ScottishPower
EnergyNetworks

MODIFICATION REPORT

SP DISTRIBUTION
SP MANWEB

Amendment Proposal COM-07-001
Amendment of Use of System Charging Methodologies for IDNO Networks

Date of Issue: 13th April 2007

For approval by the Gas and Electricity Market Authority

1. SCOPE

This document comprises:-

- a report (set out in section 4 below) to the Gas and Electricity Markets Authority (the Authority) in respect of the proposed modification to SP Distribution's and SP Manweb's Use of System Charging Methodology, in respect of charges for Distribution Use of System to connected Independent Distribution Network Operators (IDNOs); and

- a copy (set out in section 5 below) of SP Distribution's and SP Manweb's Use of System Charging Statement revised so as to reflect the implementation of the proposed modification;

together with certain additional and consequential information relating to those two principal items.

2. ISSUE AUTHORITY

Author	Owner	Issue Authority
Name: Maria Liendo Title: Senior Pricing Analyst - Commercial	Name: Tony McEntee Title: Commercial Manager	Name: Marion Venman Title: Legal and Commercial Director

3. CONTENTS

4. PROPOSED MODIFICATION

4.1 Introduction

Since April 2005, each DNO has been required to have in place a distribution use of system charging methodology which achieves the objectives set out in distribution standard licence condition (SLC) 4 (3). These objectives (the 'relevant objectives') state:

- that compliance with the use of system charging methodology facilitates the discharge by the licensee of the obligations imposed on it under the Act and by this licence;
- that compliance with the use of system charging methodology facilitates competition in the generation and supply of electricity, and does not restrict, distort, or prevent competition in the transmission or distribution of electricity;
- that compliance with the use of system charging methodology results in charges which reflect, as far as is reasonably practicable (taking account of implementation costs), the costs incurred by the licensee in its distribution business; and
- that, as far as is consistent with sub-paragraphs above, the use of system charging methodology, as far as is reasonably practicable, properly takes account of developments in the licensee's distribution business.

SP Distribution Ltd (SPD) and SP Manweb plc (SPM) are obliged under SLC 4(2) of their distribution licences, to keep their use of system charging methodologies under review and make such modifications as are necessary for the purpose of better achieving the relevant objectives.

SPD and SPM ('SP') have received a number of questions regarding the suitability of our existing use of system charging methodologies for formulating boundary tariffs in respect of Independent Distribution Network Operators (IDNOs). Having consulted on the issues and proposed amendments to our use of system charging methodologies, we are now submitting this report to the Authority, in accordance with SLC 4(4), setting out the proposed modifications to our use of system charging methodology in respect of IDNOs.

In summary, we propose that:

(1) IDNO charges would be derived from an IDNO yardstick, using domestic demand profiles and typical administrative costs imposed on SP by IDNOs;
(2) Capacity charges would not apply to smaller (<100 kVA) IDNO LV connections;
(3) No reactive charges will be imposed to IDNO connections;
(4) Half-hourly meter is no required for IDNO connections.

4.2 Justification for Proposed Modification

The purpose of this section is to set out how the proposed modification to SP's use of system charging methodology would better achieve the relevant objectives.

Tariff structure

The proposed structure of IDNO tariffs is as follows:

- HV IDNO Connections & Large (>=100kVA) LV IDNO Connections
  - Fixed Charge p/day
  - Capacity Charge p/kVA/day
  - Day Unit Charge p/kWh
  - Night Unit Charge p/kWh

- Small (<100kVA) LV IDNO Connections
  - Fixed Charge p/day
  - Day Unit Charge p/kWh
  - Night Unit Charge p/kWh

The rationale for this structure is explained at follows.

IDNO yardsticks

SP propose the introduction of IDNO specific yardsticks to more accurately reflect the costs that IDNOs impose on our network.

The proposed yardsticks are as follows:

- HV IDNO Connection
- Large LV IDNO Connection >= 100kVA
- Small LV IDNO Connection < 100kVA

The difference between end customer tariffs and IDNO boundary tariffs should reflect the costs that SP expects to avoid when customers are connected via an IDNO network. For an LV<100kVA connection, the difference comprises the savings in billing and service costs associated with end customers (typically domestic/ Economy7) and the operation and maintenance of part of the LV network. It is assumed that the capital costs of the assets have been funded through connection charges in accordance with the connection charging methodology.

For LV connections above 100kVA there are additional savings to SP from the operation and maintenance of the LV network as these connections use less of the DNO network. For HV connections, the DNO provides none of the LV network and does not provide the HV/LV transformer. The savings for HV also reflect a contribution to the capital costs of the transformer which may not be fully funded through connection charges for domestic customers.

The IDNO tariffs must also reflect any additional costs due to the DNO/ IDNO interface. These cost include the physical interface which are the same for an IDNO connection and an end customer connection of a similar size. The billing and administration costs associated with IDNOs are different from other types of user of the network. For end customers with a demand less than 100kW, billing is undertaken

on a supercustomer basis with data received from the settlement process. For end customers with a demand greater than 100kW half-hourly data is received by the settlement process. Automated use of system billing systems and processes are in place to undertake these functions. For an IDNO connection, no data is received via the settlement systems and these automated processes and systems cannot be used. These therefore might be considered to represent avoided costs. However, separate manual processes are required for IDNO billing and these costs need to be reflected in the tariffs in the proposed IDNO yardsticks. Existing yardsticks do not reflect this significant difference in the billing arrangements and hence it is appropriate to introduce IDNO specific yardsticks.

Note for IDNO Connections at EHV, no change to the existing charging methodology is proposed.

In terms of demand profiles, SP, having considered the information available, believe that it is more cost reflective to use domestic profiles in determining the costs associated with IDNO connections. Whilst individual connections may differ from this average profile, this is also the case for all other users of the network. The information published in our 2nd Consultation Paper indicates that the profile of the average IDNO connection is more similar to the domestic profile than the commercial profiles currently used for IDNO charging. Whilst there may be justification in the future to use a separate IDNO profile or use different profiles for IDNO networks that comprise mainly industrial/ commercial customers (based on information obtained from actual IDNO sites), this is not possible at the moment due to the small number of sites and the limited time period that these have been in operation. This will be considered by SP in the future when more information becomes available but will also need to be balanced against the potential discrimination against other network users whose profile differs from the average.

Capacity Charging Issues

SP propose that capacity charges are retained for IDNO connections connected at HV and for LV connections with a capacity requirement greater than or equal to 100kVA. This would then apply to the HV IDNO connection yardstick and the Large LV IDNO connection yardstick.

We propose not to include a capacity charge for IDNO connections with a capacity requirement below 100kVA. This would apply to the Small LV IDNO connection yardstick.

SP believe that capacity charges are an important component of use of system charges and provide appropriate price signals to users to ensure they only request the capacity they need. Tariffs which include capacity charges do not result in higher charges to users whose requested capacity matches the actual usage.

Prior to 2003, all SP customers with a capacity in excess of 45kVA had capacity charges in their tariffs. This threshold was increased to align with the settlement boundary for HH metering in order to reduce billing costs associated with these

customers. In increasing the threshold for the application of capacity charges SP have recognised the industry standard metering arrangements.

