MODIFICATION REPORT

SP Energy Networks

Mod. Proposal SPEN-09-03

Amendment of Use of System Charging Methodologies for IDNO Networks

Date of Issue: 07 August 2009

For approval by the Authority

CONTENTS

SCOPE

1. This Modification Application is submitted by SP Energy Networks (SPEN) on behalf of SP Distribution Ltd and SP Manweb Plc[1].

2. This report sets out the proposed modification to SP Distribution and SP Manweb's UoS Charging Methodologies, in respect of charging for embedded Licensed Distribution Network Operators (LDNOs).

ISSUE AUTHORITY

Author	Owner	Issue Authority
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[1] SPEN is the public facing identity of SP Distribution Ltd (SPD), SP Manweb Plc (SPM) and SP Transmission Ltd (SPT). SPD is a licensed electricity distribution business, which owns and operates networks in south and central Scotland. SPM is a licensed electricity distribution business which owns and operates networks in Merseyside, Cheshire and North Wales.

INTRODUCTION

3. SPEN proposes to modify its Use of System Charging Methodology to implement interim charging arrangements to LDNOs connected to its networks. The proposals detailed in this submission result from joint work carried out by DNOs under the DNO/IDNO group chaired by Ofgem and supported by specialist consultants.

4. SPEN has been working for a time towards implementing DUoS charging arrangements that are specific to embedded LDNOs. We submitted an initial modification in April 07 and another in May 08, both of which were vetoed by the Authority. In its decisions, the Authority recognised that the proposals had benefits but its assessment was that there were other aspects of the proposals which outweighed these benefits. SPEN has remained committed to introducing charging arrangements for LDNOs and we have introduced "capacity ramping" arrangements that address some of the concerns expressed by LDNOs in the past, in terms of their ability to mirror the DUoS charges imposed to them by the host company in the charges they pass on their end customers.

5. We currently charge embedded networks for use of our system on the basis of our tariffs for medium or large non-domestic users. Our current methodology for setting use of system charges uses an allocation of network costs which is based on load characteristics (coincidence and load factors) of each customer type. The majority of embedded networks serve predominantly domestic loads, which have different load characteristics than medium or large non-domestic users. Applying medium or large non-domestic user tariffs to embedded networks is not consistent with the principles of our cost allocation methodology, and may not be cost reflective.

HOW THE PROPOSAL BETTER MEETS LICENCE CONDITIONS

6. The proposal removes potential barriers to competition and its implementation better meets the objective that the Use of system Charging Methodology"[…] does not restrict, distort, or prevent competition in the transmission or distribution of electricity", as stated in Standard Condition 13 Paragraph 13.3 (b) of our Distribution Licences[2], by providing a more cost reflective basis for charging embedded LDNO networks.

DESCRIPTION OF THE MODIFICATION

7. SPEN has based its interim LDNO charging methodology on the recently non-vetoed WPD approach. This approach is also consistent with what the Common Methodology Group is currently considering as a method for the enduring solution.

[2] The Relevant Objectives as stated in SC 13 are:

a) that compliance with the connection charging methodology facilitates the discharge by the licensee of the obligations imposed on it under the Act and by this licence;

b) that compliance with the connection 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;

c) that compliance with the connection 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

d) that, so far as is consistent with sub-paragraphs (a), (b) and (c), the connection charging methodology, as far as is reasonably practicable, properly takes account of developments in the licensee's distribution business.

8. The methodology calculates a discount percentage to be applied to SPEN's appropriate all-the-way tariffs.

Calculation of the discount percentage

9. We have calculated the discount percentages using a three-step procedure.

10. The first step is to calculate the percentage of total distribution costs in each level of our network, and to calculate the proportion of the costs allocated to each network tier which are directly attributable to distribution activity in that network tier and those which represent an allocation of indirect costs. For the purposes of IDNO charging we split out network into four tiers, these being LV, HV/LV, HV and EHV. The allocation methodology is described below.

11. The outputs from that first step are an allocation of price control revenues weighted by units distributed between the LV, HV/LV, HV and EHV network levels. Incentives are removed from the allowed revenue allocation as it is not appropriate to reflect the DNO's performance under its financial incentive schemes in the IDNO tariffs.

