



Tyrone to Cavan Interconnector – The project so far

The Tyrone to Cavan Interconnector is a major electricity infrastructure project being jointly undertaken by Northern Ireland Electricity (NIE) and EirGrid. The Utility Regulator (NIAUR) has asked NIE to work alongside Eirgrid to deliver a new electricity interconnector linking Northern Ireland and the Republic of Ireland to meet strategic energy needs. The development of this important project has taken a number of years, with both companies working closely together to identify the most appropriate proposal. This project is vital in meeting the Government's challenging renewable energy targets and DETI's Strategic Energy Framework 2009 states the new interconnector will "contribute to the attractiveness of the Single Electricity Market (SEM) for new investment by facilitating increased levels of electricity trading and also enhancing security of supply."

In December 2009 NIE made a submission to the DOE Planning Service seeking consent for a new 275/400kV volt substation near Moy, Co Tyrone and 33.9km of 400kV overhead transmission line from the new substation to a crossing point on the Armagh Monaghan border.

The Benefits

The construction of the Tyrone to Cavan Interconnector will have a number of benefits for customers throughout Northern Ireland.

- Allow the all-island wholesale electricity market to work efficiently by removing constraint costs that the market presently carries as a result of inefficient generation dispatch.
- Enable more renewable generator capacity, mostly wind generation, to be connected to the electricity network. The Governments in both jurisdictions have set challenging targets for the amount of electricity to be generated from renewable sources and the new interconnector is key in meeting these goals.
- Increase the security of supplies to electricity consumers throughout the island of Ireland. Security of electricity supply is critical to a modern developed economy.

The Need for a Second Interconnector

The existing 275kV interconnector, which runs from Tandragee, Co Armagh to Louth, Co Louth, is limited in capacity and cannot meet future demands for secure and sustainable sources of energy. The Utility Regulator has stated the absence of a second interconnector is costing customers between £20 – 30million annually. With a single interconnector electricity cannot be traded in the most cost effective and competitive way to facilitate all the benefits that the Single Electricity Market is expected to bring to customers. NIE and Eirgrid began investigating increased North South interconnection in 2001 and in 2004 the Regulatory Authorities North and South identified a second interconnector as a critical component in the development of the all-island electricity market.

The Alternatives

Alternative methods for achieving an effective electricity interconnection between two adjacent power networks were examined; these have been set out within a detailed Environmental Statement that has been submitted by NIE as part of its planning application. As part of this process, expert independent studies



were carried out to examine the feasibility, costs and technical challenges of placing the interconnector underground.

The results of these studies demonstrate that the overhead line alternative is the most cost effective, reliable and technically achievable option. It is not standard practice to underground high voltage transmission circuits anywhere in the world. An underground transmission cable of the length required for the interconnector would be the longest such cable anywhere in the world. It would be technically challenging to install, and the reports indicated that underground cabling would cost more than seven times as much to install and more than five times as much in overall 'lifetime costs' than the overhead alternative.

NIE selected a 400,000 volt, alternating current overhead line as representing the best overall balance between technical, environmental and economic considerations, and this has been proposed within the planning submission.

The Proposed Overhead Line Route

When designing the proposed route for the interconnector, factors such as the location of residential properties and schools, archaeological sites, ecology, land type, physical and built features and other planning applications were all taken into consideration. Having examined a number of alternative routes, NIE has identified a preferred route that is believed to present the lowest overall environmental impact. The nearest existing dwelling will be over 75m from the overhead line.

The Consultation Process

Since 2006 NIE has consulted widely with landowners, elected representatives, Government committees, statutory bodies and local householders to identify a preferred route. Information packs and maps describing the proposed route were distributed to everyone living within a distance of 1km of the proposed overhead line, and a number of meetings have been held with residents and landowners affected by the proposal.

Electric and Magnetic Fields (EMFs)

There have been some concerns about the prospect of exposure to EMFs from the proposed overhead line, owing to reports that these may be damaging to health. EMFs are widely produced in everyday situations by the presence and use of electrical appliances, many of which generate levels of EMF considerably higher than those produced by an overhead transmission line. The EMFs produced by the proposed interconnector will be well below the guidelines established by international, EU and Government bodies responsible for setting the standards applicable to public health protection in this area.

The Next Stage

The NIE planning submission is now under consideration by the DOE Planning Service, which will undertake a period of open consultation in accordance with the normal and established planning processes. For further information and how to access copies of the NIE Environmental Statement go to www.nie.co.uk