This conclusion is supported by the findings of the PB Power Report (commissioned by EirGrid and NIE) and the ECOFYS Report (commissioned by the Department of Communications, Energy and Natural Resources).

In addition the NRA has advised that a 400kV underground cable would only be permitted within the motorway reserve if “indemnities regarding damage, disruption, costs, etc” acceptable to both NRA and the PPP (public-private partnership) company, that will construct and operate the motorway, were received. In EirGrid's opinion, even if underground cable was a viable option, this requirement introduces such complexity, uncertainty and risk that it would render this route, a less favourable underground cable route than a direct cross county route, such as that identified in the PB Power Report.

Overhead line along the route of the disused railway lines

Locating the proposed overhead line alongside the route of the disused railway lines was ruled out because it would direct the development into areas of population, in particular Navan Town, but also a number of villages and hamlets along the route. In the opinion of the routeing experts there were better and less constrained route options available elsewhere.

Underground cable along the route of the disused railway lines

Locating a 400kV underground cable within the reserve of the disused railway was ruled out primarily because in EirGrid's opinion it would not be appropriate to use 400kV underground cable, instead of the proposed 400kV overhead line, for this project as this would not be in compliance with EirGrid's mandate to provide Ireland with a safe, reliable and cost effective transmission network while having due regard for the environment. This conclusion is supported by the findings of the PB Power Report and the ECOFYS Report.

In addition PB Power was requested, for their report, to find a route corridor within which a technically and environmentally feasible route for underground cable (UGC) could be found. This was to be done for the purpose of establishing a realistic cost and environmental impact comparison between an underground cable option and the proposed overhead line option. Prior to carrying out the study, PB Power and EirGrid/NIE, agreed a set of 'Strategic Cable Routeing Criteria' to be applied by PB Power's cable routeing experts in their quest for a suitable UGC route. During these discussions it was concluded that there would be no advantage to routeing the UGC via the disused rail lines, while taking a more direct route across country would result in a shorter route and involve less uncertainty and risk. It was therefore agreed that the 'Strategic Routeing Criteria' should identify the railway lines, both in service and disused, under the category 'Avoid if Possible'. NOTE – further elaboration on this issue can be found in the answer to Question 29.

7. Will I as an adjacent householder whose land/property is not traversed be compensated for the proposed unsightly infrastructure and its emissions?

EirGrid will ensure that every reasonable effort is made to minimise the impact of the 400kV overhead line on adjacent householders, whether in relation to visual amenity or any perceived environmental emissions. In the case of visual impact this will include, among other things –

- the use of a less visually intrusive pylon design than was used in the past.
- the careful positioning, where possible in agreement with landowners, of the pylons.
- the implementation of any other reasonable mitigation measures that are agreed with potentially affected property owners.

In the case of potential 'emissions' minimisation of any impact will include, among other things –

- compliance with EU Guidelines on the exposure of persons to electric and magnetic fields.
- use of appropriate materials and construction practices to minimise the 'noise' that can occur during periods of high humidity.

In circumstances where these potential impacts will be mitigated, EirGrid does not perceive that there will be any significant depreciation in the value of property in the vicinity of the proposed overhead line over and above the depreciation in the property market generally.

8. Will I be indemnified by potential claims by visitors to my property?

Landowners, including persons present on their land with their permission are indemnified by the Electricity Supply Board (ESB). The full details of this cover are detailed in the "ESB/I FA Code of Practice for Survey, Construction Maintenance of Overhead Lines in relation to the Rights of Landowners" (October 1985) states the following:-

"The Board shall indemnify and keep indemnified the landowner, his servants, agents, licensees and invitees against all sums in respect of loss or damage, claims, demands, costs and expenses which the landowner shall become legally liable to pay as compensation for any illness or accidental bodily injury or accidental loss of or damage to property where such injury or damage is caused by, arises from, is traceable or connected with the works or equipment other than in consequence of any malicious act or omission on part of the landowner. The Board shall pay compensation to the landowner, his servants, agents, licensees and invitees in respect of any illness or bodily injury or loss or damage to material property suffered by him or them (together with all consequential loss arising there from) where that same is caused by, arises from, is traceable to or connected with the works, or equipment other than in consequence of any malicious or criminally reckless act or omission of the landowner and except insofar as the same has been made good by the Board without loss to the landowner. The above is without prejudice to the Board's and Landowners' Statutory and Common Law rights. Illness in this context is understood to mean damage to the personal health and well being of the landowner or his animals or his agents, servants, licensees and invitees. It is noted and agreed that the ESB will issue, to any individual landowner requiring same, a letter of acknowledgement that the Board's wayleave over his land is subject to the provisions of the code of practice, including specifically the indemnity clause."

9. What is the minimum distance committed by EirGrid that the 400kV lines or pylons will be placed nearest to a dwelling?

There is no specified 'minimum distance' other than that required to ensure safety from electrocution. The Electricity Supply Act however requires that any person intending to construct a building within 25 yards (approximately 23 metres) of an existing overhead line must notify ESB in advance. This is required so that ESB Networks can ensure that the works can be carried out safely and that the future safe operation and maintenance of the overhead line, and the proposed building, is ensured.

For the proposed 400kV lines EirGrid expects to achieve a minimum clearance distance that is much greater than 23 metres. The actual distance however will not be known until the design is finalised.

10. Will my family or their offspring be indemnified for any potential ill health effects?

EirGrid and ESB are companies, owned by the State. They jointly design, construct, operate and maintain the electricity transmission network. They do this in compliance with all national and international guidelines and in accordance with 'best practice'. They are jointly satisfied from the totality of studies and the views of international authoritative agencies that the balance of evidence is that overhead transmission lines proposed for use do not have any adverse effect on public health. Accordingly, the issue of indemnification in respect of perceived health effects does not arise in the context of the proposed lines.

11. What are EirGrid's powers in relation to entering property prior to submitting plans to An Bord Pleanála? Cite any relevant legislation or Court decisions.

Without prejudice to such rights, EirGrid is not proposing to rely on statutory powers to enter land 'prior to submitting plans to An Bord Pleanála'. Rather, entry onto lands is being approached on a voluntary basis. While EirGrid is endeavouring to meet landowners prior to application, this is primarily to hear landowner views at this early stage so that mitigation measures can be appropriately identified and included in the planning application. Through landowner site visits, EirGrid wishes to ascertain whether and how the proposed overhead line might impact upon landowners.

12. What permission, if any, does EirGrid need to enter on land to complete their Environmental Impact Study? Cite any relevant legislation or Court decisions.

