

PIU Energy Project

Response from British Energy and Others¹ to Specific Questions on PIU Scoping Note on Electricity and Gas Networks

General Background

Is the concept of natural monopoly a useful one to apply to these networks? Is it likely to remain so for the foreseeable future?

Yes, the gas and electricity networks are natural monopolies. Given the capital intensive nature of the networks and the need for long term planning horizons for investments, it is difficult to conceive of practical ways of introducing more competition and this is likely to remain the position for the foreseeable future. Moreover, the effective operation of integrated, stable and properly financed networks is crucial to ensuring the continued security of supply of electricity and gas. This suggests that some form of central co-ordination and control, including regulation, will be a continued requirement of network operation.

Is it appropriate to apply Common Carriage access to the main networks and NTPA to other wires and pipelines?

An important objective for the operation of the monopoly networks is the ability to facilitate new entry by ensuring that new entrants wishing to connect to the system are treated on a fair and non-discriminatory basis. The Common Carriage approach, in the context of an appropriate regulatory framework, helps ensure this objective by providing transparency and consistency of charging arrangements and appropriate recourse to the regulator where disputes arise.

Where do the natural monopolies end and how can the boundaries be justified:

- a. in respect of offshore gas pipelines?*
- b. in respect of smaller onshore gas and electricity systems?*

In respect of electricity, the natural network monopolies end at the end customer meter (at whatever voltage they are supplied at), or the generator busbar. In respect of smaller electricity systems, the boundary is probably best defined at the point where formal regulation (via the licensing of network operators) becomes inappropriate. In this respect, the boundary needs to be consistent with the Government's proposed exemption regime for distribution network operators.

Key Issues for Network Regulation

Are the approaches used by Ofgem to tackle information asymmetry between regulator and regulated appropriate? Are there better ones?

There is a danger that the 'gaming' inherent in the Price Control process between the regulator and those regulated could lead to micro-regulation and analysis by Ofgem. This is both

¹ AES Drax, Enron Europe, Edison Mission, Humber Power, International Energy, ScottishPower, Scottish and Southern Electric and Teesside Power Ltd

inefficient and raises perceptions of regulatory risk. The network operators are the experts at managing their networks and should be left to do this in the most efficient manner. An appropriate balance therefore needs to be struck between the incentives set through the Price Control process and the period over which it is set. Over the lifetime of the assets involved, 'gains' made in one Price Control period are likely to be corrected in subsequent periods.

In tackling information asymmetry, Ofgem often uses consultants to verify firms' views. Ofgem could reduce the use of such consultants by developing and retaining more in-house expertise. In respect of the PES networks, Ofgem has traditionally relied heavily on comparative analysis as part of the price control process. The trend towards consolidation of distribution network operators therefore has implications for this in the future. On the one hand, consolidation should lead to efficiencies of scale and the creation of larger players better able to withstand the short-term shocks inevitable in a market environment. On the other hand, consolidation raises concerns regarding the loss of comparitors and the ability of the regulator to set an appropriate price control regime.

Is Ofgem striking the right balance between seeking cost (and hence price) reduction and investment and maintenance of the quality of service? If not what are the implications for the approach to network regulation?

It is generally accepted that RPI-X regulation has been effective in removing inefficiencies within the privatised companies. However, most (if not all) of the efficiency gains available have now been realised. There is a danger that continued use of RPI-X without amendment could encourage cost reduction at the expense of quality of service and network investment, threatening security of supply in the long term. It is important, therefore, that evolution of RPI-X is explored. Ofgem has taken the first steps in this direction with its Information and Incentives Project for distribution network operators.

Historically, distribution networks have been 'passive' in nature but this is likely to change in the future with increased levels of embedded generation and micro power such as domestic CHP. This will require distribution networks to be operated in an active rather than passive mode. The adoption of a sliding scale regulatory approach for this portion of the network operator's activities, similar to that recently agreed with NGC in the context of its System Operator function, might therefore be appropriate.

Is Ofgem's approach to measuring network quality in terms of numbers and duration of involuntary interruptions appropriate?

This approach while sensible is historic and therefore gives little indication of problems on the horizon. Some better form of predictive assessment is needed to ensure that future network security is not compromised.

Are the recommendations of the EGWG Group consistent with a general approach of cost-reflective pricing for networks? Do they address the key problems identified with embedded generation?

The report of the EGWG successfully identifies the key issues and barriers facing embedded generators. Where barriers to entry exist, these should be removed or minimised, but this must not be at the expense of other market participants or in ways that distorts the operation of the market. Moreover, it will be important to ensure an integrated approach across the

total network and in this respect the arrangements for distribution networks must remain consistent with those relating to transmission, including in relation to charges for connection and use of system where cost reflective charging principles should be applied.

Is reform of distribution network regulation the most important network issue at present?

No. Even if Government policy for renewables and CHP is realised, there will be a continued need for the secure and reliable bulk transfer of power over NGC's transmission system. Moreover, the crucial role that a fully interconnected network plays and the benefits it brings to consumers in the form of security of supply and cost efficient operation will remain a key priority. In this respect, Ofgem's proposals for reform of transmission access and losses arrangements raises significant and fundamental issues for the ESI, particularly in respect of the treatment of past investments, perceptions of regulatory risk and the arbitrary creation of windfall winners and losers.

