Open Letter Consultation

Engineering Recommendation (ER) P2/6

Workshop Minutes – 14 September 2007

1 Introduction

1.1 The workshop was introduced by Gareth Evans. It was being held as part of the open letter consultation initiated by Ofgem on 1 August 2007[1]. The primary purpose of this consultation is to establish, on behalf of customers:

(a) whether changes are required to the licence condition or to ER P2/6 to ensure that appropriate practice as already applied or as is necessary to meet current conditions is consistent with the legal position; and

(b) whether there is a sufficient case to initiate a review of ER P2/6.

1.2 Following the consultation, Ofgem intends to form a view as to whether actions need to be taken and if so, over what timescale and with what priorities.

The agenda for the workshop is provided here as Attachment 1.

2 Morning presentations

2.1 The workshop opened with three presentations:

'Review of Distribution Network Design Performance Criteria, Project Summary' - presentation by Goran Strbac (Imperial College) on behalf of the Kema/Imperial College consortium that produced the initial report on ER P2/6 for Ofgem (now published on Ofgem's website).

'P2/6 – United Utilities' comments on Ofgem's 1 August Open Letter' – presentation by Mike Kay (United Utilities).

'P2/6 and regulatory requirements' - presentation by Martin Crouch (Ofgem).

All three presentations are available on Ofgem's website.

3 Morning discussion

3.1 The morning's discussion largely followed the scheduled discussion topics (see agenda):

Views on enforcement of standard/Licence modifications

3.2 There were differing views expressed on the enforceability of the Licence requirement on the DNO to "plan and develop its distribution system in accordance with a standard not less than that set out in Engineering

[1] http://www.ofgem.gov.uk/Networks/Techn/TechStandds/Pages/TechStandds.aspx

Recommendation P2/6". This difference of views tended to support the case for greater clarity in this area.

3.3 It was noted that ER P2/6 allows for departures from the levels of security defined but that this may require detailed risk and economic studies to be carried out. It was questioned as to whether there is need for instruction on the appropriate level and method of such cost benefit analysis (CBA). The comment was also made that the greater use of CBA could make it more difficult to monitor and/or enforce ER P2/6.

Merits of a design standard versus incentives

3.4 The possibility of a purely economic solution was raised where network design would be driven solely by output standards/incentives. There was a general consensus that an input design standard complemented by output performance incentives, as recommended by Kema/Imperial College, remains the most appropriate way forward.

3.5 The issue of justifying works at public enquiries was discussed, in particular difficulties that may be encountered in justifying new works on a purely cost/benefit basis rather than against a standard due to the disparity of approach between companies making the process opaque to the public. There would also be a larger obligation to present complex data and underlying assumptions which would extend the timescales of statutory public hearings.

3.6 It was thought that if a purely economic model was used then DNOs would develop their own general rules (effectively their own "planning standards") for economic investment.

3.7 One attendee considered that a planning standard helps to deal with longer term planning issues.

3.8 Reliability models and the maintenance of the data and model were discussed.

3.9 It was noted that certain customers rely on a clear understanding of the security of supply that they can expect from the network. This understanding allows customers to plan their own installations to deliver required levels of performance. The view was expressed that an input design standard (i.e. ER P2/6) is beneficial here as it gives a clear indication of the security of supply that can be expected. There was concern that a move away from a standard to purely output performance incentives could cloud levels of security, particularly for customers requiring very high levels of reliability e.g. hospitals, transport infrastructure.

3.10 There was a general consensus that the societal value of electricity has increased since P2/5 was introduced (1978). It was noted that many modern buildings quickly become uninhabitable without electricity supplies. Difficulties in establishing a Value of Lost Load (VoLL) were briefly discussed. The comment was made that while VoLL clearly varies between different customers it can also change for one customer as the length of outage increases.

3.11 One attendee argued strongly that we need to establish a much longer term vision of network development taking account of the technical innovations that are possible in the next few decades. These include widespread

domestic/community generation and demand side management/responsive demand.

3.12 One attendee made the point that there needs to be consistent outage planning standards and criteria agreed by DNOs to ensure that the transmission operator understands consistently what the capabilities are across the GB and so that the major critical national infrastructure sector customers (i.e. water, oil, gas etc.) also understand the "risk" levels applied to their supply network by these companies.

Is there need to define Group Demand and Transfer Capacity more rigorously?