Clearly, it will be of benefit to landowners and EirGrid alike if as much access is given as possible so that all landowner concerns and specific issues that will affect the project can be identified as early as possible and fed into the process of preparing the EIS. To the extent that access is refused and cannot otherwise be obtained, the EIS will record this together with alternative measures adopted to ensure that the EIS is as comprehensive as possible.

13. If a landowner does not grant permission to EirGrid to enter lands, does it mean that EirGrid cannot proceed through my property with overhead lines and Pylon towers?

In circumstances where planning permission is granted for the proposed lines, EirGrid/ESB Networks shall endeavour to agree access arrangements with individual landowners. In the event that such arrangements cannot be agreed, then in order to implement the construction of structures and installation of lines so permitted, and only where necessary, EirGrid/ESB Networks shall rely upon statutory powers of entry in this regard.

It should be noted, however, that while EirGrid does not generally use statutory powers, EirGrid reserves its statutory rights in this regard in individual cases where a need to enter upon lands is necessary and a landowner is not willing to facilitate EirGrid in this regard.

14. Will EirGrid be willing to compensate farmers for health effects on their livestock? If so, what will be the basis for calculating such compensation?

EirGrid and ESB are companies owned by the State. They jointly design, construct, operate and maintain the electricity transmission network. They do this in compliance with all national and international guidelines and in accordance with 'best practice'. They are jointly satisfied from the totality of studies and the views of international authoritative agencies that the balance of evidence is that overhead transmission lines proposed for use do not have any adverse effect on animal health. Accordingly, the issue of compensating for perceived animal health effects does not arise in the context of the proposed lines.

ESB Networks will take every care during the erection and subsequent work on the line to ensure that farmers' operations, including livestock operations, are not impacted. ESB Networks, after consultation with the landowner shall take all necessary precautions to prevent the straying of livestock and shall compensate the landowner of such livestock for all loss, damage or claims arising from the loss of such animals and pay compensation for injury or death or loss of the animals where such straying is clearly due to any act or omission on the part of the Board. The Board shall ensure that the local District Veterinary Officer is informed of the entry of ESB vehicles onto a farm with a disease problem and that the Epidemiology Unit of the Department of Agriculture is made aware of ESB activities in TB affected areas.

15. Will EirGrid be legally responsible for any ill-health effects to farming families/farming employees who would constantly be exposed to EMFs while attending to stock?

EirGrid and ESB are companies owned by the State. They jointly design, construct, operate and maintain the electricity transmission network. They do this in compliance with all national and international guidelines and in accordance with 'best practice'. They are jointly satisfied from the totality of studies and the views of international authoritative agencies that the balance of evidence is that overhead transmission lines proposed for use do not have any adverse effect on human health. Accordingly, the issue of compensating for perceived human health effects does not arise in the context of the proposed lines.

16. Can you give me details of EirGrid's insurance and indemnity policy for claims against the company or a landowner arising from ill health effects of EMF?

EirGrid and ESB jointly design, construct, operate and maintain the electricity transmission network. They do this in compliance with all national and international guidelines and in accordance with 'best practice'. They are jointly satisfied from the totality of studies and the views of international authoritative agencies that the balance of evidence is that the EMF, emanating from overhead transmission lines, does not have any adverse effect on public health. Accordingly, the issue of insurance or indemnification in respect of EMFs, or any perceived health effects arising from EMFs, does not arise in the context of the proposed lines.

17. How will EirGrid indemnify me against third party claims both for property devaluation and health damages?

EirGrid will ensure that every reasonable effort is made to minimise the impact of the 400kV overhead line on adjacent properties. In circumstances where any potential impacts on property will be mitigated, it is not envisaged that there will be any significant depreciation in the value of property in the vicinity of the proposed overhead line over and above the depreciation in the property market generally. Accordingly, it is not anticipated that any "third party" claims will arise.

EirGrid and ESB are jointly satisfied from the totality of studies and the views of international authoritative agencies (including the World Health Organisation) that the balance of evidence is that the overhead transmission lines proposed for use do not have any adverse effect on public health. Accordingly, the issue of indemnification in respect of perceived health effects does not arise in the context of the proposed lines. Therefore, it is not anticipated that any valid "third party" claims will arise in this regard.

18. Why has EirGrid not factored in an underground cable route as part of the original proposed route corridors?

EirGrid always considers the use of underground cables when proposing a new high voltage transmission circuit but does so in accordance with its policy on the matter. In the case of the Cavan-Meath and Cavan-Tyrone 400kV projects the extent of this consideration is described in the document 'EirGrid's Position on the use of Overhead Line and/or Underground Cable for these Projects', a copy of which can be viewed on project pages of EirGrid's website at www.eirgrid.com.

In addition to the above EirGrid is required to prepare an EIS (Environmental Impact Statement) in support of its application for Planning Permission. The EIS must contain a section that describes the applicant's consideration of alternatives. In this section of the EIS EirGrid will fully describe its consideration of alternative solutions, including technical alternatives such as the use of underground cable.

19. Can you confirm that all new transmission lines in Denmark will be undergrounded?

EirGrid has consulted with its counterpart in Denmark and can confirm that this is not correct. The strategy for the future development of Denmark's 400kV network has been misunderstood and misrepresented by persons, outside of Denmark, who are opposed to the construction of 400kV overhead lines in their own countries.

Denmark needs to strengthen the 'backbone' of its 400kV network and proposes to do this by constructing a new double circuit 400kV overhead line (replacing an existing single circuit 400kV overhead line) down through the centre of Jutland and across the border into Germany. This project will be carried out in three phases and is expected to be completed by 2020. Beyond that they have expressed an aspiration that all 'non-backbone' 400kV circuits be achieved using underground cable. This will however require the installation of some long lengths of underground cable and they are uncertain as to whether this is technically possible. As a result they have instituted a research and development programme, in cooperation with Danish universities. The programme consists of a number of PhD research projects and, depending on the results, may involve the installation of a long (greater than 60km) underground cable as a test case. They hope to complete the research and development programme within the next ten years and if successful will then proceed with plans to underground all existing and future 'non-backbone' 400kV circuits.

Full details of the strategy for the expansion and undergrounding of the Danish electricity transmission grid can be found on the website of the Energinet.dk, the Danish transmission system owner, at www.energinet.dk.

20. Why is EirGrid not putting all proposed new 110kV lines underground, as this is technically feasible?

"Putting all proposed new 110kV lines underground" would not be in compliance with EirGrid's statutory obligation to provide Ireland with a 'safe, reliable and cost effective electricity transmission system while having due regard for the environment'. This position is fully explained in EirGrid's 'Policy on the use of Overhead Line and/or Underground Cable' a copy of which can be seen on this Project's web-pages on EirGrid's website at www.eirgrid.com.

