THE STRATEGY FOR NEW ELECTRICITY TRANSMISSION LINES: AN OUTLINE OF THE CONCERNS OF AFFECTED LOCAL AUTHORITIES

The new generation of power stations and windfarms to be built over the next few years means that electricity will increasingly be generated in new parts of the country, particularly along the coasts and offshore. Although these proposals are necessary to mitigate the impacts of climate change and improve the security of our energy supplies, in many cases they will also create a need to reinforce the electricity transmission network. The time-honoured solution to this would be to plan new overhead power lines with all of the potential impact on communities and the countryside.

The residents and local authorities in areas affected by these potential lines are concerned that there are alternative solutions that may have a much lesser effect. However, it appears that there is inadequate flexibility within both the regulatory regime devised by Ofgem, and the policy framework provided by Government, to exploit opportunities to use new technology and to accommodate the changing geography of power generation. Instead, National Grid appears to be limited to planning incremental changes to the existing network, which often have significant environmental and social consequences. The local authorities consider that the Government should give longer term consideration to the updating of the transmission network so that it does not rely so substantially on the patterns that were relevant to the location of generation and demand half a century ago.

There are a number of new factors that are different to those which influenced the way the national power transmission network was developed in the 1940s and 1950s. At that time much of the generation was inland, in reasonable proximity to the coalfields and major rivers required by the large power stations of the time. Now, as we move to a new tranche of nuclear power stations and the enormous “Round 3” offshore windfarms, the geography of generation is substantially different. Alongside this, we have seen advances in technology over recent years, in particular with high voltage direct current (HVDC), which offers the opportunity of an alternative approach to undersea and underground cabling. Certainly there are high costs in using HVDC for short distances, but the relative cost diminishes when it is used over longer distances and will continue to fall as the technology develops and is more widely adopted.

However, proposals for new overhead lines have already been made in south Suffolk and across the Somerset Levels and the Mendips in Somerset and further proposals appear to be inevitable elsewhere in the country. In these cases, local residents and councils are concerned that National Grid has not been able to look comprehensively at alternative approaches, in particular underground or undersea cabling. Furthermore, the guidance that Government is proposing to give to the new Infrastructure Planning Commission would rule out these alternatives being examined when individual schemes are examined in the future.
These concerns should be seen in the light of the fact that all of the local authorities concerned support the principle of new nuclear power stations and an increase in offshore wind energy. Furthermore, they have generally had constructive discussions with National Grid insofar as the specific consultations are concerned. Nevertheless, all of this raises the question of whether there should be a more radical approach to the strategy for electricity transmission in the 21st century that might be less environmentally damaging than “bolting on” further extensions to our existing network. Unfortunately, it appears to the local authorities that there are a number of fundamental blockages that stop such consideration being given. These can be set out under a series of headings:

The legislative framework does not support sustainable development

The Electricity Act 1989 focuses on economics of provision - it does not value the social and environmental impacts of developing the transmission network. What may be economically efficient for National Grid is often to the detriment of communities and the environment. Furthermore, as stated above, the new draft National Policy Statement on Energy states that the Infrastructure Planning Commission has no role in questioning the need for a new overhead line if it appears to be an “efficient and economic” solution to a transmission capacity issue. Sustainable development would require the equivalent consideration of environmental and social concerns as well, taking account of the impact on the areas that it would traverse.

The regulatory regime supports investment in infrastructure over operational alternatives

The regulatory system approaches potential changes in a piecemeal fashion, assessing improvements in the context of whether they improve the efficiency of the existing network. However we need to consider whether we should move away from the existing network to one which is ‘smarter’ and better reflects the new geographies of electricity generation (including decentralisation) and consumption. With the current emphasis on minimising costs to customers and a relatively short price control period it makes it economically impossible to transform the network and make widespread use of nascent technologies such as HVDC.

The lack of an overarching strategy behind the development of the onshore & offshore electricity transmission network

The incremental changes that are taking place to the existing network appear to stem from the Electricity Networks Strategy Group (ENSG), an organisation drawn from the industry which reports to the Department of Energy and Climate Change and Ofgem. The work by ENSG appears to fall short on a number of points:

(i) The ENSG work has not been subjected to any form of environmental appraisal which would have required the assessment of alternative strategies, or alternative schemes. For example, a Strategic Environmental Assessment
may have revealed that an alternative approach in which the extent of offshore infrastructure was maximised (e.g. offshore direct HVDC links to demand centres such as the Thames Estuary) is preferable to the current approach of multiple onshore connections.

(ii) There has been no opportunity for public scrutiny of the outputs of the ENSG, and thus no opportunity to comment on the projects identified as being necessary and which are now effectively being sanctioned by government.

(iii) The need for new infrastructure was calculated based on the existing GB Security & Quality of Supply Standards (SQSS). SQSS has been under review for some time and it has been suggested that considerable latent capacity in the network could be released through a review of these standards.

(iv) The proposals were drawn up within the terms of reference of the current legislative and regulatory frameworks, which, as described above, are no longer fit for purpose.

**Conclusions**

The question of the planning of the transmission network was explored by the House of Commons Committee on Energy and Climate Change in 2009. The Committee found that there was a need to revisit the current regulatory and policy framework to ensure that the entire transmission network (onshore and offshore) was developed in a coordinated and efficient manner. This still remains outstanding and appears to lead to many of the problems described above.

In the view of local authorities, there is a clear role for central Government to take a lead on the development of a longer term strategy for power transmission and to deal with the regulatory issues referred to earlier. Without this, the pattern of power transmission well into the future will be governed by the network that was designed for conditions more than half a century ago.

Suffolk County Council

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