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01 September 2003

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Dear Gareth

Innovation and Registered Power Zones

We are pleased to have an opportunity to contribute to Ofgem's thinking on this topic. There has been very limited focus on innovation in our industry in recent times and it is appropriate to review this at this time. Changes to the fundamentals of the industry as more generation connects to the distribution network will require changes in many facets of network management. It is essential that DNOs are enabled, and indeed encouraged to seek out new techniques and technologies where these are appropriate.

A key challenge that we will face will be to facilitate the necessary changes without unduly increasing the level of risk that companies face. It will also be important to ensure that overall standards of service do not diminish. These issues need further consideration.

Attached are answers to the specific questions raised in your paper.

Yours sincerely

Jim Sutherland
ASSET DIRECTOR

Intellectual Property Rights

Question 1

We do not think that it is practicable or desirable to seek to regulate the holding or sharing of IPR. To do so is likely to weaken the incentive to develop this in-house, and hold back R & D accordingly.

Innovation Funding

Question 2.

The current low levels of DNO expenditure on R&D reflects the pressures imposed by the regulatory regime on costs and a need to ensure that risks are minimised in line with the regulatory rate of return. This situation could be sustained, i.e. industry retains current technology, however, to do so would effectively forego the benefits to customers of current and future technology developments. In offering a degree of cost recovery for R&D the IFI would therefore appear to be more closely aligned with customers' interests.

Question 3.

The use of the DTI scoreboard as a yardstick could be useful, so long as appropriate account can be taken of the nature of this industry sector and its general level of technology maturity.

Question 4.

The proposed categorisation is likely to become blurred at the boundaries, making it difficult to implement and perhaps encouraging the wrong behaviours to argue projects out of one category into another.

We agree with the comment is made in the paper that "some of the benefits of R&D flow to the DNOs and that some R&D expenditure is already undertaken". However, it must be noted that the current levels of R&D are very low and if the IFI is to increase the R&D intensity from 0.1% to 0.5% there must be a positive emphasis within the incentive framework. It cannot be assumed that 50%-75% funding (conditional) will be sufficient. The following rates are suggested for at least the first five years

Category A (clear target and network need)	90%
Category B (Generic innovation on identified problem)	60%
Category C (enhanced technical understanding)	30%

A level of funding within Category C would allow OFGEM to kick start DNOs to focus on enhanced technical understanding of existing and new techniques around their assets.

Question 5.

We don't believe there is a need to force a particular Management Process on R&D as this may stifle some innovation. The Management Process is best left to individual companies to adapt to their own requirements

Question 6.

If a single DNO or perhaps a group of DNOs demonstrate a competence in successfully delivering innovation then it may be appropriate to increase the R&D intensity cap. This should not necessarily be at the expense of other DNOs, i.e. it may be appropriate to increase the overall industry R&D intensity above the benchmark.

Registered Power Zone (RPZ) questions

Question 7.

We believe that innovation and active management have a role to play if the level of generation connections is to increase significantly. Such solutions, however, can only be assessed on a site by site basis as their success depends on a wide variety of factors.

It is essential that the correct balance is maintained between innovative solutions and a more conventional approach. For example, there are instances on our networks where we would judge connecting generation using active management techniques to be the most effective solution because

- It would significantly increase the capacity of generation that can be connected without reinforcement
- Other customers would not be impacted to any great extent
- The level of interest from other generators in the area is low or is likely to be low, therefore the innovative solution is unlikely to be replaced with a more conventional solution covering a wider area.

These factors are reversed in other parts of the network, and so a more widespread (and often more conventional) solution would be required.

More widespread solutions also present opportunities for innovation that are not possible in niche situations. The clustering of generation, particularly wind leads us to propose significant reinforcement in those areas of our networks that are most effective.

Question 8.

Limiting the number and type of projects in this way could affect some DNOs more than others. Those with plenty of RPZ opportunities could be constrained by this approach. The extent to which this might be the case will depend upon what the scope of an RPZ is, for example, would mid Wales be a single RPZ or several?

The categorisation into Gold/Silver/Bronze raises issues of definition - some of the criteria could be subjective, e.g. difference between high innovation and moderate innovation. Unless this can be broken down into more objective criteria the scheme could

encourage embellishment of projects in order to get into higher category or even lost opportunities as a result of dumbing down a project to get it into a lower category in order to meet that year's quota. The value of the "bronze" category is unclear given that no incentive factor applies there.

Question 9.

In principle, the return should be linked to the innovative content, subject to there being a reasonably objective way of categorising (see 8 above).

Question 10.

It is practical to implement such a regime up to the point where the administrative overhead of running the incentive mechanism outweighs the benefit. A fundamental question arises on how failures will be treated. While it would not be expected that rewards would accompany failed projects, if costs cannot be recovered then this would certainly dampen the appetite for many schemes. Following on from failure of an innovative connection arrangement there will also be a need to replace this with a more conservative approach. **Clarity on how this would be funded is essential.**

Question 11

The DNO is exposed to risks that it cannot control, e.g. the actions of the generator, which may in turn be related to external factors in the energy market. The £/MW factor could be based entirely or partly on MW connectable rather than MW connected. This would reduce the exposure of the DNO to external factors.

Question 12.

The lifespan of an RPZ (and hence period during which a premium return can be earned) should reflect the fact that some RPZs may take some time to reach full capability.

Question 13.

The appropriate return is dependent on the risks involved. One way of assessing this might be to look at another sector with similar risk characteristics and apply the same expected return. It would then be necessary to cap the downside and, in turn, limit the upside to maintain the symmetry of the reward profile

Question 14.

It would appear that an RPZ would need to be defined by reference to the network. The size of the zone would depend on which innovative techniques are being demonstrated. For example, innovative techniques for controlling voltage in areas with windfarms might be tested at a primary substation (or groups of primaries), this therefore limits the power zone. On the other hand voltage control using SCADA could be used across several substations, and this would therefore limit the power zone. One factor that might

restrict the size of a power zone could be the need to ensure agreement from generators within the zone. This could become impractical if a large zone was defined.

Question 15.

All customers, including generators will benefit from the RPZs However, with generator connections becoming shallower under the latest structure of charges proposals it will be harder for generators to see those benefits directly and, therefore, their willingness to pay for them will reduce. There may also be practical difficulties in trying to charge generators for the costs of RPZs, e.g. should individual RPZ costs be ring fenced?

General Questions

Question 16.

The IFI is attempting to deliver the benefits of innovation in a cautious way, i.e. auditing DNOs heavily to ensure they are not gaining too much. An alternative would be to give an adequate allowance to all DNOs, place less emphasis on vetting and categorising proposals and focus on rewarding the results. DNOs would still have an incentive to maximise the benefits of innovation.

Question 17.

Given the lead times for development it would be better to start as soon as possible.