3.13 There was a general feeling that Group Demand and Transfer Capacity are interpreted differently by different parties. One attendee questioned whether these terms could ever be adequately defined to avoid varying interpretations. It was noted that ETR 130 provides background to ER P2/6 and the above terms.

3.14 A view was expressed that levels of network redundancy implicit in ER P2/6 may become unnecessary if demand side management, smart metering and distributed generation become more widely implemented.

3.15 Operation under outage conditions was considered, particularly during extended construction outages. It was noted that there is no operating standard for DNOs, but that IIS strongly influences DNO system operation. One attendee raised the importance of designing networks to ensure maintainability and considered the design of more easily interchangeable network components.

DNO/TSO interface issues

3.16 A short introduction was given to the current Grid Code Working Group that is currently considering the DNO/TSO interface issues. The view was expressed that the interpretation and implementation of the GB SQSS (transmission design standard) and ER P2/6 have been diverging. It was noted that both standards have a strong incentive to reduce capex. It was also noted that there are DNO/TSO issues with Group Demand and Transfer Capacity definitions and interpretations.

4 Afternoon Presentations

4.1 The afternoon session focused on an issue that has recently been raised by BERR and is closely related to ER P2/6. BERR is concerned about the potential impact of high impact, low probability (HILP) events, particularly in Central Business Districts (CBD) where the value of lost load reaches very high levels. Two presentations were made.

'HILP events' - presentation by David Gray (BERR)

'CBDs & HILP events' - presentation by Bob Bassett (EDF)

5 Afternoon discussion

5.1 The afternoon discussion centred on CBD and HILP issues but also linked back to ER P2/6.

5.2 It was generally agreed that London is unique in terms of the concentration of high net worth businesses. Supply security to London's CBDs is of national importance in terms of both the economy and national reputation. It was noted that there are other CBDs that are also of national importance, and areas of inner city population where loss of supply could lead to significant policing problems. It was suggested that there should be an explicit mechanism to recognise these issues. It was recognised that the current drafting of ER P2/6 does not prevent consideration of HILP events but does not explicitly address them.

5.3 One attendee highlighted the fact that rural supplies are more unreliable and therefore further investment in securing urban loads might be hard to justify politically. Another member considered that these are political issues rather than issues for an economic regulator.

5.4 It was noted that work is ongoing to consider benchmarking and group sizes for HILP consideration and that in some locations there is no transfer capacity available.

5.5 It was thought that there are two aspects to HILP events:

- Loss of supply to CBDs where the societal value of supplies is greater
- Loss of supply for extended periods of time (and associated policing issues) e.g. caused by loss of several large transformers

5.6 One DNO representative noted that they are already investing to mitigate the risk of loss of supplies for extended periods in one location by providing greater capacity than is strictly required by ER P2/6.

5.7 Another suggested extended outage risks can be reduced through system design decisions e.g. GIS may be more prone to extended outages than AIS.

5.8 The link between common mode failures and HILP events/extended outage periods was noted and the possibility of inclusion in a standard was raised.

Other points

5.9 The issue as to whether different network design solutions should be encouraged was raised. One attendee considered that a standard should encourage implementation of different solutions to allow sight of the best solution in practice. Another attendee considered innovation important but considered that critical infrastructure should not be left to anarchic development.

Attachment 1

P2/6 Review Workshop

Agenda for the P2/6 Review Workshop	From	Richard Coates	14 September 2007
	People invited	Industry	
	Date and time of Meeting	14th September 2007 10:30 – 15:00	
	Location	Ofgem, 9 Millbank, London. SW1P 3GE	

10:30 Introduction – Ofgem (Gareth Evans)

10:40 Kema/Imperial College present their report (Goran Strbac)

11:10 DNO – response to open letter/report – UU (Mike Kay)

11:40 Distribution Licence drafting (issues raised in open letter) – Ofgem (Martin Crouch)

12:00 Discussion

- Views on enforcement of standard/Licence modifications
- Merits of a design standard versus incentives
- Is there need to define Group Demand and Transfer Capacity more rigorously?
- DNO/TO interface issues

12:45 Lunch

13:30 High impact/low probability events – David Gray - BERR

13:45 High impact/low probability events – Bob Bassett – EDF

14:00 Discussion

- Is there need to address HILP events in P2/6?
- Is there need to address construction outages in P2/6?
- Is there need to address common mode failures in P2/6?
- Remaining issues from the morning's discussions

15:00 Close