WESTERN POWER DISTRIBUTION

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WESTERN POWER DISTRIBUTION (SOUTH WEST) PLC
WESTERN POWER DISTRIBUTION (SOUTH WALES) PLC

Modification Proposal

Amendment Proposal: WPD/WALES/WEST/UOS012

Title: Modification Request on changes to the Use of System Charging Methodology to base IDNO charges on a discount derived from price control data

Date of Issue: 28/02/2009

FOR APPROVAL BY THE AUTHORITY

This Modification Proposal sets out Western Power Distribution (South West) plc and Western Power Distribution (South Wales) plc ("WPD") proposals to amend WPD's Use of System Charging Methodologies and consequential changes to the form of the Use of System Charging Statements.

Issue Record

Issue Date	Issue No.	Author	Amendment Details
28/02/02009	1	Nigel Turvey	Initial Proposal

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Western Power Distribution

Modification Request on changes to the Use of System Charging Methodology to base IDNO charges on a discount derived from price control data

February 2009

1. Introduction

1.1 As of 1 April 2005, DNO's methodologies must conform to the objectives set out in Standard Licence Conditions 4(3) and 4B(3). These state that methodologies should:

- facilitate the discharge of the DNO's obligations under the Act and its licence; and
- facilitate competition in supply and generation, and not restrict competition in transmission or distribution; and
- be cost reflective, as far as is practicable once implementation costs are taken into account and
- take into account developments in the licensee's distribution business.

1.2 WPD are obliged, under SLC4(2) of their distribution licence, to keep their use of system charging methodologies under review and make modifications as necessary for the purpose of better achieving the relevant licence objectives. The purpose of this document is to propose changes to WPD's use of system charging methodologies, which will better reflect the costs associated with IDNO connected networks and to propose the consequential changes to the Use of System charging statements that result.

1.3 If the Authority deliver a non veto to this proposal before 30 April 2009 and the Authority has given its consent under SLC 14.21 to vary these charges with less than 3 months notice, this modification will be introduced for application from the 1st of the next month not less than 4 weeks from the date of the non veto if all DNO/IDNOs have agreed this implementation date or other such later common date as is agreed by all DNO/IDNOs. If a common date cannot be agreed then this modification will be introduced for application from 1st October 2009 with notice of change being given by 21st August 2009.

1.4 If the Authority deliver a non veto to this proposal after 30 April 2009 and the Authority has given its consent under SLC 14.21 to vary these charges with less than 3 months notice, this modification will be introduced for application from the 1st of the next month not less than 4 weeks after a decision not to veto if all DNO/IDNOs have agreed this implementation date or other such later common date as is agreed by all DNO/IDNOs. If a common date cannot be agreed then this modification will be introduced for application from 1st October 2009 with notice of change being given by 21st August 2009.

1.5 If the Authority deliver a non veto to this proposal after 30 April 2009 and the Authority has not given its consent under SLC 14.21 to vary these charges with less than 3 months notice this modification will be introduced for application from 1st October 2009 with notice of change being given by 21st August 2009.

2. Charging Arrangements

Existing arrangements

2.1 Use of system modification WPD/WEST/WALES/UOS006 which was not vetoed by the Authority on 17/12/2007 introduced a specific IDNO tariff for predominately domestic connections. It is worth noting that this decision contained the following statement:

'Our role in assessing modification proposals is to form a view on the methodology. It is not our role to approve tariff figures, per se. However, we have undertaken some analysis of the yardstick details provided by WPD in their UoS charging methodology statement. We have considered allocation of WPD's overhead costs, based on data in their Regulatory Reporting Pack, in accordance with cost drivers we have used in the previous price control review. Our results suggest that the proposed boundary tariffs would enable a licensed distributor at least as efficient as WPD to recover its costs and operate with a margin.'

2.2 Other IDNO connections are charged on the same tariffs as all other connections to our network.

3. Reasons for Review

3.1 IDNOs have continued to express concern about whether the tariffs fairly allocated the 'All the way' income between WPD and IDNOs running inset networks. Specifically, the concern is that the DRM approach used at present may not deal adequately with the allocation of short run and indirect costs.

3.2 Our existing IDNO tariffs only apply to predominately domestic developments.

4. Proposed Method

4.1 There are four stages to producing tariffs suitable for IDNOs.

1. Allocation of costs/income between voltage levels
2. Structure of the tariff, and
3. Allocation of the costs/income at the voltage level of connection

4. Applying the resulting allocation as a discount to all the way tariffs

Our proposals for each of these are as follows:

4.2 Cost allocation between voltage levels

Three sources of information are used to allocate costs between LV, HV and EHV.

1. The final proposals paper on DPCR4 gives the split of allowed income between operating costs, depreciation and return on RAV determined by Ofgem as an efficient way of delivering the DPCR4 requirements. The breakdown used is shown in appendix 1.
2. RRP returns give a breakdown of costs. The DPCR4 final settlement also determined what percentage of these costs are capitalised and hence the operating costs can be derived. Many of the direct costs are allocated by voltage levels, however indirect costs are not and a method of allocating these is needed.

   In OFGEM's December DPCR paper section 8 of the appendices to 159/08 gave some draft Ofgem cost groupings and drivers for indirects as follows:

Cost Group	Driver
Network policy, network design, Project management and system mapping	Network investment activity
Engineering management, control centre, call centre, stores, health & safety and operational training	Network investment and network operations cost activity
Vehicles and transport, HR and non operational training	Insourced network investment and network operations activity
Finance and Regulation, CEO etc	Network scale

   This is incorrect and contradicts OFGEM's own data.

   Table 2.1 of the "Electricity Distribution Cost Review 2007 – 2008", published by Ofgem in December 2008, is reproduced below. Also reproduced are Tables 3.3 and 3.5.