12. From the allocation process we can determine the percentage of our total costs allocated to each level and the proportion of the allocation which can be categorised as direct and indirect costs (form the opex allocation).

13. The second step is to determine the proportion of our LV network that is typically used by an embedded network, relative to the amount of LV network used by a typical LV customer.

14. The output from the second step is a single percentage, which we call the LV split, representing the proportion of the LV network that, on average, LV-connected embedded networks use in respect of each end user, relative to the amount of LV network used by our LV end users. This percentage is used to reduce the direct proportion of the LV allocation to reflect the split of LV costs between our network and average IDNO embedded network.

15. The third step is to combine steps 1 and 2 above in order to determine the discount to apply in the calculation of embedded network tariffs.

16. Embedded networks connected at LV receive a discount equal to the LV% network level allocation after the direct proportion of the allocation has been adjusted for the LV split. Effectively the IDNO is charged for all amounts allocated to HV/LV, HV or EHV, and for the direct costs associated the average proportion of our network provided used by each IDNO end user.

17. Embedded networks connected at HV receive a discount equal to the sum of the LV and HV/LV percentage network allocations for LV customers connected to them (see section on the structure of the new tariffs).

Allocation of revenues to network levels

18. To calculate the network level percentage allocations we calculate separate network level percentages for the operating cost, depreciation and return on RAV elements of our allowed revenue. The final network level percentages are a weighted average of all of these. In order to allocate our revenues to network levels, we have used allocation drivers calculated from the following sources:

    - A breakdown of price control allowed revenue over the period 2005/06–2009/10 between operating expenditure, depreciation and return on regulatory asset value (RAV).

- 2007/08 RRP data on units distributed and operating expenditure broken down by network level.

- FBPQ data on elements of capital expenditure and customer contributions for the period 2005/06–2014/15, broken down by network level, and on gross modern equivalent asset values for various asset types.

19. For the part of operating expenditure that is included in allowed revenue under the price control, the RRP data allows us to distinguish between direct and indirect costs, with direct costs allocated directly to network level. Thus a direct operating costs percentage for each network level can be established from the RRP data. We allocated indirect operating costs to network levels on the basis of MEAV. Transmission exit charges are allocated to the EHV level.

20. The operating cost percentage for each level is a weighted average of the direct and indirect percentages. Estimated gross modern equivalent asset values used for this purpose were derived from asset counts and unit costs from the FBPQ. Where unit cost data were not available from the FBPQ, an estimate was used instead.

21. Both the depreciation and return on capital elements of allowed revenue are allocated to network levels on the basis of net capital expenditure data derived from the FBPQ. All figures were aggregated over the 10-year period 2005/06–2014/15, taking in actual data or forecasts for each year as available.

22. For each network level, net capital expenditure was calculated by adding up total condition based replacement (proactive and reactive) replacement, combined in the case of LV, HV and EHV with connections spend minus customer contributions for connections at that voltage level, general reinforcement capital expenditure at that voltage level, and fault reinforcement capital expenditure at that voltage level. Some of these categories explicitly identify HV substation and HV transformer costs. These costs (and no other costs) are allocated to the HV/LV network level. Some of the expenditure categories do not separately identify HV substation/transformer costs. For these categories costs are allocated to the HV/LV in the same proportion as for the other categories (where these costs are separately identified).

23. As the IDNO tariffs relate to demand customers we have not included generation capital expenditure calculation of the percentage of net capex attributable to each network level.

24. These allocations of the operating expenditure, depreciation and return elements of allowed revenue are combined using weights from the price control breakdown.

25. These allocations are then rescaled by the estimated number of units flowing through each network level.

26. Finally, for operating expenditure attributed to LV, a breakdown is made between direct and indirect expenditure, using the proportions from the analysis of RRP data.

STRUCTURE OF THE NEW TARIFFS

27. The charges in this proposal would apply to any embedded network that is connected to our network at low voltage and high voltage.

28. There will be two types of IDNO tariffs available at the LV voltage level: predominantly domestic sites and predominantly non-domestic sites.