All persons requesting a connection to a distribution network are required, under Section 16A of the Electricity Act, to specify the maximum capacity they require. This applies to IDNOs requesting a connection from a DNO, and to customers requesting connections from either an IDNO or a DNO. For SP, networks are not generally designed to meet the aggregate capacity of all connection requests, but take account of the likely diversity of the demand in accordance with the network design policy. IDNOs are also unlikely to specify to the DNO the aggregate capacity of all the likely connections to its network. The IDNO will take a view of the capacity requirement based on its own network design policy which may be different from the DNO. Competing IDNOs can have differing capacity requests for the same development. This is to be expected as each IDNO will have its own design policy and assumptions. The capacity requirements for an IDNO network are, therefore, primarily a function of the IDNO's own design policies. The same principles should apply to IDNO connections as to any other request for a connection if the DNO is to build an efficient network in accordance with its licence obligations. IDNO connections can act in a co-ordinated way to react to charging signals, unlike perhaps domestic customers, and it is the IDNO who determine the overall capacity requirements, not the end users connected to its network.

SP currently have capacity charges in tariffs for customers with half-hourly metering (required for all customers with a demand greater than 100kW). For smaller customers (those with non half-hourly metering), SP currently do not levy capacity charges (typically with a demand of less than 100kW) and we manage the network taking account of the likely diversity between connections. It is appropriate to use the same principle for IDNO connections with only connections with a capacity above 100kVA being subject to capacity charges.

A number of IDNO connections are likely to be for housing developments which use electric heating. The night-time capacity for these developments is normally much greater than the daytime capacity. In the majority of cases this does not impose reinforcement costs as the local network has spare night-time capacity to meet these requirements, though in other circumstances this is not the case and network reinforcement is required. SP reflect this in our approach to calculating off-peak charges by monitoring how much of the network is provided to meet demands at different times of the day. If IDNOs were charged on the basis of night-time capacity this would ignore the fact that, in many cases, the local network could supply this load without additional reinforcement and this would mean that IDNOs would not benefit from the averaging approach used by SP to set end user tariffs. SP propose that capacity charges may be adjusted for IDNO connections providing supplies to domestic customers where the maximum demand occurs at night. This is a similar approach to that used by other DNOs in their existing tariffs.

IDNOs have raised the issue of the phasing of capacity requirements. For other customer connections the full capacity requirement is likely to be needed soon after the start-up date. This is not the case for IDNOs, where the take up of the capacity could be over a number of years. SP are also faced with this issue and would normally

phase the infrastructure investment to match actual load requirements. It is therefore appropriate to ensure similar arrangements are available to IDNOs. We believe that capacity charges are not a particular issue once the development is complete, but it tends to be a problem during the construction phase of a development. This view has also been expressed by IDNOs.

We propose that for HV and Large LV connections the IDNO can request a point of connection to the DNO network that reflects the Maximum Capacity required when the development is fully completed. The IDNO will also indicate its initial supply requirements. Reinforcement of the existing network will only be undertaken to meet the initial requirements. As the development is constructed and load increases, the IDNO will increase its capacity requirements to SP. As the required capacity increases, the IDNO will contribute towards any reinforcement of the existing distribution system in accordance with the apportionment rules set out in our SLC 4B statement. The IDNO may also request a temporary connection, in advance of the main connection, in the same manner as other parties. SP do not believe that this approach requires any amendment to either the use of system or connection methodologies and this is merely a clarification of existing arrangements.

Reactive Charges

SP tariffs for connections above 100kVA include reactive charges. SP have analysed the power factors on a number of IDNO sites and the data was published in our 2nd consultation paper. The data shows that the majority of sites do operate at or close to unity power factor. It was recognised that some larger customers connected to an IDNO network will have poor power factors and that this will adversely impact the IDNO as well as the DNO. It is recognised good practice that network operators should encourage large users to operate with a good power factor. The Ofgem document 'Structure of electricity distribution charges. Update document and Licence modifications. April 2004', states

> '3.35. It is important that connected parties are encouraged to operate their connections, whether demand or generation, near unity power factor to ensure efficient use of the system and maximise available capacity, avoid requirement for early capital expenditure in reinforcing the network and also to avoid increasing losses on the system. It is therefore Ofgem's view that DNOs should consider how best to reflect these costs.
>
> 3.36. Equipment exists that corrects for low power factor and therefore increases available capacity. This has the benefits of reducing losses, deferring the need for network reinforcement and improving voltage quality. Power factor correcting equipment can be installed both on customers' premises and on the network itself. Ofgem supports the use of this type of equipment because of the benefits outlined and is working with the Carbon Trust to make the case for Enhanced Capital Allowances for power factor correction equipment. It is important that DNOs' charging arrangements reflect the costs that low power factors impose on the networks and Ofgem would expect DNOs to include charges for low power factors for large customers as part of any revised charging methodology.'

SP therefore believe that it is the primary responsibility of the IDNO to have charges for large customers connected to their networks with lower power factors. SP propose that IDNO tariffs should not include reactive charges as the IDNOs should be implementing Ofgem's guidelines in their charging methodologies. SP may review this position if we believe that IDNOs are not including appropriate charges for poor power factors in their end-user DUoS tariffs, in accordance with the Ofgem guidance. Connection and Use of System Agreements with IDNOs will continue to include an obligation for them to operate their connections at, or near to, unity power factor.

Metering

Whilst metering requirements do not form part of the use of system charging methodology, they are clearly important to provide the correct data to enable the proposed tariffs to be charged correctly. SP propose the following:

- Half-hourly metering is no longer required for IDNO connections.
- For HV connections, maximum demand metering (measuring the 24 hour maximum demand and the daytime maximum demand) is fitted and will be read monthly. Billing will be on a monthly basis.
- For LV connections >100kVA, maximum demand metering (measuring the 24 hour maximum demand and the daytime maximum demand) is fitted and will be read quarterly. Billing will be on a quarterly basis.
- For LV connections <100kVA, maximum demand metering (measuring the 24 hour maximum demand and the daytime maximum demand) is fitted and will be read quarterly. Billing will be on a quarterly basis. The maximum demand registers will be for monitoring only and not for charging purposes.

The provision of the metering and the data collection services for the DNO/ IDNO boundary, should they be required, is a competitive service and the IDNO would be free to appoint any accredited agents to undertake these services. Alternatively, should the IDNO not wish to appoint the service providers then SP would make the appointment. We estimate that the annual costs of metering and data collection are as follows:-

Half-Hourly Metering with remote communications	c.£450 per annum
Maximum Demand Metering read monthly	c.£240 per annum
Maximum Demand Metering read quarterly	c.£80 per annum

Our IDNO tariff proposals do not require half-hourly data, it is therefore proposed to remove the requirement for half-hourly metering. This does not require a change to our Charging Methodologies.

Our IDNO tariff proposals require capacity charges for HV and LV>100kVA IDNO connections as these provide appropriate signals to ensure the efficient development of our networks. These require capacities to be measured. For HV IDNO connections, the cost of a meter that is read monthly represents about 1% of the overall cost of the IDNO tariff. In addition, there are potential risks to SP from the incorrect estimation of the boundary flow and the effect this has on the losses incentive. For a 400 house

development, the boundary flow is c.1,600MWh per annum. SP's revenue is impacted by the losses incentive which puts the cost of losses at c.£50/MWh. A two percent error in the measurement of the boundary flow has a losses impact of c.£1600 per annum on SP. A metered solution for HV IDNO connections is therefore appropriate and proportionate considering the financial risks SP face from incorrect measurement.

Similarly, for LV>100kVA connections, the cost of a meter that is read quarterly represents less than 2.5% of the overall cost of the IDNO tariff for a typical connection. The losses impact of a two percent error for a 50 house development is £200, making a metered solution an appropriate and proportionate requirement.

For LV<100kVA connections, the metering costs are much higher in proportion to the IDNO charges and the impact of errors in estimating the boundary flow are greatly reduced.

