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Dear John

## **Open letter consultation on the Innovation Funding Incentive and Registered Power Zone schemes for Distribution Network Operators**

### Introduction

Cre8 Innovation Solutions Ltd specializes in creating and applying innovative ideas to network and infrastructure businesses to deliver step changes in performance and value. A key part of our service is in helping customers to understand the value of opportunities to their businesses and to assist them in developing an innovation investment portfolio to deliver their corporate vision. In view of this role we welcome the opportunity to comment on experience with the Innovation Funding Incentive (IFI) and Registered Power Zone (RPZ) schemes since they were introduced for Distribution Network Operators (DNOs) as part of the last Distribution Price Control Review.

### Summary

In the consultation letter you ask for specific responses on a number of items. We have summarised below our recommendations for each of these

1. Level of the cap of internal IFI expenditure – we believe that this should be kept at its present level as increasing it may stimulate the growth of smaller fragmented projects which do not offer as much potential benefit to consumers as larger ones

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2. IFI eligibility criteria – as a result of changes in the approach of the EPSRC (Engineering and Physical Sciences Research Council) to contributions from industrial partners it is suggested that the IFI eligibility criteria should be relaxed to allow a small proportion of IFI funding to be provided to longer term projects. In addition we recognise that technical and commercial innovation often move forward hand-in-hand and thus see benefit in permitting IFI funding to support such commercial innovation
3. IFI benefit assessment requirements - there would be benefits in transparency and stimulating comparative improvement by the further standardisation of reporting.
4. RPZ constraints due to the lack of willing generators – a substantial extension of the scheme is necessary to facilitate interactions between networks and different types of distributed energy resources
5. The future of IFI and RPZ in DPCR5 – the previous point covers longer term issues for RPZs. As far as IFI is concerned it will be necessary to shortly provide some certainty to DNOs about the scheme after 2010 or the momentum which some companies have started to develop will rapidly reduce as companies will be uncertain about funding for multi-year programmes of work.

In our detailed response below we outline the reason for these recommendations and provide some other comments about the IFI and RPZ schemes.

## Detailed Response

### *Innovation Funding Incentive*

You mention that the objectives of the IFI scheme are to be a mechanism to encourage DNOs to invest in appropriate technical research and development (R&D) so as to deliver benefits to consumers. In these circumstances it is pleasing to note that the scheme has had a significant impact of the level of innovation activity amongst the DNOs with over a hundred separate projects and more than doubling the level of R&D intensity. Of the projects more than 15% are collaborative ones involving two or more DNOs.

However this degree of activity masks a wide range in the level of IFI engagement across the DNO companies both in the spread of research intensity and the degree to which companies have undertaken innovation on their own or with partners other than DNOs.

The DNOs annual reports also indicate that there are a wide range of benefits estimated for the projects initiated so far. Overall this amounts to a net present value of in excess of £40m being reported for less than £7m invested. What has become clear in seeking to analyse these reports and the projects within them is that differences in the methods of accounting and reporting between the DNO companies makes the production of accurate summaries difficult leading to problems in analysis and inhibiting comparisons and the drawing of conclusions. We believe that there would be benefits in transparency and stimulating comparative improvement by the further standardisation of reporting.

Despite these difficulties we have sought to analyse the results reported so far. These appear patchy. One notable feature is that there seems to be many comparatively small projects with consequentially limited benefits. This may, in part, be due to the uncertainty in the early phases of projects of the associated costs and benefits for potential degrees of implementation, and caution as to the degree to which benefits may be realisable for commercial and regulatory reasons.

As could be expected the analysis also shows that most of the declared benefits appear to be coming from a few, generally larger and more adventurous projects. Further concentration of resources on selected projects with major benefits can perhaps be expected as an initial bow-wave of small but high benefit/cost ratio projects are completed.

It would appear that is the companies with the smallest R&D intensity spend that appear to have had most difficulty with the internal spending cap. This may in part be associated with the initial costs of setting up of new projects from a standing start and before significant external costs have been incurred. There is also some evidence that those companies with the highest proportion of smaller projects are those with most concerns about the level of the internal cap. This may reflect the additional “overhead” that may be incurred from dealing with a relatively large number of quite small projects. We have concluded therefore that there is not a case for increasing the level of the internal cap as it may well encourage the proliferation of smaller projects which may not have the potential for consumer benefit of the larger ones

It is also interesting to review the nature of the projects that are being pursued. Whilst some are truly adventurous and ground breaking, many are, as intended, focused on demonstrating the suitability and benefits of existing advances which have been proven elsewhere. However a few projects whilst new to the DNOs are not obviously new within the UK industry and it will be important that the IFI does not become a preferred mechanism for companies to merely “catch up” and for the funding of standards administration and committee functions, valuable though these activities can be.

It remains early days for the IFI so it is perhaps not surprising that many of the more adventurous ideas from the international scene and academia have yet to find their way into the IFI reports.

It is believed that a balanced portfolio of short, medium and long term projects are necessary in order to ensure that over the long term a continuous stream of valuable innovation projects are ready for test and deployment in years to come. The current IFI eligibility criteria risk precluding somewhat speculative longer term (perhaps more “blue sky”) research as this is said to be funded separately by the Research Councils. However, the guidance to EPSC has changed since the inception of the IFI scheme, such as to encourage (and, indeed, expect) that industry will provide a small but significant part of the funding for such projects. The intention of this seems to be to ensure appropriate focus and industrial engagement for future successful transfer. It therefore seems appropriate to ensure that the IFI eligibility criteria are relaxed to permit a proportion of IFI funds be allocated to such longer term and more speculative research. To provide reassurance that this does not become a dominant feature and that focus is maintained on projects with a reasonably short delivery profile the proportion allocated to such projects should be controlled by a subsidiary cap and, at least initially, be quite small (perhaps 5% of the total IFI investment). Such an approach, if appropriately structured, could also be expected to have a significant but longer term beneficial impact on the number of engineering students engaged in research at our universities in the field of power engineering.

Regarding IFI eligibility criteria you also refer in to the boundary between commercial and technical innovation. There are often occasions when technical innovation also requires parallel commercial innovation to take place before implementation can occur. We believe that there would be benefits in allowing the IFI scheme to support such commercial innovation.

### *Registered Power Zones*

Whilst it is encouraging to that some RPZ schemes have emerged, it is disappointing, but not altogether unexpected that numbers have been low.

The take-up of suitable numbers of distributed generation schemes is widely blamed for this disappointing progress. However, the apparent narrowing of the scope of the RPZ scheme from that which initially seemed to be proposed (specific designated zones with technical and market innovation, trials, and release of capacity) to one that focuses solely on the connection of individual new generation projects must also be considered as a significant factor.

We believe that it is important to accelerate experience of active networks before the need for them become critically essential and see the RPZ scheme as a potential vehicle to achieve this. However for it to be successful the current breadth of the RPZ must be widened considerably to include, for example:

- Demand Side Management, Energy Storage and the development the associated markets.
- To account for increase in effective capacity/utilisation of existing generation and network assets

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- To provide the opportunity for DNOs to attract resources to selected zones and to develop experience in the use of distributed energy resources as an alternative to or to defer network reinforcement or replacement

We recognise that this is a substantial extension to the RPZ scheme and would require a significant restructuring of its arrangements. Nevertheless we see this as essential in order to allow DNOs to validate the operation of large scale complex networks by gaining experience of operating small active zones with many types of interrelated innovation before the need for widespread deployment and the associate risks of widespread unintended and potential chaotic interactions of competing autonomous systems.

We hope that these comments are useful and would be happy to discuss them with you more detail if you wish.

Yours sincerely

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