29. In order to determine whether a site qualifies as "predominantly domestic" or "predominantly non-domestic", the following criteria is proposed:

    a. Predominantly domestic – means greater than 60% of the maximum demand due to domestic connections.

    b. Predominantly non-domestic – means less than 40% of the maximum demand due to domestic connections.

    c. Where between 40%-60% of the site maximum demand is assessed to be due to domestic connections the classification of the site will be made with the agreement of the IDNO after the consideration of the characteristics of the connection.

30. The contribution to maximum demand will be based on the make-up of the load for the completed IDNO network and will not be subject to change for minimum period of 12 months.

31. IDNO tariffs for HV-connected networks will be predominantly domestic. HV IDNO sites are able to choose to continue in the existing HV HH commercial tariff.

32. Existing sites will be considered to be predominantly domestic unless the IDNO makes the case to SPEN that they are predominantly non-domestic. Likewise, new sites will be given a default of predominantly domestic unless the IDNO provides evidence that it is predominantly non-domestic. This is consistent with the message received from IDNOs in regards to their sites being mostly domestic ones, as well as with the experience in the SPEN areas.

Methodology for the calculation of the new tariffs

Predominantly domestic sites (HV and LV connected IDNOs)

33. The predominantly domestic IDNO tariff is derived by applying the appropriate percentage discount to our current LV domestic two-rate tariff. The same percentage discount applies to the day unit charge, the night unit charge, and the fixed charge.

34. Day and night unit rats will be applied to boundary meter readings.

35. The discounted fixed charge will be applied to embedded network based on the monthly total MPAN count of IDNO's network users. This data for the relevant chargeable month will be provided by the IDNO at least one week before end of each month. Where an IDNO is unable to provide an accurate MPAN count, we will derive an estimate of the MPAN count.

Predominantly non-domestic sites (LV IDNOs)

36. The predominantly non-domestic LDNO tariffs will be derived by applying the appropriate percentage discount to our current LV HH tariff. The same percentage discount will apply to the day unit charge, the night unit charge, and the fixed charge.

37. Day and night unit rates will be applied to boundary meter readings.

38. The discounted fixed charge will be applied to embedded network based on the monthly total MPAN count of IDNO's network users. The MPAN data for the relevant chargeable month will be provided by the IDNO at least one week before end of each month. Where an IDNO is unable to provide an accurate MPAN count, we will derive an estimate of the MPAN count.

39. Capacity charges will be applied to historical maximum capacity of the site, as per the "capacity ramping" method.

40. For all IDNO tariffs, there will be no reactive power charges.

PROPOSED WORDING OF THE USE OF SYSTEM METHODOLOGY STATEMENT

41. The proposals set out above would require changes to our Use of System Methodology Statement. The proposed tracked changed version is attached to this proposal as a separate document.

REVISED USE OF SYSTEM CHARGES

42. The above proposals yield the following discount percentages and IDNO prices applicable from the implementation date. For the avoidance of doubt, the rest of the DUoS tariffs are not affected by this modification.

Table 1. Discount percentages to SP Distribution appropriate ATW tariffs

Voltage level of connection for the IDNO	Discount to ATW tariff
LV	30.38%
HV	42.10%

Table 2. Proposed IDNO tariffs for SP Distribution

IDNO tariff	Fixed	Day Units	Night Units	Capacity
	p/day	p/kWh	p/kWh	p/kVA/day
LV predominantly domestic IDNO	6.00	1.45	0.44	
LV predominantly non domestic IDNO	34.71	1.01	0.13	1.47
HV predominantly domestic	4.93	1.19	0.36	

Table 3. Discount percentages to SP Manweb appropriate ATW tariffs

Voltage level of connection for the IDNO	Discount to ATW tariff
LV	31.89%
HV	44.10%

Table 4. Proposed IDNO tariffs for SP Manweb

IDNO tariff	Fixed	Day Units	Night Units	Capacity
	p/day	p/kWh	p/kWh	p/kVA/day
LV predominantly domestic IDNO	3.22	1.27	0.41	
LV predominantly non domestic IDNO	22.45	0.83	0.15	1.07
HV predominantly domestic	2.58	1.02	0.33	