Table 2.1 Activity Costs on an RRP basis (2007-08 prices)

	Cash typical costs (£m)									
	Direct activities				Indirect activities					
2007/08	Load related (gross)	Non-load related (gross)	Non-operational capex	Network operating costs	Engineering indirects	Network/Investment support	Business support	Atypical cash costs	Pension deficit payments	**Total Distribution Business Cast Costs**
CN West	60	83	2	44	34	16	28	2	8	**276**
CN East	128	58	2	47	25	17	25	1	10	**314**
ENW	83	66	4	25	29	9	35	15	0	**266**
CE NEDL	46	43	4	27	17	10	19	0	22	**187**
CE YEDL	55	55	4	43	19	12	20	5	6	**219**
WPD S Wales	24	32	3	18	14	8	17	4	13	**135**
WPD S West	29	45	15	28	20	10	19	7	21	**193**
EDFE LPN	78	54	8	33	28	13	26	2	15	**257**
EDFE SPN	48	62	7	36	21	14	24	3	16	**232**
EDFE EPN	108	79	19	60	42	23	37	3	4	**375**
SP Distribution	49	68	3	24	27	14	23	2	2	**212**
SP Manweb	47	72	3	28	23	14	23	1	0	**210**
SSE Hydro	17	28	3	14	15	11	19	2	0	**110**
SSE Southern	94	49	8	46	30	22	29	3	27	**307**
Total	**865**	**793**	**85**	**473**	**344**	**194**	**344**	**52**	**143**	**3293**
2006-07	**700**	**699**	**95**	**468**	**326**	**209**	**340**	**53**	**222**	**3110**
2005-06	**709**	**590**	**71**	**451**	**309**	**219**	**352**	**17**	**300**	**3018**

Source: Ofgem Electricity Distribution Cost Review 2007-2008. Annual Report December 2008

Table 3.3 Cumulative capital expenditure compared to our DPCR4 assumptions (2007-08 prices)

	Actual	Actual	Actual	Allowance	Over/under spend to allowance	Over/under spend to allowance
	2005-06	2006-07	2007-08	DR4 to date	DR4 to date	DR4 to date
	£m	£m	£m	£m	£m	%
CN West	118	135	138	392	0	0%
CN East	94	119	146	387	-29	-7%
ENW	93	91	112	363	-68	-19%
CE NEDL	65	69	80	219	-5	-2%
CE YEDL	99	80	92	292	-20	-7%
WPD S Wales	48	51	54	155	-2	-1%
WPD S West	73	77	76	224	1	0%
EDFE LPN	90	103	109	349	-47	-13%
EDFE SPN	96	73	108	374	-96	-26%
EDFE EPN	117	140	180	542	-105	-19%
SP Distribution	77	92	100	292	-24	-8%
SP Manweb	94	101	102	314	-17	-6%
SSE Hydro	38	43	53	167	-33	-20%
SSE Southern	95	99	124	439	-122	-28%
Total	**1,197**	**1,273**	**1,474**	**4,510**	**-566**	**-13%**

Table 3.5 Cumulative operating costs against our DPCR4 assumptions (2007-08 prices)

	Actual	Actual	Actual	DPCR4 Allowance	Over/under spend to allowance	Over/under spend to allowance
	2005-06	2006-07	2007-08	DR4 to date	DR4 to date	DR4 to date
	£m	£m	£m	£m	£m	%
CN West	57	64	67	169	19	11%
CN East	64	62	62	180	9	5%
ENW	54	45	45	163	-18	-11%
CE NEDL	39	42	41	117	5	4%
CE YEDL	49	53	59	141	20	14%
WPD S Wales	34	33	32	110	-11	-10%
WPD S West	46	51	51	133	16	12%
EDFE LPN	47	55	58	142	18	12%
EDFE SPN	58	56	58	144	28	20%
EDFE EPN	83	93	102	223	55	25%
SP Distribution	57	49	45	152	-1	-0%
SP Manweb	58	49	47	126	28	22%
SSE Hydro	32	31	32	104	-9	-9%
SSE Southern	58	70	72	189	10	5%
Total	**738**	**753**	**770**	**2092**	**169**	**8%**

Source: Ofgem Electricity Distribution Cost Review 2007-2008. Annual Report December 2008

The tables show that in the period 2005/6 to 2007/8, a period during which network investment activity cost (i.e. gross load and non-load capex) increased by 27.6% from £1,299m to £1,658m total Indirect costs have remained essentially unchanged. Therefore, far from engineering indirect costs being driven by network investment activity, the companies have between them spent £359m without any increase in engineering indirect costs at all – in fact they have decreased in real terms. These indirect costs are immune to significant changes in direct capex, and therefore are not driven by network investment activity.

Further, paragraph 2.12 of the "Electricity Distribution Cost Review" states that:

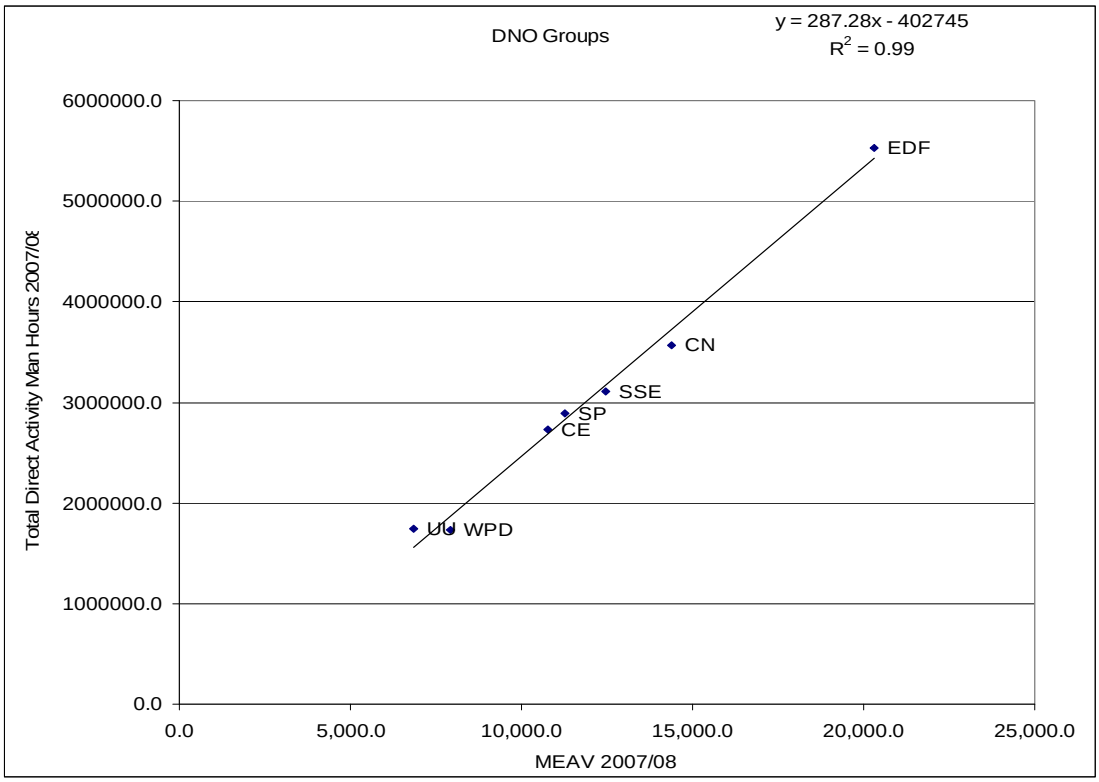
"The majority of DNOs have now developed new processes and introduced new ways of working regarding the procurement and management of external contractors. In most cases DNOs have now reached a level of resourcing, internal and external, required to deliver their capital programmes for the remainder of DPCR4."