All IDNOs have questioned the need for metering for any type of IDNO connection and have argued that the use of settlement data, adjusted for losses on the IDNO network, should suffice for billing purposes. As detailed above we believe that capacity charges are an important factor for larger sites and that metering is required to monitor these sites. With relation to using settlement data, the main issues can be summarised as follows:

Distributors receive information from settlement via a number of data flows sent via the Data Transfer Service. The relevant data flows, which could be used to determine IDNO settlement, are:

D0030: NHH DUoS Report

- D0030 contains consumption data for all Suppliers
- Distributor Id is mandatory and non repeatable
- GSP Group Id is a repeatable group
- LLFC included

D0036: Validated HH Advances for inclusion in Aggregated Supplier Matrix

- At an MPAN level
- No GSP Group
- No LLFC

D0275: Validated HH Advances

- Similar to D0036
- No British Summer Time adjustment

For data related to customers connected to an IDNO network the information is sent to the IDNO, not the associated DNO. The IDNO receives, for all NHH customers connected to all its networks in GB, a D0030 flow showing consumption, therefore if this information was to be forwarded to the DNO to be used for billing, a system modification is needed (either to the IDNO's system or to the DNO's) to strip out the irrelevant GSP groups. It would also be necessary to identify the IDNO Distribution Id. The increase in volume of data and system processing for the DNOs and the costs

of the system modifications or resources if a manual solution is chosen needs also to be considered. The IDNO also receives a D0036 flow recording the half-hourly advance for each HH customer connected to its network . For this HH information to be used, the IDNO will need to identify the GSP group and assign the LLFC to MPAN as well as an IDNO identifier (currently not present in the body of the data but only in the header).

It is possible for an IDNO to build IT systems which disaggregate and then combine the settlement information to determine the energy flows to customers connected to their Small LV Connections. This could be achieved by assigning a separate Line Loss Factor Class to these customers. The summated data, after adjusting for losses on the IDNO network, should approximate to the flow at the boundary between all the Small LV IDNO networks and the DNO.

It is also worth considering other potential factors, such as an embedded network connected to another embedded network (resulting in ”embedded-embedded” network). This situation can easily arise as all network operators, including IDNOs, have a duty to connect other distribution networks under the Electricity Act 1989 (as amended) S16(1)(b). Whilst the energy trading mechanism can cope with this arrangement, the settlement process cannot identify that customers connected to IDNO X are connected via IDNO Y (embedded-embedded).

A possible alternative to each IDNO processing its data is for this to be undertaken centrally and the information to be sent to the relevant DNO and IDNO. It is unlikely, however, that this could be done under the auspices of the BSC as DUoS billing is outside the BSC objectives. A previous attempt to include DNO/ IDNO boundary metering into the settlement process was vetoed by Ofgem as being outside the BSC objectives, though this did not preclude the implementation of this solution outside of the BSC governance arrangements. The issue of “embedded-embedded” networks may rule out a centralised approach to undertaking the data processing and will rely on IDNO X providing information it obtains from IDNO Y.

SP believe that the option of using settlement data should be pursued further, primarily by IDNOs as they are the only parties in possession of the appropriate data, but in the absence of a proven alternative, SP requires metering to be installed on the boundary.

For LV connections less than 100kVA, we may accept, in the future, metering consumption data derived from end user metering adjusted for losses on the IDNO network. We may also accept the aggregation of data from the IDNO sites within an SP area, provided they remain on the same IDNO tariff. This statement is made on the proviso that this approach can be demonstrated to be sufficiently accurate and that satisfactory validation and audit procedures are in place for the sites concerned. Our initial view is that the approach should be accurate to within 2% of a metered solution, which is the degree of accuracy of all metered connections of this size. This can be reviewed as proposals are considered. SP will be pleased to work with IDNOs in progressing solutions along these lines. The implementation of such an approach may require a further modification to the use of system charging methodology which will be progressed should a suitable solution be identified.

4.3 Implementation Date

This modification is proposed for implementation is the 1st of the month, four months after a decision from the Authority not to veto the modification.

4.4 Proposed Changes to the Use of System Charging Methodology Statement

The extract below shows the mark-up of the changes required to the statement currently in place under SLC 4(1)(a) in respect of SP's use of system charging methodology. Marked-up charging methodology statements for SPD and SPM are attached.

SPD and SPM Methodologies

3.1.5 **Customer Related and Billing Costs**

These are determined by establishing the cost per customer type in providing customer service and billing. The costs include the annualised costs associated with support IT Systems. The customer types are Super-customer, Half-Hourly, ~~and~~ Site-Specific and Independent Distribution Network Operators (IDNOs) for HV and LV connections.

SPD Methodology

3.2 Identify Yardstick Customers

The following Yardstick Customers are used to determine tariffs as these represent the major types of customer.

- Domestic Unrestricted
- Domestic Electrically Heated
- Business Unrestricted
- Business Electrically Heated
- Other Off-Peak Supplies
- Non-Half-Hourly Metered Customers connected to the LV Network
- Half-Hourly Metered Customers connected to the LV Network
- Half-Hourly Metered Customers connected to the HV Network
- Half-Hourly Metered Customers connected to the 33kV (EHV) Network
- Un-metered Street Lighting Supplies
- Un-metered Street 24 hour supplies
- HV IDNO Connections
- Large LV IDNO Connections
- Small LV IDNO Connections

S ~~Connections to other distribution networks will be treated as Half-Hourly Metered Customers at the appropriate point of connection.~~

SPM Methodology

3.2 Identify Yardstick Customers

The following Yardstick Customers are used to determine tariffs as these represent the major types of customer.

- Domestic Unrestricted
- Domestic Electrically Heated
- Business Unrestricted
- Business Electrically Heated
- Other Off-Peak Supplies
- Non-Half-Hourly Metered Customers connected to the LV Network
- Non-Half-Hourly Metered Customers connected to a LV Substation
- Half-Hourly Metered Customers connected to the LV Network
- Half-Hourly Metered Customers connected to an LV Substation
- Half-Hourly Metered Customers connected to the HV Network
- Half-Hourly Metered Customers connected to an HV Substation
- Half-Hourly Metered Customers connected to the 33kV (EHV) Network
- Half-Hourly Metered Customers connected to a 33kV (EHV) Substation
- Half-Hourly Metered Customers connected to the 132kV (EHV) Network
- Un-metered Street Lighting Supplies
- Un-metered Street 24 hour supplies
- HV IDNO Connections
- Large LV IDNO Connections
- Small LV IDNO Connections

~~Connections to other distribution networks will be treated as Half-Hourly Metered Customers at the appropriate point of connection.~~

SPD and SPM Methodologies

3.4 Determine Yardstick Tariffs for Yardstick Customers

In determining the appropriate tariff elements for each yardstick customer consideration is given to the following factors.

- Type of Metering Installed
- Availability of Data
- Billing System Capabilities

Yardstick Tariffs are produced for each Yardstick Customer and may include the following elements.

- Fixed Charge – this covers all the customer related costs and for customers billed under supercustomer, this will also include asset related costs at the voltage of connection.
- Capacity Charge – for customers with half-hourly metering (generally with a demand greater than 100kW) and for IDNO connections with a capacity requirement greater than or equal to 100kVA this will include asset related costs at the voltage of connection.

  Capacity charges are included to ensure that assets are sized for optimum utilisation on an enduring basis. Capacity charges are levied on an annual basis for the year commencing 1 April. To ensure over-sized assets are not requested by customers there are restrictions on when the requested capacity can be reduced. Where the capacity requested is exceeded then charges will be levied at the increased capacity back to 1 April. Customers who exceed their declared capacity are expected to request an increase in their supply arrangement and pay for any reinforcement necessary in accordance with our connection charge methodology and statement.