21. Does EirGrid have an existing and specific code of practice with the Irish Farmer's Association (IFA) for 400kV lines being placed on their member's lands?

No but ESB, in its role as the Transmission Asset Owner, is responsible for the construction of overhead transmission lines and has such an agreement with the IFA for all overhead lines of '110kV and above'.

22. Does EirGrid have an existing and specific code of practice with the Irish Creamery Milk Suppliers' Association (ICMSA) for 400kV transmission lines being placed on their member's lands?

No.

23. Why has EirGrid taken such an intransigent approach to undergrounding, by stating that overhead lines are its "absolute preference"?

The words "absolute preference" are from EirGrid's Corridor Evaluation Document that was published in February 2009. The words are used in the following context - as addressed in more detail in the Strategic Issues Review, it is EirGrid's policy for the use of overhead line infrastructure in carrying out rural linear transmission projects such as is planned in this instance, in absolute preference to underground cable systems.

The Corridor Evaluation Document goes on to state that this policy is consistent with the conclusions of the *Ecofys Study on the Comparative Merits of Overhead Electricity Transmission Lines Versus Underground Cables*, of May 2008 prepared by order of the Department of Communications, Energy and Natural Resources, which notes that:- "Until now, 400 kV to 500 kV AC cables for transmission are nearly exclusively used in short sections in urban areas and only rarely in open country" (p.38), and that "Up to now, construction and operation of an EHV UGC in Ireland with a length of up to 100 km would not be backed by any experience worldwide" (p.44). The Study concludes that "With more than 50 years of experience OHL are state-of-the-art and are the reference technology for transporting large amounts of electric power over distances of several hundreds of kilometres" (p.53).

NOTE – The Strategic Issues Review and the Corridor Evaluation Document are both available for viewing on this Project's web-pages at www.eirgrid.com.

24. Why has EirGrid rejected without foundation the findings of the ASKON Reports? Can you forward me a copy of the ASKON Reports?

EirGrid welcomed the Askon Report and acknowledged its contribution to the consultation process. EirGrid, with the assistance of its team of international experts, carried out a comprehensive review of the Report and published the findings of this review in the document 'EirGrid Position on NEPP Askon Study'.

In summary EirGrid agrees with the following findings in the Askon Report –

- There have been significant developments in HV UGC (underground cable) technology in the past twenty years.
- HVDC (high voltage direct current) technology is not appropriate for these projects.

- Two UGC circuits would be required to replace the proposed single 400kV OHL (overhead line).
- The installation of two independent UGC circuits would alleviate some of the disadvantages associated with HV UGC circuits.
- It would not be appropriate to install an UGC circuit, of the magnitude required for these projects, under the public roads of Meath, Cavan, Monaghan, Armagh and Tyrone.
- There are no UGC circuits, anywhere in the world, of the type and length that would be required for these projects.
- The capital cost of an HV UGC circuit is many times that of the cost of an equivalent OHL circuit.
- Both UGC and OHL circuits emit magnetic fields. UGC circuits do not emit electric fields.

Some of the more remarkable errors of assumption, errors of understanding and errors of calculation in the Askon Report are as follows –

- There is no basis for the assertions that UGC circuits are safer than OHL circuits. Both technologies are used by EirGrid and both are designed and operated so as to meet all relevant national and international safety criteria. **UGC and OHL circuits are equally safe.**
- Askon has greatly over estimated the quantity of electrical power (in megawatt hours) that will flow through the overhead line during its lifetime. This is a fundamental error and invalidates Askon calculations of electrical losses and assumptions on 'whole of life' operating costs. The laws of physics determine that a lightly loaded UGC will have higher electrical losses than an equivalent lightly loaded OHL while a heavily loaded UGC will have lower losses than a heavily loaded OHL. In its role as operator of the transmission network EirGrid knows that the proposed 400kV circuits will operate relatively 'lightly loaded', in the region of 35% capacity, throughout their life. It should be noted that the proposed circuits are required to have a large spare capacity as a contingency in case of short duration emergencies.
- Askon has acknowledged that the capital cost of UGC is considerably more than that of OHL. But then tried to make a financial case for UGC on the basis that the UGC would have a lower 'whole of life' operating cost than that of the OHL. As stated in the previous bullet point this is based on an error of assumption and the reverse is in fact the case. Askon's conclusion that a UGC circuit "*could well work out the lower cost option over the whole life cycle*" is simply not correct.
- Askon's comparison of the environmental impacts is inadequate. It is not enough to just point out the obvious advantages that UGC has over OHL. A balanced approach is required. Comparing OHL with UGC circuits across the full range of environmental criteria shows overhead lines perform better under many of the categories. This was the conclusion of the ECOFYS Report commissioned by the Department of Energy.
- Askon's UGC cost estimates were prepared by a team with no apparent local knowledge and no practical experience of installing HV underground cables. The civil engineering estimates were based on information received from a "*German power supplier*". This has resulted in errors of omission and errors of under estimation that together add up to an under estimation of over €80 million in their estimate for a 56km 400kV UGC circuit in County Meath. To

put the extent of this error in perspective, it is twice the magnitude of Askon's estimate for the total cost of an equivalent 400kV OHL.

- There are many 'system wide' technical problems that would arise with the installation of such long HV UGC circuits on Ireland's relatively small and isolated transmission grid. Askon failed to consider these and only looked at this from a 'localised' grid perspective. EirGrid has to consider the impact on the system as a whole.

EirGrid circulated the report to three separate teams of experts for review over a number of months and also spent two days with the authors of the reports. Based on all of the foregoing EirGrid concluded (i) that Askon has not made a valid case in favour of the use of underground cable and (ii) that for these 400kV projects an overhead line solution is appropriate and consistent with EirGrid's mandate to provide Ireland with a 'safe, reliable, secure and cost effective transmission system while having due regard for the environment'.

Regarding your request for a copy of the Askon Reports - EirGrid cannot provide these as the study was commissioned by NEPP and the resulting reports are copyright protected. Copies should be requested from NEPP.

25. Was a tender process carried out in relation to the recently published underground cable study eventually carried out by PB Power?

The PB Power Report was commissioned jointly by EirGrid and Northern Ireland Electricity and was done so in compliance with all European Union and national laws and regulations.

26. When was PB Power awarded the contract for this study?

November 2007.

27. What were the terms of reference given to PB Power for the study?

The full report, including the terms of reference, can be found on www.eirgrid.com.

28. What was the cost of the PB Power study?

This information is commercially sensitive and subject to contractual duties of confidentiality.