This being the case, the change noted above includes not only the cost of developing the new processes and new ways of working but also the level of resourcing is now at a level that will not need to increase for the remainder of the review as further increased capex is incurred in order to address the significant capex underspends in the first three years of the review.

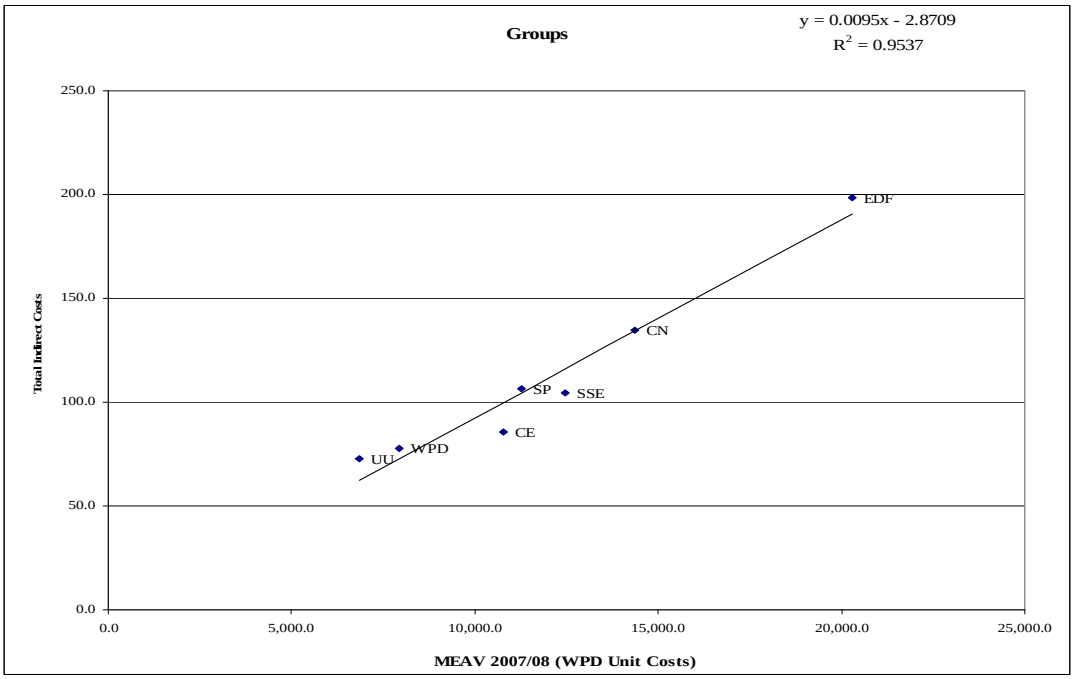
MEAV as a cost driver

An appropriate measure of scale has yet to be agreed. Whilst Modern Equivalent Asset Value (MEAV) is a measure of scale, it is a measure of value not a measure of the amount of engineering management time input required. A more appropriate metric could be calculated by attributing standard working times and standard activity rates to the total population of each asset category.

However, this is complicated. Work we have undertaken indicated that MEAV is a good proxy for work required by the network operator (see chart below).



Total indirects against MEAV is shown in the following graph.



The other advantage of using MEAV rather than say network length as a proxy for network scale is that it allocates costs to substations which is an essential prerequisite of a good proxy for allocating indirects as the full range of indirect activities have costs associated with substations.

3. Depreciation and return are related to RAV which is not broken down by voltage level. A proxy for this is net capex additions. To provide some smoothing between years and a forward looking view our DPCR5 business plan contains planned capex additions by voltage level over the period 2010 to 2015 and hence can be used to derive a split of depreciation and return across voltage levels. The tables in the FBPQ used to derive this split are shown in appendix 2.

   Other drivers were considered to derive the split of depreciation and return as follows:

S West

Driver	Percentage split			
	EHV	HV	HV/LV	LV
Total system MEAV	22%	26%	7%	45%
Total system MEAV excluding services	26%	31%	8%	35%
Total MEAV excluding services and 50% of LV network	31%	37%	10%	21%
FBPQ net capex	37%	21%	12%	30%

S Wales

Driver	Percentage split			
	EHV	HV	HV/LV	LV
Total system MEAV	23%	27%	7%	43%
Total system MEAV excluding services	27%	32%	8%	33%
Total MEAV excluding services and 50% of LV network	32%	39%	9%	20%
FBPQ net capex	40%	31%	12%	18%

There is no clear rule as to the percentage of the LV network that will be contributed to on first connection and the network operator will be required to replace LV network and services. Use of MEAV excluding services and a percentage of the LV network is a crude proxy for RAV additions compared to using the net FBPQ capex.

4.3 There are three areas of cost/income that need special consideration:

1. NGC Exit charges – whilst these costs are driven by all the connected demand, they are charged to whoever is the counter party to National Grid and hence need to be allocated to whoever owns the 132kV network.
2. Pension deficit costs – this is the specific cost of the ESPS pension that is protected under statute. These costs will remain with WPD irrespective of the penetration of inset networks and are unavoidable in both the short and long term. This means that these costs should not be allocated between WPD and IDNOs when determining IDNO tariffs. The DPCR4 allowance is used rather than the actual in year payment as the phasing of actual payment is different to the allowance. The effect of this is to exclude 3.7% of revenue in the S West and 3.4% of revenue in S Wales.
3. Incentive income – this income (positive or negative) is as a result of WPD performance and hence should not be allocated between WPD and IDNOs. It is inappropriate for IDNO margins to be reduced due to, for example, poor fault restoration performance by WPD or for it to be enhanced by improved fault restoration performance by WPD.

4.4 Structure of the tariff

4.5 There are two main concepts for how tariffs should be structured:

1. Distance related – this method is currently utilised in our Predominately Domestic IDNO tariffs and produces tariffs in distance bands from the substation at the voltage level of connection of the IDNO network. It was introduced following the veto of proposal WPD/WEST/WALES/UOS003 which had a single assessment of the split of costs at the voltage level of connection. Ofgem's decision to veto contained the following statement

   '*We have concerns about specific aspects of WPD's approach. In particular, we are concerned about:*

   1. The fixed assumption as a matter of methodology that 50% of the cost of the LV system is not attributable to the IDNO in its proposed LV tariff. No justification has been presented for this figure and we consider that this assumption may be too high or low in any specific case.'
2. 'Portfolio' based – this method splits all tariffs between the DNO and the IDNO. Aggregation for each tariff can then be undertaken across the entire DNO network. Practically, due to settlements restrictions, only one split can be used for each tariff and hence Ofgem's decision

on the proposal WPD/WEST/WALES/UOS003 referred to above needs to be considered.