  No reduction in the requested capacity will normally be permitted for a period of 5 years from the date that the capacity was first made available at the premises. This is to reflect the ongoing operation and maintenance costs of maintaining the assets installed to provide the connection. Further details can be found in the charging statement.

For IDNO connections providing supplies to domestic premises where the peak demand is during the night, the IDNO may apply for a capacity charge reduction based on the difference between the day maximum demand and the night maximum demand.

5 Revised Use of System Charges

In terms of SLC 4A(4), SP is required to give the Authority revised charging statements setting out the amended charges resulting from a modification to its Use of System Charging Methodology and specifying the date from which such revised charges are to have effect. These are set out below.

The revised charges will have effect from the 1st of the month, four months after a decision from the Authority not to veto the modification.

The above proposals yield the following IDNO prices additional to the final charges for 2007/08 published by SP in February 2007. For the avoidance of doubt, the rest of the DUoS tariffs published by SP in February 2007 are not affected by this modification.

SP Distribution

Proposed IDNO tariffs

	Fixed	Day Units	Night Units	Capacity
	p/day	p/kWh	P/kWh	p/kVA/day
IDNO HV	768.70	1.24	0.38	1.30
IDNO LV > 100kW	52.38	1.49	0.47	1.20
IDNO LV < 100kW	46.79	1.94	0.60	0.00

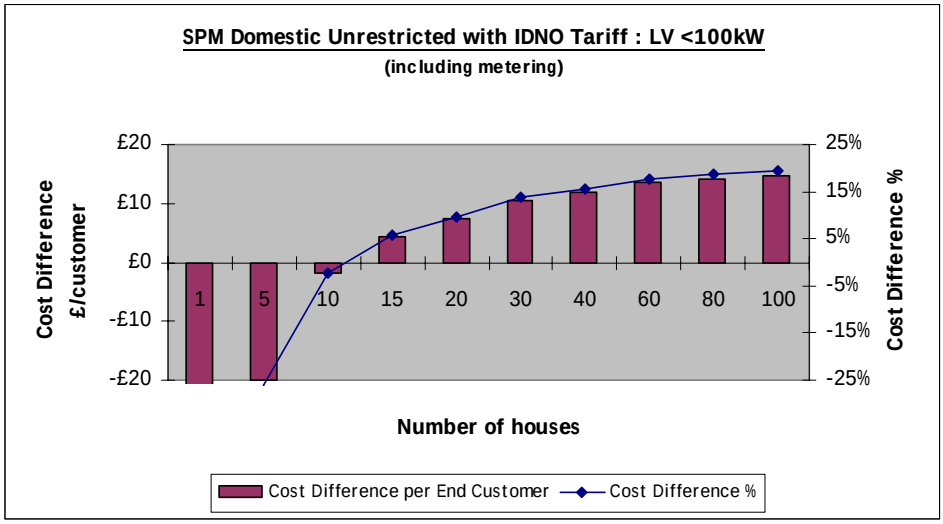
SP Manweb

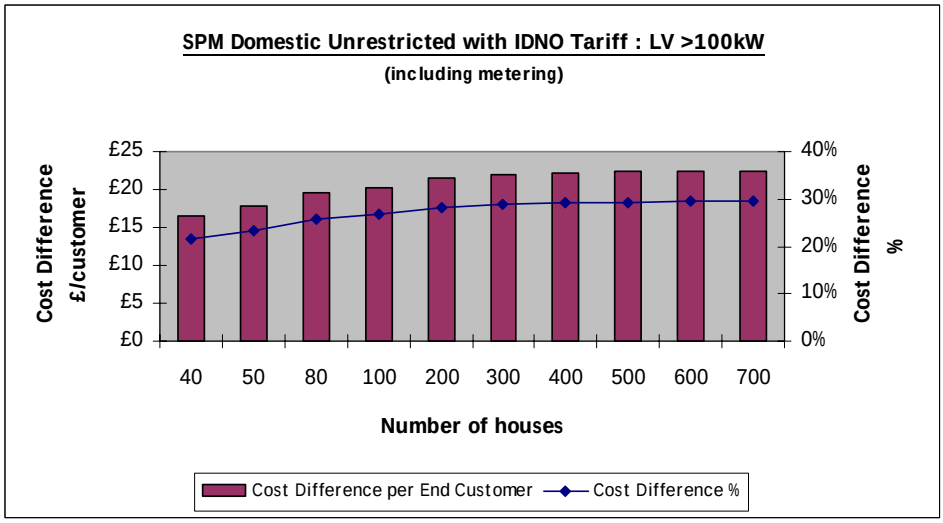
Proposed IDNO tariffs

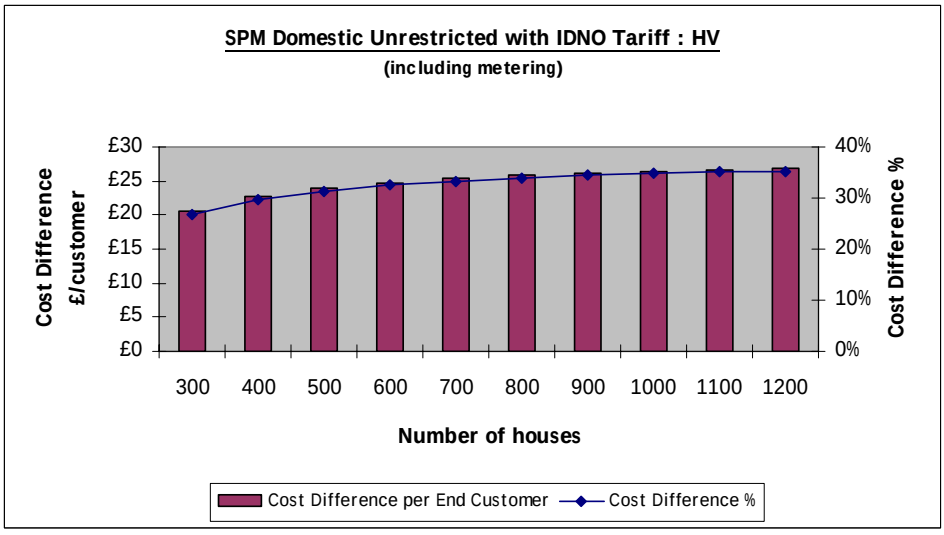
	Fixed	Day Units	Night Units	Capacity
	p/day	p/kWh	P/kWh	p/kVA/day
IDNO HV	613.38	1.05	0.24	1.19
IDNO LV > 100kW	31.75	1.28	0.29	0.89
IDNO LV < 100kW	27.93	1.63	0.37	0.00