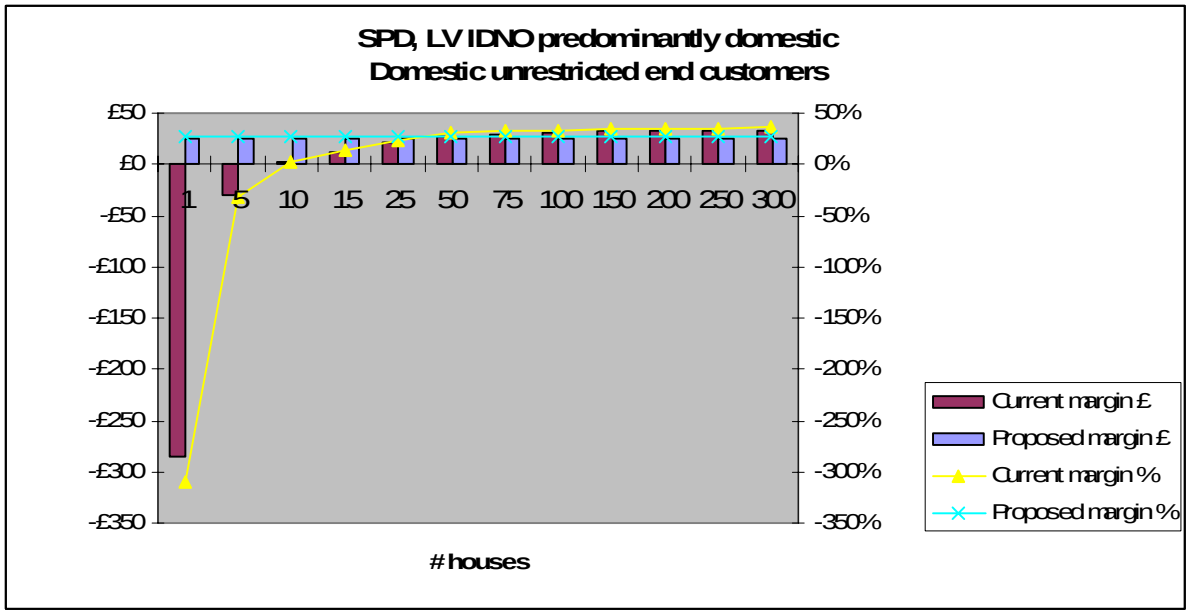
TIMETABLE FOR IMPLEMENTATION OF THE MODIFICATION

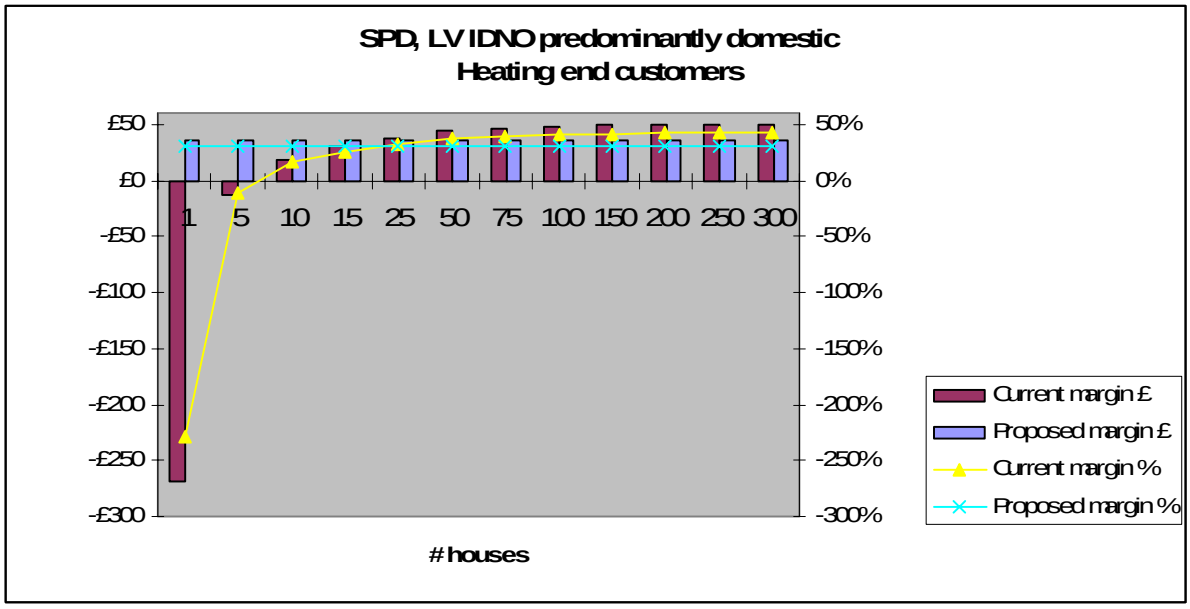
43. It is proposed to implement the above changes in the first calendar month after obtaining the Authority's approval.