4.6 There are pros/cons for each of these approaches which are summarised in the table below:

Distance banded LV IDNO tariffs	
Pros	**Cons**
A predominately domestic version has already not been vetoed by Ofgem and hence has been assessed as an acceptable method	Probably requires boundary metering (although IDNOs originally said they could provide data from their settlement data flows without metering for the 4 band approach proposed)
Uses current data sources, systems and processes	Does not deal well with mixed domestic/ non-domestic IDNO developments
Cost reflective of IDNO connection both near and remote from the DNO substation	Opposed by IDNOs
Easily applied logic of distance to split costs at voltage level of connection	
Portfolio approach to IDNO tariffs	
Pros	**Cons**
Removes need for boundary metering	Needs new national data flows to be agreed and implemented
Better reflects costs of mixed (domestic/ non-domestic) developments	Needs changes to internal WPD billing systems and processes
Preferred by IDNOs (although they caveat with provided it gives the 'right' margin)	Cannot be cost reflective for IDNO connections both near to and remote from the DNO substation – an averaged solution will be needed. Ofgem vetoed this approach when proposal WPD/WEST/WALES/UOS003 was put forward
	Logical basis needed for deciding split of costs at voltage level of connection

4.7 Whilst the arguments for and against both approaches appear finely balanced, the main advantage of the portfolio approach is the ability to deal with mixed developments although this is at the expense of poorly reflecting the connection point on the network. As was highlighted in our non vetoed modification WPD/WALES/UOS006 we have looked at how common mixed developments are. The results of this analysis are attached (Appendix 3) and

shows that the majority of HV/LV substations being connected are either mainly domestic in nature or main non-domestic.

4.8 Work is ongoing amongst IDNOs and DNOs to compare distance vs portfolio approaches. Agreement on and development of new national data flows derived from settlements data is necessary to implement the portfolio approach and our understanding is that this will take around 9 months to implement. The cost of these changes and the share between DNOs and IDNOs has yet to be determined. IPNL have raised a BSC modification, CP1280, to introduce new data flows to facilitate this process. This change proposal will result in the cost of these new data flows falling to suppliers and generators with the benefits in terms of not having to fund boundary metering falling to IDNOs. No changes to end customer DUoS charges will result from this change.

4.9 Ofgem believe that a fully cost reflective approach is likely to involve some form of 'idealised' hybrid of portfolio and distance related tariffs. As the current IT systems cannot cope with the increase in the number of tariffs that would result from this approach Ofgem have suggested an analysis to test whether the deviation of charges generated from the 'idealised' hybrid charge structure would be greater or lesser for a distance related banded charge structure or a portfolio approach. Details of this analysis are shown in appendix 4. The result of this analysis is that distance related tariffs are more cost reflective in the S West but that portfolio tariffs may be marginally more cost reflective in S Wales, however this depends on the discount used to calculate the portfolio tariffs there. As highlighted above there is no clear basis for deciding this discount and catering for Ofgem's reasons for deciding to veto WPD/WEST/WALES/UOS003.

4.10 As the need to bring forward a more appropriate methodology associated with IDNO charges is urgent our proposal is to implement a distance related tariff at this stage and, should the ongoing analysis demonstrate that a portfolio approach is more appropriate and once the required national data flows are in place, bring forward further proposals to change to that approach.

4.11 <u>Allocation of costs at the voltage level of connection</u>

4.12 For this proposal, the continuation of a distance related approach provides an easy logic for setting LV tariffs. It is proposed that the same banding and distances are used for both the predominately domestic and the non-domestic LV IDNO tariffs. Our existing non vetoed methodology uses the same absolute scaling for all bands as a proxy for the indirect costs that are not catered for in our DRM methodology. To be consistent with this, our proposed method treats the indirect costs at the voltage level of connection as not varying with distance and discounts the full amount. As with the predominantly domestic tariff the charges give a discount assuming the

connection is at the front end of the band. This avoids overcharging connections irrespective of where they fall within the band.

4.13 At HV the concept of distance from the higher voltage substation does not apply as our security standard generally requires a switched backfeed. Hence a single allocation is appropriate at this level.

4.14 At HV for the predominately domestic tariff the HV/LV substation costs can be identified in the MEAV split, the direct costs and our FBPQ data allowing the exclusion of these costs in the same manner as our currently non-vetoed predominately domestic HV IDNO tariff. Our experience to date is that IDNO connections for predominately domestic developments rarely result in the IDNO constructing HV network extensions, hence only the HV/LV transformation level has been considered in constructing this tariff. Developments in the type of extensions made by IDNOs will be monitored and further changes made if necessary.

4.15 At HV for the non-domestic tariff where an HV network owned and operated by an IDNO is more likely, we have little evidence of the amount of HV network avoided due to the very low level of IDNO connections of this type. Whilst not IDNO networks, we do have some private HV networks connected which we understand have average HV system lengths of around 1.9km. Dividing our total HV network length by the number of source circuit breakers yields an average HV circuit length of 12.4km in S West and 11.7km in S Wales. Hence it would appear appropriate to allocate the LV, HV/LV substation and the relevant percentage of the remaining HV system costs to IDNOs in our non-domestic HV IDNO tariff.

4.16 <u>Application of the allocation of costs/income as a discount to existing tariffs</u>

4.17 There is a decision to be made on whether a discount should be applied to the unit, fixed or capacity charges and whether this should be uniform across components. This is particularly relevant in the non-domestic category where three tariff structures exist (profile class 3 and 4 unit only, profile class 5 to 8 unit plus fixed charge and HH unit plus £/kVA of supply capacity).

4.18 For predominately domestic LV tariffs our proposal is to have unit only based, distance banded tariffs for IDNOs in the same structure as is currently in place. This is applied as a discount to the day/night domestic tariff.

4.19 It is proposed that in the predominately non-domestic version of the LV tariff a discount should be applied to components of the half hourly metered site specific rates i.e. capacity charge, day unit rate and night unit rate. The reduction has been applied across all the tariff components as this is

transparent and does not require further assumptions to be made about whether differential discounts should apply

4.20 At HV the predominately domestic IDNO tariff will retain the same unit only based structure as a discount to the domestic day/night tariff.

4.21 The predominately non-domestic HV IDNO tariff will follow the structure of the HV non-domestic tariff and discount each element of the half hourly.

5. Tariff applicability

5.1 Our existing predominately domestic IDNO tariffs are derived from our DRM/LRIC methodology and hence based on long run marginal tariff principles. As such we would apply the same tariffs to a private operator of a predominately domestic private network as are applied to an IDNO operated predominately domestic network. The method of calculating IDNO tariffs now proposed is different to a long run marginal approach and is only appropriate where end users are still subject to long run marginal cost signals.

5.2 Due to the above we propose that these tariffs are restricted to network owners/operators that run open networks (i.e. are open to supply competition) and publish a use of system charging methodology.