29. Did EirGrid instruct PB Power not to examine the existing rail line as a corridor option? If not, then why was the rail line option not analysed by PB Power?

No, PB Power was requested to find a route corridor within which a technically and environmentally feasible route for underground cable (UGC) could be found. This was to be done for the purpose of establishing a realistic cost and environmental impact comparison between an underground cable option and the proposed overhead line option.

Prior to carrying out the study, PB Power and EirGrid/NIE, agreed a set of 'Strategic Cable Routing Criteria' to be applied by PB Power's cable routing experts in their quest for an optimum and least cost UGC route which is technically and environmentally feasible (see Section 7.3 of the PB Power Report). During the discussions on the routing criteria the following points, regarding the use of the disused railway lines, were raised –

- It is government policy (Transport 21) to re-establish a rail link from Dublin to Navan and this will most likely follow, substantially, the route of the disused railway line from Clonsilla to Navan. This had previously been a single track line but a double track would be required for the new service. The initial service would operate using light diesel powered trains (Arrow type) but provision would be made for future electrification (DART type). An extensive redevelopment of the existing railway reserve, consisting of its widening and construction of new bridges and underpasses would therefore be required. Construction will commence, at the earliest, in 2012, with a three year construction period.
- The Meath County Development Plan states an objective of maintaining *“the reservation of the former Dublin-Navan rail line free from development”*.
- If the two sets of 400kV underground cables that would be required for this project were to be installed within the reserve of the disused section of the Dublin-Navan rail line, or even outside but adjacent, prior to its redevelopment it would inhibit the extensive works required to bring the railway back into service. This situation would also apply to the disused Navan-Kingscourt line and any other disused rail line.
- If 400kV UGC was installed within the rail way reserve after the rail line was brought back into service then it would have to be done in such a way that its operation would not interfere with the safe operation of the rail service and vice versa. Permanent vehicular access would be required along the entire length of the UGC. The railway could not be used for this as that would disrupt the service therefore a road would have to be constructed alongside the railway for its entire length. This would also require that both sets of cables be placed on the same side of the rail tracks so that the road would provide access to both sets of cables and avoid the need to have vehicles crossing the rail tracks. Iarnród Éireann does not require this access road and would therefore not be expecting to make space provision for one. The UGC would also have to be set back far enough from the rail line to enable mechanical excavators, cranes, cable laying equipment and concrete trucks to operate safely without interfering with the train service. Space provision must also be made for excavated spoil. There are also technical difficulties that must be considered, such as the shielding of the railway signalling system from interference from the HV UGC. Future major works by Iarnród Éireann on the rail route, such as the works required for the proposed electrification and works required for the construction of any new railway stations along the route would be impeded by the presence of the cables. This would be particularly the case if the two sets of cables were placed on either side of the rail tracks.
- The disused rail line passes through the centre of Navan town. Following the route of the old railway line with 400kV UGC would therefore bring this development into a congested urban area.
- Even if it was decided that the disused rail lines were never to be brought back into service, and Iarnród Éireann was prepared to relinquish its rights, it is noted that the routes are not entirely intact and there has been encroachment of development in places. The railway reserve is also too narrow in many places for the two sets of UGC and the required haul road.

Additional land take would therefore be required at these locations. It is not known whether the required additional lands could be obtained. Particular difficulties are likely to arise where the rail line passes through Navan Town and the villages and hamlets along the route.

Based on these discussions it was concluded that there would be no advantage to routeing the UGC via the disused rail lines. While taking a more direct route across country would result in a shorter route and involve less uncertainty and risk. It was therefore agreed that the 'Strategic Routeing Criteria' should identify the railway lines, both in service and disused, under the category 'Avoid if Possible'.

30. PB Power estimate an overhead lines capital cost of €81 million for the project, compared with a €280 million projected cost by EirGrid. Can you explain the major cost conflicts between EirGrid and PB Power?

The Eirgrid/NIE estimate of €280 million is for the entire project and includes provision for the 140km of 400kV overhead line as well as the substations, 220kV overhead lines, land acquisition, landowner compensation etc.

The purpose of the PB Power Report was to establish a realistic cost and environmental impact comparison between an underground cable option and the proposed overhead line option. In preparing their costs estimates it was therefore not necessary for PB Power, to make provision for items that are common to both options in order to establish the cost difference between the two options.

PB Power estimated that the 400kV overhead line would cost €81 million while the underground cable would cost €588 million. The important conclusion to be drawn from this is that, if underground cable is used instead of overhead line, the project will cost an additional €507 million.

31. If a landowner does not grant permission to EirGrid to enter lands, does it mean that EirGrid cannot proceed through my property with overhead lines and pylon towers?

In circumstances where planning permission is granted for the proposed lines, EirGrid/ESB Networks shall endeavour to agree access arrangements with individual landowners. In the event that such arrangements cannot be agreed, then in order to implement the construction of structures and installation of lines so permitted, and only where necessary, EirGrid/ESB Networks shall rely upon statutory powers of entry in this regard.

32. What statutory or other legal provisions is EirGrid relying on to allow them or their agents to enter my property?

EirGrid is not relying on statutory powers to enter land during the pre-planning stage. Rather, entry onto lands is being approached on a voluntary basis. While EirGrid is endeavouring to meet landowners prior to application, this is primarily to hear landowner views at this early stage so that mitigation measures can be appropriately identified and included in the planning application. Through landowner site visits, EirGrid wishes to ascertain whether and how the proposed overhead line might impact upon landowners.

It should be noted, however, that while EirGrid does not generally use statutory powers, EirGrid reserves its statutory rights in this regard in individual cases where a need to enter upon lands is necessary and a landowner is not willing to facilitate EirGrid in this regard.

33. Will EirGrid indemnify landowners against civil claims by employees and/or visitors to the lands in respect of adverse health effects from being present on the land?

EirGrid and ESB jointly design, construct, operate and maintain the electricity transmission network. They do this in compliance with all national and international guidelines and in accordance with 'best practice'. They are jointly satisfied from the totality of studies and the views of international authoritative agencies that the balance of evidence is that the overhead transmission lines do not have any adverse effect on public health. Accordingly, the issue of indemnification in respect of civil claims by employees and/or visitors does not arise in the context of the proposed lines.

34. What is EirGrid's position if farmers cannot get health insurance, public liability insurance, or employer's liability insurance due to proximity of living and working close to EMFs?

