

Innovation Funding Incentive and Registered Power Zones: Workshop

**Tuesday 21 November, 2006
Ofgem, 9 Millbank, London**

Attendees:

Ofgem

Gareth Evans	Ofgem
Martin Crouch	Ofgem
John Scott	Ofgem
Ronke Adenuga	Ofgem

DNOs

Alan Broadbent	SSE
Phil West	WPD
Peter Lang	EDF Energy
Dave Roberts	Scottish Power
David MacLeman	SSE
Bob Ferris	Central Networks
Garret Dakin	CE Electric
David Talbot	United Utilities
Simon Rushton	United Utilities

TO

Ian Welch	National Grid
Jenny Cooper	National Grid
Ursula Bryan	National Grid

Generator /Generator Reps

Maddie Vigneswaran	Flextricity
Rodney Brook	Sohn Associates

Consultants

David Porter	KEMA
Mike Lees	EA Technology
David Russell	EA Technology
Steve Bone	Nu Angle Ltd
Peter Allen	Nu Angle Ltd

Trade Association

Dragana Popovic	ENA
-----------------	-----

Academia

Bridget Woodman	Warwick Business School
Ian Cotton	University of Manchester

Manufacturers

Nigel Russell	Kelman Ltd
Jonathan Rodgers	Kelman Ltd
Duncan Botting	ABB

Introduction

1. John Scott introduced the day. He welcomed the initial response to the IFI and RPZ initiatives and commented that they were very much complimentary to a wider renaissance of R&D evident in electricity networks. He gave a brief introduction into the proposed Energy Technologies Institute (ETI) recently launched by the DTI in partnership with Industry. The ETI aims to create an energy research fund of £1bn over a minimum lifetime of 10 years and establish a UK centre of excellence for energy innovation.
2. Gareth Evans explained the purpose and structure of the day (see agenda attached). He encouraged an unconstrained debate but said that, as explained in the Open Letter, fundamental changes to the schemes were not envisaged at this stage unless there was a very strong case for such action. Views for the longer term would be welcomed. Concise notes of the discussions would be made and fed back to attendees so that they could assist parties in developing their written responses (closing date 30 November).
3. Alan Broadbent made introductory comments on behalf of the DNOs' R&D Group. His main message was that Ofgem should be bold in developing these schemes, should make an early commitment to their post-DPCR4 position and should give the companies more responsibility in managing the schemes. The notes that follow record the discussion that took place and do not necessarily reflect Ofgem's views.

Presentations

4. Gareth Evans invited the ENA R&D Group (collective contribution from the DNOs), National Grid and Warwick Business School to give their presentations on the issues raised by Ofgem's IFI/RPZ open letter.

Assessing Benefits

5. Introduced by David Talbot of United Utilities (slides attached) and contributions from Jenny Cooper of National Grid.
 - Many quantitative assessment techniques were discussed including conventional present value, risk adjusted present value, Monte Carlo analysis and option pricing.
 - There was discussion about the need to quantify non-financial benefits such as environmental, reliability, operational and safety.
 - Better communication is required on the possible benefits from a project in advance of and following project completion (i.e. benefits which would be accrued in the future). This could involve selected case studies.
 - It was suggested that a common framework or scorecard for assessing risks and benefits could be developed for use across companies; this could usefully be made consistent with PAS 55 asset management requirements. It was proposed that this

approach could bring the quantitative and qualitative factors together in a common form.

- The generation of Intellectual property and unexpected 'spin-off' benefits should also be given credit (eg company reputation, professional development, encouraging new entrants to the sector).
- Transferable knowledge and skills are essential in driving sustainable innovation and should not be overlooked.
- **Recommendation:** Additional work is needed to inform debate and provide a final recommendation for inclusion in the GPG through the ENA R&D working group.

Internal IFI expenditure

6. Introduced by Phil West of Western Power Distribution (see slides attached)

- It was noted that the efficient level of internal expenditure is driven by a number of factors, most importantly the phase that the project is in and the level of leverage/collaboration.
- It is therefore difficult to agree a single level to be applied across a portfolio of projects and a percentage factor suffers from deminimis effects.
- It was argued that the initial deployment of new ideas has to involve internal resources and this can significantly increase internal expenditure. Lack of involvement of internal parties at this stage is short sighted and can result in unsuccessful take up.
- It was pointed out that the use of internal resources develops skills and reduces dependence on third parties.
- Finally, it was stated that the R&D community needs the active involvement of industry to provide 'customer pull'.
- Gareth Evans pointed out that the initial thinking had been to structure IFI so that it encouraged the DNOs to engage in an 'open innovation' approach and not recreate former in-house R&D facilities
- It was noted that clarification would be helpful in the area of adoption costs and their funding. It was suggested that the established 'Technology Readiness levels' in defence and aerospace R&D might be helpful here. Ofgem agreed with a comment that, once a technology is proven, its wider roll-out would not be seen as warranting IFI support.
- **Recommendation:** It was proposed by the ENA R&D Group that now an open innovation approach has been established, in future no limit should be imposed but that the level of internal resources should be reported and audited when considered appropriate. Ofgem could make its policy position known and seek company acceptance of the intentions.