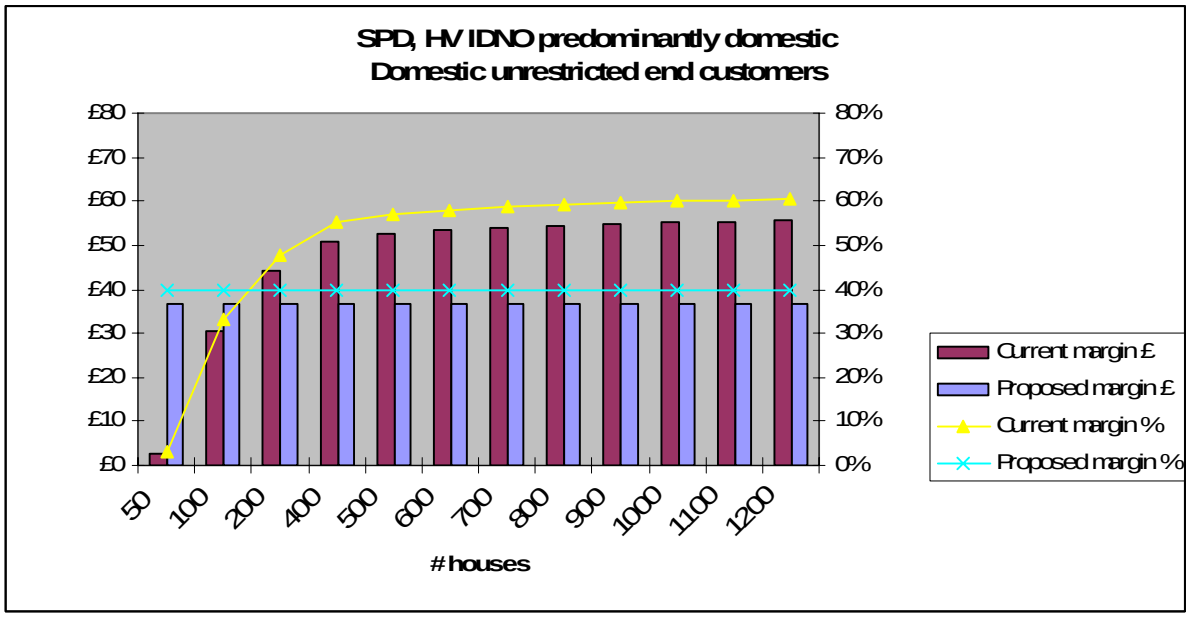
APPENDIX

The following tables illustrate the effect of the proposed changes on the margins available to IDNO connections.