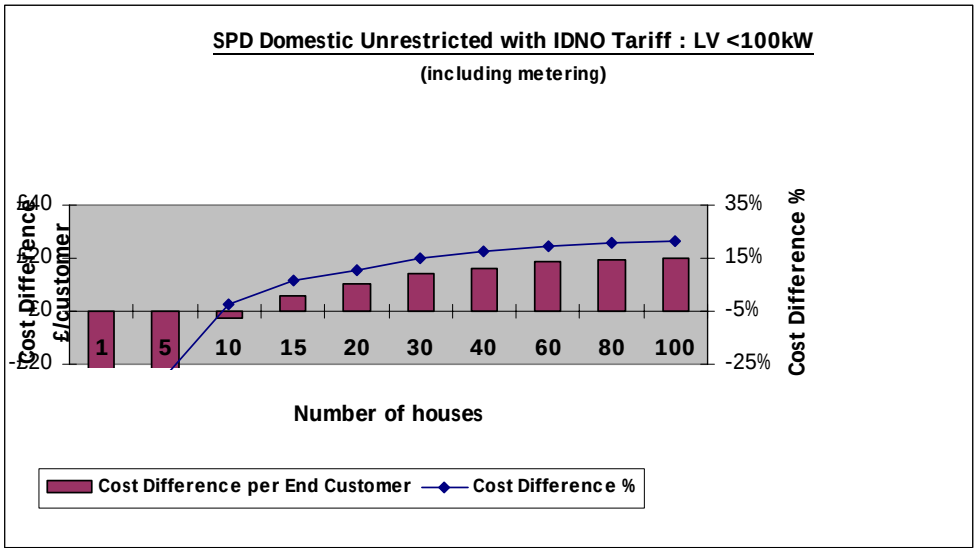
An analysis of the various cost differences between End Customer Tariffs and the IDNO charges demonstrates the avoided costs produced by these proposals.

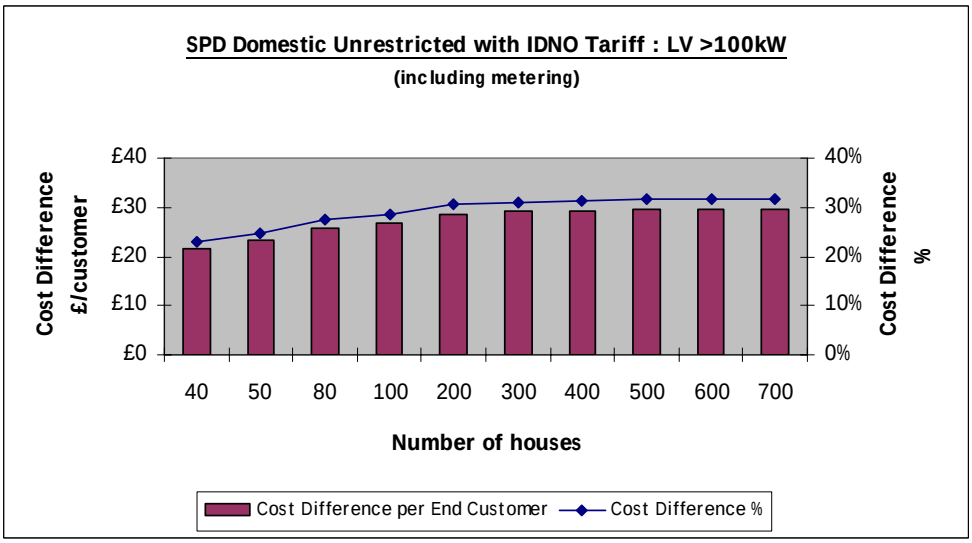
Cost differences per customer and as a percentage for the three IDNO tariffs for different numbers of domestic properties

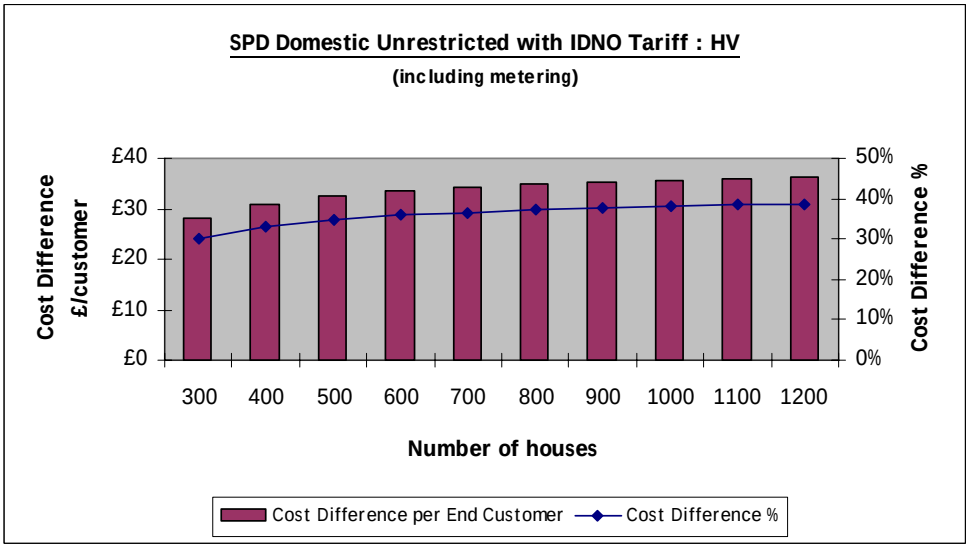




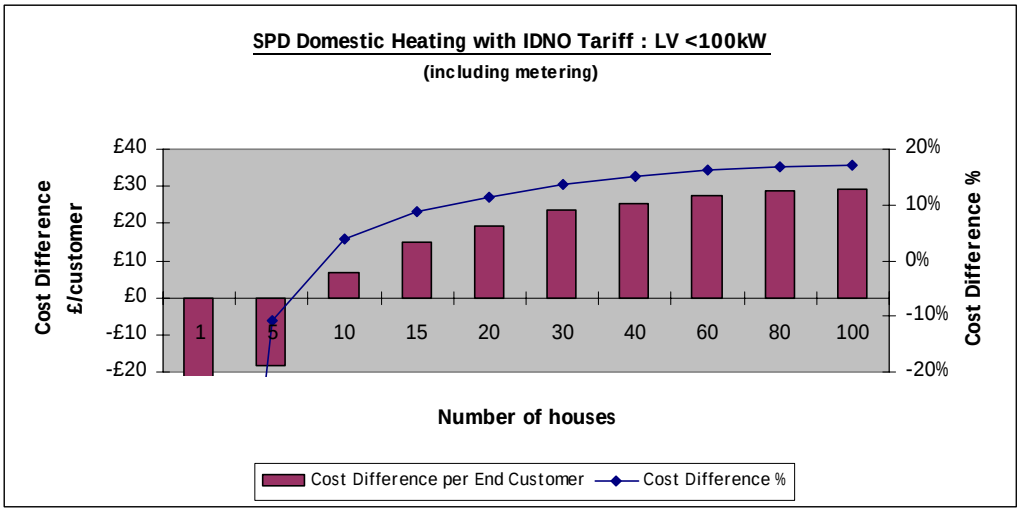


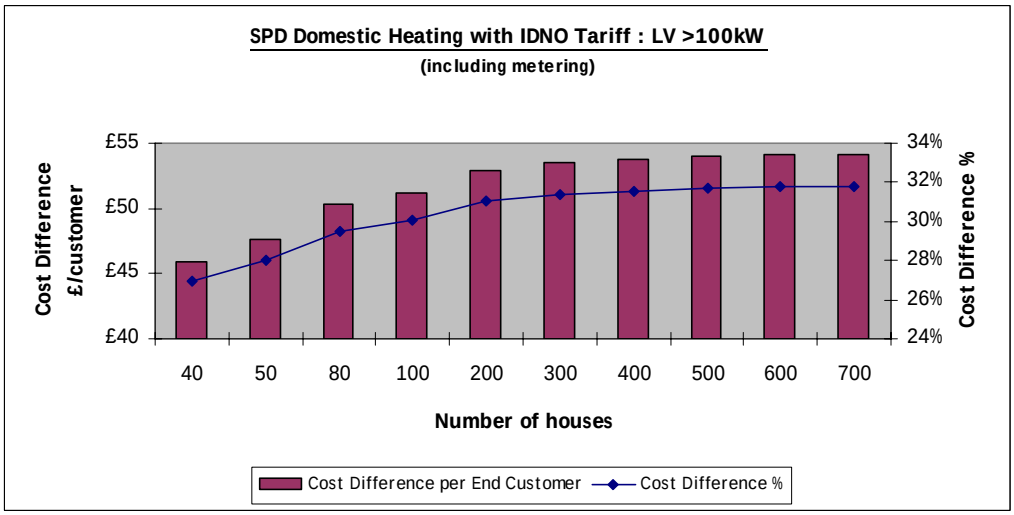

SPD Domestic Unrestricted with IDNO Tariff : LV <100kW
(including metering)
Cost Difference £/customer
£40
£20
£0
-£20
35%
15%
-5%
-25%
Cost Difference %
1
5
10
15
20
30
40
60
80
100
Number of houses
Cost Difference per End Customer
Cost Difference %

