AMO Response to Ofgem 151/08 - DPCR5 process

1.1. Purpose

This document captures the main comments from the Association of Meter Operators to the proposals concerning metering of the Distribution Network. The AMO membership includes all the active electricity Meter Operators and the largest gas Meter Asset Managers. This response does not necessarily fully represent the view of any or all member companies. The AMO Consultant and/or members would gladly provide any further clarification or explanation of the comments provided.

The figures/assumptions are provided purely to assist discussion, these assumptions can be refined with further information and clarity about how the proposed scheme would operate.

1.2. Opportunity

This is an interesting proposal which could provide substantial opportunities for provision of servicing to install and maintain meters, the fundamental role of Meter Operators. However the proposal raises some immediate considerations.

The AMO would expect that this metering work would be competitively procured from organisations with the skill and experience of providing metering services to the sector - the Meter Operators. Only by procuring this work through competitive tender would the regulated distributors be able to demonstrate the most cost effective solution. The same would apply to the data collection activity.

1.3. Scale

WPD website[1] declares "...88,000 transformers..." across its network. If the WPD network is assumed to be 10% of the GB network, then that means some 880,000 metering points across the county. Compare the 880,000 metered transformers with the 110,000 half hourly meters in the current half hourly settlement market across the whole of England, Scotland & Wales. A meaningful increase in meter activity.

Metering would be in HV and generally outdoor environments (distribution substations and pole mounted equipment). So metering would need to be fixed to pole or existing switch gear, in weather/secure boxes. Installation is probably a two person task – safety, physical lifting and HV environment. Assuming two installs/day/team and 200 working days/year equates to 110 two person meter fitting teams (plus management/support staff) over two years, on first sight, sounds a little optimistic! If WPD employed fixed term contract staff it would add 10% to WPDs existing staff numbers. Over the country it would require a staff of 110 x 10 x 2 = 2,200 staff for two years.

Some installations may need a shutdown, causing customer disruption through loss of supply. The information is only of any use when every substation in the GSP has been metered.

Other substations may only have one customer (or the substations are single HV/HV customers) so the existing settlement meter data could be acquired and used. This would require suitable data management/mapping of MPAN to substation, and adjustment of the correct voltage/loss adjustment factor.

Installations would need remote communications, GSM coverage will be an issue in some of the remote locations.

1.4. Costs

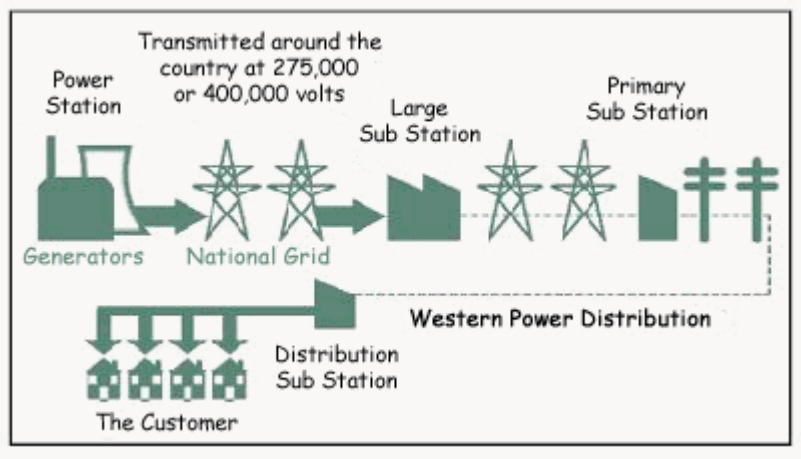
The would be an initial meter purchase, installation and maintenance cost. Then an ongoing operational cost for collection & validation of HH data from 880,000 HH metering points. If this is estimated at £200/year/metering point, it equates to an annual cost of £176 million.

[1] http://www.westernpower.co.uk/default.asp?categoryID=30

The HV distribution network is very significantly interconnected - to support resilience - so to ensure data integrity the changing network configurations would need to be captured daily to ensure the data for each Grid Supply Point with the Distributors' area is able to be compared with all the distribution substations and HV customers connected to that GSP in each half hour. As HV switching events occur between GSP Groups the actual time of switching will need to be captured to assign the data from the relevant meters to the revised GSP Group.

Managing this data is not a trivial task. Part of the data collection responsibility would be to estimate any missing data due to faulty meters, or where not working for any reason. Any data errors will impact any payments under an incentive regime.

Should be recognised that the Transmission loss factors are calculated on a half hourly basis, there are often anomalies in the data, which in some cases are very difficult to resolve (if at all). There are fewer metering points in the Transmission system than there are in the proposed Distribution network. The same anomaly effect can be expected to occur for each GSP. The process only works when every input/exit/interconnection point is metered, all data is available, and the condition of the network is known.



The losses are currently adjusted using factors, taken from WPD charging statement for the bulk of the hours in a year:

Extra high voltage	site specific
High voltage (11kV) customer	4.6%
Low voltage substation (LV side of transformer)	6.2%
Low voltage network	6.9%

If this scheme operated correctly it would be possible to measure the accuracy down to the low voltage substation (LV side) level, accounting for 6.2% of the loss. The implication of these figures is that 1.6% of the loss is in distribution transformers. The remaining 0.7% on the LV cables would not be captured, unless a similar scheme was created to measure all the customers connected to each distribution substation.

The intention is to incentivise the reduction of losses, however when distribution equipment has up to a 40 year life, the process would be very slow, unless equipment replacement was accelerated. This proposal only measures the losses, it does nothing to actually reduce them.

1.5. Implementation

Prior to launching such a scheme across GB, it may be appropriate to trial a defined area - Isle of Wight comes to mind - to assess the practical difficulties to making this proposal achieve the cost/benefits proposed.

1.6. Conclusion

Metering companies would be very keen to explore this substantial increase in work. It has only been possible to briefly highlight some of the issues of what could be a very complex proposal. If you would like to discuss any of the aspects discussed in this document, then please contact me.

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