SP Distribution






SPD, HV IDNO predominantly domestic
Domestic unrestricted end customers
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£70
£60
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80%
70%
60%
50%
40%
30%
20%
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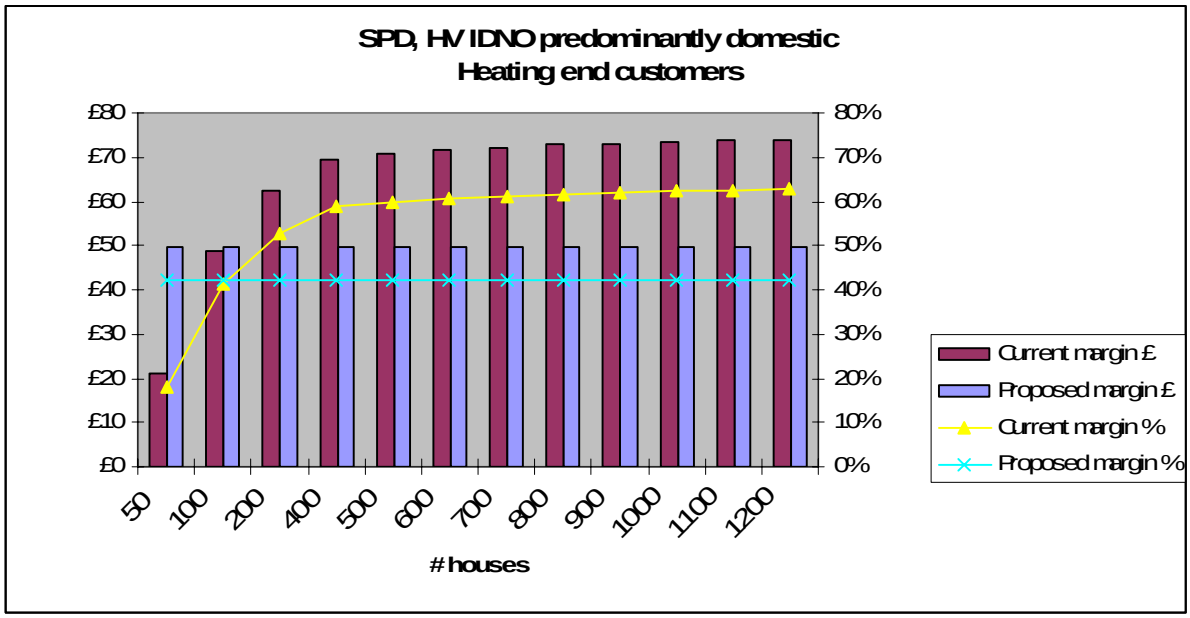
houses
Current margin £
Proposed margin £
Current margin %
Proposed margin %


SPD, HV IDNO predominantly domestic
Heating end customers
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60%
50%
40%
30%
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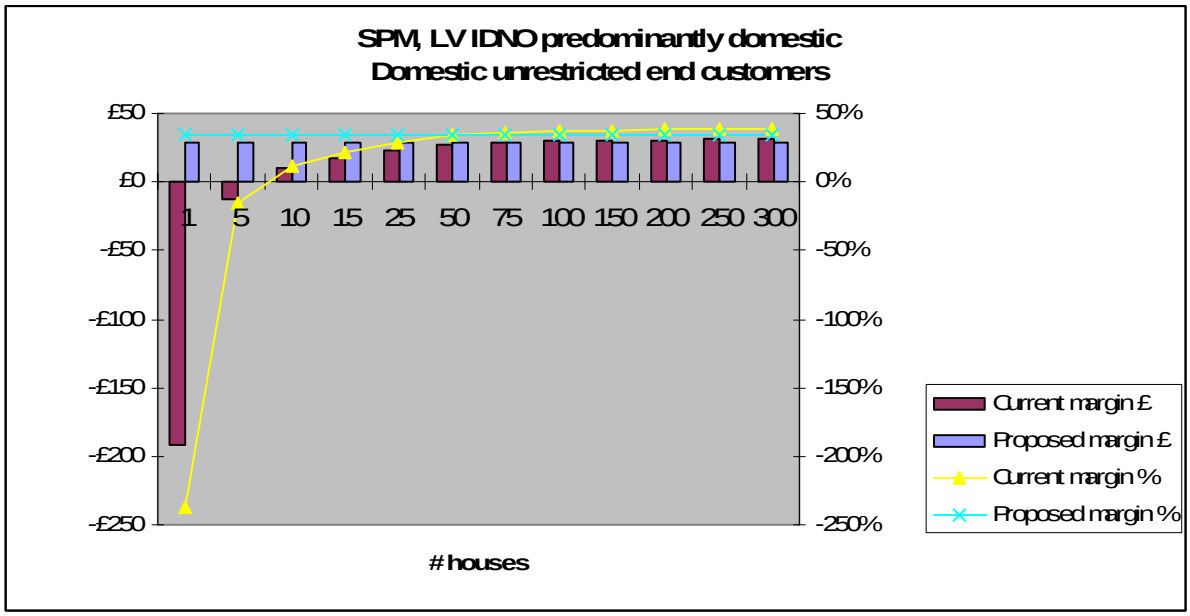
houses
Current margin £
Proposed margin £
Current margin %
Proposed margin %