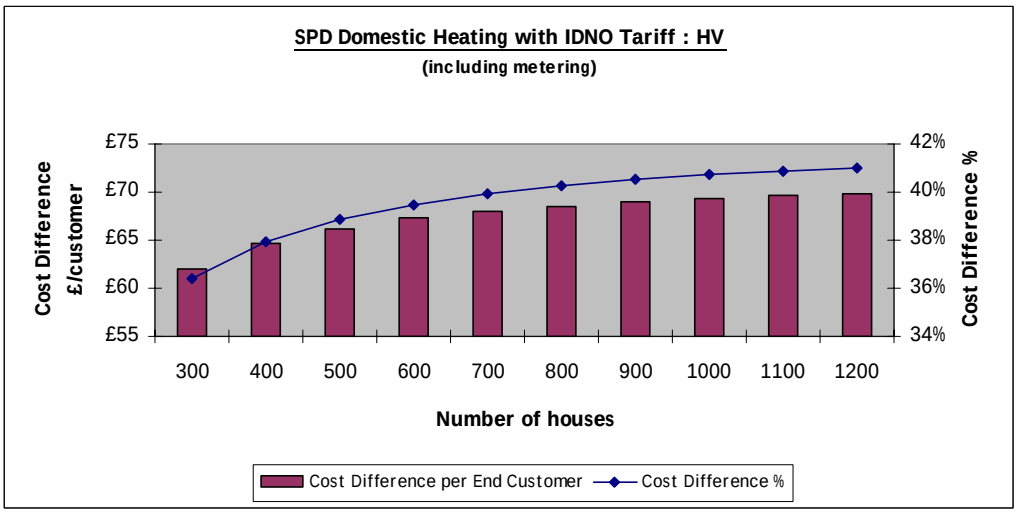

SPD Domestic Unrestricted with IDNO Tariff : LV >100kW
(including metering)
Cost Difference £/customer
£40
£30
£20
£10
£0
40%
30%
20%
10%
0%
Cost Difference %
40
50
80
100
200
300
400
500
600
700
Number of houses
Cost Difference per End Customer
Cost Difference %

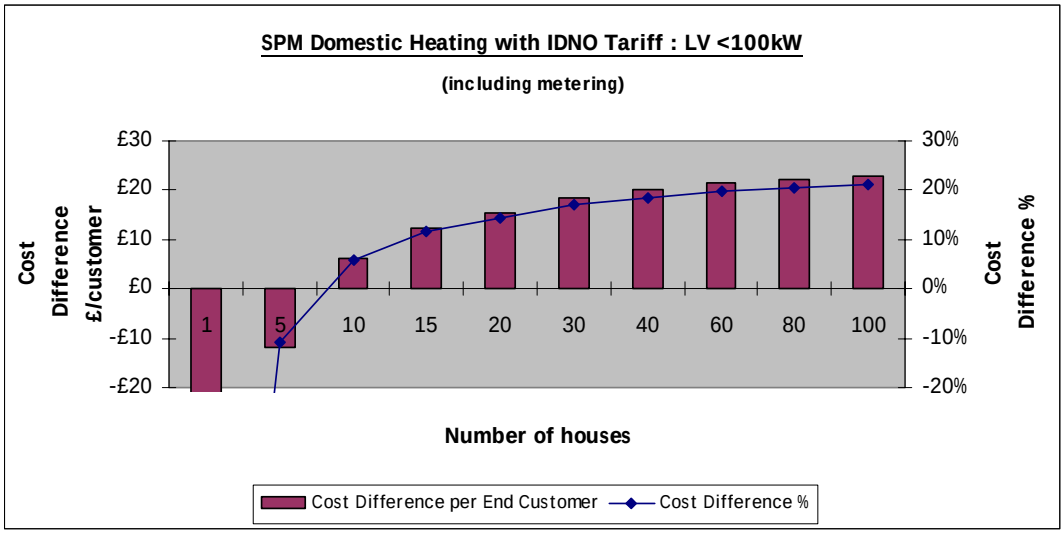

SPD Domestic Unrestricted with IDNO Tariff : HV
(including metering)
Cost Difference £/customer
£40
£30
£20
£10
£0
50%
40%
30%
20%
10%
0%
Cost Difference %
300
400
500
600
700
800
900
1000
1100
1200
Number of houses
Cost Difference per End Customer
Cost Difference %

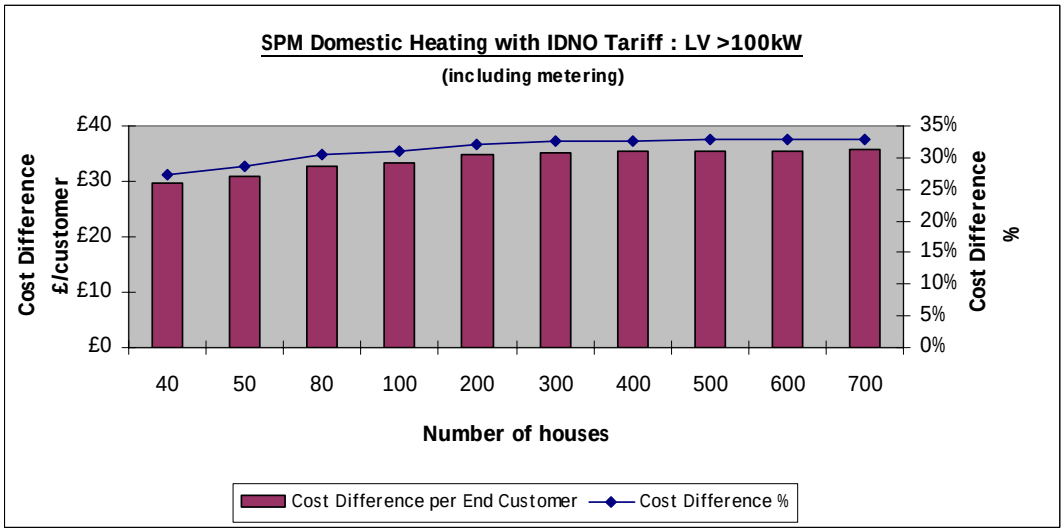
Cost differences per customer and as a percentage for the three IDNO tariffs for different numbers of Economy 7 properties