EirGrid and ESB jointly design, construct, operate and maintain the electricity transmission network. They do this in compliance with all national and international guidelines and in accordance with 'best practice'. They are jointly satisfied from the totality of studies and the views of international authoritative agencies that the balance of evidence is that the EMFs emanating from overhead transmission lines do not have any adverse effect on public health. Accordingly, the issue of health insurance, public liability insurance or employer's liability insurance does not arise in the context of the proposed lines

35. Does EirGrid accept that high voltage transmission lines negatively affect land and property values?

In circumstances where any potential impacts from HV transmission lines will be mitigated, EirGrid does not perceive that there will be any significant depreciation in the value of property in the vicinity of the proposed overhead line over and above the depreciation in the property market generally.

36. Has EirGrid factored in a cost for such devaluations into their Grid25 transmission system planned costings? What baseline criteria has it used for such evaluations?

GRID 25 is a strategy for the development of Ireland's electricity transmission system between now and 2025, rather than a detailed plan. The quoted estimates of capital investment for each region should therefore not be considered as 'planned costings'. They are instead high-level, top-down, estimates that were calculated by applying 'typical rates' to an estimate of the extent of the works required in each region. The 'typical rates' were determined from the actual cost of similar type projects that have been completed in the recent past with the addition of a provision for contingency and inflation. The actual cost of a recently completed overhead line project would include the cost of any landowner compensation payments in respect of wayleave acquisition that were made during the course of that project.

37. What standard operating procedures and decision criteria are used by EirGrid for deploying taxpayers' money in relation to landowners' compensation offers for pylons placed on their property? Can you forward the specific procedures in the interests of transparency?

Although EirGrid is a company wholly owned by the State, neither it nor its activities are funded directly by 'taxpayers' money'. EirGrid, in its role as Ireland's TSO (Transmission System Operator), has a statutory obligation to provide Ireland with a safe, reliable and cost effective electricity transmission system while having due regard for the environment. Its activities in this regard are regulated by the Commission for Energy Regulation and are primarily, and ultimately, funded by the electricity consumers of Ireland. It is within this regulated environment that EirGrid will negotiate levels of compensation with landowners. NOTE - the current phase of the Meath-Cavan-Tyrone 400kV projects is also partially funded by an EU grant.

Compensation is paid to landowners on whose property the overhead line is erected. This is done in accordance with long established agreements with the Irish Farmers Association. All agreements with landowners are negotiated individually since the effect of the transmission line on each landowners' property will vary from landowner to landowner. EirGrid will endeavour to complete negotiations with each landowner prior to construction

A landowner or rights holder who is dissatisfied with the amount of compensation offered has the statutory right to have the compensation amount assessed by an independent arbitrator.

38. Will EirGrid compensate landowners for the long term effects such as crop damage, low milk yields, etc. and, if so, how will such compensation be calculated?

EirGrid design and operate the network in compliance with all national and international guidelines. We are satisfied from the totality of studies and the views of international authoritative agencies that the balance of evidence is that Electric and Magnetic Field (EMF) do not have any adverse, long-term effect on public or animal health.

The ESB will take every care during the erection and subsequent work on the line to ensure that farmers' operations are not impacted. Compensation will be paid for crop loss and physical disturbance to lands during construction, by individual agreement with landowners, following the IFA code of practice. ESB, after consultation with the landowner shall take all necessary precautions to prevent the straying of livestock and shall compensate the landowner of such livestock for all loss, damage or claims arising from the loss of such animals and pay compensation for injury or death of/loss of the animals where such straying is clearly due to any act or omission on the part of the Board. The Board shall ensure that the local District Veterinary Officer is informed of the entry of ESB vehicles on farm with a disease problem and that the Epidemiology Unit of the Department of Agriculture is made aware of ESB activities in TB affected areas. It is not accepted that there will be any issue in relation to lower milk yields as a result of the operation of the proposed lines.

39. Why is the East-West Interconnector from Rush to Woodlands being placed underground?

The Meath-Cavan-Tyrone 400kV Circuits must use HVAC Technology

The proposed Cavan-Tyrone 400kV circuit is required to provide further interconnection between the transmission grids of Northern Ireland and the Republic of Ireland. These transmission grids already operate as a single or 'synchronous' HVAC (high voltage, alternating current) system. The proposed Meath-Cavan 400kV

circuit has two objectives, to provide capacity support to north-south power flows and to reinforce the existing HVAC electricity supply to the North-East Region of the Republic. As a result the most appropriate technology for the proposed Meath-Cavan-Tyrone 400kV circuits is HVAC.

The East-West Interconnector must use HVDC Technology

The proposed East-West Interconnector is required to provide further interconnection between the transmission system on the island of Ireland and that on the island of Great Britain. These two transmission systems are required to operate independently of each other and are therefore two 'asynchronous' HVAC systems. The existing island-to-island interconnector, that is the Moyle Interconnector, utilises HVDC (high voltage, direct current) technology. This technology is the most appropriate for providing interconnection between asynchronous systems. The proposed second island-to-island interconnector, that is, the East-West Interconnector must therefore also use HVDC technology.

EirGrid's Policy on the use of UGC and/or OHL

EirGrid is statutorily obliged to provide Ireland with a safe, reliable and cost effective electricity system while having due regard for the environment. As a consequence of this obligation EirGrid has developed a long standing policy and practice for the use of HV underground cable (UGC) and overhead line (OHL) in Ireland. Whenever a new HV circuit is proposed this policy guides the decision on whether to use OHL or UGC.

In terms of the policy an UGC will only be used if all of the following four conditions apply -

- a) An OHL is not feasible.
- b) A technically and environmentally acceptable route for UGC can be found.
- c) The effect that the electrical characteristics of UGC have on the transmission network is acceptable and the relatively poorer 'availability' of underground cable is tolerable.
- d) The relatively high cost of the UGC can be justified.

In the case of the Meath-Cavan-Tyrone 400kV circuits EirGrid is of the opinion that OHL is environmentally, technically and economically feasible. As a result EirGrid is obliged to proceed with an OHL proposal for these circuits.

It should be noted that although EirGrid's policy on the use of HV UGC and HV OHL was drawn up with HVAC circuits in mind it can also be applied to HVDC circuits. In the case of the East-West Interconnector an underground cable is proposed for that part of the HVDC circuit between Rush and Woodland, and is being proposed because all four conditions of the policy, where applicable, are satisfied, as explained below –

- a) Obviously the sea crossing from Wales to Ireland cannot be an overhead line and must be an insulated undersea cable. There are numerous environmental and development constraints on the overland route between Rush and the existing Woodland substation that would prevent the construction of an HV overhead line. Although there are sections of the 45km overland route where OHL would be possible, on balance it would not be advantageous to have a number of short sections of OHL in, what is primarily, a long (260km) UGC circuit. This is because (i) a mini-compound, requiring additional land take, would be required at each UGC/OHL interface, (ii) a hybrid UGC/OHL circuit requires more complex protection systems than an entirely UGC circuit and (iii) for this project the cost advantage of installing these short sections of OHL would be too small to negate the disadvantages of points (i) and (ii).

