

EirGrid Highlights Flaws in NEPP-Commissioned Underground Report

EirGrid has published a report reviewing a study on the feasibility of undergrounding commissioned by North East Pylon Pressure (NEPP).

Askon carried out the study for NEPP in 2008 and EirGrid, along with a number of its international experts, carried out a detailed review of the report.

An advance copy of the document, called 'EirGrid position on NEPP Askon Study', was sent to NEPP, and the report is now available on www.eirgrid.com

Tomas Mahony, EirGrid Project Manager, said: "Clearly NEPP has committed considerable time and resources in producing the report. EirGrid welcomes all inputs to the consultation process.

"The projects in the North East are vital for economic growth and it's crucial we use the best technology available. Undergrounding has been a key issue for many stakeholders and EirGrid has spent considerable time exploring the potential for placing the power lines underground. This involved EirGrid and Northern Ireland Electricity commissioning a site specific study by PB Power in 2007. This study looks at the main alternatives to an overhead connection and examines the practicalities of placing the proposed power lines underground.

"EirGrid and our international experts carried out a detailed review of the Askon report. This review of the Askon Study is based on EirGrid's detailed understanding of the Irish electricity transmission system. The report identifies a number of inaccurate fundamental assumptions made in the Askon Study that resulted in flawed calculations and conclusions."

EirGrid's senior experts also met NEPP and consultants from Askon for two days in March/April for wide ranging discussions relating to the undergrounding of cables on the proposed projects. The purpose of EirGrid hosting the meetings was to deepen the understanding between the two parties about the issues relating to underground cables.

At this meeting EirGrid outlined to Askon and NEPP issues relating to the planning and operation of transmission networks and explained why assumptions adopted in the Askon report about the Irish transmission system were factually incorrect. EirGrid also listened to Askon's justification for the assumptions in the study.

"There are significant technical issues with Askon's understanding of the Irish transmission system resulting in incorrect conclusions being made in the report. Putting lines of these lengths and size underground has been never attempted

before anywhere in the world and to attempt to do so for these projects would be, at best, an unacceptable experiment which would jeopardise electricity supplies in the north east and to the security and reliability of the Irish transmission system” Tomas added.

If people would like to talk to EirGrid they can contact one of the local information centres.

Navan information centre is open every Tuesday from 1pm until 7pm, telephone 046 9027855 or email meathcavanpower@eirgrid.com

Carrickmacross information centre is open from 1pm until 7pm every Wednesday and is available on 042 969 0000 or 042 969 001 or by emailing CavanTyronelnterconnector@EirGrid.com. There is also a lo-call number 1890 25 26 90.

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Notes to Editors

Summaries of some of the key errors in the Askon Study are outlined below.

1. Safety issues

- Underground cables and overhead lines are equally safe. There is no basis for Askon’s assertion that underground cables are safer than overhead lines. Both technologies are used by EirGrid and both are designed and operated in accordance with all relevant national and international safety criteria.

2. Life cycle costs

- The ASKON study accepts that the capital costs of installing underground cables are significantly more expensive than overhead lines. EirGrid concurs with this assertion.
- In determining overall life cycle costs, the average power flow on the lines or cables, and hence the losses caused by that average power flow, must be considered.
- The Askon Study assumes an incorrect level of average power flow on the proposed line. The average power flow on the line will be significantly lower than that suggested by Askon. As a result the power losses on the proposed line will be much lower than the Askon report suggests.
- There are a number of other errors in the calculation of power losses in the Askon study, which are detailed in the report which is available on the EirGrid website.
- As a result of these inaccuracies in the calculation of power losses, Askon’s conclusion that underground cables are more efficient and have a lower operational cost, is incorrect.

- Based on all of the above it would be impossible for an underground cable solution to work out as “the lower cost option over the whole life cycle”, as stated in the Askon report

3. Financial analysis

- Mainly as a result of the incorrect losses calculations performed by Askon, the financial analysis carried out is incorrect. This leads to fundamentally incorrect financial conclusions being drawn by the Askon report.

4. Operating and reliability standards

- The Askon Study states EirGrid's proposed overhead lines will not meet operating and reliability standards. This is incorrect. Askon's conclusion is based on assessing the transmission system in the North East in isolation. In the context of an all-island integrated power system, power flows are redistributed throughout the system if a fault occurs. EirGrid's proposal to use an overhead line meets the operating and reliability standards of a meshed transmission system.

5. Environmental impacts

- Overhead lines and underground cables both have environmental impacts. While visual impact is one criterion assessed, this is not the only criterion in determining environmental impact. Overhead lines perform better against a wide range of environmental categories.

6. Underground cable reliability

- The Askon Study ignores potential impacts by third parties on underground cables. While it studies joint failures it ignores the fact that the cable may fail. As a result of this, the Askon Study's subsequent analysis on cable reliability is incorrect. In any case, there are no 400 kV underground cables in operation at the proposed length anywhere in the world, so extensive reliability figures are not available. Figures in existence only relate to very short lengths of 400 kV underground cable in operation.