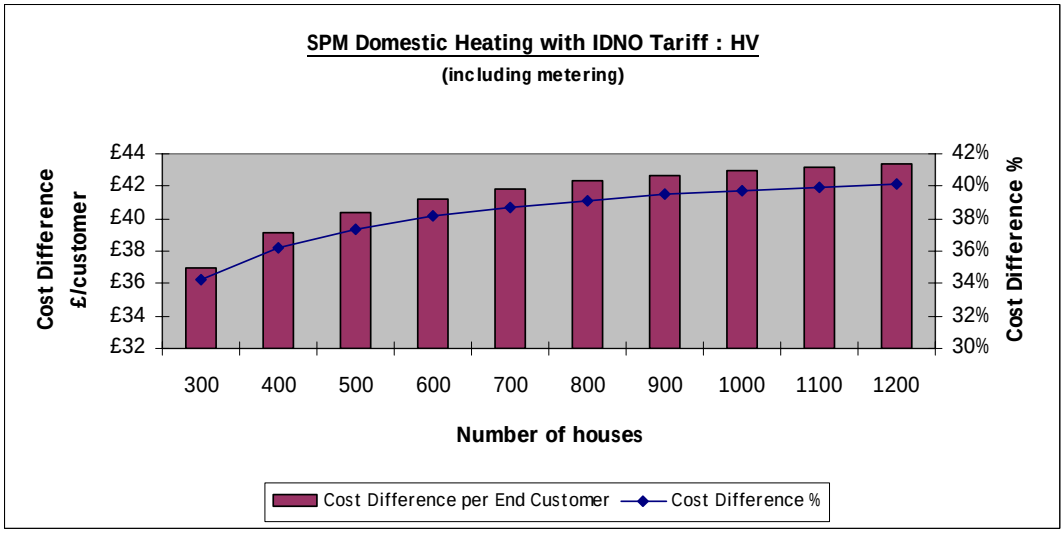







SPM Domestic Heating with IDNO Tariff : LV <100kW
(including metering)
Cost Difference £/customer
£30
£20
£10
£0
-£10
-£20
30%
20%
10%
0%
-10%
-20%
Cost Difference %
1
5
10
15
20
30
40
60
80
100
Number of houses
Cost Difference per End Customer
Cost Difference %


SPM Domestic Heating with IDNO Tariff : LV >100kW
(including metering)
Cost Difference £/customer
£40
£30
£20
£10
£0
35%
30%
25%
20%
15%
10%
5%
0%
Cost Difference %
40
50
80
100
200
300
400
500
600
700
Number of houses
Cost Difference per End Customer
Cost Difference %


SPM Domestic Heating with IDNO Tariff : HV
(including metering)
Cost Difference £/customer
£44
£42
£40
£38
£36
£34
£32
42%
40%
38%
36%
34%
32%
30%
Cost Difference %
300
400
500
600
700
800
900
1000
1100
1200
Number of houses
Cost Difference per End Customer
Cost Difference %

6. Additional Material

6.1. Impact on Other Industry Documents

No amendment to Industry Documents is required. Changes may be required to individual Connection and Use of System Agreements to reflect revised metering arrangements.

6.2. Consultations

In October 2006 we issued a consultation paper asking for views on a number of issues concerning our IDNO use of system charges. Responses were received from three DNOs, four IDNOs and two Suppliers. We held a workshop on 7th December 2006 in order to better understand the comments received. This workshop was attended by three DNOs, one IDNO and two Suppliers.

Our draft proposals were issued for consultation of 12th January 2007. Responses were received from one DNO, three IDNOs and an industry body. A summary of the response and our comment on these is given below.

1. <u>Introduction of IDNO yardsticks</u>

Consultation Response	SP Comment
A more thorough analysis has to be undertaken before any decision is made on the introduction of any yardstick. The load profile from each site is different. There are varied patterns of demand from IDNO sites, due to the fact that the sites are at different stages of development and have not reached maturity. Also, large supply loads are masking and polluting load patterns.	We believe that the analysis is thorough and, from the evidence, using domestic profiles for IDNO connections better reflects costs than the current commercial profiles. IDNOs have consistently argued that their sites are predominately domestic in nature.
Agree that it is appropriate to introduce separate yardsticks for IDNO networks. For predominantly domestic networks will have a load shape quite different from the general class of commercial customer and it will be closely aligned with the domestic customer load shape.	We agree with this. Our analysis also shows that the domestic profiles are also appropriate for larger LV and HV networks.
There is no tariff solution for small sites (below 10 plots), where SP charges are higher than the IDNO income. This represents 28% of the opportunities in the SPD authorised area and IDNOs are effectively being excluded from this segment.	Our tariffs reflect the cost involved in serving IDNO connections. For smaller sites we have expressed willingness to move to an unmetered solution in the future to reduce costs even further. At present there is no unmetered solution available.
There is no solution for Domestic Economy 7 sites.	Our proposals do address the issue of domestic Economy 7 sites with our proposals for off-peak capacity charges.
For sites consisting of purely non-domestic connections the boundary tariff and the all the way tariffs are the same.	We do not agree with this statement. Our non-domestic charges and IDNOs charges are different to reflect the difference in costs.

Consultation Response	SP Comment
Do not accept that SP's proposal to introduce IDNO yardsticks will more accurately reflect the costs that IDNOs bring to their networks.	We believe that the analysis provided in the consultation paper on our proposals clearly demonstrated the cost reflectivity of our proposals.
The analysis provided by SP in the 2nd consultation highlights a significant increase in charges. IDNO householders are not responsive to differential charging, this creates an unfair and discriminatory approach in the treatment of consumers.	Following questions raised by IDNOs we have thoroughly reviewed our approach and brought forward changes that better reflect costs. The analysis provided in the consultation paper on our proposals clearly demonstrated the cost reflectivity of our proposals.
A DNO questioned the justification for introducing specific yardsticks for IDNO connections, based on domestic profiles. Their analysis of their IDNO sites reflect that even when IDNO networks are domestic in nature, the aggregated load shapes do not reflect a domestic profile. There is limited load research available.	We believe that the analysis is thorough and, from the evidence, using domestic profiles for IDNO connection better reflects the costs than the current commercial profiles. IDNOs have consistently argued that their sites are predominately domestic in nature.

2. Implement before long term Structure of charges work

Consultation Response	SP Comment
A number of respondents expressed that the changes should be implemented as soon as possible.	We agree with this.
Current charging methodology is incorrect. This requires immediate attention.	We have identified changes that better meet the relevant objectives and agree that there is no reason to delay the implementation of these changes.
Have reservations about this approach being implemented before SP has presented its proposals on long-term structure of DUoS charges. There is a risk that the charges applied to IDNOs create a significant detriment to their end consumers, even if this is only for a year. This creates further detriment to consumers connected to IDNOs in a time of high energy prices.	We have identified changes that better meet the relevant objectives and can see no reason to delay the implementation of these changes.
Any future development will be captured under their work for the longer-term arrangements.	We have identified changes that better meet the relevant objectives and can see no reason to delay the implementation of these changes.