- b) A technically and environmentally acceptable route for the HVDC UGC was found, details of which can be found on the EWIC project website at www.interconnector.ie.
- c) This 'condition' of the policy does not fully apply to the East-West Interconnector. The electrical characteristics of a HVDC UGC are very different to those of a HVAC UGC. Long HVDC UGC circuits, unlike long HVAC UGC circuits, do not have a significant impact on the electrical characteristics of the HVAC transmission network as a whole.

As discussed above only a very limited part of the 260km HVDC circuit route can accommodate OHL. Installing HVDC UGC in these sections would have a statistically insignificant impact on the overall circuit 'availability'.

- d) It is clear that HVDC technology must be used for the East-West Interconnector. Two DC to AC converter stations are required, one at each end of the HVDC circuit. These converter stations are expensive and account for an unavoidably large percentage of the overall project cost. Because of obvious route constraints most of the HVDC circuit connecting the two converter stations must be via UGC. Installing UGC in those sections of the route that can accommodate OHL results in a relatively small increase in overall project cost. It should also be noted that HVDC cable, on a metre for metre basis, is much cheaper to install than an equivalent HVAC cable.

40. Why is the East-West Interconnector being placed alongside roads instead of over land? Why does the PB Power study propose the North-South project going over land instead of alongside roads of rail lines?

The East-West Interconnector Project – HVDC UGC under and along roads

The HVDC underground cable for the East-West Interconnector will consist of two separate cables, laid side by side, in a trench approximately 1m wide by 1.2m deep. Accommodating this development under and alongside the roads of north County Dublin and south County Meath is feasible and practical. Further details on the works associated with the installation of the HVDC cable can be found on the East-West Interconnector's project website at www.interconnector.ie.

The North-South Projects – HVAC UGC under and along roads

In the case of the Meath-Cavan-Tyrone 400kV Projects PB Power found that if HVAC underground cable is to be used in place of the proposed 400kV overhead lines it would require six separate cables, laid in two sets of three, in two trenches, each trench being approximately 1.8m wide by 1.3m deep, with a 5 metre spacing between the trenches. The regional roads of Meath, Cavan, Monaghan, Armagh and Tyrone are simply not wide enough to accommodate such a development. While the national roads in these five counties may be sufficiently wide, in places, the extent of the works would be such that it would require an effective demolition and rebuild of the entire road. The disruption to the local communities during these works is unlikely to be acceptable. Based on this it was concluded that if an underground cable circuit, of this magnitude, is to be installed in a rural area, the most optimum route from a cost and ease of installation perspective, would be a direct cross country route rather than following public roads.

The North-South Projects – HVAC UGC under and along rail lines

This is addressed in the answer to Question 29.

41. Should EirGrid be successful in obtaining planning approval from the Strategic Infrastructure Board are there any statutory or other legal provisions you may rely on to enter property? Cite relevant legislation or Court decisions.

In circumstances where planning permission is granted for the proposed lines, EirGrid/ESB Networks shall endeavour to agree access arrangements with individual landowners. In the event that such arrangements cannot be agreed, then in order to implement the construction of structures and installation of lines so permitted, and only to the extent necessary, EirGrid/ESB Networks shall rely upon statutory powers of entry in this regard.

42. Does EirGrid acknowledge that it has no legal right to enter on lands for any purpose without the landowner's agreement and that there is no legal provision that requires a landowner to give such permission?

EirGrid is not relying on statutory powers to enter land at the pre-planning stage. Rather, entry onto lands is being approached on a voluntary basis. While EirGrid is endeavouring to meet landowners prior to application, this is primarily to hear landowner views at this early stage so that mitigation measures can be appropriately identified and included in the planning application. Through landowner site visits, EirGrid wishes to ascertain whether and how the proposed overhead line might impact upon landowners.

It should be noted, however, that while EirGrid does not generally use statutory powers, EirGrid reserves its statutory rights in this regard in individual cases where a need to enter upon lands is necessary and a landowner is not willing to facilitate EirGrid in this regard.

In circumstances where planning permission is granted for the proposed lines, EirGrid/ESB Networks shall endeavour to agree access arrangements with individual landowners. However, EirGrid/ESB Networks may avail of statutory powers of entry. In the event that access arrangements cannot be agreed, then to the extent necessary, EirGrid/ESB Networks shall rely upon those statutory powers of entry.

43. Can EirGrid guarantee that 50m is the absolute closest distance from dwellings that the proposed overhead lines route will pass? If not, what is the minimum distance that EirGrid will guarantee?

EirGrid cannot give such a guarantee at this stage as the design has not yet been finalised. See answer to Question 9 for further information.

44. Does EirGrid accept that only much wider distances are allowed in other European countries?

Some countries, or as is more likely the case, regions within countries, may have adopted regulations which specify a minimum distance between dwellings and overhead transmission lines. Most of the countries of the EU however have, like Ireland, adopted EU Council Recommendation 1999/519/EC. Overhead transmission lines come in many shapes and sizes, with different voltage levels, different power carrying capacities and different configurations. The EU Guidelines recognise this and instead of specifying a minimum clearance distance the Guidelines specify 'Basic Restriction Levels' for the exposure of the general public to electric and magnetic fields. As the strength of the EMF is at its highest in the immediate vicinity of the live wire and decreases rapidly with growing distance from the overhead line a minimum clearance distance that satisfies the Guidelines can be derived for every type and size of HVAC overhead line.

In the case of the Meath-Cavan-Tyrone 400kV overhead lines EirGrid can guarantee that the overhead line will be sufficiently far enough away from dwellings to ensure that the resulting EMFs will be lower than the restriction levels specified in the EU Guidelines. In fact it can be expected that for those existing dwellings that are closest to the proposed overhead line the resulting EMF levels will be comparable with the 'background' levels already existing in those dwellings. The 'background' levels are caused by the electrical wiring installed in the building as well as the types of electrical appliances in use in that building.

45. Does EirGrid accept that other European countries apply voluntary EMF thresholds ranging up to 250 times lower than EirGrid's threshold of 100 microtesla?

