Disclaimer

Appendix 4 - Regulatory Issues

Regulatory Environment - Background and Evolution

The GB electricity transmission industry is regulated by the Gas and Electricity Markets Authority (GEMA). The Authority's powers and functions in relation to the regulation of the electricity industry are set out in the Electricity Act 1989 (as amended). Execution of these powers is undertaken through Ofgem (the Office of Gas and Electricity Markets).

The following definitions of the Authority's roles and responsibilities have been extracted from ref 23:-

> "The Authority's principal objective in carrying out its functions under the Electricity Act is 'to protect the interests of consumers [both existing and future] ...wherever appropriate by promoting effective competition…'. The Electricity Act requires that in doing so the Authority must also have regard to:
>
> - the need to secure that all reasonable demands for electricity are met;
> - the need to secure that licence holders are able to finance their licensable activities; and,
> - the interests of the disabled, chronically sick, those of pensionable age, those with low incomes and those residing in rural areas.
>
> Subject to the above, the Authority is also required to carry out its functions in a manner which is best calculated to:
>
> - promote efficiency and economy on the part of persons authorised by licences or exemptions to carry out licensable activities;
> - protect the public from dangers arising from licensable activities;
> - secure a diverse and viable long-term energy supply; and,
> - contribute to the achievement of sustainable development.
>
> The Authority is also required to have regard to the effect on the environment of licensable activities, to any social and environmental guidance issued by the Secretary of State."

The Electricity Act provides the framework for the licensing regime relating to the generation, transmission, supply and distribution of electricity. Under section 9(2) of the Electricity Act, holders of transmission licences are obliged to develop and maintain an efficient, economic and co-ordinated electricity transmission system and to facilitate competition in the supply and generation of electricity.

Organisationally, the GB transmission system comprises:-

a) Licensed Transmission Network Owners, such as SHETL, who own the assets which comprise the transmission system in a specified geographical areas, and;
b) Transmission System Operators, responsible for the operation of those networks, particularly the real-time balancing of generation and demand on the network and the commercial mechanisms which underpin this.

From privatisation of the industry through to the present, the roles of Network Owner and System Operator have, on the UK mainland, been undertaken by three separate geographically based companies with SHETL covering the North of Scotland, Scottish Power Transmission Limited (SPTL) the South of Scotland and National Grid Company discharging these duties across England and Wales.

Provisions were incorporated into the Energy Act 2004, which enable the transmission licenses to be changed thereby splitting the role of System Operator from that of Network Owner. This has enabled a single Licensed System Operator covering the UK mainland to be created, thereby producing a single GB market for electricity. This role will be undertaken by NGC from April 2005 onwards. SHETL will continue to be Network Owner and licensee for the transmission assets in the north of Scotland, while SPTL fulfils the same roles in the south of Scotland.

Transmission Network Owners (TNOs) earn regulated income by charging Transmission Use of System (TUOS) charges to users of their networks in order to recover the capital and operational costs of those networks. TUOS charges will be subject to annual review under BETTA and will vary as the extent and value of the regulatory asset base and the number of users of those assets (both generation and demand) change. The extent and value of the asset base and an allowable rate of return on those assets is set by Ofgem at five yearly price control reviews. Again, quoting from ref 23:-

> "The transmission and distribution companies' price control arrangements are typically reviewed every five years. At the price control review, transmission licensees provide forecasts of capital and operating expenditure over the price control period, based on expected developments on the network and forecast generation connections, disconnections and demand growth. Ofgem reviews these plans, consults and discusses these forecasts with transmission licensees and then makes proposals. These proposals set out Ofgem's views on the revenues required by each transmission licensee to finance efficient levels of capital and operating expenditure for the next five years. Finally, modifications are made to each company's licence, to specify the amount of revenues the companies are allowed to recover."

When the present price controls were set there was insufficient information available to make allowances for transmission investment for renewable generation. As a result, there has been little or no investment in transmission infrastructure necessary to support the Government's aspirations for the growth in renewable generation. To address this situation, in mid 2004 Ofgem commenced a consultation process to determine how such transmission investment could be funded. These proposals are set out, in initial form in [ref 23], and in final form in [ref 24].

In order to inform consideration of the issues and reinforcement options, the three GB TNOs (NGC, SPTL and SHETL) were invited to consider the impact of three levels of renewable generation in Scotland and estimate the expected capital cost of the transmission reinforcement work which would be required to support this generation capacity. Their views were set out in the Renewable Energy Transmission Study - (RETS) [ref 27]. The three case study levels of generation addressed by their report are

known as RETS Stages 1, 2 and 3 and correspond to 2, 4 and 6GW in 2006-2008, 2008-2011 and 2011 onwards respectively.

As noted in the main body of this report, Ofgem also appointed independent engineering consultants SKM to perform a cost benefit analysis of building the proposed options by considering their capital cost, the expected generation and the cost of curtailment [ref 1]. This analysis considers proposed renewable energy generation projects and takes a view on the likelihood of their construction. The SKM report concluded that the proposed Beauly-Denny line is justified when installed wind capacity in the north of Scotland is greater than 1.2GW. The SKM report also sets out data provided by SSE who state that over 360MW of generation capacity is already connected or under construction and that quotations are in place for over 2000MW although these figures have since been superseded (see Appendix 1).

In essence, the SKM report argues that the proposed Beauly - Denny transmission investment costs are justified on the basis that they would be significantly lower than the generation constraint costs which are likely to be incurred should the investment not proceed.

Ofgem's Position on the Proposed Beauly – Denny Transmission Reinforcement
Ofgem's stated position in its initial proposal for Transmission Investment for Renewable Generation [ref 23] is that the Beauly Denny project will be funded, subject to the licensee(s) delivering the appropriate increases in network capacity. This decision was based on the capital cost of £254.27M which was provided to Ofgem by SHETL and is described as based on data from SHETL gained through a tendering process for the OHL and substation costs determined from manufacturers' budget prices and recent cost out-turns. This cost is for a totally OHL-based scheme.

If SHETL were to be required to underground any sections of the Beauly - Denny line, and thereby incur additional capital cost, it follows that they would seek to receive a higher regulated income reflective of these costs (based on the higher asset capital value). Thus, the additional cost of any undergrounding would be passed on to generators through TUOS charges. It could be reasonably inferred that, as the extent of any undergrounding increased, there would reach a point where the additional capital costs exceeded the generation constraint costs. At this point, the project would cease to be considered as "baseline" investment.

Notwithstanding, it is also worth recalling that GEMA have duties in respect of the environment and conservation under the Electricity Act 1989, the National Parks and Access to the Countryside Act 1949 (as amended by the Environment Act), The National parks Act 2000 schedule 5 modification of enactments (amends the Electricity Act 1989 (c29), 11(1) & (2)) and a wider duty to contribute to the achievement of sustainable development [see paragraphs 2.3 and 2.4 of ref 23]. Ofgem have noted that there is some evidence that customers value visual amenity and are willing to pay for 'modest' undergrounding through their bills.

With regard to new transmission investment to support renewable generation growth, Ofgem make reference to the issues of the possible impact on visual amenity arising from

transmission system development in paragraph 1.34 of Appendix 1 of ref 23. In respect of the visual impact issues however, comment is limited to the following:

> *"Issues relating to visual impact can be considered as part of the planning and consents process for new overhead lines, which are matters for local and national Government."*

Thus, there is no specific mechanism for incentivising TNOs to have regard for environmental issues when planning transmission system reinforcements.