3. No capacity charges IDNOs < 100kVA. Capacity charge kept for larger connections.

Consultation Response	SP Comment
Welcome proposal of no capacity charges for <100kVA, but think this should also apply for larger connections. Reject the suggestion of capacity charges acting as a cost message. SP do not apply capacity charges to housing developments, question what the charge is covering for IDNOs. This is all additional revenue stream for the DNO.	Our analysis clearly indicates the need for capacity charges for larger connections. This has always been the case and remains so with IDNO connections, where it is the IDNO who determines the capacity requirements. There are no additional revenue streams to the IDNO as capacity charge do not increase revenue where the capacity requested match what is needed.
Capacity charges are an important tool to manage the network. Speculative capacity reservation of capacity is a problem and it is a business decision for all networks to balance risk of not having enough capacity or paying capacity charges.	We agree. Our analysis clearly indicates the need for capacity charges for larger connections. We have also issued clarifications about the phasing of capacity requirements.
No solution to "phased capacity charging". SP proposal for an initial capacity is applicable in the case of blocks of capacity being requested as a large site is developed and does not account for "phasing of the capacity within each phase".	We believe that our proposals adequately address the phased capacity issues.
100 kVA is a notional boundary, do not understand the logic or rationale for introducing this artificial threshold. They are surprised at the insistence on imposing site specific tariffs which will increase billing costs. Do not believe capacity charges should be levied on IDNOs.	We have always had capacity charges for connections at 100kVA and above and these charges are required to provide appropriate cost message to ensure the efficient development of the network. This applies equally to IDNOs as any other party requiring connection to the network.
Capacity charges assist in the effective management of customer load requirements. This principle is equally applicable to lower load levels and they question the threshold of 100 kVA. They also feel it is inappropriate to exclude off peak demand completely. In terms of phased capacity, they feel IDNOs need to manage this through their application(s) to the DNO. IDNOs can apply for either the maximum capacity they require at given phases or that which will be relevant to the site when fully developed.	We agree with the comments on the need for capacity charges. The threshold where a DNO uses capacity charges is for the DNO to justify but it should be the same for all connections to the network. We currently only apply capacity charges to sites with a capacity of 100kVA and above and hence this should apply equally to IDNO connections. We believe there is merit in adjusting capacity charges where this is being driven by off-peak demand. We have also clarified the application process in relation to phasing of capacity.

4. No reactive charges

Consultation Response	SP Comment
There should be reactive charges as this encourages good load factors.	We agree that power factor is important but our analysis also indicates that IDNO networks generally have good power factors.

Consultation Response	SP Comment
Expressed concern over the validity of the data as IDNO customers should not have poor power factors.	We agree that the majority of customers should not have poor factors and that IDNO have limited opportunities to influence these customers in any case. For larger customers connected to an IDNO network we expect IDNO to adopt the Ofgem's guidelines and introduce charging methodologies to encourage efficient behaviour.
Proposal does address the fact that there is no basis for charging reactive power.	We agree providing that IDNO charging regime have reactive power charges for larger customers.
Any connection to a DNO respondent's network, with a maximum capacity of 60 kVA and above, will be charged reactive power. Customers operating at a power factor less than 0.95 impose costs on the network. This is also true for IDNOs.	We agree that power factor is important but we do not charge smaller users for poor power factor. Our analysis also indicates that IDNO generally have good power factors.

5. No HH Metering. MDD metering for all IDNOs, read monthly for HV and read quarterly for LV

Consultation Response	SP Comment
There is no need for physically metering at the boundary. Solution should be either using aggregated data or metering in a more convenient and cost effective location, such as the substation.	We disagree. There is a need for capacity charges and appropriate metering for sites with a capacity of 100kVA and above. We believe that an unmetered solution is possible for smaller sites but metering is required until this solution is proved. The responsibility for developing this approach is with IDNOs as only they have access to the required data.
Proposed MD metering will result in charges that, although lower, are still not proportionate nor reasonable (no recognition of the level of income the IDNO derives from a particular site).	The analysis given in our consultation paper clearly indicates that the proposed metering solution are both proportionate in terms of the risks faced by SP and the size of the boundary charge.
Their proposal to use settlement data in lieu of boundary metering is based on IDNOs providing copies and relevant extracts of the data they receive from settlement. They have not proposed to amend industry data flows. They are currently developing those ideas with other IDNOs into details proposals that will be sent top IDNOs in the near future. Do not support that boundary metering is an efficient solution.	We disagree. There is a need for capacity charges and appropriate metering for sites with a capacity of 100kVA and above. We believe that an unmetered solution is possible for smaller sites but metering is required until this solution is proved. The responsibility for developing this approach is with IDNOs as only they have access to the required data. We do believe that industry data flows may need to be modified.

Consultation Response	SP Comment
SP has set the threshold too high in terms of requirements for boundary metering. Boundary metering should be required for all connections. Single phase connections to IDNO networks could be left unmetered if cost reflective means of adapting settlement data can be found. Monitoring of capacity usage is very important and accurate consumption data is also of significant value especially in the context of the losses incentive in the price controls.	We do not agree. We believe that for tariffs for smaller connections based on consumption we can aggregate the charges. This approach is used by all DNOs for supercustomer at present and we can see no reason in principle for not extending this approach to IDNO connections, providing appropriate safeguards are in place.

6. Other comments

Consultation Response	SP Comment
A number of respondents expressed support for SP's initiative to solving the charging issues related to IDNOs.	We understand the issues and the constraint faced by IDNOs by being restricted to charges dependent on the host DNO's charges.
An IDNO strongly objected to this proposed sets of charges. They welcome consultation exercise and are grateful for the opportunity to comment on our proposals. They were at odds to understand the indicative charges published with the consultation. They would welcome a more comprehensive explanation of what they represent. They provided detailed calculations with the new proposed charges showing that every single scenario results in the network becoming less financially viable.	We will discuss these proposal with the IDNO. We believe that the proposed charges better reflect the cost of IDNO connections.
Proposals are unacceptable. Requested details on how the indicative charges are elaborated and how the resulting fixed charges are arrived at. The IDNO required a detailed breakdown of assumed displaced costs to ensure tariff is cost reflective. They required more transparency on the following broad costs: LV & HV Repairs and Maintenance expenditure: overhead lines, underground cables, submarine cables, switchgear, transformers, meters, other operational network infrastructure, and other operating costs: network rates, system losses, call centre costs, premises cost, wayleaves, depreciation, insurance, IT, bad debts. They conclude that there is lack of transparency.	Further detail of the overall methodology is provided in our published methodology statements.
Do not accept that the tariffs proposed by SP enable IDNOs to make the margin as they are entitled to do under the Competition Act 1998.	We disagree. The charges and the supporting analysis clearly demonstrate that the proposed charges are cost reflective.

Consultation Response	SP Comment
Do not support SP's proposed approach. Concern that increased cost reflectivity may disproportionately impact consumers connected to IDNOs compared to those connected to the relevant DNOs. SP should pursue a uniform and general review of the enduring DUoS charges for all connectees, including IDNOs. SP needs to justify why cost reflectivity is more appropriate for IDNOs.	We are required by our licence to produce charges which are cost reflective. We keep our methodologies under review we will bring forward any modifications that are necessary to better meet the required objectives. We seek cost reflectivity in all tariffs, not only IDNOs.
A DNO welcomed SP's proactive stance and felt SP have correctly identified the scope of issues. However their conclusion is that the current methodology and tariff they currently apply for users of their network is also relevant to IDNO connections.	It is for each DNO to determine its own charging methodology and bring forward any modifications it thinks are necessary.

6.3. Supporting Documents

The following supporting documents have been provided to the Authority. These documents, except for responses marked confidential, have been circulated to interested parties and are available on request to commercial@sppowersystems.com.

- 1st Consultation Paper – *'Consultation on Possible Changes to SP Distribution and SP Manweb Use of System Charging Methodologies for IDNO Networks – dated 2nd October 2006'*
- Responses received to 1st Consultation Paper.
- Agenda for Workshop held 7th December 2006.
- Notes of Workshop, including presentations.
- 2nd Consultation Paper – *'Consultation on Proposed Changes to SP Distribution and SP Manweb Use of System Charging Methodologies for IDNO Networks – dated 12th January 2007'*
- Responses received to 2nd Consultation Paper.