6. Resulting IDNO tariffs

6.1 The proposed new tariffs are as follows:

South West

Description	% discount	Day charge (p/kWh)	Night charge (p/kWh)	Capacity charge (p/kVA/day)
Domestic Band 1 LV (<64m)	37.9%	1.63	0.39	
Domestic Band 2 LV (64m – 128m)	32.1%	1.78	0.42	
Domestic Band 3 LV (128m – 192m)	26.3%	1.93	0.46	
Domestic Band 4 LV (>192m)	20.5%	2.08	0.49	
Domestic HV	49.7%	1.32	0.31	
Non Domestic Band 1 LV (<64m)	37.9%	0.79	0.28	2.42
Non Domestic Band 2 LV (64m–128m)	32.1%	0.86	0.31	2.65
Non Domestic Band 3 LV (128m–192m)	26.3%	0.94	0.33	2.87
Non Domestic Band 4 LV (>192m)	20.5%	1.01	0.36	3.10
Non Domestic HV	14.0%	0.40	0.12	3.33

South Wales

Description	% discount	Day charge (p/kWh)	Night charge (p/kWh)	Capacity charge (p/kVA/day)
Domestic Band 1 LV (<57m)	31.1%	1.96	0.31	
Domestic Band 2 LV (57m – 114m)	28.4%	2.04	0.32	
Domestic Band 3 LV (114m – 171m)	25.8%	2.11	0.33	
Domestic Band 4 LV (>171m)	23.2%	2.19	0.35	
Domestic HV	43.7%	1.60	0.25	
Non Domestic Band 1 LV (<57m)	31.1%	0.94	0.16	3.32
Non Domestic Band 2 LV (57m–114m)	28.4%	0.97	0.16	3.45
Non Domestic Band 3 LV (114m–171m)	25.8%	1.01	0.17	3.58
Non Domestic Band 4 LV (>171m)	23.2%	1.04	0.18	3.70
Non Domestic HV	19.2%	0.43	0.14	3.22

It should be noted that the discounts that have been calculated for this modification request will be retained until this modification request and its associated methodology are superseded by a new modification request and revised methodology.

7. Proposed changes to Use of System Charging Methodology

7.1 The following will be changed/added to our Use of System Charging Methodology.

In the section of the methodology titled:

Calculation of Yardstick Tariffs for HV and LV networks

The following Yardstick customers are used to determine tariffs using the above methods;

Domestic supplies profile classes 1 and 2

Small Non domestic supplies profile classes 3 and 4

Large non domestic supplies profile classes 5 to 8 HV supplies

Large non domestic supplies profile classes 5 to 8 LV substation supplies (not in South Wales)

Large non domestic supplies profile classes 5 to 8 LV network supplies

Large non domestic supplies half hourly metered HV supplies

Large non domestic supplies half hourly metered LV substation supplies (not in South Wales)

Large non domestic supplies half hourly metered LV network supplies

Unmetered supplies non half hourly metered

Unmetered supplies half hourly metered

Site specific charges

The following tariffs are calculated using the method described below:

Licenced Distributor Tariff – Predominantly Domestic LV connected

Licenced Distributor Tariff – Predominantly Domestic HV connected
Licenced Distributor Tariff – Predominately Non-Domestic LV connected
Licenced Distributor Tariff – Predominately Non-Domestic HV connected

These tariffs are calculated as a discount from our standard tariffs, the predominately domestic ones as a discount from the domestic profile 2 tariff and the predominately non-domestic ones from the large non domestic

supplies half hourly metered LV network supplies and the large non domestic supplies half hourly metered HV supplies respectively.

The discount is calculated by using three sources of information:

1. The DPCR4 final settlement which gives the split of allowed revenue for the DPCR4 period between operating costs, depreciation and return on regulated asset base.
2. 07/08 RRP data is used to allocate reported costs across voltage levels and is used to apportion operating costs. Many direct costs are allocated in the RRP data with indirect costs apportioned on the basis of the gross modern equivalent asset value of the network.
3. Current DPCR5 forecasts contain forecasts of capital investment split by voltage level. This is used to apportion both depreciation and return.

The proportion of the allowed revenue that is to be split between WPD and the licenced distribution network operator is then determined by taking the in year allowed revenue (excluding any k factor adjustments) and excluding incentive revenue and the pension deficit payment allowance. The remaining allowed revenue is split across voltage levels using the percentages derived from the data detailed above and this revenue is converted to a p/kWh figure at each voltage level. The proportion of the overall price that is attributable to the LV system is then allocated between WPD and the licenced distribution network operator (LDNO). The entire indirect cost element is attributed to the LDNO.

For the LV predominately domestic and non-domestic tariffs the direct cost element is split depending on the distance between the source substation and the LDNO connection. The band lengths and proportions allowed to the LDNO are the same for both predominantly domestic and predominately non-domestic tariffs.

For the predominately domestic HV tariff a single split is used which also includes the costs apportioned to the HV/LV substation.

For the predominately non-domestic HV tariff a single split is used containing the costs apportioned to the HV/LV substation and part of the HV circuit based on average circuit length and average expected LDNO HV circuit length.

8. Proposed changes to Charging statement

8.1 The following consequential changes will apply to our charging statements.

Table 3.5 will be modified and the accompanying application notes updated. The new table and notes are shown below.

South West

Description	DUoS Charge Code	Market	Day unit charge (p/kWh)	Night unit charge (p/kWh)	Capacity charge p/kVA/day
Domestic Band 1 LV (<64m)	801		1.63	0.39	n/a
Domestic Band 2 LV (64m – 128m)	802		1.78	0.42	n/a
Domestic Band 3 LV (128m – 192m)	803		1.93	0.46	n/a
Domestic Band 4 LV (>192m)	804		2.08	0.49	n/a
Domestic HV	805		1.32	0.31	n/a
Non-Domestic Band 1 LV (<64m)			0.79	0.28	2.42
Non-Domestic Band 2 LV (64m-128m)			0.86	0.31	2.65
Non-Domestic Band 3 LV (128m – 192m)			0.94	0.33	2..87
Non-Domestic Band 4 LV (>192m) (Network Supplies)			1.01	0.36	3.10
Non-domestic HV			0.40	0.12	3.33

Accompanying Notes for Licensed Distribution Networks Charges

- Site specific charges will be applied for connections at EHV or at the lower voltage side busbar of an EHV/HV substation.

- For other connections made at HV or LV where the load is predominantly domestic the Licensed Distributor Tariffs – Predominantly Domestic either HV or LV connected will apply. Predominantly domestic means that more than 50% of the site's maximum demand is assessed to be due to domestic connections. However where the proportion of the site maximum demand is assessed to fall into the range between 40% and 60% of the total assessed demand WPD will assign a tariff with the agreement of the IDNO after consideration of the characteristics of the connection.

