WESTERN POWER DISTRIBUTION
Serving the South West and Wales

Chief Executive's Office
Avonbank
Feeder Road
Bristol
BS2 0TB

Telephone 0117 933 2000
Fax 0117 933 2022

Mr Mark Cox
Head of Distribution Policy
Office of Gas and Electricity Markets
9, Millbank
London
SW1P 3GE

Our ref *Your ref* *Date*
19 November 2008

Dear Mark

Update on the DPCR5 Process – Distribution Losses

WPD have raised concerns that the current method of measurement of distribution system losses using settlements data is a very crude estimate that gives a volatile measure that is outside the influence of the DNOs.

We believe that measuring distribution system losses would be more accurate if technical losses are measured at the DNO's equipment. To achieve this we propose fitting advanced metering equipment at all 11kV/LV substations.

This letter outlines at a high level how we see this initiative working in practice, together with our assessment of the costs and potential benefits.

Proposal
Across WPD's two distribution areas, there are approximately 20,000 11kV ground mounted transformers (GMT) and 70,000 pole mounted transformers (PMT). We propose installing advanced metering equipment built-in into a weatherproof enclosure at each site. Data from each site will be provided to WPD using SMS messages via the mobile phone network. Where mobile phone coverage is not available the alternate options will be private mobile radio or unregulated radio networks.

Costs
We estimate that the costs of the programme to install 90,000 sets of advanced metering and associated communication equipment will be £50m. Annual running costs thereafter will be an estimated £1m. See Appendix 1 for a cost breakdown.

We believe that we could complete this programme across WPD South West and WPD South Wales within 2 years.

Impact on IIS

We estimate 50% of ground mounted substation installations will require a shutdown and 5% of all pole mounted substation installations will require a shutdown resulting in a significant impact on planned CIs and CMLs during DPCR5 which would need to be incorporated into our IIS targets.

Benefits

Apart from the ability to more accurately calculate network technical losses, we believe there are several potential additional benefits. The metering system has the capability to deliver real time information relating to loss of supply, voltage and load directly to WPD's fault management and related systems. Assuming that existing IT/Design tools could be developed or extended to analyse and process this data into useful information, in the longer term we envisage data could be collected from the metering equipment to improve network design and utilisation and ultimately may facilitate the move towards active network management.

Next Steps

To take this forward we propose including a trial installation of advance metering as an IFI project in early 2009.

We would be pleased to meet with you to discuss this initiative further. We will contact you next week to arrange a convenient date.

Yours sincerely

ROBERT SYMONS
Chief Executive

Appendix 1

Cost Breakdown

(a) Installation Costs

We have estimated the transformer installation costs as follows:

Unit Cost £*	**PMT**	**Old GMT**	**Modern GMT**
Weatherproof Box	£120	£120	£120
Meter/MCB/CT or Coil	£280	£280	280
Off-Site Assembly	£25	£25	£25
On-Site Installation	£80	£140	£140
Supervision	£20	£120	£20
Total Cost per Unit	£525	£685	£585

(b) Manpower

We estimate that this project will require 48 teams, each fitting 5 pole mounted substations per day or 3 ground mounted substations per day.

(c) Total Start Up Costs

We have estimated the total start-up costs of the project for WPD as follows:

Item	**Unit Cost £**	**Quantity**	**Total £**
PMT installation	£525	69200	£36.33m
Old GMT installation	£685	10,700	£7.33m
Modern GMT installation	£585	10,000	£5.85m
Data collection /transfer	£50,000	1	£50k
Survey Costs	£50	90,000	£450k
Total Cost			**£50m**

(d) Annual Operating Costs

We estimated the ongoing annual operating costs for WPD to be approximately £1m.

Activity	Details	Annual Cost
Comms Charges (SMS Messaging)	90,000 x £5	£450k
SMS Messaging Control (10 staff) = £300k	10 staff	£300k
Meter Replacement	1% of 90,000 @ £160 per unit	£145k
Data Handling		£25k
General Maintenance		£90k
Total Cost		**£1m**