There is much misinterpretation and misunderstanding about this 'threshold of 100 microtesla'. The guidelines on this matter were developed by ICNIRP (the International Commission on Non-Ionizing Radiation Protection) and have been endorsed by the World Health Organisation and the EU Commission. The ICNIRP Guidelines specify a 'basic restriction level' for the exposure of the public to time-varying electric, magnetic and electromagnetic fields. In the case of magnetic fields the 'basic restriction level' is 360 microtesla. The figure of 100 microtesla is ICNIRP's threshold, below which compliance with the Guidelines can be assumed. A calculated value above 100 microtesla does not mean non-compliance but rather that further investigation is required. The ICNIRP Guidelines form the basis of EU Council Recommendation 1999/519/EC which has been accepted by Ireland and therefore by EirGrid.

It is correct that some countries, or as is more often the case, regions within countries, have adopted a lower threshold than that of ICNIRP. The ECOFYS Report (commissioned by the Department of Communications, Energy and Natural Resources) mentions a level of 0.2 microtesla for the Tuscany Region of Italy. Such low levels however are not based on scientific logic as they are lower than the background levels that would typically exist in a building with low voltage mains electricity. They are also significantly lower than the 'background' levels that typically arise in city streets and in many high-rise buildings due to the close proximity of heavily loaded HV cables.

46. Will EirGrid agree to independent, ongoing monitoring of EMF levels?

There are two components to EMF, namely the electric field and the magnetic field. The strengths of these are at their highest in the immediate vicinity of the live wire and decrease rapidly with growing distance. Continuous monitoring is however not necessary as the maximum possible value of both components, at any given position relative to an overhead line, can be calculated if one knows the maximum voltage, the maximum electric current that can flow through the wires and the spatial arrangement of the live wires. These three characteristics, maximum voltage, maximum current carrying capacity and spatial arrangement are key criteria for the design of the overhead line and are fixed once the design is finalised.

In the case of the proposed 400kV overhead lines the maximum design voltage is 420kV, the maximum current is 2,165 amps (based on 1,500 MVA at 400kV) and the spatial arrangement of the wires is fixed by the physical dimensions of the pylons. The EIS (Environmental Impact Statement) that will accompany the application for planning permission will contain graphs that show the maximum calculated value of the electric field and the maximum calculated value of the magnetic field between a distance of zero and 50 metres from the centre line of the overhead line. The overhead line however will not operate continuously at maximum voltage and maximum load therefore these maximum calculated values must only be considered as 'short duration' values. The actual 'long duration' values will be lower, and in the case of the magnetic field significantly lower, than these.

In the case of the Meath-Cavan-Tyrone 400kV overhead lines EirGrid can guarantee that the overhead line will be sufficiently far enough away from existing dwellings to ensure that even the maximum or 'short duration' EMF will be significantly lower than the restriction levels specified in the EU Guidelines. In fact it can be expected that for those existing dwellings that are closest to the proposed overhead line the resulting 'long duration' EMF levels will be comparable with 'background' levels already existing in those dwellings. The 'background' levels result from the electrical wiring installed in the building walls as well as the types of appliances in use.

Notwithstanding the above, in the interests of openness and good neighbourliness, any occupant of an existing dwelling that will be less than 100 metres from the 400kV overhead line can, during the consultation process, request that 'before' and 'after' measurements of the EMF be taken at their dwelling. EirGrid will arrange for these measurements to be carried by an independent contractor.

47. Will EirGrid agree to have an independent base line study conducted of the health profile of the population along the proposed route and further agree to have a full re-evaluation annually?

The carrying out of such an epidemiological study would not be the basis of best practice because the population density in the region is too small to provide data with appropriate statistical significance. Similar type studies have however been carried out, and continue to be carried out, in other more densely populated parts of the world.

The results of these studies, and all other EMF related studies, are continually monitored and assessed by agencies such as the World Health Organisation and ICNIRP (the International Commission on Non-Ionizing Radiation Protection). It is from the totality of these studies that ICNIRP developed its 'Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic field (up to 300GHz)'. Both the World Health Organisation and the European Commission have endorsed these guidelines. They form the basis of EU Council Recommendation 1999/519/EC which describes the EU Guidelines. EirGrid designs and operates the Irish transmission network in accordance with the EU Guidelines.

48. In EirGrid's opinion, what will be the safe distance within which I conduct farming operations near pylon towers?

ESB Networks will own the overhead line. In its role as the TAO (Transmission Asset Owner) ESB Networks produces an excellent booklet that deals with all aspects of safety from electricity hazards on the farm. It includes a section that deals with the care that should be taken in relation to overhead lines. The booklet '*Farm Well... Farm Safely*' can be downloaded from the ESB Networks website at www.esb.ie/esbnetworks.

49. What are the average, minimum, and maximum distances between each pylon tower?

The placement of pylons across the landscape is dependant on many factors, some of which are:

- Terrain
- Design constraints
- Landowner input into location
- Environmental considerations

The draft design for the Cavan – Tyrone 400kV overhead line has a maximum span of 498m, a minimum span of 206m and an average of 365m while the corresponding figures for the Meath-Cavan overhead line are 450m, 200m and 330m respectively.

50. What is the noise output in decibels from 400kV overhead transmission lines?

It is not possible to answer this question without knowing the distance between the proposed overhead line and your reference location, the extent of the screening between the reference location and the overhead line as well as the level of background noise at the reference location. It should be noted however that projected noise levels, along with mitigation measures will be studied as part of the EIS, which will be submitted alongside the planning application.

51. Why are EirGrid visiting landowners and not contacting adjacent property owners to discuss their concerns and fears?

EirGrid welcomes the opportunity to consult with any stakeholder who wishes to input into the projects.

EirGrid's consultants, ESBI and Tobin Consulting Engineers, have been visiting, and consulting with, the landowners on whose property the proposed 400kV overhead line will be built. In the case of all other stakeholders it is not possible to know intuitively who has "concerns and fears". As a result EirGrid advertised its intentions extensively in the media and invited all interested parties to consultation. To date this has resulted in over 11,000 people contacting EirGrid. EirGrid has also consulted extensively with community groups, such as NEPP, who claim to represent over 45,000 residents.

The invitation to consultation, to all persons who have "concerns and fears" due to EirGrid's proposals, remains open. Any stakeholder who wishes to consult with EirGrid on these projects can do so in any of the following ways:

A) Meeting

EirGrid is hosting meetings at our local information centres. These meetings will provide stakeholders with an opportunity to talk with EirGrid's experts about general project issues. Please call 1890.25.26.90 if you would like to attend one of these meetings.

B) Information Centre

EirGrid have public Information Centres in both Navan and Carrickmacross. These have been open since August 2008, and are there to facilitate engagement with the local community. Please drop into one of these centres, or call us to make an appointment at the below contact details:

Navan Information Centre

Number 1, Newbridge,
Athlumney,
Navan,
Co. Meath.