Networks and Security

Should consumers of all kinds be given further encouragement to consider their own security requirements and if so how?

There is no doubt that the demand side of the market has an important contribution to make towards achieving environmental goals and security of supply. Yet effective demand side management represents a significant but as yet largely untapped resource. To date, and against a backcloth of falling energy prices, the take up of energy efficiency and demand side management measures has been slow.

Appropriate incentives are required to reverse this position. Part of the solution could rest with the more widespread replacement of the existing metering stock with 'smart' metering which, when combined with innovative tariff structures, would offer incentives to consumers to forego supply at all times. It also has the potential to smooth out the demand profile thus enhancing security of supplies.

Can market forces be relied on to provide the appropriate number and capacity of international links, especially if energy market competition is less well developed outside the UK? Is there a case for government or regulatory intervention to promote new links and if so, what form should this take?

The use of interconnectors can make an important contribution to energy security. Current market forces can be relied upon to provide the appropriate number and capacity of links (we are aware of a number of proposed interconnectors with the continent). However, where liberalised markets are not fully functioning signals may be distorted (for example it will be important that commercial arrangements do not 'lock' out or constrain use of such capacity over prolonged periods).

Given developments to date, we do not think Government or regulatory intervention will be necessary to promote new links. Arrangements need to be given a chance to work in the new liberalised markets before action is contemplated.

What further lessons can the UK learn from network regulation in other countries with liberalised energy markets?

Recent events in California have demonstrated the need for a regulatory and market framework that provides the correct incentives for adequate and on-going investment, both from a supply and network perspective.

Networks and the Environment

Should network access and trading arrangements be “technology blind”? If not, why not, and how could environmental considerations be incorporated in a fair and transparent manner?

In general yes. It is a fundamental principle that network access and trading arrangements should generally treat all users on an equitable and non-discriminatory basis. The current arrangements achieve this and the status quo should therefore be retained.

The attainment of environmental objectives should be managed through explicit policy instruments or schemes (e.g. renewables obligation, emissions trading) rather than designing network access/trading arrangements such that they confer preferential treatment or benefits on certain technologies.

How should the local environmental impacts of networks, and in particular of overhead electricity transmission lines, be taken into account in network regulation and investment plans? Is there a role for a designated independent expert, perhaps Ofgem, to advise local planners on the wider benefits of proposed new lines, so these can be weighed against local considerations?

Undergrounding cables costs considerably more than overhead connections, hence regulated allowances would necessarily have to increase to accommodate such a change.

We see merit in the suggestion of an independent expert to advise local planners on the wider benefits of proposed new lines, but it is not clear whether Ofgem can be viewed as truly independent given its role in endorsing expenditure plans under price control regulation.

Longer Term Network Changes

Does the above vision of [regional] electricity networks seem plausible? If so, over what period might it evolve? What might be the costs of moving to networks of this kind? Would current approaches to network regulation, based on cost reflective pricing and investment to meet user requirements, be able to deliver the non-marginal changes required? Would it be able to do so if the costs of carbon abatement were internalised in electricity prices? If not, what does this suggest for approaches to network regulation and investment and in particular for any urgent changes to these approaches?

UK consumers currently enjoy enviable access to diverse and reliable energy at competitive prices. Under the umbrella of the regulatory framework, the efficient operation of a fully interconnected energy network has been a key factor in realising this goal, facilitating new entry and competition whilst at the same time driving down the cost of system operation to the benefit of consumers.

Whilst there will clearly be a need for the regulation and operation of the energy networks to evolve in response to increased levels of embedded generation, it is difficult to envisage the development of smaller regional networks, each with its own SO. Indeed, it could be argued that moves towards municipal systems would be a retrograde step and undo many of the benefits that a fully interconnected system brings. Over the years, successive Acts of Parliament have recognised these benefits, ultimately leading to the development of the present system of transmission and distribution.

Fundamental proposals to move away from the current arrangements should be approached with caution. In particular, arrangements of the type envisaged raises fundamental issues regarding the funding and design of networks, their interaction with the energy markets, security of supply and the impact on energy prices.

Should network reinforcement to accommodate large, remote sources of power be discouraged in order to provide stronger incentives for local generation? How might such discouragement work? Would it have unacceptable implications for generation costs and network security?

Whilst many renewable energy sources are likely to find it more economic to connect to the low voltage distribution systems, this does not necessarily mean there will be a reduction in the need for transmission capacity. For example, the increasing range of generation of different sizes and characteristics connecting to the networks will result in more active management of the system and require significant system investment. Moreover, local generation can result in a higher cost reinforcement than that caused by generation sited on more remote but less stressed location on the network. Investment decisions are influenced by a wide range of factors, all of which are likely to have a site-specific weighting.

The discouragement of network reinforcement in the manner suggested also has implications for network security and the overall efficiency of the system.