- For other connections made at HV or LV where the load is predominantly non-domestic the Licenced Distributor Tariffs – Predominantly Non-Domestic either HV or LV connected will apply. Predominantly non-domestic means more than 50% of the site's maximum demand is assessed to be due to non-domestic connections. However where the proportion of the site maximum demand is assessed to fall into the range between 40% and 60% of the total assessed demand

WPD will assign a tariff with the agreement of the IDNO after consideration of the characteristics of the connection.

- There are five tariffs that are available for sites that are predominantly domestic four of which are dependent on how far the Licensed Distributor connection is from the normal source substation. Similarly for predominantly non-domestic sites there are five tariffs available, four of which are dependent on how far the Licensed Distributor connection is from the normal source substation. For both domestic and non-domestic sites the band 1 prices apply for connections in the first 64m, the band 2 prices apply for connections from 64m to 128m, the band 3 prices apply from 128m to192m and the band 4 prices apply for connections more than 192m from the normal source substation. The fifth relates to connections made at High Voltage.

- For the avoidance of doubt, the predominantly domestic tariffs will not apply where generation other than that connected within domestic premises is connected to the connected network. Where generation other than that connected within domestic premises is connected predominantly non-domestic tariffs will apply.

- "Night Units" means units supplied during a seven-hour period from 23.30 to 06.30 hours clocktime.

- These tariffs are restricted to network owners/operators that run open networks (i.e. are open to supply competition) and publish a use of system charging methodology.

South Wales

Description	DUoS Charge Code	Market	Day unit charge (p/kWh)	Night unit charge (p/kWh)	Capacity charge p/kVA/day
Domestic Band 1 LV (<57m)	851		1.96	0.31	n/a
Domestic Band 2 LV (57m – 114m)	852		2.04	0.32	n/a
Domestic Band 3 LV (114m – 171m)	853		2.11	0.33	n/a
Domestic Band 4 LV (>171m)	854		2.19	0.35	n/a
Domestic HV	855		1.60	0.25	n/a
Non-Domestic Band 1 LV (<57m)			0.94	0.16	3.32
Non-Domestic Band 2 LV(57m-114m)			0.97	0.16	3.45
Non-Domestic Band 3 LV (114m-171m)			1.01	0.17	3.58
Non-Domestic Band 4 LV (>171m)			1.04	0.18	3.70
Non-Domestic HV			0.43	0.14	3.22

Accompanying Notes for Licensed Distribution Networks Charges

- Site specific charges will be applied for connections at EHV or at the lower voltage side busbar of an EHV/HV substation.

- For other connections made at HV or LV where the load is predominantly domestic the Licensed Distributor Tariffs – Predominantly Domestic either HV or LV connected will apply. Predominantly domestic means that more than 50% of the site's maximum demand is assessed to be due to domestic connections. However where the proportion of the site maximum demand is assessed to fall into the range between 40% and 60% of the total assessed demand WPD will assign a tariff with the agreement of the IDNO after consideration of the characteristics of the connection.

- For other connections made at HV or LV where the load is predominantly non-domestic the Licenced Distributor Tariffs – Predominantly Non-Domestic either HV or LV connected will apply. Predominantly non-domestic means more than 50% of the site's maximum demand is assessed to be due to non-domestic connections. However where the proportion of the site maximum demand is assessed to fall into the range between 40% and 60% of the total assessed demand WPD will assign a tariff with the agreement of the IDNO after consideration of the characteristics of the connection.

- There are five tariffs that are available for sites that are predominantly domestic four of which are dependent on how far the Licensed Distributor connection is from the normal source substation. Similarly for predominantly non-domestic sites there are five tatiffs available, four of which are dependent on how far the Licensed Distributor connection is from the normal source substation. For both domestic and non-domestic sites the band 1 prices apply for connections in the first 57m, the band 2 prices apply for connections from 57m to 114m, the band 3 prices apply from 114m to171m and the band 4 prices apply for connections more than 171m from the normal source substation. The fifth relates to connections made at High Voltage.

- For the avoidance of doubt, the predominantly domestic tariffs will not apply where generation other than that connected within domestic premises is connected to the connected network. Where generation other than that connected within domestic premises is connected predominantly non-domestic tariffs will apply.

    - "Night Units" means units supplied during a seven-hour period from 00.30 to 07.30 hours clocktime.

    - These tariffs are restricted to network owners/operators that run open networks (i.e. are open to supply competition) and publish a use of system charging methodology.

9. Analysis of typical networks using these tariffs

9.1 Some analysis has been undertaken to better understand the sensitivity of these tariffs to customer mix on networks. A number of HV/LV transformers with a mix of customers have been selected and a comparison of the 'all the way' income with the proposed IDNO charge made.

9.2 The following tables show the mix of customers used and the calculated margins that result where mixes of customer types occur.

Mix of Customers

% of substation demand caused by Non Domestic demand	Number of customers in each settlement profile class								
	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	LV HH
100%			33	10		1	1		
100%			4						3
100%			8			4			3
100%			19	1					
93%	25		7						1
85%	112	15	46	5	1	1	1	1	1
78%	19		5			1			
67%	28	58	20	2		1	1		
54%	6	2	1	1					
39%	45	93	20	1					
33%	43	41	3	6					
23%	73		5						
11%	24	80	2	1					
0%	112	23							

Resulting margins in S West

% of substation demand caused by Non Domestic demand	Band 1	Band 2	Band 3	Band 4
100%	52%	47%	43%	38%
100%	38%	32%	27%	21%
100%	40%	35%	29%	23%
100%	49%	45%	40%	35%
93%	41%	35%	30%	24%
85%	48%	43%	39%	34%
78%	53%	48%	44%	40%
67%	54%	50%	46%	42%
54%	56%	52%	48%	44%
39%	34%	28%	22%	16%
33%	37%	31%	25%	19%
23%	35%	29%	23%	17%
11%	37%	31%	25%	20%
0%	37%	32%	26%	20%

Resulting margins in S Wales

% of substation demand caused by Non Domestic demand	Band 1	Band 2	Band 3	Band 4
100%	47%	45%	43%	41%
100%	31%	29%	26%	23%
100%	34%	32%	29%	27%
100%	44%	41%	39%	37%
93%	34%	32%	29%	27%
85%	43%	41%	39%	36%
78%	49%	47%	45%	43%
67%	50%	48%	46%	44%
54%	51%	49%	47%	46%
39%	28%	25%	22%	19%
33%	30%	27%	24%	22%
23%	29%	26%	23%	21%
11%	30%	28%	25%	22%
0%	31%	28%	26%	23%

10. Comparison with existing predominately domestic IDNO tariffs

10.1 Following tables compares the proposed predominately domestic tariffs with the existing ones.

Proposed tariffs as a percentage of existing for S West

	LV Band 1	LV Band 2	LV Band 3	LV Band 4	HV
Day rate	85%	89%	93%	97%	98%
Night Rate	86%	90%	93%	97%	107%

Proposed tariffs as a percentage of existing for S Wales

	LV Band 1	LV Band 2	LV Band 3	LV Band 4	HV
Day rate	100%	99%	100%	100%	114%
Night Rate	100%	101%	101%	99%	127%

11. Proposals versus licence obligations

11.1 These proposals introduce more cost reflective tariffs for IDNO connected networks for all types of network than are currently in place. As such they better meet the objective of:

- be cost reflective, as far as is practicable once implementation costs are taken into account and

and by being more cost reflective also better meet the objective of;

- facilitate competition in supply and generation, and not restrict competition in transmission or distribution; and

by not restricting competition in distribution by allowing an IDNO to obtain a similar margin compared to our own network business.