SP Manweb


SPM, LV IDNO predominantly domestic
Domestic unrestricted end customers
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£0
-£50
-£100
-£150
-£200
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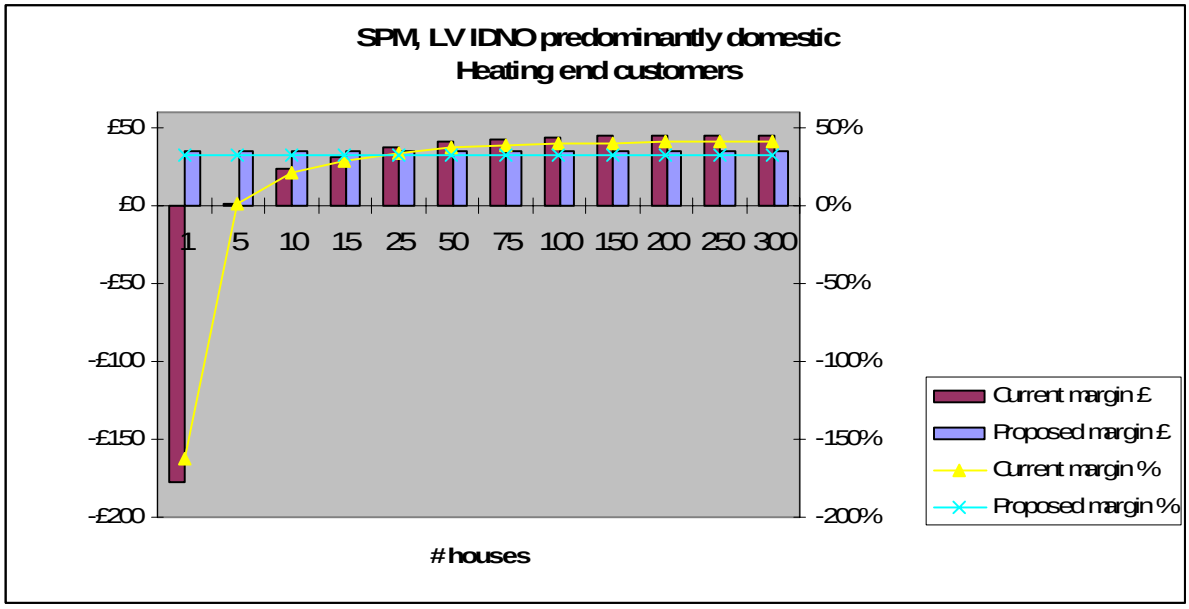
houses
Current margin £
Proposed margin £
Current margin %
Proposed margin %