IFI Eligibility

7. Dave Roberts of Scottish Power introduced this subject (slides attached).

- All parties argued for a widening of the scope of eligible IFI projects to include projects involving safety and environment, physical asset security and societal issues.
- One suggestion was to state what is not in scope as well as what is.
- It was suggested that a wording change should be made to the definition of IFI eligibility in the Good Practice Guide (GPG) within the period of the current price control. A proposal for a new wording change was put forward by the ENA R&D working Group (see slides attached).
- Inclusion of environmental and commercial issues attracted much discussion. Inclusion of storage and smart metering were also raised, noting that these technologies had impact and opportunities for networks. Physical security and risk management was an area of growing importance and some clarifications in this area would also be helpful.
- Ofgem explained that the original scope was deliberately focused on the area of engineering innovation where evidence showed that the traditional RPI-X incentives were not effective alone. It was also noted that Ofgem recognised that successful engineering innovation sometimes required attention to associated commercial or regulatory frameworks and that such activity was not outside the remit of IFI. A 'whole innovation chain' approach was welcomed.
- **Recommendation:** Ofgem and the ENA R&D Group agreed to develop a programme of work to identify helpful amendments to the definition in the Good Practice Guide.

RPZ Constraints

8. David MacLeman of Scottish and Southern Energy introduced this subject (slides attached).

- The process of connecting generators under the current arrangements is constrained by the long lead time in obtaining planning permission and in Scotland, the queue related to transmission constraints. With RPZ registration required by 2009, this is a strictly time-limited opportunity and, given the timescales, the window of opportunity was already closing.
- It is recognised that the DNOs cannot act unilaterally here and that this in itself is a constraint. There needs to be joined up thinking to strengthen the engagement of generators with DNOs.
- It was agreed that the fact that RPZ constraints ranked low in the breakout group scoring did not necessarily reflect a true position. DNOs are not able to act unilaterally on RPZ and so attention has focused more on IFI where they can. If more generators were seeking RPZ solutions we could form a better view of the operation of the scheme.

- **Recommendation:** One idea was to use RPZ to speed up connection; is there potential to look at the GB queue. The benefits to generators are important to identify and communicate. Another idea was to consider a 'connect & manage' approach rather than the current 'invest & connect' model. RPZ opportunities in Scotland at 132kV (ie Transmission) were noted and Ofgem was asked to consider this situation.

Future of IFI and RPZ

9. Peter Lang of EDF Energy Networks introduced this subject with contributions from Bridget Woodman of Warwick Business School (slides attached):

- Emphasis was placed on the benefits of extending the IFI scheme beyond DPCR4's 2010 horizon. A rolling five year programme was suggested (ie once an IFI project commenced it could be assured of five years of funding even if the completion date was in the next PCR period). In particular, the timeframe to establish and complete a significant project (especially involving international partners) can easily be 4 - 5 years. Without early attention to this issue the momentum of innovation was likely to be in jeopardy.
- It was noted that stronger relationships were becoming established with EPSRC for co-funding but their timescales were 'asynchronous' with PCR timetables.
- It was argued that a single GPG could work for electricity distribution and gas and electricity transmission.
- It was noted that DTI scoreboard figures indicated that a 1.0% funding intensity would not be unreasonable for the power sector. Also, that the former Area Boards used to work to a 2% intensity. Ofgem noted the points and commented that the appropriateness of a flat 0.5% across all companies was a point for consideration looking to the longer term.
- It was agreed that stability of the innovation incentives was important and that any changes arising from the open letter review should be seen as fine-tuning.
- **Recommendation:** Ofgem was asked to give urgent attention to the extension of IFI and RPZ beyond 2010 and consider a rolling 5 year approach.

Research Academy

10. Ian Welch of National Grid provided a brief update on the proposed Research Academy (RAc).

- The RAc offers a broad programme across electrical power systems (EPS). Its focus is to strengthen the UK's health of discipline by addressing the current weaknesses in electrical power systems research capability.
- It aims to enhance research capability in Universities for research and this will have the additional benefit of addressing the lecturer

shortages in EPS now being seen in the Power Academy.

- The RAc will produce research output rather than people output by placing good home students on well-resourced and structured R&D projects. It will include links with industrial partnerships from sponsoring companies which will bring benefits to both parties.
- The possible sources of funding for the RAc include EPSRC and IFI. However, all companies in the sector were urged to consider providing financial support for this initiative.
- The Steering Group is aiming to produce a draft prospectus by end 2006.