ScottishPower
EnergyNetworks

Colette Schrier
Ofgem
9 Millbank
LONDON
SW1P 3GE

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Garth Blundell
01698 413446

Dear Colette,

Consultation on use of system charges to new electricity distribution licensees: WPD and SPD proposals

I am replying, on behalf of SP Manweb ('SPM') and SP Distribution ('SPD'), to Martin Crouch's open letter of 8 May 2007. We welcome the opportunity to comment on the issues raised.

As regards the proposed SPD/SPM methodology we would make three main points to clarify and support our earlier submission.

(i) Analysis of IDNO sites

We have conducted further analysis of the available profile data for IDNOs connected to SPD and SPM distribution networks. **In summary, the conclusions of this analysis supports the assumptions made in our modification proposal.** We have attached the non-confidential part of the analysis as Appendix 1 and the confidential data and graphs are shown in Appendix 2.

(ii) Treatment of licence exempt distributors

In general, we would expect to levy charges on the appointed exempt supplier in accordance with the capacity and type of settlement metering installed and the corresponding normal billing arrangements would apply. We would not normally expect to have to bill use of system charges to a licence exempt distributor other than through its appointed supplier.

(iii) Scaling of charges

We confirm that charges are scaled to each of SP Manweb's and SP Distribution's allowed revenue.

As regards WPD's proposals we have a number of comments as follows.

(i) Use of unit charges

We do not believe that unit only charges are sufficiently cost reflective at any voltage level, although we note this is a feature of WPD's current approved methodology for domestic customers. A significant proportion of costs (e.g. those relating to billing, customer service, the service connection and part of the LV network) are clearly independent of the volume of electricity distributed. Removing fixed charges and only including unit based charges implies that higher usage customers are effectively subsidising lower usage customers and this distorts competition due to the lack of cost reflectivity.

Extending unit only charges to IDNO charges (HV and LV) will effectively provide the same distortion; with IDNOs potentially benefiting from a subsidy from other, higher usage, users. Moreover, this would remove any incentive on IDNOs to specify their capacity requirements appropriately. Nevertheless, if unit only charges were to be deemed appropriate for IDNO connections then, similarly, they should also be appropriate for other users connected at the same voltage level.

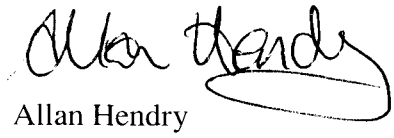
(ii) Use of "predominately domestic" category

Another point in WPD's proposals which we have some difficulty with is the use of a "predominantly domestic" category of IDNOs (where more than 50% of the maximum demand is due to domestic customers). It is not clear how this is going to be monitored, and it fails to take into account the "phasing" issue during the construction stages, which has been raised by some IDNOs. We believe that cost reflective IDNO-specific tariffs should be available to all IDNOs, and not only to those that qualify as "predominantly domestic". Our analysis shows that for SPD and SPM existing sites, the use of domestic profiling better reflects the average IDNO profile for all IDNOs even for large HV IDNOs (which one would expect not to qualify for the "predominantly domestic" definition) and are therefore more cost-reflective than business profiles.

Accordingly, we are of the opinion that WPD's proposals are not consistent with the obligations as set out in Standard Licence Condition 4C (1) and 4C (5).

We think there will be benefit to have a meeting with you after the responses have been received. Please let us know if this would be helpful. If you wish to clarify any aspects of this response or our proposed modification please contact Garth Blundell on 01698 413446.

Yours sincerely



Allan Hendry

Regulatory Economics Manager,
ScottishPower Energy Networks

APPENDIX 1
ANALYSIS OF LV AND HV IDNO SITES CONNECTED TO THE SPD DISTRIBUTION NETWORK

OBJECTIVE

1. The objective of the analysis summarised in this document is to examine available half-hourly energy consumption data from Jan 2006 to March 2007 for a number of IDNO sites connected to the SP Distribution's network at both low and high voltage and to interpret the results in the context of the proposed IDNO-related changes to the SPD/SPM UoS Charging Methodology.

METHOD

2. Half-hourly data for active and reactive imports for each IDNO site was analysed for the period Jan 2006 to March 2007. Data for many IDNO sites does not cover the full 15-month period as many of the connections were not active until post-Jan 2006 and there are some post-connection gaps in data due to metering problems.

