9 NETWORK CAPABILITY FOR INTERCONNECTION

In July 2006, Minister Noel Dempsey TD, then Minister for Communications, Marine and Natural Resources, requested that the Commission for Energy Regulation (CER) arrange a competition to secure the construction of a 500 MW East-West interconnector between Ireland and Great Britain. The CER has since approved the choice of Woodland as the connection point on the Irish system for the interconnector, as recommended by the Transmission System Operator (TSO). The connection point to the British transmission system has yet to be finalised. The interconnector is planned to be in place by 2012. For the purposes of Transmission Forecast Statement (TFS) analyses, the East-West interconnector was included in all 2013 network models.

In March 2007 the government published a White Paper entitled "Delivering A Sustainable Energy Future For Ireland". The White Paper states that the TSO will be requested to analyse the feasibility of potential further interconnection with Great Britain, additional to the planned East-West interconnector, or new interconnection with continental Europe. In this TFS, the capability of the national grid to accept further imports from and exports to other transmission systems i.e., additional to imports and exports across the planned East-West interconnector, was assessed at nine potential connection points. The one 400 kV station and eight 220 kV stations that were tested are located along the east and south coasts, as illustrated in Figure 9-1. The capability of the national grid to accept additional imports and exports from other transmission systems was assessed for 2013, the final year of the period covered by the TFS. This chapter presents the results of that analysis and highlights the opportunities for further interconnection with Great Britain or new interconnection with continental Europe.

In previous Transmission Forecast Statements the transfer capability for transfers between the transmission systems of the Republic of Ireland and Northern Ireland was assessed. This is no longer relevant as cross-border circuits connecting the two systems essentially become internal circuits within the Single Electricity Market.

The results in this chapter are dependent on the assumptions made about generation and demand, and on the completion dates of transmission reinforcement projects as described in previous chapters.

Figure 9-1 Stations Analysed as Potential Points for Further Interconnection

9.1 TRANSFER CAPABILITY RESULTS FOR INTERCONNECTION

The results for import and export transfers in 2013 are presented in Tables 9-1 and 9-2. The results are classified as:

- Very high — more than 400 MW;
- High — between 250 and 400 MW;
- Medium — between 100 and 250 MW;
- Low — less than 100 MW.

The superscripts in the tables provide a cross reference between the low transfer capabilities and the relevant additional information on constraints provided in Appendix F.

The first column in Table 9-1 lists the nine potential connection points illustrated in Figure 9-1. For each potential connection point the results give the transfer capability in 2013 for imports from Great Britain or continental Europe when replacing generation in Dublin, Northern Ireland, the South and the West. These four generation blocks are described in Section 6.1 of Chapter 6.

Table 9-1 Transfer Capability for Imports in 2013

Import at:	Replacing Generation at:			
	Dublin	Northern Ireland	South	West
Arklow	Very High	High	High	Very High
Carrickmines	Very High	Low[F6]	Low[F5]	High
Cullenagh	Medium	Medium	Medium	High
Dunstown (400 kV)	Very High	Low[F6]	Low[F9]	Very High
Finglas	Very High	Low[F6]	Low[F9]	Medium
Gorman	Very High	Very High	Very High	Very High
Great Island	High	High	High	High
Knockraha	Low[F7]	Low[F7]	Low[F9]	Low[F7]
Louth	Very High	Very High	Very High	Medium

Table 9-2 presents the transfer capability for exports to Great Britain or continental Europe, for each of the nine connection points tested, when increasing generation in Dublin, Northern Ireland and the South. Analysis was not carried out for exports from the West as there is not expected to be sufficient spare generation capacity in the West to support the export of 400 MW of power. Generation in the West is likely to be at or close to maximum output.

Table 9-2 Transfer Capability for Exports in 2013

Export at:	Increasing Generation at:		
	Dublin	Northern Ireland	South
Arklow	High	High	Low[F9]
Carrickmines	High	Very High	Very High
Cullenagh	Low[F9]	Low[F9]	Low[F9]
Dunstown (400 kV)	Very High	Very High	High
Finglas	High	Very High	High
Gorman	Very High	Very High	Very High
Great Island	Low[F9]	Low[F9]	Low[F9]
Knockraha	Very High	Very High	Very High
Louth	Very High	Very High	Very High

9.2 SUITABILITY OF LOCATIONS FOR INTERCONNECTION

The results show that Gorman, Knockraha and Louth stations would be suitable connection points for exports in 2013, with each capable of accommodating exports in excess of 400 MW. In terms of imports, Gorman can accommodate 400 MW without additional network reinforcement in 2013. It is likely that, other than at Gorman, further reinforcement of the grid would be required to provide both import and export capacity of more than 400 MW at the other potential connection points examined, with Louth being the next most favourable potential connection point.

The capability of the grid to accept imports from and exports to Great Britain or continental Europe was assessed for each potential connection point on an individual basis. As such, if new generation or demand connects in an area that is shown to be capable of supporting imports or exports e.g., the north-east, they will use up some or perhaps all of the available capacity in that area.

The suitability of connection points should also take account of the capability of the networks in Great Britain and continental Europe to cater for transfers. For information on the systems in Great Britain or France, the most likely locations for further interconnection, users should contact National Grid, the British system operator (www.nationalgrid.com/uk) or Réseau de Transport d'Electricité (RTE), the French system operator (http://www.rte-france.com/index_en.jsp).

9.3 IMPACT OF CHANGES SINCE THE DATA FREEZE

It is unlikely that the changes since the data freeze at the end of December 2006 will have any significant impact on the suitability of the potential connection points as presented.

9.4 POTENTIAL IMPACT OF "GATE 2" WIND GENERATION

Figure 4-2 and Table 4-4 in Chapter 4 show that there is relatively little wind generation being processed under the CER's "Gate 2" direction in the north-east of the country. As such, "Gate 2" wind generation is unlikely to have a material impact on the capability of Gorman 220 kV station to accommodate imports and exports in excess of 400 MW. Depending on the uptake of connection offers however, "Gate 2" wind generation may impact negatively on the capability of the network to accommodate imports in the south.