Appendix 1

Breakdown of DPCR4 allowed revenue used to split allowed income between Opex, Depreciation and Return. (All figures from the Statutory consultation on the licence modification – February 2005)

S West

	2005/06	2006/07	2007/08	2008/09	2009/10
Allowed revenue	175.6	177.8	180.3	182.2	184.5
Opex (incl pensions after 57.7% capitalised)	59.3	61.4	62.3	61.8	61.5
Quality Reward	1.7	1.7	1.7	1.7	1.7
DPCR3 costs	1.6				
Total Opex	62.6	63.1	64.0	63.5	63.2
Capital elements					
Depreciation	50.3	55.5	59.1	62.7	66.3
Tax allowance	15.8	16.4	17.1	17.8	18.6
Capital incentive	4.5	4.1	2.8	1.8	0.9
Sliding scale	1.4	1.5	1.5	1.5	1.5
Return	41.0	37.3	35.8	34.9	34.0
Total capital	113.0	114.8	116.3	118.7	121.3
Total capital ex depreciation	62.7	59.3	57.2	56.0	55.0
Allocation of allowed revenue to:-					
Opex	62.6	63.1	64.0	63.5	63.2
Depreciation	50.3	55.5	59.1	62.7	66.3
Return	41.0	37.3	35.8	34.9	34.0

S Wales

	2005/06	2006/07	2007/08	2008/09	2009/10
Allowed revenue	140.9	142.7	144.5	146.1	147.9
Opex (incl pensions after 57.7% capitalised)	47.2	48.7	49.4	49.1	48.7
Quality Reward	1.6	1.6	1.6	1.3	1.3
DPCR3 costs	0.9				
Total Opex	49.7	50.3	51.0	50.4	50.0
Capital elements					
Depreciation	45.7	48.2	50.6	53.1	55.6
Tax allowance	13.1	14.2	15.0	15.9	16.7
Capital incentive	-1.7	-1.1	0.0	-0.3	-0.1
Sliding scale	1.2	1.2	1.2	1.2	1.1
Return	32.8	29.9	26.7	25.8	24.6
Total capital	91.1	92.4	93.5	95.7	97.9
Total capital ex depreciation	45.4	44.2	42.9	42.6	42.3
Allocation of allowed revenue to:-					
Opex	49.7	50.3	51.0	50.4	50.0
Depreciation	45.7	48.2	50.6	53.1	55.6
Return	32.8	29.9	26.7	25.8	24.6

Appendix 2

FBPQ data used to assess split of depreciation and return

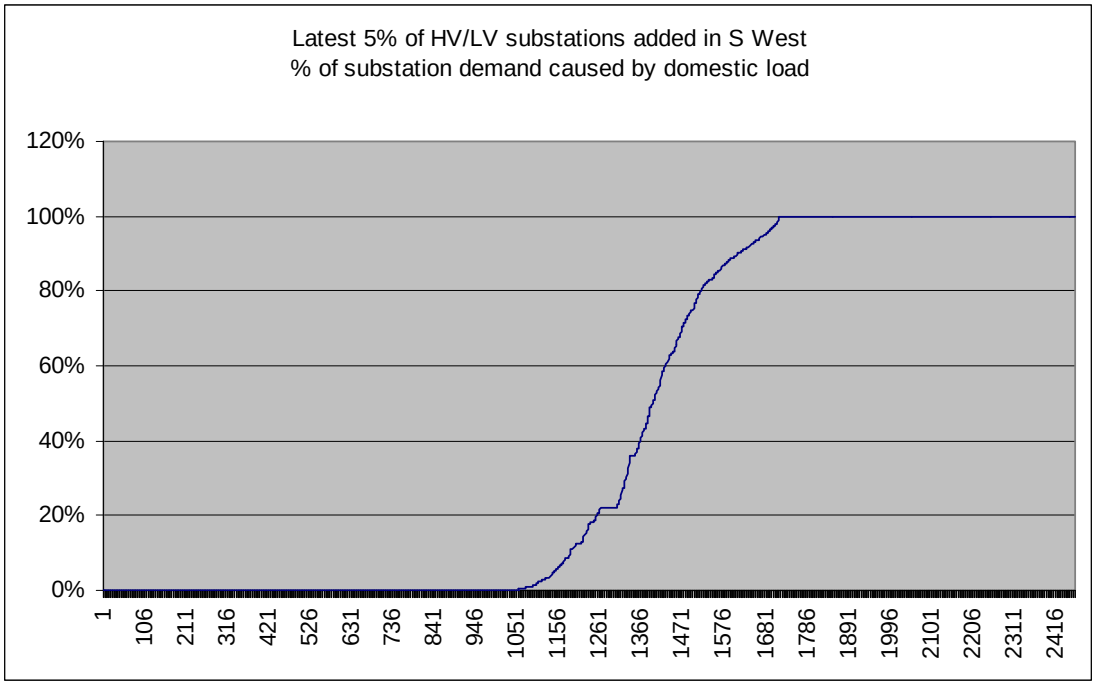
Table in FBPQ	Comments
LR1 – Demand	Whilst data is split by voltage level, the data is for the voltage level of the connections and hence some costs will be represented at lower voltage levels than they actually occur.
LR2 – Generation	Whilst data is split by voltage level, the data is for the voltage level of the connections and hence some costs will be represented at lower voltage levels than they actually occur.
LR3 – Diversions	Costs split by voltage level.
LR4 - General reinforcement	Costs split be voltage level
LR6 - Fault levels	Costs split by voltage level.
LR7 - DNO discretionary	These have been excluded as this is a new area of activity that is not currently in our RAV
NL1 - Condition based expenditure	Costs split by voltage level
NL5 - QoS (IIS) DNO Case	Costs split by voltage level
NL5a – QoS (IIS) Ofgem Target Case	No expenditure in this category
NL6 - QoS (non IIS)	Costs split by voltage level
NL7 - Major sys risks	Costs split by voltage level
NL8 – Operational IT & telecoms	Comms and BT21C costs split by voltage level, control centre costs excluded from analysis as not split by voltage level
NL9 - Legal & safety	Costs split by voltage level
NL10 – Environmental	Costs split by voltage level
NL11 – Losses	Costs split by voltage level