3. Only sites with 12 or more months of useful data were analysed for site demand profiles and demand estimation coefficients. All of these sites are in the SPD area. Site Type designates the IDNO site as one of the following:

   a) Small Low Voltage (<100kVA)
   b) Large Low Voltage (≥100kVA)
   c) High Voltage

4. The analysis consists of 4 parts:

   a) Change in total daily consumption over time for all sites
   b) Daily demand profiles by site and by group for given times (Small, Large, HV)
   c) Demand Estimation Coefficients (DECs)
   d) Power Factors (per site and averaged over site type group)

5. In parts 1 and 4 data was analysed for all sites. In parts 2 and 3 only sites with 12 or more months of useful data were considered.

AGGREGATED DAILY CONSUMPTION

6. IDNO connections to the distribution network have increased throughout the period of study. The rate at which the total daily consumption is changing can be taken as an indicator of whether the data is relatively static (low long-term growth with seasonal variation) or dynamic (rapid short-term non-seasonal changes).

7. For both HV and LV sites, total aggregated consumption has changed significantly between Jan-Dec 2006 with some flattening in Q1 of 2007.

DAILY PROFILES

8. Daily profiles for the IDNO sites (collectively and individually) are plotted against profiles for reference customer groups derived from 2003-4 settlement data for SPD. Plots are normalised to the mean for ease of comparison of sites with different demand levels.

9. Profile data for each site is aggregated over each calendar month for each of the 48 daily half-hours. Results have been plotted for the three IDNO site types against reference profiles for the months of January 2007 and July 2006.

10. For both Small and Large LV sites the Domestic profile is found to fit much more closely than the Small Business profile. The E7 profile is a poor fit.

11. For HV sites the Domestic profile is also good fit. The fit to the E7 profile is poor.

12. The quality of fit of IDNO site data to profiles was quantified by calculating a chi-squared statistic. In general this supports the qualitative conclusions above.

DEMAND ESTIMATION COEFFICIENTS

13. Demand estimation coefficients relate peak demand to average consumption for defined time periods and so are likely to be distorted by partial absence of data and by a changing base level of consumption through a given time interval. In particular a spell of lower than normal consumption means a smaller annual total and correspondingly larger DEC for a given value of maximum demand.

14. The DECs derived for the IDNO sites tend to be higher than those for a comparable customer profile class. This is due to the relatively rapidly changing consumption over the analysis period and distortions due to construction work.

15. There is insufficient data yet for any conclusion regarding IDNO-specific annual profiles as sites are not mature and the dominant change in usage is not seasonal but due to site development/growth.

POWER FACTORS

16. From the data analysed, it is clear that some sites have had very poor power factors, although there seems to be a trend for the power factors to improve with time (particularly for HV sites). To assess whether the sites with poor power factor were likely to be problematic an average daily power factor weighted by mean site demand was calculated for the three site types.

17. The average power factor was significantly above the normal reactive charging threshold of 0.95 throughout the study period for all three site types. To investigate the supply of chargeable reactive units to groupings of IDNO sites, the active and reactive

imports for LV and HV sites were aggregated for each half-hour. Taking the data half-hourly there was no chargeable reactive supply to either of the voltage groups.

18. Analysing the Small and Large LV groups separately, the Small LV group would have been liable for reactive charges for a few days in Q1 2006 (when aggregate demand was at its lowest). Chargeable reactive supply has been essentially zero since then. The Large LV group would have been liable for no reactive charges in the study period.

CONCLUSIONS

19. Consumption of IDNO sites both individually and as a group is increasing.

20. For both classes of Low Voltage IDNO (small and large) the Domestic profile is clearly a better fit with the aggregated IDNO site observations than the Small Business profile is.

21. At High Voltage the Domestic profile is a good fit for aggregated IDNO data. We expect the fit to improve as the HV IDNO currently planned to connect to the SP areas are mainly for serving domestic premises.

22. **Overall, the data suggests that moving from an assumed Small Business profile for LV IDNO sites and from an HH HV Commercial profile for HV IDNO sites to a Domestic one would much better reflect the observed patterns of consumption for all site classes**.

23. Sites must be relatively mature (rate of growth must be small) for derivation of a reliable set of Demand Estimation Coefficients. Most IDNO sites do not yet satisfy this criterion.

24. The weighted average power factor for each IDNO group is well above the current charging threshold of 0.95 although some individual sites have poor power factors. Evidence suggests that reactive charging is at present unnecessary for any of the three classes of IDNO site.