Open: Tuesday, 1:00 to 7:00 P.M.
Ph: 046.902.7855, or 1890.25.26.90

Carrickmacross Information Centre

Carrickmacross Workhouse,
Shercock Road,
Carrickmacross,
Co. Monaghan.

Open: Wednesday, 1:00 to 7:00 P.M.
Ph: 046.969.0000 or 1890.25.26.90

C) Lo-Call phone line

The EirGrid Project Team can be contacted on 1890.25.26.90, Mondays to Fridays from 9 am to 5 pm.

D) Written Communication

If you wish to engage in written correspondence, please direct your queries to Tomás Mahony at our Navan Information Centre address, or email: meathcavanpower@eirgrid.com.

52. Does EirGrid need the agreement of all landowners on the proposed route prior to submitting plans to the Strategic Infrastructure Board?

No. EirGrid however is currently endeavouring to meet with all landowners on the indicative route line prior to submitting plans to An Bord Pleanála. This is primarily to understand landowner views at this early stage, in order that any necessary mitigation measures can be appropriately identified and included in the planning application.

53. Does EirGrid have to submit individual site and pylon specific plans to the Strategic Infrastructure Board?

It is the intention of EirGrid to identify the proposed locations of each structure in the EIS. Of course, whether due to discussions with landowners or otherwise, EirGrid reserves its position in relation to minor alterations in respect of the exact location of any proposed structure.

54. What is EirGrid's position in relation to the safe erection and operation of the pylon towers, including children climbing up these towers and being involved in an accident, and will you be prepared to give written guarantees and indemnities?

ESB Networks will be responsible for the construction of the overhead line. In fulfilling this responsibility, ESB Networks will comply with all health and safety legislation and with all regulations governing safety on construction sites.

Where there is a risk at any given location (e.g., school or playing field) of children climbing the pylons, anti-climbing barriers can be installed. However, it is not envisaged that such barriers would be placed on all pylons as there may be a potential impact on visual amenity at certain locations. Any landowner or resident who has a particular concern in this regard can raise it with EirGrid during the pre-construction consultation and EirGrid can then give due consideration to the issue with ESB Networks.

In addition to the above ESB Networks, in its role as the TAO (Transmission Asset Owner) routinely conducts educational campaigns in the media highlighting the dangers of electricity and the dangers of climbing pylons. Similar campaigns, aimed specifically at children, are run, from time to time, through the school system, for further information on this see the 'Education' section of ESB Networks' website at www.esb.ie/esbnetworks.

55. Who is responsible for a ring fence to be placed around each base of pylon towers for safety reasons?

ESB Networks will be responsible for the construction of the overhead line. During the construction period it may be necessary, from time to time, to place temporary fencing around a pylon site for safety reasons. The erection, maintenance and removal of this fencing will be the responsibility of ESB Networks.

Once construction is complete and the line is in service it is not normal practice to have permanent fencing around pylons. Farm animals can, and do, graze in between the legs of pylons. On occasion however, particularly where pylons are located in stud farms, a landowner has requested that a fence be placed around a specific pylon and EirGrid and ESB Networks have accommodated such requests. Such a fence is erected by ESB Networks while the landowner is responsible for its subsequent maintenance.

Any landowner or resident who has a particular concern in this regard can raise it with EirGrid during the pre-construction consultation and EirGrid can then give due consideration to the issue with ESB Networks.

56. Why has my land been chosen to be traversed by high voltage wires and have pylons placed upon it?

EirGrid has published a Corridor Evaluation Document (available for viewing on the project pages of EirGrid's website at www.eirgrid.com). In this document the methodology applied to the evaluation of the various route corridor options is described and from this a conclusion is drawn as to which option should become the preferred candidate corridor. The methodology involved a qualitative evaluation of the corridor options against twenty two different criteria.

The Corridor Evaluation Document concluded that while the evaluation process found that each option had pros and cons the preferred candidate corridors announced by EirGrid (Corridor A in the case of Cavan-Tyrone and Corridor 3b in the case of Cavan-Meath) *“constitute the most appropriate balance between the various technical, environmental and community evaluation criteria, notwithstanding the fact that potential constraints are identified for all corridors”*.

The Corridor Evaluation Document explains that Phase 2 of the route identification process concluded with the announcement of the preferred corridors. While Phase 3 of the process (which is currently underway) involves *“more detailed technical and environmental studies, and ongoing Statutory, non-Statutory and public consultation, with the purpose of identifying a preferred route for the overall transmission infrastructure project within the identified preferred corridor”*.

57. List in detail the specific criteria that have been used in choosing my land.

A number of environmental, technical and community criteria were used in the selection of the preferred route corridor options for the power lines. The criteria used in the comparative evaluation of the potential route corridor options are detailed in Corridor Evaluation Document (available for viewing on the project pages of EirGrid's website at www.eirgrid.com).

They are summarised here as follows -

Technical

- Safety
- Construction / operation
- Design
- Other technical considerations

Environmental

- Human beings
- EMF
- Flora and Fauna
- Visual amenity and landscape
- Archaeology, culture and local heritage
- Water
- Air quality

Community Criteria

- Planning and land use
- Community
- Number of dwellings within 1km wide corridor
- Number of dwellings and other residential accommodation within 100 metres of indicative routes
- Landowner consent
- Potential impact on public amenities

Other

- Compliance with current planning and development policy and guidelines
- Project programme and deliverability
- Economic feasibility
- Compliance with international practice
- Adaptability for future development

58. Has my land been assessed physically – walked through and evaluated as suitable land for pylons? If so, who carried out this evaluation and under what authority?

EirGrid's consultants, ESBI and Tobin Consulting Engineers, have utilised a variety of techniques to assess the land, including aerial photography, drive-by land reviews, submissions from the public, and, site visits. Every effort is made to ensure that landowners have agreed in advance to a site visit.

59. Why was I not made aware of such activities and/or visits that potentially assess my land for the above?

See answer to Question 58.

60. What power has EirGrid got to evaluate my land for such proposed infrastructure on my land, prior to EirGrid contacting me?

EirGrid's role as Ireland's independent electricity Transmission System Operator is to operate and develop the national grid. The North East region has been identified as an area for development. In order to complete this development, the land must be evaluated. EirGrid's consultants, ESBI and Tobin Consulting Engineers, have utilised a variety of techniques to assess the land, including aerial photography, drive-by land reviews, submissions from the public, and, site visits. Every effort is made to ensure that landowners have agreed in advance to a site visit.