Appendix 3

Analysis of the most recent 5% of transformers connected in WPD – Domestic and Non-Domestic Contribution to Maximum Demand

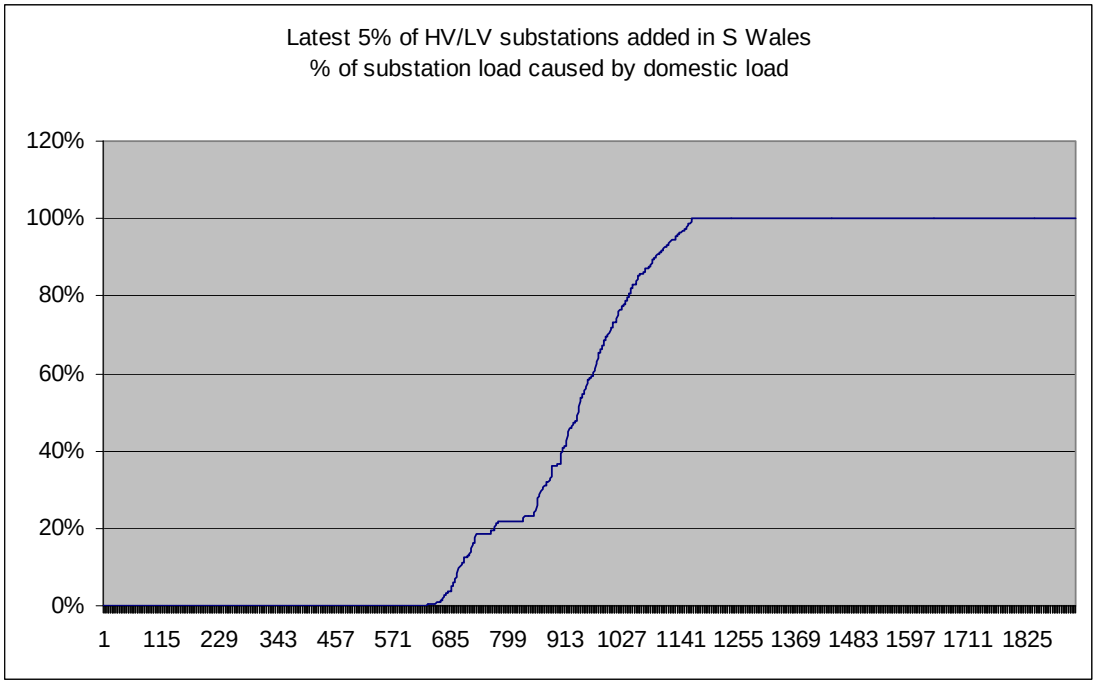
WPD S West

Total Number of Transformers	2,467
Transformers where domestic contribution is in the range of 40% to 60% of total demand	58 (2% of total)



WPD S Wales

Total Number of Transformers	1.922	
Transformers where domestic contribution is in the range of 40% to 60% of total demand	58	(3% of total)



Appendix 4

Comparison of an 'idealised' hybrid portfolio/distance related tariff with a distance related banded charge structure or a portfolio approach

The proposed LV distance related tariffs have been compared to an 'idealised' hybrid portfolio/distance related set of tariffs by analysis of the charges that would result from the mix of customer types on 928 HV/LV transformers in the S West and 639 transformers in S Wales. The samples used excluded all transformers supplying single customers and those of 25kVA or less supplying 5 customers or less.

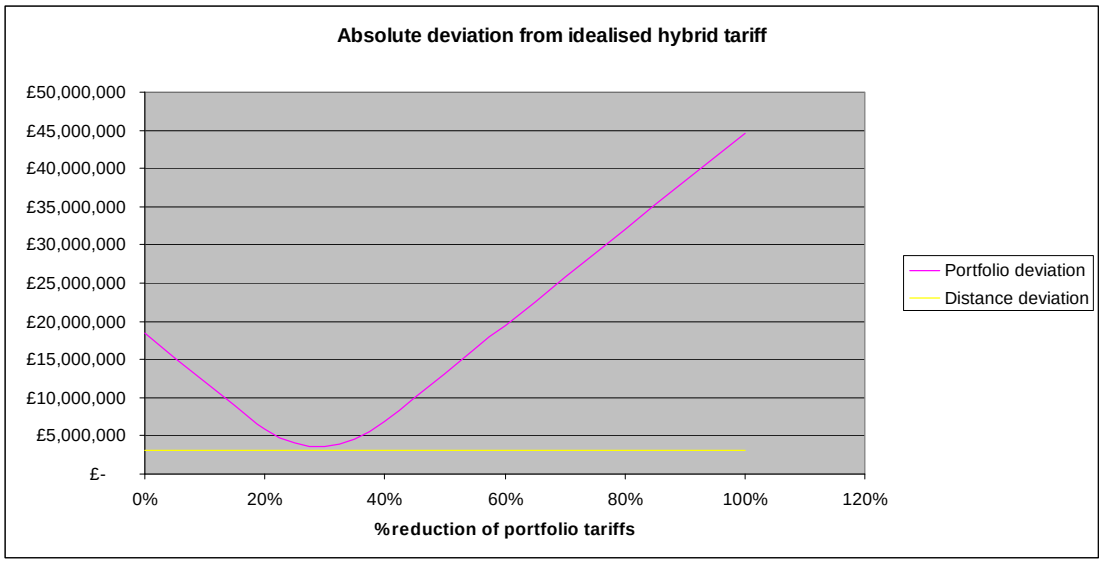
In practice this result in comparing results using 8 distance related tariffs (4 predominately domestic and 4 predominately non domestic) with 36 tariffs under the 'idealised' hybrid approach.

As there is no clear method for deriving the discount for portfolio tariffs, the result for the complete range of discounts from 0% to 100% has been undertaken to see the comparison of the proposed distance related tariffs with potential portfolio tariffs.

The graphs below have been constructed by assessing the absolute (rather than net) deviation of charges under the proposed distance related charges and portfolio charges from that under the idealised hybrid approach against each band in turn and summating the four results. This means that that the results are the analysis of 3,712 potential embedded LV networks in S West and 2,556 in S Wales.

As the mix of customers used is that on each transformer, it will be a sample of more mixed types of customers than that which would typically be seen on IDNO networks as LV connected IDNO networks are generally a subset of the customers supplied from an HV/LV transformer.

Result for S West



Result for S Wales