SPM, LV IDNO predominantly domestic
Heating end customers
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houses
Current margin £
Proposed margin £
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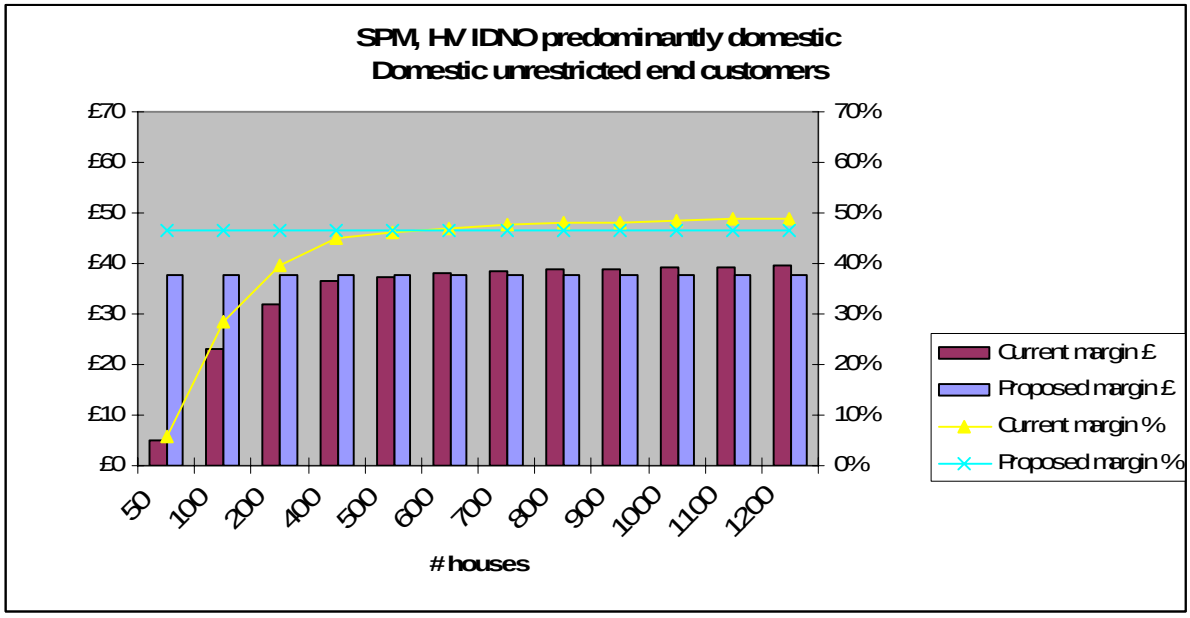
SPM, HV IDNO predominantly domestic
Domestic unrestricted end customers
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houses
Current margin £
Proposed margin £
Current margin %
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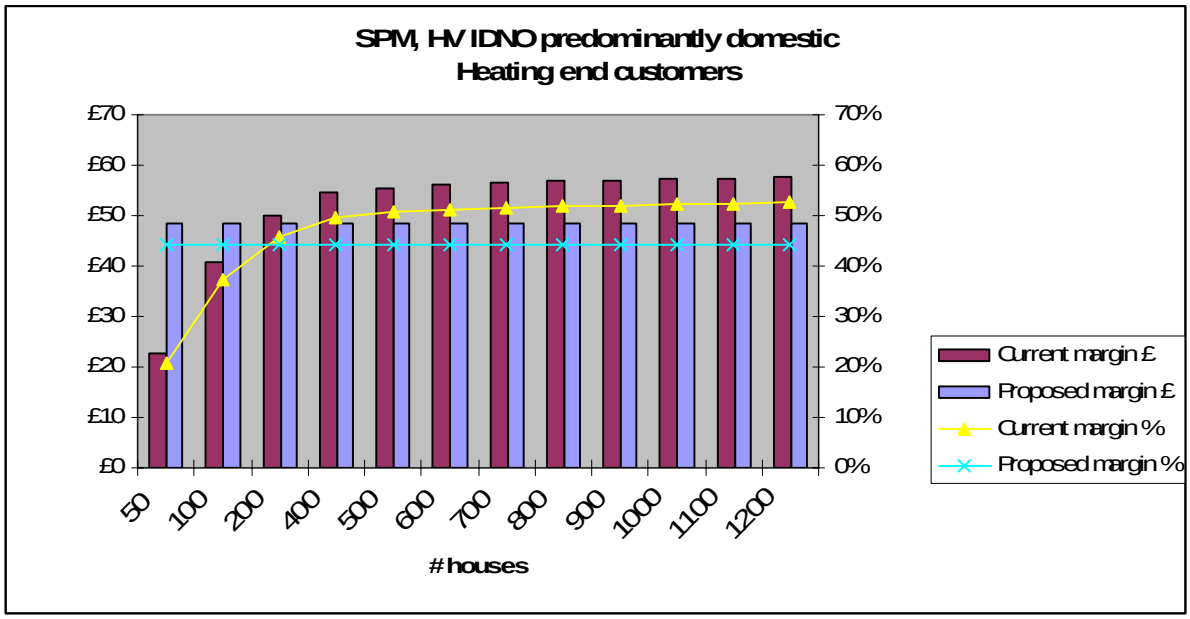
SPM, HV IDNO predominantly domestic
Heating end customers
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houses
Current margin £
Proposed margin £
Current margin %
Proposed margin %